



**CONSUMER SERVICES TECHNICAL
EDUCATION GROUP PRESENTS**

L-63



27" ELECTRIC & GAS DRYERS



**JOB AID
Part No. 4322260**



INTRODUCTION

This Job Aid, "27" *ELECTRIC & GAS DRYERS*," (Part No. 4322260), provides specific information on the installation, service and repair of Whirlpool 27" dryers.

"27" *ELECTRIC & GAS DRYERS*" has been compiled to provide the most recent information on design, features, troubleshooting, service and repair procedures.

GOALS AND OBJECTIVES

The goal of this Job Aid is to provide detailed information that will enable the service technician to properly diagnose malfunctions and repair Whirlpool 27" electric or gas dryers.

The objectives of the Job Aid are:

The service technician will -

- Understand proper safety precautions.
- Successfully troubleshoot and diagnose malfunction.
- Successfully perform necessary repairs.
- Successfully return the dryer to proper operational status.



WHIRLPOOL CORPORATION ASSUMES NO RESPONSIBILITY
FOR ANY REPAIRS MADE ON OUR PRODUCTS BY ANYONE
OTHER THAN AUTHORIZED SERVICE TECHNICIANS.

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Section One

GENERAL INFORMATION

ELECTRICAL REQUIREMENTS

Electrical Requirements for Gas Dryers

Important: Observe all governing codes and ordinances.

Electrical ground is required on this product.

⚠ WARNING

Electrical Shock Hazard



Check with a qualified electrician if you are in doubt as to whether the appliance is properly grounded. Do Not modify the power supply cord plug. If it will not fit the outlet, have a proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electrical shock.

Do Not use an extension cord with this appliance. Such use may result in a fire, electrical shock or other personal injury.

Do Not have a fuse in the neutral or grounding circuit. This could result in a risk of electrical shock.

A 120 volt, 60 Hz, AC only 15 or 20 Ampere fused electrical supply is required. A time-delay fuse or circuit breaker is recommended. It is recommended that a separate circuit serving only this appliance be provided.

Recommended Grounding Method

Electrical ground is required on this appliance.

**DO NOT, UNDER ANY CIRCUMSTANCES,
REMOVE THE POWER SUPPLY CORD GROUND
PRONG.**

For your personal safety, this appliance must be grounded. This appliance is equipped with a power supply cord having a 3-prong grounding plug. (Fig. 1) To minimize possible shock hazard, the cord must be plugged into a mating 3-prong grounding type wall receptacle, grounded in accordance with the National Electrical Code, ANSI/NFPA 70-1987 or the latest code and local ordinances. If a mating wall receptacle is not available, it is the personal responsibility and obligation of the customer to have a properly grounded 3-prong wall receptacle installed by a qualified electrician.

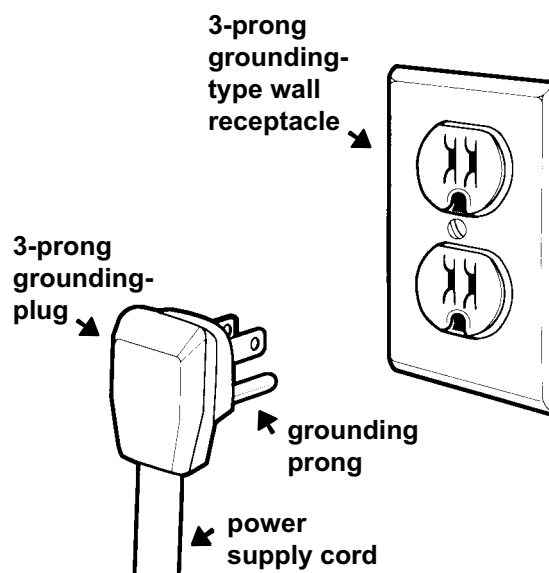


Fig. 1

Electrical Requirements for Electric Dryers

Important: Observe all governing codes and ordinances.

Electrical ground is required on this product.

WARNING

Electrical Shock Hazard



Check with a qualified electrician if you are in doubt as to whether the appliance is properly grounded. Do Not modify the power supply cord plug. If it will not fit the outlet, have a proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electrical shock.

Do Not have a fuse in the neutral or grounding circuit. This could result in a risk of electrical shock.

Do Not plug the power supply cord (pigtail) into any receptacle before connecting the pigtail to the dryer terminal block. This could result in a risk of electrical shock.

Electrical Connection

- A. A three-wire (*Fig. 2*) or four-wire (*Fig. 3*), single phase, 120/240 volt, 60 Hz, AC only electrical supply is required on a separate 30-ampere circuit, fused on both sides of the line. A time-delay fuse or circuit breaker is recommended.
- B. Most local codes permit the use of flexible, 30-amp rated, power supply cord (pigtail). The power cord must be plugged into a mating 30-amp receptacle (NEMA type 10-30R). A U.L.- listed strain relief must be installed where the power cord enters the dryer.
- C. **THE DRYER MUST BE CONNECTED WITH 10-GAUGE MINIMUM COPPER WIRE ONLY.** Do Not use aluminum wire which could cause a fire.
- D. The power supply cord (pigtail) can be removed and the appliance can be connected directly to an individual 30-ampere fuse circuit breaker box through flexible armored or nonmetallic sheathed, 10-gauge minimum copper cable. It is the personal responsibility and obligation of

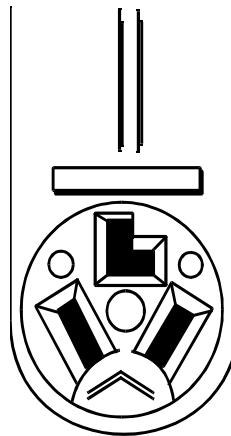


Fig. 2

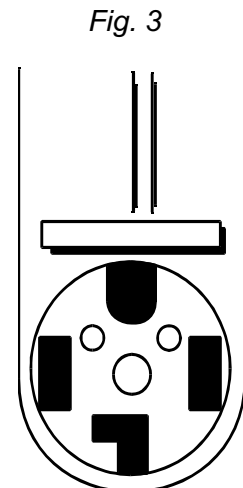


Fig. 3



the customer to contact a qualified electrician to assure that the electrical installation is adequate and is in conformance with National Electrical Code ANSI/NFPA 70-1987 (or the latest edition) and local codes and ordinances.

Important: Allow slack in the line between the wall and the appliance so that it can be move if servicing is ever necessary.

A U.L.-listed strain relief must be provided at each end of the power supply cable (at the appliance and at the junction box). Wire sizes (10-gauge COPPER WIRE ONLY) and connections must conform with the 30-ampere circuit rating.

- E. For mobile home installation, the three-wire power supply cord must be removed and the appliance wiring must be revised. The appliance frame must not be connected to the neutral terminal, but must be connected to the grounding wire (green) of the power supply cord. See Alternate electrical connection - mobile home installation, for detailed instructions.

If a four-wire receptacle of NEMA type 14-30R is available, a matching power supply cord (pigtail) must be used. This cord contains No. 10-gauge copper conductors with spade or ring terminals on the dryer end and terminating in a NEMA type 14-30P plug on supply end. The fourth (grounding) must be identified by a green cover and the neutral conductor by a white cover. Cord should be at least three feet long. The four-wire power supply cord and strain relief are not provided with the dryer.

 WARNING	
	Electrical Shock Hazard Disconnect power supply cord from the electric supply before making these changes. Use a new power supply cord. Failure to do so may result in electrical shock.

Grounding Instructions

This appliance must be connected to a grounded metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the appliance.

Electrical grounding is required on this appliance.

This appliance is manufactured with the neutral terminal connected to the frame.

Make sure power supply is turned off.

- A. If local codes permit connection of the frame-grounding conductor to the neutral wire of the power supply cord:
1. Loosen the terminal block cover hold-down screw. Swing cover open to the right.
 2. Attach a U.L.-listed strain relief to the dryer through the power supply cord hole. Place the power supply cord or direct wire through the strain relief.
 3. Connect the neutral wire on the power supply cord to the center, silver-colored terminal of the terminal block and connect the other wires to the outer terminals.

4. IF YOUR POWER SUPPLY CORD OR DIRECT WIRING HAS PLAIN WIRE ENDS, FOLLOW THESE STEPS:
 - a. Strip outer covering back 3 inches from the end exposing the 3 wires.
 - b. Strip the insulation back 1 inch from the end of each wire. Form the bare wire to “U” shaped hook.
 - c. Loosen, do not remove, the center, silver-colored screw of the terminal block.
 - d. Slide the end of the neutral (white or center) wire under the screw head with the open side of the hook on the right. Squeeze the wire together to form a loop.
 - e. Tighten the screw firmly.
 - f. Connect the remaining 2 wires to the outer screws the same way. Tighten screws firmly.
 5. Close the terminal block cover and tighten screw.
 6. Tighten screws on strain relief.
- B. If local codes DO NOT permit frame grounding to the neutral wire of the power supply cord:
1. Loosen the terminal block cover hold-down screw. Swing cover open to the right.
 2. Attach a U.L.-listed strain relief to the dryer through the power supply cord hole. Place the power supply cord or direct wire through the strain relief.
 3. Remove the grounding wire (green) from the external grounding connector and fasten under center silver-colored terminal block screw.
 4. Connect the neutral wire of the power supply cord to the center silver-colored terminal of the terminal block and connect the other wires to the outer terminals.
 5. Connect a separate copper grounding wire (No. 10 minimum) to a grounded cold water pipe by means of a clamp and then to the frame of the appliance at the external grounding connector. Use Part No. 685463 grounding wire and clamp assembly. **Do Not ground to a gas supply pipe or hot water pipe.** Do not connect the power supply cord to electric power supply until appliance is permanently grounded.
 6. Close the terminal block cover and tighten screw.
 7. Tighten screws on strain relief.
- C. If connecting to a four-wire electrical system (mobile home):
1. Loosen the terminal block cover hold-down screw. Swing cover open to the right.
 2. Attach a U.L.-listed strain relief to the dryer through the power supply cord hole. Place the power supply cord or direct wire through the strain relief.
 3. Remove the grounding wire (green/yellow) from the external grounding connector and fasten under the center, silver-colored terminal block screw.
 4. Connect the grounding wire (green) of the power supply cord to the external grounding connector.
 5. Connect the neutral wire (white) of the power supply cord to the center, silver-colored terminal of the terminal block and connect the other wires to the outer terminals.
 6. Close the terminal block cover and tighten screw.
 7. Tighten screws on strain relief.

Exhaust Requirements for Gas and Electric Dryers

WARNING



Fire Hazard

Do Not use nonmetal, flexible duct. Do Not use metal duct smaller than four inches in diameter. Do Not use exhaust hoods with magnetic latches. Improper air supply for exhausting may result in a fire. Check that exhaust system is not longer than specified. Exhaust systems longer than specified will:

- Accumulate lint
- Shorten the life of the product
- Reduce performance and result in longer drying times and increased energy usage.

Failure to follow these specifications may result in a fire.

Do Not exhaust dryer into a chimney, furnace cold air duct, attic or crawl space, or any other duct used for venting. Clean the exhaust system every other year. Do Not install flexible duct under wall, ceiling or floor materials. Accumulated lint could result in a fire or cause moisture damage.

Four inch Rigid Metal Duct is preferred. Four-inch flexible metal duct may be used.

Metal flexible duct must be fully extended and supported when the dryer is in its final position. **DO NOT KINK OR CRUSH THE DUCT.** The metal flexible duct must be completely open to allow adequate exhaust air to flow.

Plan installation to use the fewest number of elbows and turns. Allow as much room as possible when using elbows or making turns. Bend duct gradually to avoid kinking. Remove excess flexible duct to avoid sagging and kinking that may result in reduced air flow.

Use **duct tape** to seal all joints.

The **Exhaust duct** can be routed down, left, right, or straight out the back of the dryer. Space requirements are provided in the Installation Instructions.

Minimum length of rear exhaust system depends upon the type of duct used, number of elbows and the type of exhaust hood. The maximum length for both rigid and flexible ducts is shown in chart.

Side or bottom exhaust maximum length is 16 feet with two external elbows.

Exhausting the dryer outside is preferred.

Four inch Rigid Metal Duct is preferred. Four-inch flexible metal duct may be used.

Metal flexible duct must be fully extended and supported when the dryer is in its final position. **DO NOT KINK OR CRUSH THE DUCT.** The metal flexible duct must be completely open to allow adequate exhaust air to flow.

If the dryer is installed in a confined area such as a bedroom, bathroom, or closet, it must be exhausted to the outside and provisions must be made for enough air for combustion and ventilation. Check governing codes and ordinances. Also refer to the Recessed Installation Instructions.

An **Exhaust hood** should cap the exhaust duct to prevent exhausted air from returning to the dryer. The outlet of the hood must be a least 12 inches from the ground or any object that may be in the path of the exhaust.

Four-inch outlet hood is preferred, however, a 2 1/2 inch outlet exhaust hood may be used with systems ten feet or less. (This outlet creates greater back pressure than other hood types.)

Exhaust kits are available that direct filtered exhaust air inside to conserve energy during the winter months. Before installing, check that using this type of kit does not violate local codes and ordinances. Using one of these kits may result in excessive moisture in the home. This may cause problems and could increase the drying time. The filter must be cleaned regularly to avoid excessive lint buildup which can affect the dryer's performance.

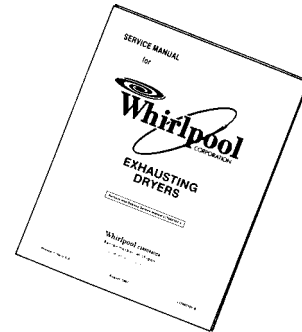
Mobile home installation. This appliance is suitable for mobile home installations. The installation of the dryer **must** conform to the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 (formerly the Federal Standard for Mobile Homes Constructions and Safety, Title 24, HUD Part 280, 1975) or the latest edition.

Mobile home exhaust requirements: The dryer must have an outside exhaust. If the dryer is exhausted through the floor and the area under the mobile home is enclosed, the exhaust system **must** terminate outside the enclosed area. Extension beyond the enclosure will prevent lint and moisture buildup under the mobile home.

Secure dryer: For mobile home use, gas dryers **must** be securely fastened to the floor. Whirlpool Kit No. 346764 is available at your local parts distributor or Whirlpool Service Center.

For best efficiency the exhaust system should be designed to conform to the specifications in the Whirlpool Exhaust Guide, Part No. LIT603197-B. (Fig. 4)

Fig. 4



Gas Requirements for Gas Dryers

Important: Observe all governing codes and ordinances.

WARNING



Fire Hazard

Connect dryer to a regulated gas supply. L.P. gas supply must not exceed a pressure of 13" water column. This must be checked by a qualified person before installing the dryer. Use new, flexible tubing. Old tubing may leak. All connections must be wrench-tightened. Do Not check for gas leaks using an open flame. Failure to follow these instructions could result in a fire or explosion.


- A. This installation must conform with American National Standard, National Fuel Gas Code ANSI Z223.1 - 1984, and local codes and ordinances.
- B. Input ratings shown on the rating plate (serial tag) are for elevations up to 2,000 feet, ratings should be reduced at a rate of 4% for each 1,000 feet above sea level.
- C. Check that this dryer is equipped with the correct burner for the particular type of gas in the home. Burner information will be found on the rating plate in the door well of the appliance.
- D. This dryer is equipped to be used with NATURAL GAS, certified by A.G.A., and for manufactured mixed and L.P. gases with appropriate conversion. No attempt shall be made to convert appliances from the gas specified on the rating plate for use with different gas without consulting the serving gas supplier. **Conversion must be done by a qualified service technician. Gas conversion kit part numbers are listed on the gas valve burner base.**
- E. Provide a gas supply line to the dryer location. When rigid pipe is used, it should be 1/2 inch IPS. When acceptable to the gas supplier, 3/8 inch-approved tubing may be used for lengths under 20 feet. For lengths over 20 feet, larger tubing should be used. Pipe-joint compounds resistant to the action of L.P. gas must be used.
- F. The supply line should be equipped with a shut-off valve. This valve should be in a location that allows ease of opening and closing. Do Not block access to the shut-off valve.
- G. If the dryer is installed in a confined area, such as a bedroom or closet, it must be exhausted to the outside and provisions made for enough air for combustion and ventilation. (Check covering codes and ordinances.) Also refer to Recessed or closet installations.
- H. If local codes permit, it is recommended that flexible metal tubing, design-certified by the American Gas Association, be used for connecting the appliance to the gas supply line. (The gas pipe which extends through the lower rear of the appliance has 3/8 inch male pipe thread.)
- I. If rigid pipe is used as a gas supply line, a combination of pipe fittings must be used to obtain an in-line connection to the dryer.
- J. Make sure the lower edges of the cabinet, plus the back and bottom sides of the dryer are free of obstructions to permit adequate clearance of air openings for combustion. See Recessed or closet installations for minimum spacing requirements.
- K. For ease of installation, operation and servicing adequate space should be provided around the dryer.
- L. An 1/8 inch, NPT plugged tapping, accessible for test gauge connection, must be installed immediately upstream of the gas supply connection to the dryer. The dryer and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/ psig (3.45 Kpa). The dryer must be isolated from the gas supply piping system, closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures of equal to or less than 1/2 psig (3.45 kPa).


Important: Observe all governing codes and ordinances.

- M. The dryer wiring diagram is located behind the lower front access panel. Close the access panel after servicing. Do Not operate the dryer with the access panel open.
- N. If the dryer will not operate, check the following to be sure that:
 - a. Electric supply is connected.
 - b. Fuse is intact and tight.

- c. Door is closed.
- d. Controls are set in running or "On" position.
- e. Gas shut-off valve is open on supply lines.

Recessed and Closet Installation Instructions


WARNING



Potential Fire Hazard

The dryer must be exhausted outside. If dryer is installed in a closet, the dryer **MUST** be exhausted outside. Failure to do so increases the risk of fire.

This dryer may be installed in a recessed area or closet. (Fig. 5)

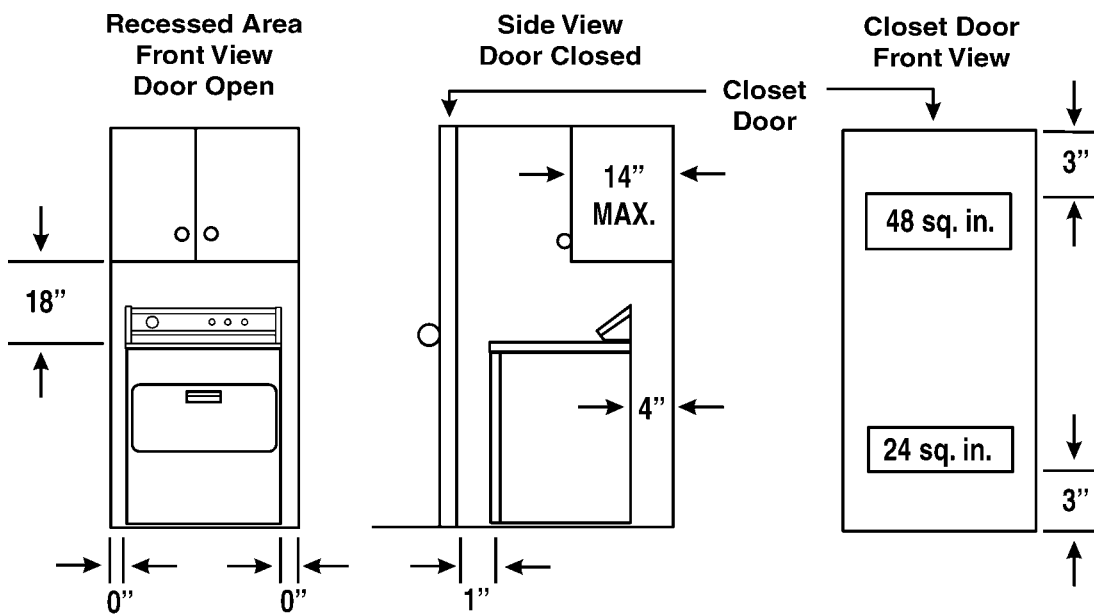
The installation spacing is in inches and is the minimum allowable. Additional spacing should be considered for ease of installation, servicing and compliance with local codes and ordinances. If closet door is installed, the minimum of unobstructed air openings in top and bottom is required. Louvered doors with equivalent air openings are acceptable. Closet installation must be exhausted.

Only recessed installations with no cabinet or shelf above the dryer need not be exhausted. Non-exhausted recessed installations require an exhaust deflector.

Other installations must use the minimum dimensions indicated.

To prevent large amounts of lint and moisture from accumulating and to maintain drying efficiency, this appliance must be exhausted outdoors.

Note: No fuel burning appliance may be installed in the same closet as the dryer.



Minimum Installation Spacing
Installation Must Be Exhausted

Fig. 5

SECTION TWO

THEORY OF OPERATION

CONSOLE

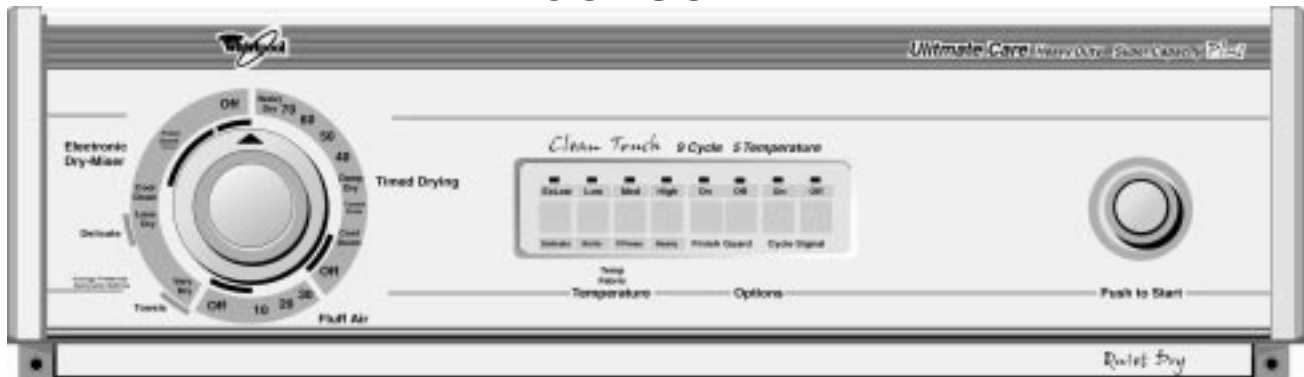


Fig. 6

TIMER CONTROL

Electronic Dry-Miser

This cycle can be used for most loads. Drying time varies according to type of fabric, size of load and dryness setting.

- Set the Cycle Selector Control to the desired dryness.
- Dryness is determined by an electronic moisture sensor system that “feels” the amount of moisture in the clothes as they pass over a moisture sensor mounted on the grille assembly at the front of the drum area. When the selected dryness is reached the dryer goes into a timed COOL DOWN period of approximately 10 minutes.
- The End-of-Cycle signal sounds once the cycle is complete.
- The End-of-cycle signal can be turned OFF by pressing the Cycle Signal OFF pad on the Clean Touch console.
- The Finish Guard option will tumble the clothes without heat for about 15 seconds every five minutes until the door is opened and the clothes removed.
- The Finish Guard option can be turned OFF by pressing the Finish Guard OFF pad on the Clean Touch console.

Timed Dry Cycle

This cycle will provide up to 80 minutes of heated drying time.

- The heating cycle is followed by approximately 10 minutes of COOL DOWN.
- The End-of-Cycle signal sounds once the cycle is complete.
- The End-of-cycle signal can be turned OFF by pressing the Cycle Signal OFF pad on the Clean Touch console.
- The Tumble Press portion of the Timed Dry Cycle is designed to provide about 15 minutes of HEATED TUMBLING followed by 10 minutes of COOL DOWN.

Fluff Air Cycle

The Fluff Air Cycle provides up to 30 minutes of unheated drying time.

CLEAN TOUCH CONTROL PAD

The clean touch control pad provides push button control of the following operations:

TEMPERATURE SELECTION - Four levels of temperature ranging from Extra Low to High.

FINISH GUARD - Allows this option to be turned On or OFF.

CYCLE SIGNAL - Allows this option to be turned On or OFF.

PUSH-TO-START KNOB

This knob must be pushed to start the dryer. The door must be closed for the dryer to operate. If the door is opened during any drying cycle, the dryer will not operate again until the Push-to-Start knob is pushed again.

“C” VERSION ELECTRONIC DRYER CONTROL

The “C” version dryer control system consists of an electronic control board located in the console area and a moisture sensor attached to the lint screen grille inside the dryer drum. The dryer control system measures the resistance across the moisture sensor during the automatic dry cycle. The electronic control board turns power to the timer motor on and off based on input from the moisture sensor.

Theory of Operation

When a cycle is selected, **Timer Switch 1** will be closed. This applies 120VAC through the orange/white wire to the electronic control board. **Timer Switch 0** will be open if the selected cycle is not a timed dry cycle, so there is no alternate path for current flow through the timer motor. (Fig. 7)

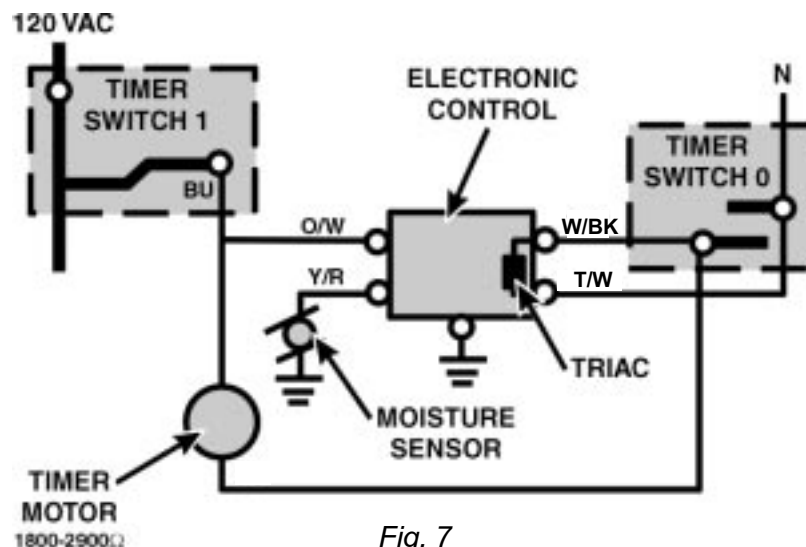


Fig. 7

The electronic control looks at the input from the moisture sensor to see if the clothes are wet or dry. The moisture sensor will show continuity (short) if the clothes are wet and show **NO** continuity (open) if the clothes are dry.

If the clothes are wet, the Triac on the electronic control board will block power to the timer motor, and the timer motor will not advance.

If the clothes are dry or there are no clothes in the dryer the Triac on the electronic control board will allow power to flow to the timer motor causing it to advance.

During the last 10 minutes of the Regular Cycle, (the last 15 minutes of the Permanent Press Cycle) and any Timed Dry Cycle, **Timer Switch 0** will be closed. This will allow the timer motor to advance regardless of the condition at the moisture sensor. **Timer Switch 0** bypasses the electronic control. (Fig. 8)

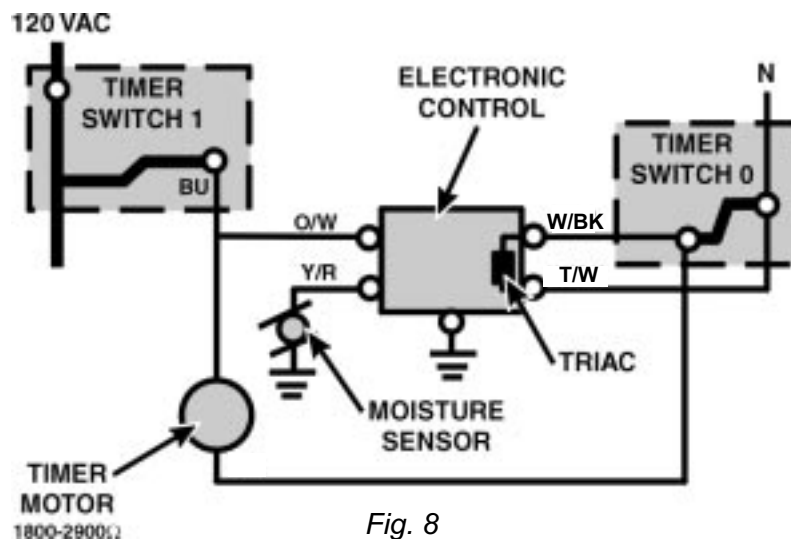


Fig. 8

Heated Air Circulation

Room temperature air (shown as white arrows in Fig. 9) enters the lower portion of the dryer cabinet underneath the toe panel and is drawn through the heating system (electric heating element or gas burner assembly).

Heated air (shown as dark grey arrows in Fig. 9) is then drawn up the heat duct mounted to the rear bulkhead and into the dryer drum.

As the heated air circulates in the drum it picks up moisture (shown by the lighter grey arrows in Fig. 9).

Moisture laden air is then drawn down through the lint filter, through the blower and out through the exhaust duct to be vented out of the dryer.

Venting can be accomplished straight through the back of the dryer, through either side of the dryer or down through the bottom of the dryer. (Fig. 9)

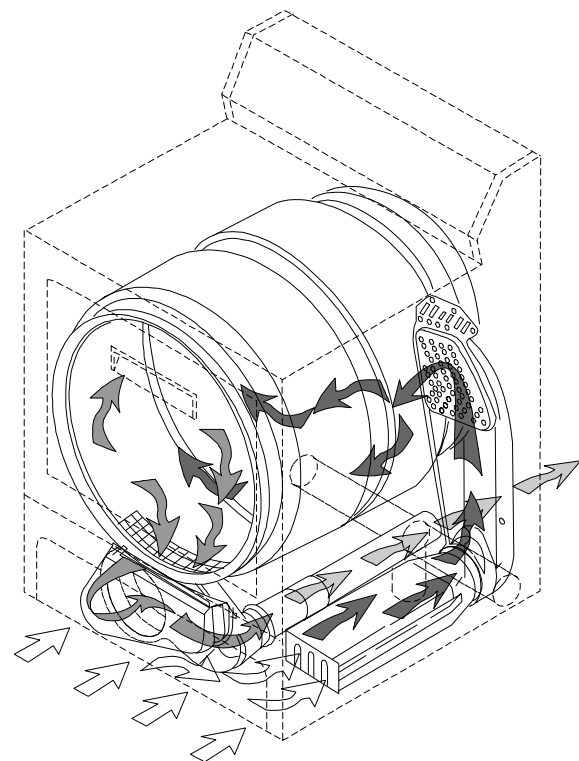


Fig. 9

Side and Bottom Exhaust Venting Kit

Side and Bottom Exhaust Venting Kits for Whirlpool 27" gas and electric dryer are available at your local parts distributor or Whirlpool Service Center. The kit contains all the materials necessary to vent the dryer out either side or through the bottom. (Fig. 10)

Part No. 279818 White
279819 Almond

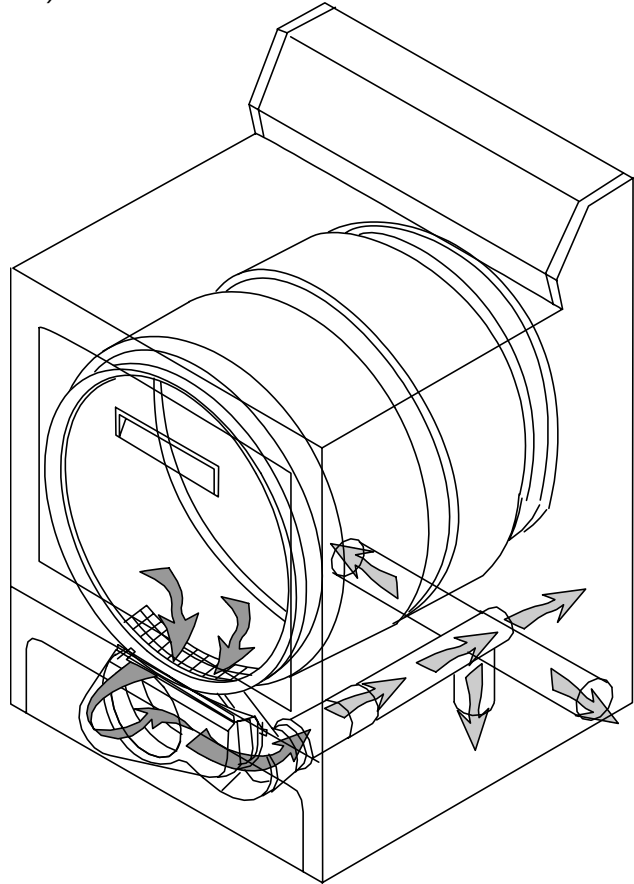


Fig. 10

SECTION THREE

COMPONENT ACCESS

CONSOLE CONTROL REPAIRS

! WARNING



ELECTRIC SHOCK HAZARD

Disconnect the electrical power before servicing any components.
Failure to do so may result in death or electrical shock.

Note : Potential floor damage. Slide dryer onto cardboard or hardboard before moving across floor. Failure to do so may damage floor covering.

Removing the Console

1. Remove the two screws at the base of the console. (Fig.11)
2. Grab console on both sides. Pull console towards you, lifting the tabs up and out of the console slots. Carefully flip console back to make repairs. Do not lean console against wall. Console may mar or damage wall. If dryer is too close to wall, pull dryer forward so console does not touch wall. (Fig. 12)

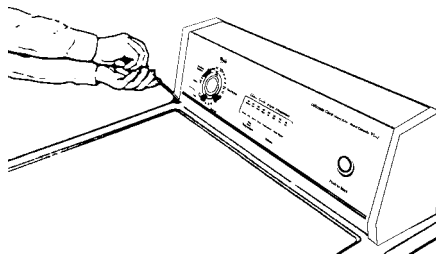


Fig. 11

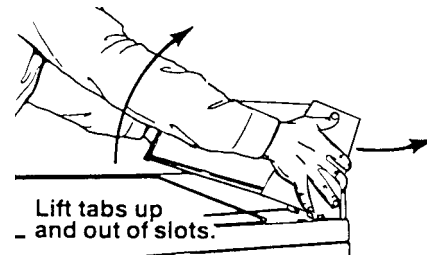


Fig. 12

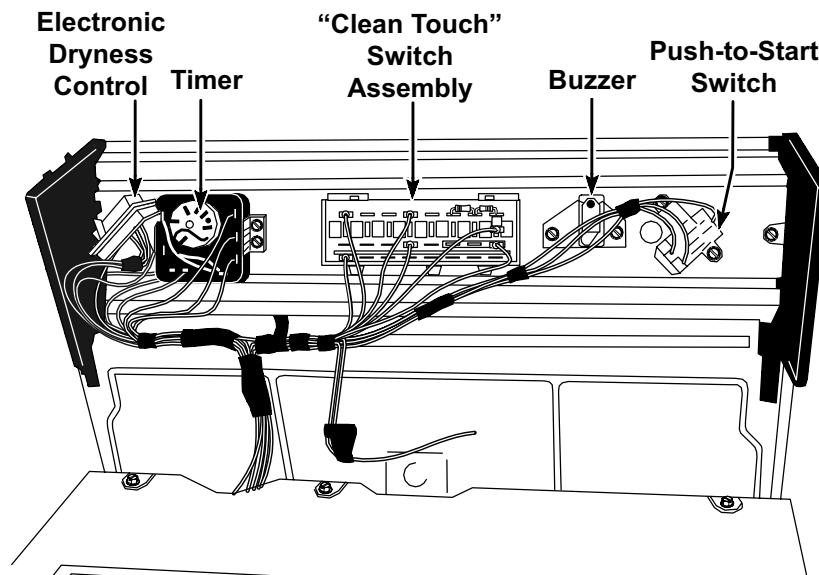


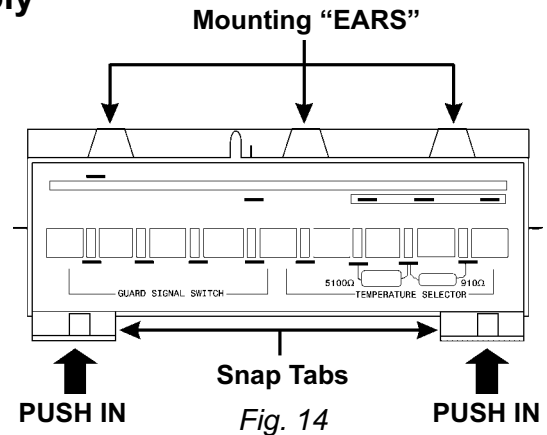
Fig. 13

Removing the Timer

1. Pull the timer knob off the timer assembly shaft.
2. Tip the console into the service position.
3. Disconnect the wiring harness connectors from the timer assembly terminals.
4. Remove the two (2) screws securing the timer assembly mounting bracket to the console.

Removing the Clean Touch Switch Assembly

1. Tip the console into the service position.
2. Disconnect the wiring harness leads from the terminals on the switch assembly.
3. Press in on the snap tabs as indicated in Fig. 14 and then pull the bottom of the switch assembly out from the console.
4. Slide the top of the switch assembly down until the ears clear the console and remove the switch assembly.



Removing the Push to Start Switch

1. Pull the knob off the Push-to-Start switch shaft.
2. Tip the console into the service position.
3. Disconnect the wiring harness leads from the Push-to-Start switch terminals.
4. Remove the two (2) screws securing the Push-to-Start switch to the console and remove the switch.

Removing the Buzzer

1. Tip the console into the service position.
2. Disconnect the wiring harness heads from the buzzer terminals.
3. Remove the two (2) screws securing the buzzer to the console and remove the buzzer.

Removing the Electronic Control Board

1. Tip the console into the service position.
2. Disconnect the wiring harness heads from the control board terminals.
3. Pull the control board from the mounting bracket.

Removing the Dryer Top

1. Remove the console.
2. Remove the three screws at the back of the dryer top. (Fig. 15)
3. Slide top toward you to release top from front clips and rear tabs. (Fig. 16)
4. Lift top up and off dryer.

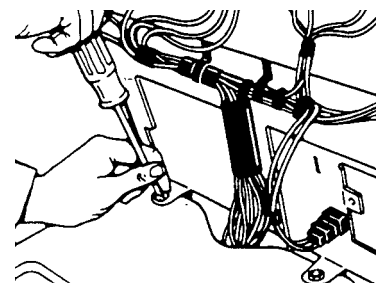


Fig. 15

- Slide top across dryer so that rear is under back brackets and front fits into front clips.
- Reinstall three dryer top screws.
- Close console.
- Reinstall the two console screws.

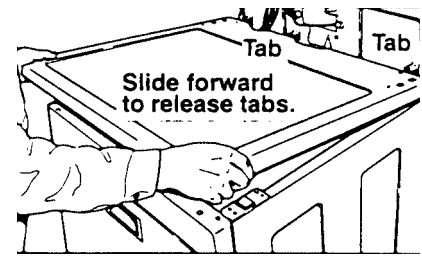


Fig. 16

Replacing the Drum Lamp

- Open dryer door. Remove the drum lamp cover screws. (Fig. 17)
- Lift and slide off the drum lamp cover.
- Tip the light socket forward and remove the bulb. (Fig. 18)
- Put new bulb into place.
- Slide drum light cover back into place. Reinstall the drum light cover screw. Close dryer door.

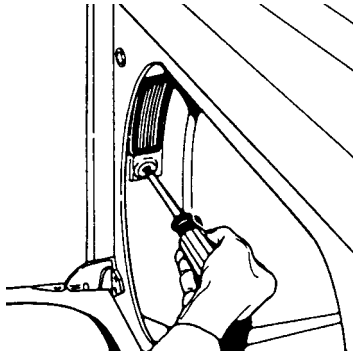


Fig. 17

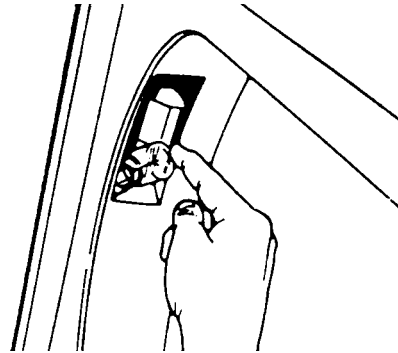


Fig. 18

Removing the Door Switch

- Remove the dryer top.
- Open the dryer door and remove the two (2) screws securing the door switch to the front panel.
- Disconnect the wiring harness connectors from the door switch terminals.
- Remove the door switch assembly.

Removing the Toe Panel

- Using a blade screwdriver, locate and release the two toe panel clips, approximately 4" in from each side. (Fig. 19)
- Pull toe panel off and set finished side up.

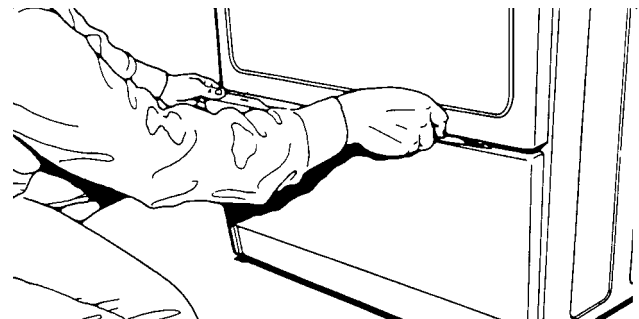


Fig. 19

Replacing the Blower Wheel

1. Open dryer door and remove lint screen. (Fig. 20) Close the dryer door.

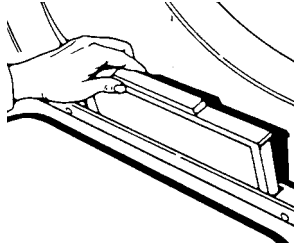


Fig. 20

2. Remove two (2) screws from lint duct and remove the lint duct.
3. Remove two (2) screws from blower housing cover and remove blower housing cover. (Fig. 21)

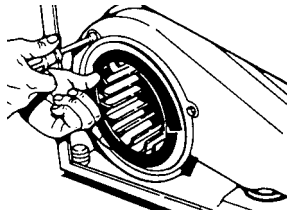
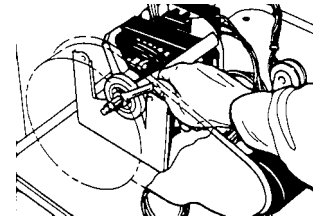


Fig. 21

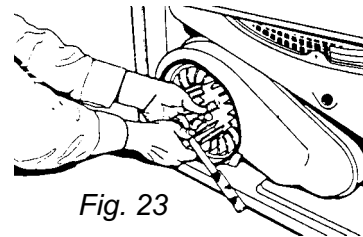
4. Reach behind the blower housing and place a 7/8" open end wrench on the motor. (Fig. 22) Rotate the blower wheel clockwise to lock the motor shaft with the wrench. Allow wrench to lock against the motor bracket.

Fig. 22



5. Using a 3/8" socket drive with a 3/8" -1/2" adapter or 1/2" drive, remove the blower wheel. (Fig. 23) The blower wheel has left-hand threads. Rotate the wheel clockwise to remove. Directional arrows are molded on the front edge of the wheel showing which way to turn to loosen and tighten.

Fig. 23



Removing Blower Housing

1. Remove the blower wheel.
2. Remove the three (3) blower housing screws.
3. Tip down and pull out blower housing.
4. Disconnect wires from thermal fuse, operating thermostat and bias heater. (Fig. 24)

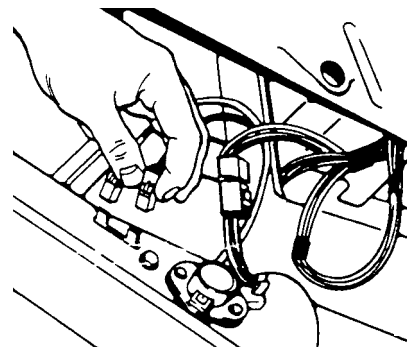


Fig. 24

Replacing the Motor

1. Remove the blower housing.
2. Remove two screws mounting motor in place. (Fig. 25)
3. Reach under drum and push idler pulley to the left to release tension on the belt. (Fig. 26) Remove belt from motor pulley.
4. Slide motor to right, out of slots, and pull forward out of dryer. (Fig. 27)
5. Disconnect motor wiring harness. (Fig. 28) Remove idler pulley assembly and broken belt switch and place on new motor.
6. Connect new motor wiring to motor wiring harness.
7. Slide new motor into dryer and push to the left. Make sure tabs are in slots.
8. Reinstall the two motor mounting screws.
9. Reach under drum and push idler pulley to left while reattaching drum belt. Release idler pulley.

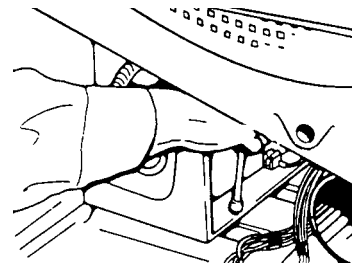


Fig. 25

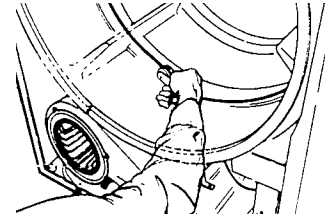


Fig. 26

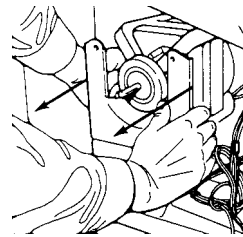


Fig. 27

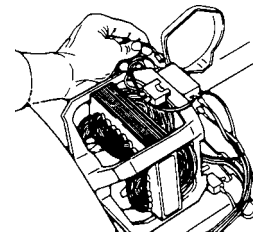


Fig. 28

Replacing the Operating Thermostat and Bias Heater

1. Using a 5/16" socket, remove the two screws attaching the operating thermostat and the bias heater to the blower housing. (Fig. 29) Remove the operating thermostat and the bias heater.

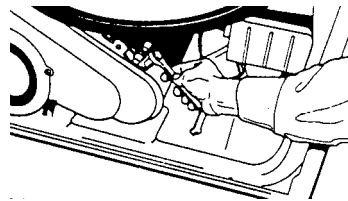


Fig. 29

2. Attach the new operating thermostat and bias heater to the blower housing with two screws.
3. Reattach the toe panel.

Replacing the Thermal Fuse

1. Disconnect the wiring harness plug from the thermal fuse terminals.
2. Remove the screw securing the thermal fuse to the blower housing and remove the thermal fuse. (Fig. 30)
3. Attach the new thermal fuse with the thermal fuse screw.
4. Reconnect the wiring harness plug to the thermal fuse terminals.

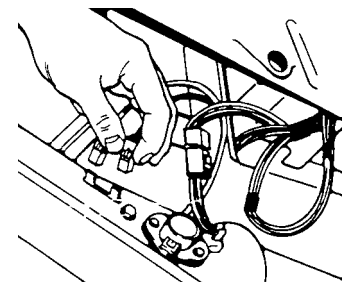


Fig. 30

Replacing the Heating Element (Electric Dryers)

1. Remove the screw from heat shield. (Fig. 31) Remove the wires to the heat element.
2. Remove the screw from side of heater box (Fig. 32) and slide the heat element out of dryer.
3. Slide new heat element into dryer and reattach screw on side of heater box.
4. Reattach the heat element wires. Replace heat shield.

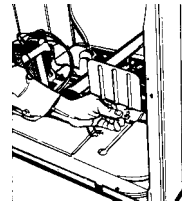


Fig. 31

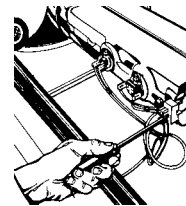


Fig. 32

Removing the Burner Assembly (Gas Dryers)

1. Turn off the gas supply to the dryer.
2. Disconnect the gas supply pipe from the burner assembly.
3. Disconnect the wiring harness connectors from the flame sensor and burner assembly.
4. Remove the two (2) screws securing the burner assembly to the mounting bracket. (Fig. 33)

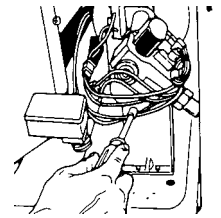


Fig. 33

Replacing the High Limit Thermostat and Thermal Cutoff

1. Remove screw holding heat shield.
2. Disconnect wires to heat element, high limit thermostat and thermal cutoff.
3. Remove two screws from heat element bracket.
4. Remove heat element assembly (heat duct) from dryer.
5. Remove screws to high limit thermostat or thermal cut-off. (Fig. 34) Remove high limit thermostat or thermal cutoff.
6. Attach new high limit thermostat or thermal cutoff.
7. Reattach heat shield.

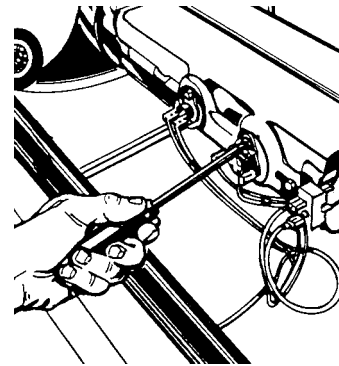


Fig. 34

Replacing the Heat Duct Assembly

1. Remove two screws attaching heat duct to rear bulkhead assembly. (Fig. 35) Remove heat duct.
2. Attach new heat duct to rear bulkhead assembly using the rear bulkhead assembly screws.
3. Slide rear bulkhead assembly into place. Align top two screw holes in new rear bulkhead assembly with top two screw holes in back of dryer.

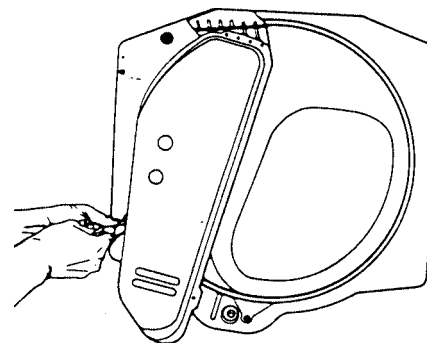


Fig. 35

Removing the Dryer Door

1. Remove the toe panel.
2. Pull down and unhook and remove the left and right door springs. (Fig. 36)
3. Open dryer door. Remove the screws from each door hinge. (Fig. 37) Remove dryer door by sliding it off of hinges.
4. Slide new door onto hinges. Align screw holes in hinges. Reinstall hinge screws into new dryer door. Close dryer door.
5. Hook long, skinny end of door spring into left hinge. Pulling down on spring, hook other end into bottom front of cabinet. Repeat with other spring.
6. Snap toe panel into place.

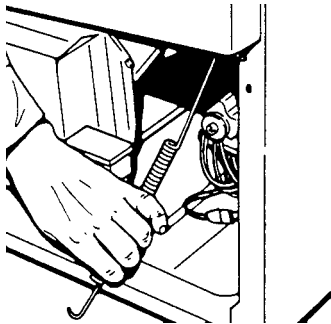


Fig. 36

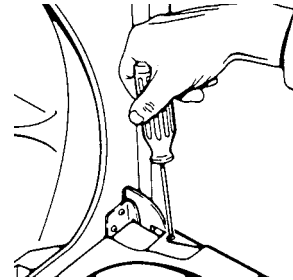


Fig. 37

Removing the Front Panel

1. Remove the dryer top.
2. Remove the toe panel.
3. Remove the lint screen.
4. Release the two (2) door springs.
5. Remove the two screws attaching the lint duct to the dryer and remove the lint duct.
6. Remove the two (2) screws at the bottom and the two (2) screws at the top of the front panel. (Fig. 38)
7. Pull wiring harness out of clips inside top side of dryer. Disconnect the wiring harness. (Fig. 39)
8. Lift up and remove front panel. (Fig. 40)

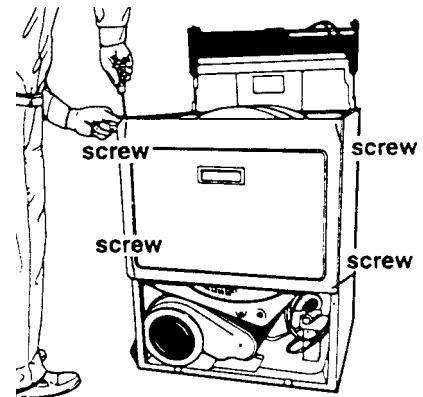


Fig. 38

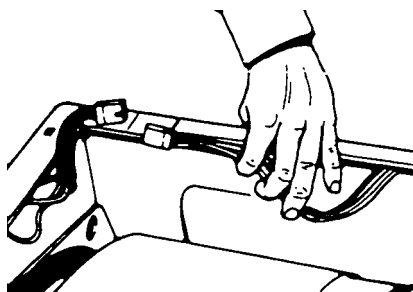


Fig. 39

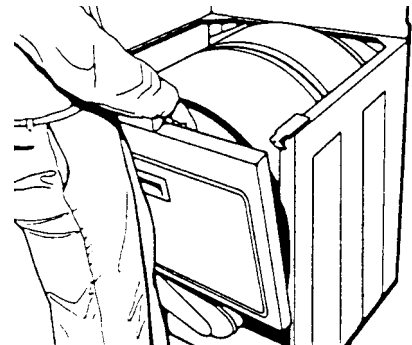


Fig. 40

Removing the Belt and the Drum

1. Remove the front panel.
2. Reach underneath drum and behind motor to locate idler pulley. Push idler pulley to left to release drum belt tension. Remove the belt from the motor pulley. (Fig. 41)
3. Remove the drum and belt from the cabinet. (Fig. 42)

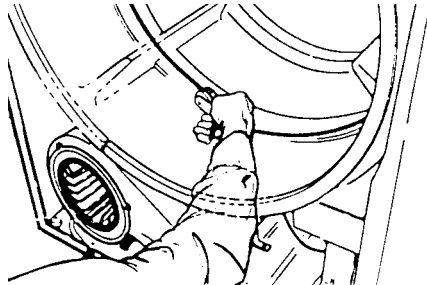


Fig. 41

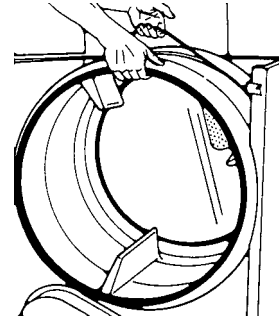


Fig. 42

Replacing the Front Support Rollers and Shafts

1. Remove the front panel.
2. Remove the tri-ring and the support rollers. (Fig. 43)
Using a 9/16" open end wrench, remove the support roller shaft. (Front support rollers are right-hand thread.)
3. Attach the new front support rollers and shafts.

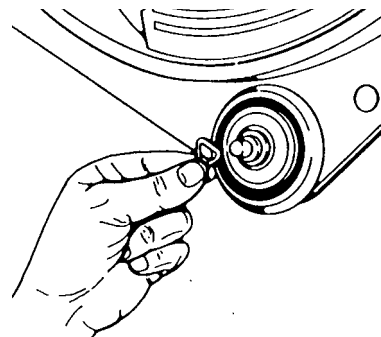


Fig. 43

Replacing the Grille Assembly

1. Open dryer door and remove the lint screen.
2. Remove the toe panel.
3. Remove the two (2) screws attaching the grill assembly to the front panel and remove the grill assembly. (Fig. 44)

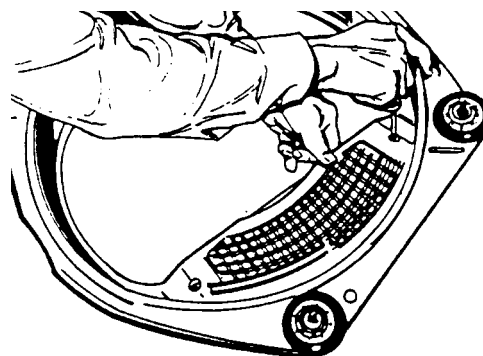


Fig. 44

Removing the Rear Bulkhead Assembly

1. Remove the front panel.
2. Reach underneath drum to locate idler pulley. Push idler pulley to left to release drum belt tension. Remove belt from motor pulley. Remove the drum from dryer.
3. Remove heat source assembly (burner assembly and funnel or heat element and duct).
4. Move dryer so you can easily remove back of dryer.
5. Starting with screw (A), remove in order screws (A), (B), (C), (D), (E), (F), and (G) from back of dryer. (Fig. 45)
6. Slide rear bulkhead assembly up and out of dryer. (Fig. 46)

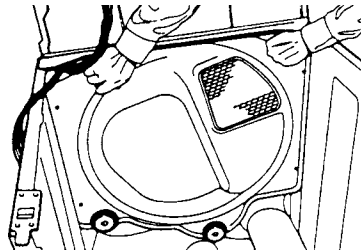


Fig. 46

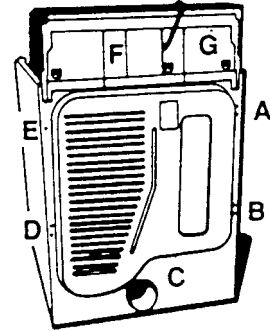


Fig. 45

Reattaching the Rear Bulkhead

1. Slide the rear bulkhead assembly down into place at the rear of the cabinet.
2. Starting with screw (A) replace in order screws (A), (B), (C), (D), (E), (F) and (G) to secure the back panel of the dryer to the cabinet. (Fig. 47)
3. Move the dryer back into its installed location.
4. Replace the heat source assembly (burner assembly and funnel or heat element and duct).
5. Replace the drum.
6. Reach underneath drum to locate idler pulley. Push idler pulley to left to wrap the belt around motor pulley.
7. Replace the front panel.

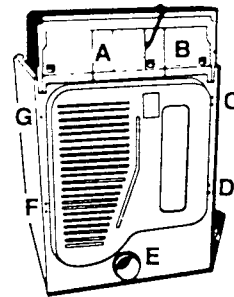


Fig. 47

-- NOTES --

SECTION FOUR

TROUBLESHOOTING and DIAGNOSIS

TROUBLESHOOTING GUIDE

CONDITION	POSSIBLE CAUSE	SOLUTION
Dryer will not run.	<p>No power to unit. Door switch not making. Thermal fuse open. Broken belt or belt switch.</p> <p>Timer Motor</p> <p>Push-to-start relay</p>	<p>Check voltage supply. Check door switch wiring and continuity. Check fuse continuity. Check for broken belt or check belt switch for continuity. Check timer contacts for continuity. Check voltage to motor, contacts 4 & 5, (120VAC). Check motor windings for continuity, (2-4 ohms). Check PTS contacts R1 - R2, while pushing start switch. Check PTS relay coil R2 - CT1 for continuity.</p>
No heat in dryer.	<p>Improper voltage supply. Heater Element Gas Burner</p> <p>Thermostat Thermal cut-off, Hi-limit thermostat Motor centrifugal switch</p>	<p>Check for 240VAC. (electric dryer) Check heater continuity, (8-12 ohms). Check for voltage (120VAC) to burner assembly. Check ignitor continuity. Check for gas supply. Check flame switch continuity, (0 ohms when cold). Check gas valves for continuity. Check thermostat for continuity. Check for continuity.</p> <p>Manually close centrifugal switch contacts, check for continuity, (1M-2M ohms).</p>
Drum will not rotate.	<p>Broken belt Broken belt switch Idler pulley binding.</p>	<p>Check belt. Check for continuity. Check for proper operation of idler pulley.</p>
Not heating enough.	<p>Blocked air flow Thermostat cycling too low.</p>	<p>Check lint filter, blower housing, internal and external ducting and exhaust hood. Check exhaust temperatures for proper cycling.</p>
Temperature too hot.	<p>Thermostat heater open</p>	<p>Check heater for continuity, (3200-4000 ohms). Check selector and wiring for continuity.</p>
Auto cycle timer won't advance.	<p>Timer Electronic control Dryness sensor</p>	<p>Check timer motor continuity, (4000-6000 ohms). See checkout procedure. See checkout procedure.</p>

“C” VERSION ELECTRONIC DRYER CONTROL

Component Testing

There is no reliable electrical check that can be made on the electronic control board. Do not attempt to replace any components on the electronic control board. The following tests will isolate problems with the electronic control board and other related components. (Fig. 48)

NOTE: Check all wiring and connections and perform the following tests before attempting to replace the electronic control board.

Timer Shuts Off but Clothes are Still Damp

1. Moisture Sensor -
 - a. Check for continuity between the Yellow/Red wire and chassis ground.
 - If there are no wet clothes touching the sensor, there should be NO CONTINUITY (infinity).
 - If there are wet clothes touching the sensor, There should be CONTINUITY.
 - b. If either of these readings are NOT CORRECT, replace the moisture sensor.
2. Timer Switch 0 -
 - a. This switch should read OPEN except at the end of a moisture sensing cycle.
 - b. If the switch reads CLOSE, replace the timer.
3. Electronic Control Board - If the moisture sensor checks GOOD and Timer Switch 0 check GOOD, replace the electronic control board.

Timer Does Not Advance but Clothes are Dry

Check to see if the timer advances in a timed cycle.

1. If timer does NOT advance in a timed cycle: Check the timer motor for continuity (1800-2900 Ω). If this reading is NOT correct, replace the timer motor.
2. If the timer DOES advance in a timed cycle but not in a moisture sensing cycle:
 - a. Check the moisture sensor. Check for continuity between the Yellow/Red wire and chassis ground.
 - If there are no wet clothes touching the sensor, there should be NO CONTINUITY (infinity).
 - If there are wet clothes touching the sensor, There should be CONTINUITY.
 - b. If either of these readings are NOT CORRECT, replace the moisture sensor.
 - c. If the moisture sensor checks GOOD, replace the electronic control board.

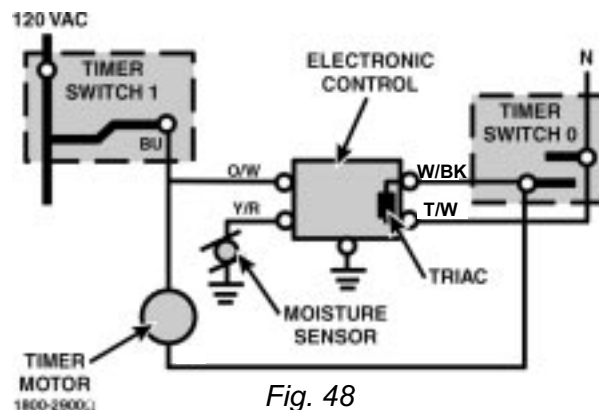
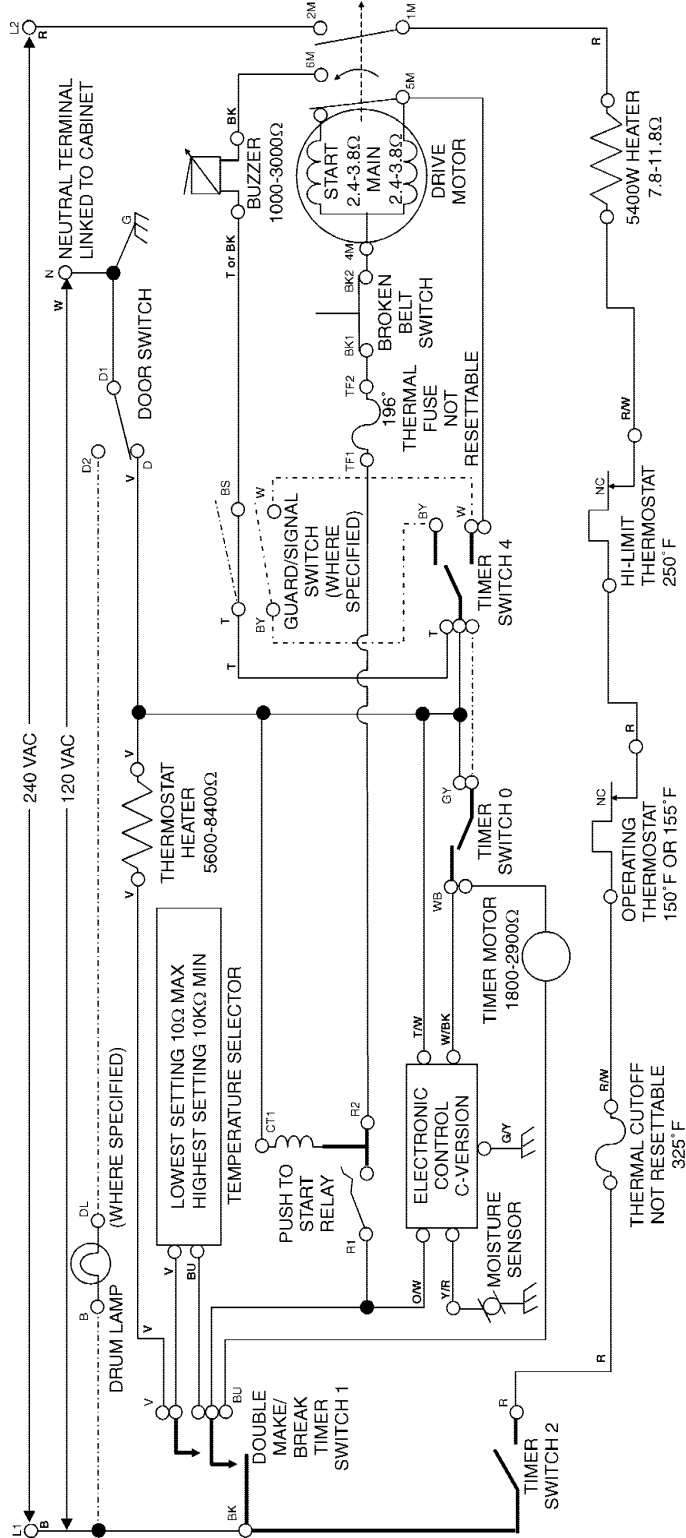


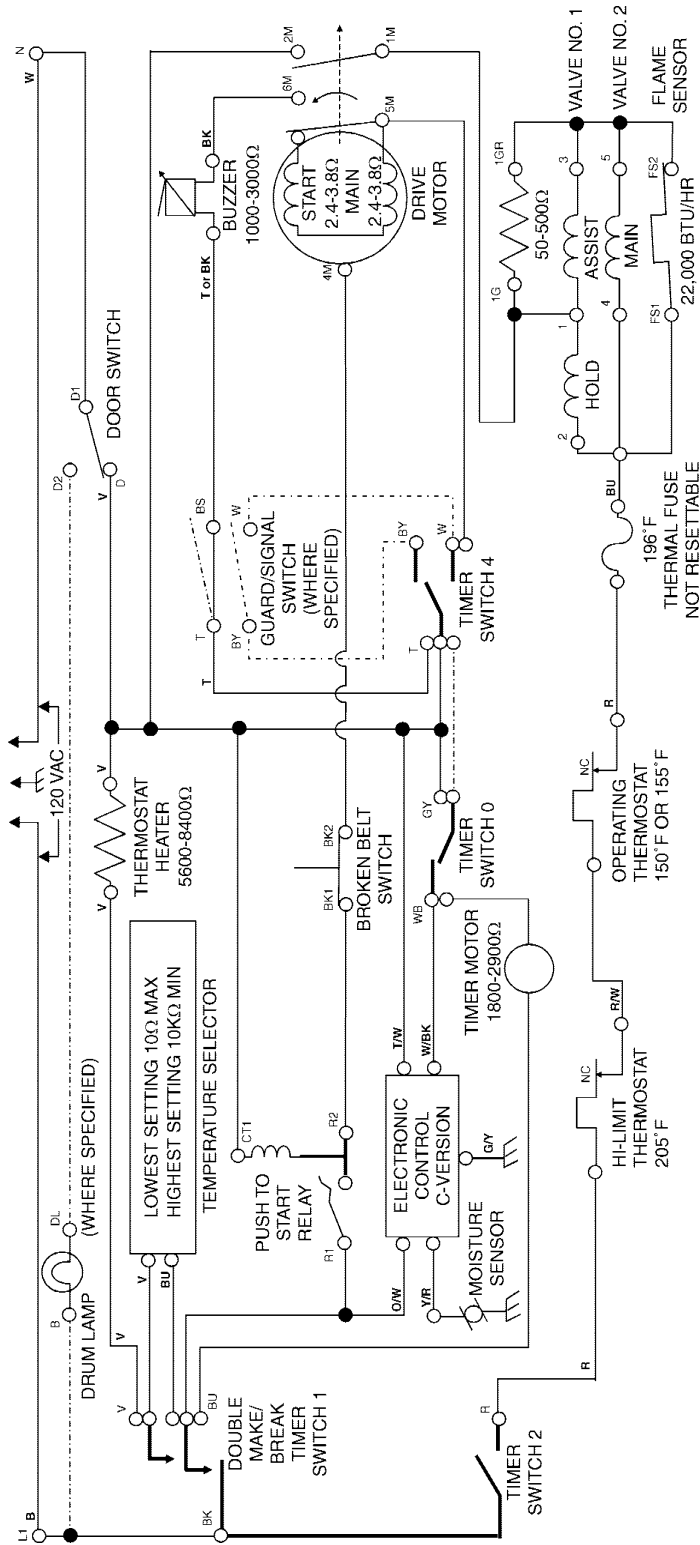
Fig. 48

SECTION FIVE TECH TIPS WIRING DIAGRAM Electric Dryer



WIRING DIAGRAM

Gas Dryer



TIMER SCHEDULE

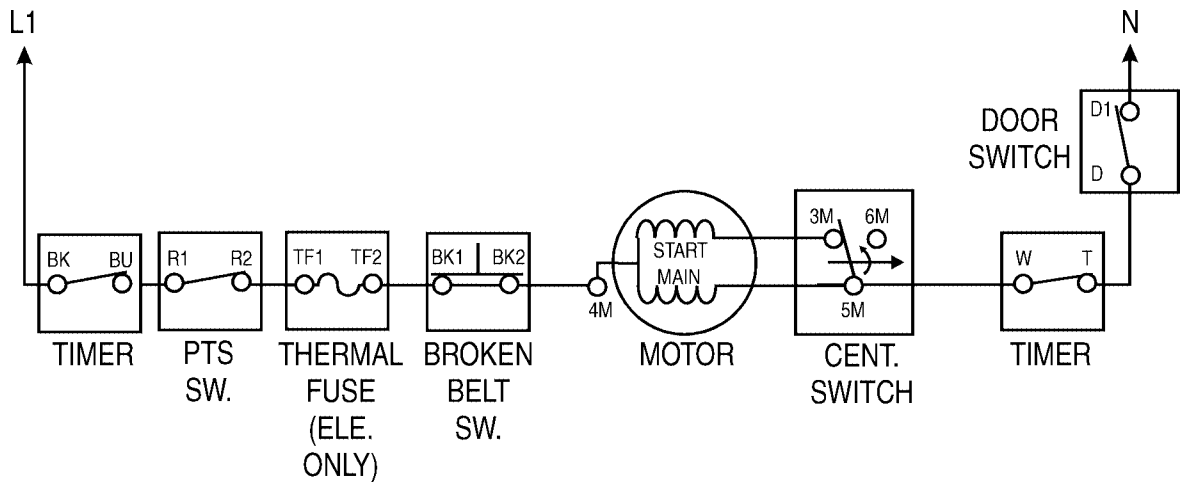
SWITCH CONTACTS	TIMER POSITION						
	AUTO-REGULAR	AUTO-SOFT/LOW HEAT	COOL DOWN & AIR DRY	END OF CYCLE	TIMED-REGULAR	TIMED-SOFT/LOW HEAT	GUARD
GY-WB							
BK-BU-V							
BK-BU							
BK-R							
T-BY							
T-W							+

LEGEND

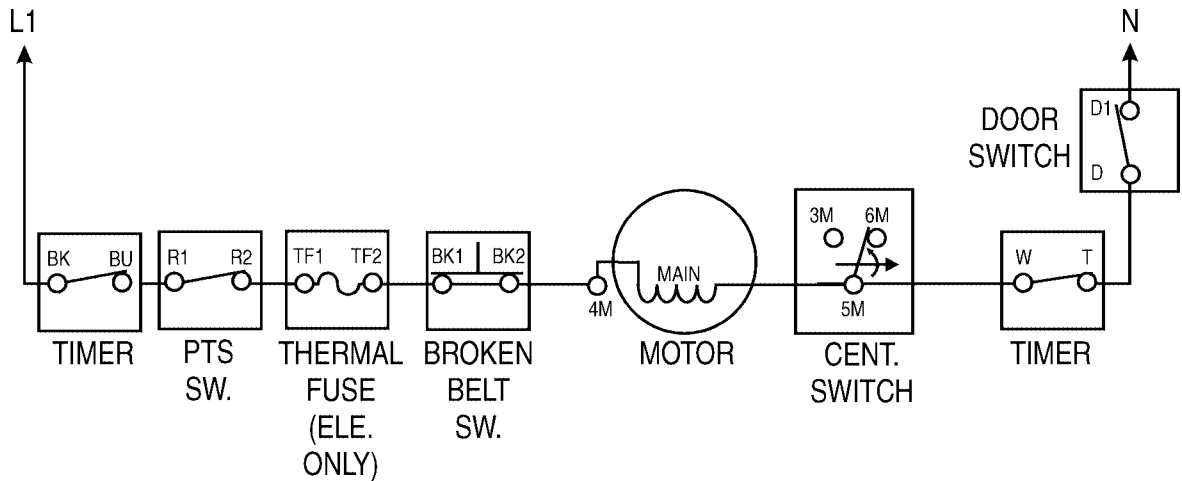
+	= CLOSED INTERMITTENT
	= CLOSED
	= EITHER
	= OPEN

STRIP CIRCUITS

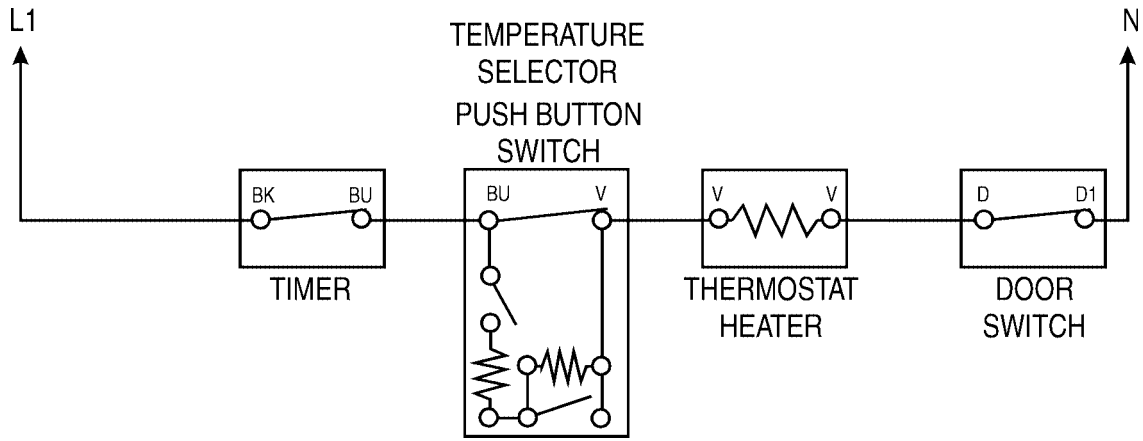
1. Drive Motor Circuit - At moment of START



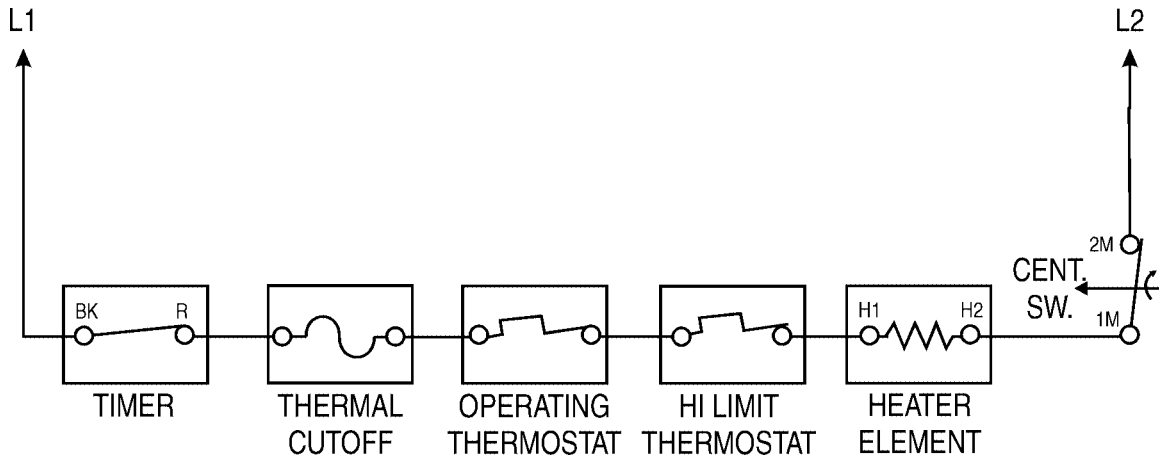
2. Drive Motor Circuit - RUNNING at speed



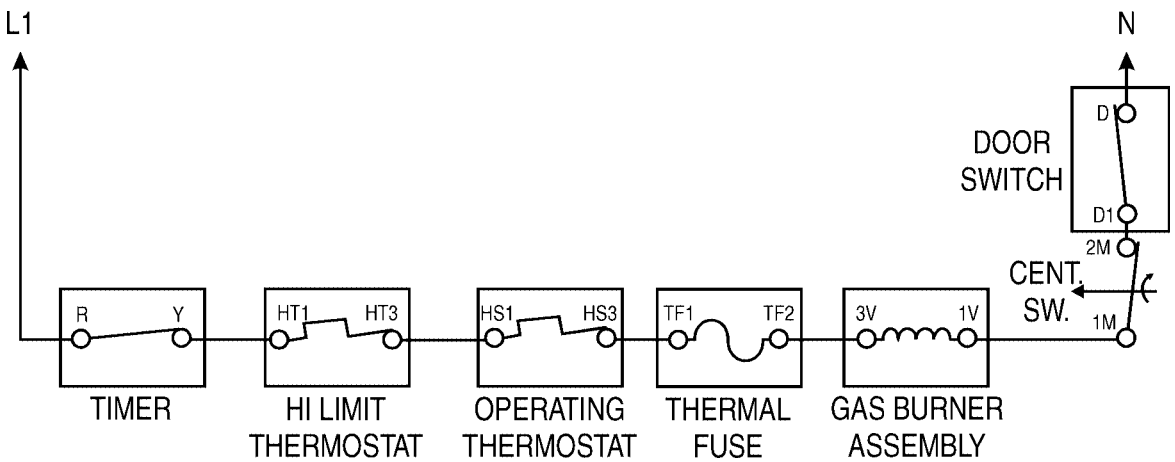
3. **Temperature Control Circuit - Thermostat heater ENERGIZED**



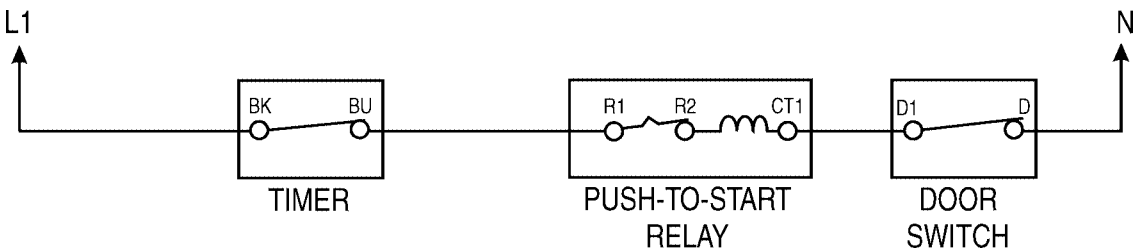
4. **Electric Heater Element Circuit - Heater element ENERGIZED.**



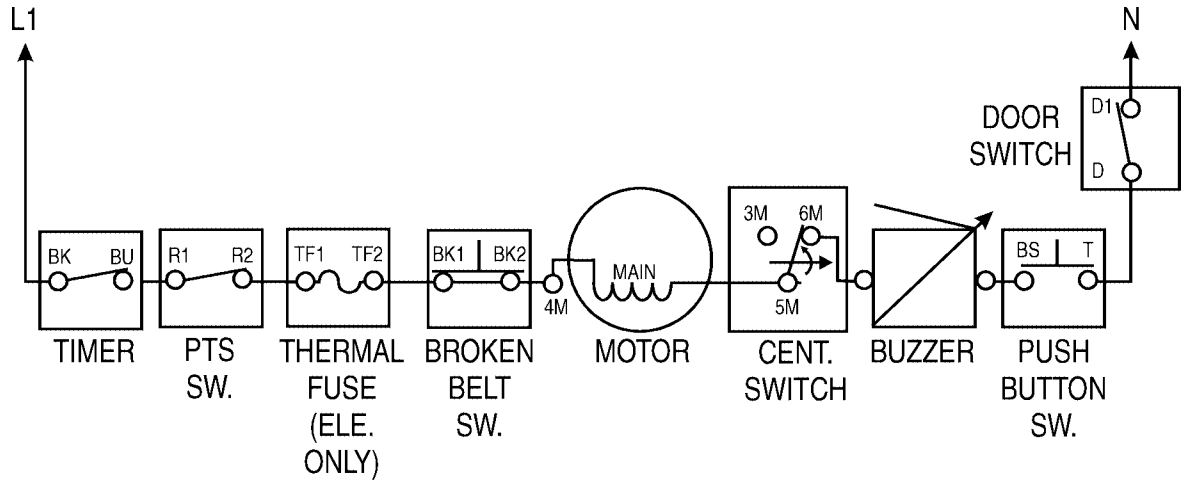
5. **Gas Burner Circuit - Burner assembly ENERGIZED.**



6. **Push-To-Start Circuit - At moment of CONTACT**



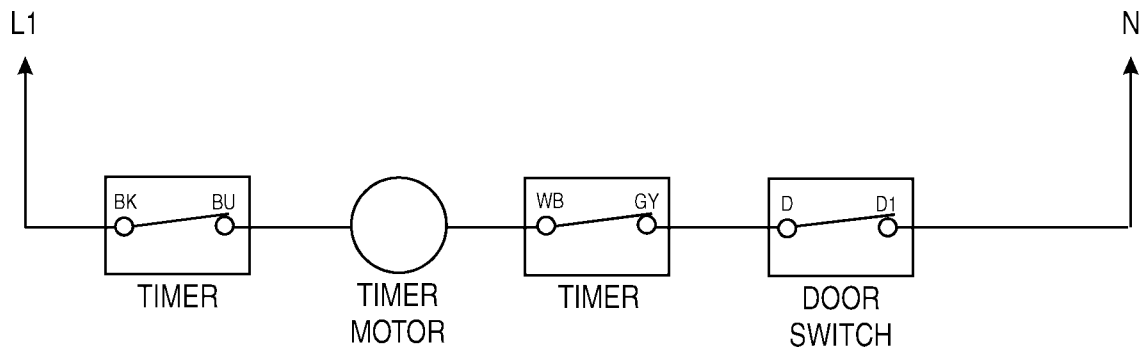
7. **Buzzer Circuit - Timer contacts OPEN**



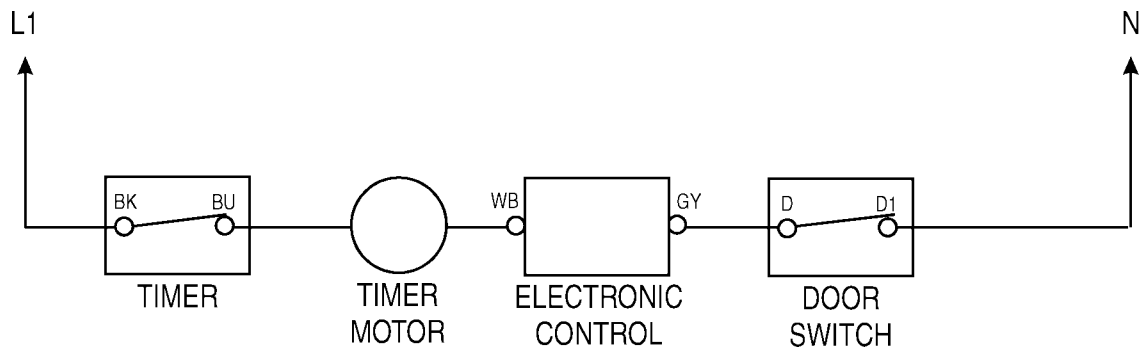
8. **Drum Lamp Circuit - Lamp LIT.**



9. **Timer Motor Circuit - Timed dry cycle.**



10. **Timer Motor Circuit - Automatic dry cycle.**



MODEL/SERIAL NUMBER PLATE LOCATION

The model/serial number plate for the Whirlpool brand 27" DRYER is located on the left side of the front panel inside the door opening. (Fig. 49)

Fig. 49

Model/Serial
Number
Plate



MODEL/SERIAL NUMBER DESIGNATIONS

The model number for the Whirlpool brand 27" DRYER contain the following designations:

Model Number	L	E	C	9	8	5	8	E	Q	0
Marketing Channel (if present)										
Product Group L = Laundry, Domestic										
E = Electric Dryer 240 Volt G = Gas Dryer										
C = Clean Touch Console										
Cycles - Domestic (9) = 9 and 10										
8 = Electronic Dry										
5 = Temperatures - Domestic										
8 = Super Capacity (WOD) Hamper 6.8 or 7.0 cu. ft.										
Year of Introduction										
Color Q = White Z = Almond										
Engineering Changes (Numeric)										

The serial number for the Whirlpool brand 27" DRYER contain the following designations:

Serial Number	M	G	03	100003
Manufacture Location M = Marion				
Year of Manufacture				
Week of Manufacture				
Product Serial Number				

FOR TECHNICAL ASSISTANCE ON WHIRLPOOL GAS AND ELECTRIC DRYERS
WHILE AT THE CUSTOMER'S HOME CALL:

THE TECHNICAL ASSISTANCE LINE: 800-253-2870

Have your store number ready to identify you as an Authorized Servicer

