



**ADG-320D and ADG-330D**  
**24 VAC Phase 5**  
Dual Microprocessor Controller (DMC)  
Mechanical/Electrical  
**Service Procedures**

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# Retain This Manual In A Safe Place For Future Reference

American Dryer Corporation products embody advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble free operation.

*ONLY qualified technicians should service this equipment.*

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

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

## FOR YOUR SAFETY

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

## POUR VOTRE SÉCURITÉ

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

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

## Important

For your convenience, log the following information:

**DATE OF PURCHASE** \_\_\_\_\_ **MODEL NO.** \_\_\_\_\_

**RESELLER'S NAME** \_\_\_\_\_

**Serial Number(s)** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Replacement parts can be obtained from your reseller or the **ADC** factory. When ordering replacement parts from the factory, you can FAX your order to **ADC** at (508) 678-9447 or telephone your order directly to the **ADC** Parts Department at (508) 678-9000. Please specify the dryer **model number** and **serial number** in addition to the **description** and **part number**, so that your order is processed accurately and promptly.

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

### **“IMPORTANT NOTE TO PURCHASER”**

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

## **IMPORTANT**

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

## **FOR YOUR SAFETY**

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

**DO NOT DRY MOP HEADS IN THE DRYER.**

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

## **CAUTION**

**DRYERS SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.**

## **WARNING**

**CHILDREN SHOULD NOT BE ALLOWED TO PLAY ON OR NEAR THE DRYERS.**

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

## **WARNING**

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

## **WARNING**

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

## **IMPORTANT**

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

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

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# SECTION I

## ROUTINE MAINTENANCE

### A. CLEANING

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

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

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

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

#### *DAILY (beginning of each work shift)*

Clean lint from baskets (tumblers).

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

#### *WEEKLY*

Clean lint accumulation from around microprocessor temperature sensor probes and sensor bracket assemblies.

#### *90 DAYS*

Remove lint from air vents and surrounding area.

**IMPORTANT:** Lint accumulation will restrict the airflow over the motor(s), causing overheating and irreparable motor damage. Motor failure due to lint accumulation will VOID THE WARRANTY.

Remove lint accumulation from around the openings in the dryer's back panels.

Remove lint from gas valve burner train area with a dusting brush or vacuum cleaner attachment.

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

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

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

Clean the steam coil fins (or filters). We suggest using compressed air and a vacuum cleaner with brush attachment.

**NOTE:** When cleaning steam coil fins, be careful not to bend the fins. If fins are bent, straighten by using a fin comb, which is available from local air conditioning supply houses.

### ***6 MONTHS***

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

**ALL** bearings and setscrews **should be** checked to insure that they are tight.

## **B. ADJUSTMENTS**

### ***7 DAYS AFTER INSTALLATION AND EVERY 6 MONTHS THEREAFTER***

Inspect bolts, nuts, screws (bearing setscrews), grounding connections, nonpermanent gas connections, (unions, shutoff valves, and orifices) and electrical terminations. The 12-Rib 95" (J) poly belt arrangement **should be** examined. A cracked or seriously frayed belt(s) **should be** replaced. Tighten loose belt(s) when necessary and check the alignment. Complete operational check of controls and valves. Complete operational check of **ALL** safety devices (door switches, lint compartment switches, sail switches, and burner and hi-limit thermostats).

## **C. LUBRICATION**

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



# SECTION II

## MECHANICAL

### A. TO REMOVE LINT DRAWER

1. Pull out lint drawer 3/4's of the way (approximately 20 inches [50.8 cm]).
2. Reach up into the back of the lint drawer and pull down the retainer (hinge) that is attached to the top of the lint drawer.
3. The lint drawer can now be removed.
4. Reverse procedure for reinstalling the lint drawer.

### B. TO REMOVE CONTROL (MIDDLE) OR LINT (LOWER) DOOR

1. Pull out lint drawer 3/4's of the way (approximately 20-inches [50.8 cm]). Reach into the back of the lint drawer and push down the retainer (hinge) that is attached to the top of the lint drawer.
2. Pull out the lint drawer.
3. Open the control/lint door; two (2) 1/4 turn locks, one (1) on each side.
4. Remove the control/lint door.
5. Reverse procedure to reinstall the control/lint door.

### C. TO REMOVE GAS VALVE TRAIN ASSEMBLY

1. Discontinue power to the dryer.
2. Close **ALL** gas shutoff valves in the gas supply line to the dryer.
3. Remove the lint drawer and the control/lint door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
4. Close the union shutoff valve at inlet area of the gas valve.
5. Loosen the union shutoff valve collar nut **ALL** the way.
6. Pull out gas valve train assembly 1/4 of the way. Disconnect the gas valve harness power connector at the top of the assembly.
7. Gently pull/remove the gas valve train assembly.

**IMPORTANT:** When removing the gas valve train assembly, be careful not to snag or damage the gas valve train wiring disconnected in *Step #6*.

8. Reverse procedure to reinstall the gas valve train assembly.

**NOTE:** Be sure to open **ALL** gas shutoff valves closed prior to removing the gas valve train assembly.

9. Reestablish power to the dryer.

#### D. TO REMOVE CONTROL BOX

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. Remove screw located on the bottom right hand corner of the control panel.
4. Slide out the control box and hang the control box assembly on hinges located on the right side panel, and disconnect the three (3) wiring harnesses (connectors) at the back of the control box.
5. The control box may now be taken out of the dryer completely. Depending on the service function to be performed, the control box can be attached to the two (2) female hinges on the right side of the dryer cabinet.

**NOTE:** If the control box is attached to the dryer cabinet, the three (3) wiring harnesses mentioned in *Step #4 DO NOT* need to be disconnected.

6. Reverse procedure to reinstall the control box assembly.
7. Reestablish power to the dryer.

#### E. TO REMOVE FRONT PANEL

1. Discontinue power to the dryer.
2. Remove the control box assembly (follow **Control Box Removal Procedure** in **Section D**).
3. If the bottom front panel is being removed, the lower lint door **must also be** removed.
4. Disconnect the door switch connector from the lint drawer switch box assembly located under the basket (tumbler) on the right side.

**NOTE:** There are two (2) harnesses that connect to lint drawer switch box. Locate and disconnect the one that leads to the front panel.

5. Pull up the two (2) metal fingers where the door switch harness is secured to the frame and right side panel of the dryer.
6. Remove **ALL** nine (9) screws from the front panel. There are four (4) on the left side, four (4) on the right side, and one (1) at the bottom of the panel behind the control door.
7. Gently remove the front panel assembly from dryer.
8. Reverse procedure to reinstall the front panel assembly.
9. Reestablish power to the dryer.

#### F. TO REMOVE/REPLACE LINT DRAWER SWITCH ASSEMBLY

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control/lint door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. If the top basket (tumbler) is being serviced, remove the control box assembly (follow **Control Box Removal Procedure** in **Section D**).
4. To remove the lint drawer switch box assembly, remove the two (2) screws inside the lint drawer area that secure box to the side of the lint coop.
5. Disassemble the lint drawer box assembly from the dryer by disconnecting the two (2) harness connectors from the box assembly.
6. Remove the two (2) Phillips head screws securing the cover to the switch mounting bracket.
7. Disassemble the switch from the box by removing the two (2) slotted head screws securing switch to the bracket and disconnect the terminals from the switch.
8. Reverse procedure to reinstall the lint drawer switch assembly.
9. Reestablish power to the dryer.

#### G. TO REMOVE/REPLACE SENSOR BRACKET AND/OR ITS COMPONENTS

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control/lint door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. Pull the front of the sensor bracket forward to remove it from the “S” clips. Pivot bracket downward and assembly will separate from the sensor bracket holder.

4. To disassemble bracket assembly from dryer, disconnect the two (2) harness connectors.
5. To remove the temperature sensor and the connecting harness with its connectors:
  - a. Disassemble microprocessor sensor probe from the bracket by removing the 1/4" push on fastener from the outside of the bracket.
  - b. Remove harness connectors by squeezing sides and pushing towards the center of the bracket.
  - c. Disconnect the two (2) wires from the 170° thermostat.
  - d. Reverse procedure to install new sensor probe assembly.
6. To replace the 170° thermostat:
  - a. Remove the two (2) slotted head screws, washers, and nuts securing the 170° thermostat to bracket assembly.
  - b. Reverse procedure to install new 170° thermostat.
7. Reverse procedure for reinstalling the sensor bracket.

**IMPORTANT:** When reinstalling the sensor bracket assembly to the dryer, be sure the internal wires ***DO NOT*** get pinched between the sensor bracket and the holder.

8. Reestablish power to the dryer.

## H. TO REMOVE/REPLACE BELT

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control/lint door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. If the top basket (tumbler) is being serviced, remove the control box assembly and belt guard from idler arm (follow **Control Box Removal Procedure** in **Section D**).
4. Remove front panel from basket (tumbler) being serviced (follow **Front Panel Removal Procedure** in **Section E**).
5. Loosen the tension on the idler arm adjusting spring by loosening the two (2) 9/16" nuts on the spade bolt.
6. Remove the front motor bushing from the motor shaft by the Phillips head screw. (NOTE: This screw has left hand thread.)
7. Slide belt off the idler bracket and motor shaft.
8. Push belt up into basket (tumbler) area through the brushes and opening in the wrapper.
9. Remove the belt by maneuvering it back and forth and sliding it forward with your hands up through the lint drawer area.

10. The belt will come out from the front of the dryer between the basket (tumbler) and the wrapper.
11. Reverse procedure to install new belt.

**IMPORTANT:** Be sure to set the proper belt tension at idler adjustment (follow **Belt/Idler Tension Adjustment Procedure** in **Section K**).

12. Reestablish power to the dryer.

## I. TO REMOVE/REPLACE MOTOR

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control/lint door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. If top basket (tumbler) is being serviced, remove the control box from the dryer (follow **Control Box Removal Procedure** in **Section D**).
4. Remove the two (2) 9/16" OD nuts that are on the idler tension spade bolt.
5. Remove the belt from the idler bracket and the motor shaft.
6. Remove the idler bracket; one (1) 1/2" OD bolt in the front and two (2) 1/2" OD bolts on the right side of the bracket.
7. Loosen the four (4) 1/2" OD nuts that hold the motor to the motor mount. These nuts are at the underside of the motor mount assembly.

**IMPORTANT:** *DO NOT* remove these four (4) bolts.

8. Remove the lower half of the rear split back guard panel to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
9. Remove the four (4) 7/16" OD nuts, which secure the impellor (fan/blower) cover to the blower housing.
10. Remove the two (2) 7/16" OD nuts and lock washers, which secure the impellor (fan/blower)/shaft bearing to the impellor (fan/blower) housing cover.
11. Loosen the two (2) setscrews on the impellor (fan/blower)/shaft bearing.
12. Remove the impellor (fan/blower)/shaft bearing from the shaft. To do so, wedge a slotted screwdriver blade between the bearing and impellor (fan/blower) cover and walk bearing back off shaft. The impellor (fan/blower) cover will now separate from the impellor (fan/blower) housing.
13. Remove impellor (fan/blower) lock nut (right hand) and lock washer securing impellor (fan/blower) to motor shaft. This can be done by turning the lock nut to the left with an adjustable wrench, or more advisable, with a 1-1/8" deep socket ratchet wrench in an effort to avoid damaging the lock nut.

14. Align impellor (fan/blower) to the center of the blower housing hole and remove impellor (fan/blower) by grasping fan with both hands and pulling outward. The key will also come off of the motor shaft in this procedure.
15. Return to the front of the dryer and disconnect the wiring harness from the motor.
16. Disassemble the motor from the motor mount by removing the four (4) 1/2" OD nuts (loosened in *Step #7*) securing the motor to the motor mount. Remove the motor through the front of the dryer. Reverse this procedure for installing the new motor.
17. Reconnect the wiring harness disconnected from the motor in *Step #15*.
18. Insert key into the motor shaft removed in *Step #14*, line up keyway in impellor (fan/blower) with the key in the shaft and slide impellor (fan/blower) **ALL** the way onto shaft.
19. Reinstall the lock washer and lock nut (right hand) removed in *Step #13* and tighten securely.
20. Reassemble the impellor (fan/blower)/shaft bearing to the impellor (fan/blower) cover and secure (hand tighten only) with the two (2) lock washers and nuts removed in *Step #10*. Install the housing cover and bearing assembly onto the shaft and housing. Secure with the four (4) nuts removed in *Step #9*. Secure the two (2) setscrews on the impellor (fan/blower)/shaft bearing. Be sure that these setscrews are securely in place.
21. The impellor (fan/blower) **must now be** adjusted/centered in the blower housing. Align the center of the motor shaft at impellor (fan/blower) shaft bearing, so that the center of the motor shaft is exactly 8-inches (20.32 cm) from the left side panel.
  - a. Once the impellor (fan/blower) is properly centered, tighten the two (2) nuts of the impellor (fan/blower)/shaft bearing that were hand tightened in *Step #20*.

**IMPORTANT:** Failure to have the impellor (fan/blower) properly aligned can result in the impellor (fan/blower) being damaged.

22. Reinstall the lower half of the rear split back guard panel removed in *Step #8*.
23. The motor **must now be** aligned and secured in place. To do so, position the motor so that there is exactly 8-inches (20.32 cm) from the center of the motor shaft bushing (Phillips head screw securing the bushing to motor shaft) to the right side panel and tighten the four (4) nuts (loosened in *Step #7*), which secures the motor to the motor mount.
24. Reassemble idler bracket and hardware removed in *Step #6*. Assemble the two (2) 9/16" OD nuts onto the idler tension spade bolt removed in *Step #4*. **DO NOT** tighten these two (2) 9/16" nuts at this time.
25. Reconnect drive belt and then make necessary belt tension adjustment (follow **Belt/Idler Tension Adjustment Procedure** in **Section K**).
26. Reverse *Step #1 through Step #3*.

## J. TO REMOVE/REPLACE IMPELLOR (FAN/BLOWER)

1. Discontinue power to the dryer.
2. Remove the lint drawer, the control/lint door, and the control box from the dryer (follow **Control Box Removal Procedure** in **Section D**).

**NOTE:** If lower basket (tumbler) is being serviced, the control box **does not** have to be removed.

3. Loosen, (**DO NOT** remove) the four (4) 1/2" OD nuts that hold the motor to the motor mount. These nuts are at the underside of the motor mount assembly.
4. Remove the lower half of the rear split back guard panel to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
5. Remove the four (4) 7/16" OD nuts, which secure the impellor (fan/blower) housing cover to the blower housing.
6. Remove the two (2) 7/16" OD nuts and lock washers, which secure the impellor (fan/blower)/shaft bearing to the impellor (fan/blower) housing.
7. Loosen the two (2) setscrews on the impellor (fan/blower)/shaft bearing.
8. Remove the impellor (fan/blower)/shaft bearing from the shaft. To do so, wedge a slotted screwdriver blade between the bearing impellor (fan/blower) cover and walk bearing back off the shaft. The impellor (fan/blower) cover will also now separate from impellor (fan/blower) housing.
9. Remove impellor (fan/blower) lock nut (right hand) and lock washer securing the impellor (fan/blower) to the motor shaft. This can be done by turning the lock nut to the left with an adjustable wrench, or more advisable, with a 1-1/8" deep socket ratchet wrench in an effort to avoid damaging the lock nut.
10. Align impellor (fan/blower) to the center of the impellor (fan/blower) housing hole and remove impellor (fan/blower) by grasping fan with both hands and pulling outward. The key will also come off motor shaft in the procedure.
11. To install the impellor (fan/blower):

Insert key into motor shaft removed in **Step #10**. Line up keyway in impellor (fan/blower) with key in the shaft and slide impellor (fan/blower) **ALL** the way onto shaft.

12. Reinstall the lock washer and lock nut removed in **Step #9** and tighten securely.
13. Reassemble the impellor (fan/blower)/shaft bearing to the impellor (fan/blower) cover and secure (hand tighten only) with the two (2) lock washers and nuts removed in **Step #6**. Install the housing cover and bearing assembly onto the shaft and housing. Secure with the four (4) nuts removed in **Step #5**. Secure the two (2) setscrews on the impellor (fan/blower)/shaft bearing. Be sure that these setscrews are securely in place.

14. The impellor (fan/blower) **must now be** adjusted/centered in the blower housing. Align the center of the motor shaft (at impellor [fan/blower]/shaft bearing), so that the center of the motor shaft is exactly 8-inches (20.32 cm) from the left side panel.
  - a. Once the impellor (fan/blower) is properly centered, tighten the two (2) nuts of the impellor (fan/blower)/shaft bearing that were hand tightened in **Step #13**.

**IMPORTANT:** Failure to have the impellor (fan/blower) properly aligned can result in the impellor (fan/blower) being damaged.

15. Reinstall the lower half of the rear split back guard panel removed in **Step #4**.
16. The motor **must now be** realigned and secured in place. To do so, position the motor so that it is exactly 8-inches (20.32 cm) from the center of the motor shaft to the right side panel. Tighten the four (4) nuts which secure motor to the motor mount loosened in **Step #3**.
17. Make the necessary belt/idler tension adjustment (follow **Belt/Idler Tension Adjustment Procedure** in **Section K**).
18. Reverse **Step #1 and Step #2**.

## K. BELT/IDLER TENSION ADJUSTMENT

1. Discontinue power to the dryer.
2. Remove the lint drawer, the control/lint door, and the control box assembly from the dryer (follow **Control Box Removal Procedure** in **Section D**).

**NOTE:** If lower basket (tumbler) is being serviced, the control box **does not** have to be removed.

3. To adjust tension, while holding spade tension bolt in place (i.e., with channel lock pliers), loosen the 9/16" OD locking nut. To increase tension, tighten the inner 9/16" OD nut; to decrease tension, loosen the inner nut.

**NOTE:** Approximate proper belt tension - when there is a 1-inch (2.54 cm) space between the idler adjustment bracket and the first thread on the right hand side of the spade tension bolt.

4. Once proper adjustment is achieved, secure the 9/16" locking nut.
5. Reverse **Step #1 and Step #2**.



## L. TO REMOVE DUAL MICROPROCESSOR CONTROLLER (DMC) COMPUTER PANEL ASSEMBLY

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. Remove screw in the lower right hand corner of the control panel, securing the panel to the control box.
4. Open the control panel and disconnect **ALL** the harnesses (the two [2] 9-pin wire harness connectors and the 4-pin connector wiring harness) that are connected to the DMC computer.
5. To remove the control panel assembly from the control box, gently tap the bottom edge of the control panel while lifting panel upward off hinges.
6. Reverse procedure to reinstall the control panel assembly.
7. Reestablish power to the dryer.

## M. TO REPLACE DMC COMPUTER

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. Remove screw in the lower right hand corner of the control panel, securing panel to control box.
4. Open control panel and disconnect **ALL** the harnesses (the two [2] 9-pin wire harness connectors, the 3-pin connector wiring harness coming from coin acceptor optic switch[es], and the one [1] 4-pin power wire harness connector) that are connected to the DMC computer.

**NOTE:** These connectors can be removed from the DMC computer by squeezing the side tabs while pulling the connector outward.

5. Depending on the service function to be performed, the control panel assembly can be left on the control box or removed entirely from the dryer. To remove the control panel, follow **Control Panel Removal Procedure** in **Section L, Step #5**.
6. Disconnect the keyboard (touch pad) ribbon connector by holding onto the blue ribbon connector and pulling outward.
7. Remove the two (2) screws securing the DMC computer to the metal control panel and gently disassemble the DMC computer from the panel.
8. Install the new DMC computer by reversing the procedure in **Step #7**.

**IMPORTANT:** When installing the new Dual Microprocessor Controller (DMC) computer, make sure that the transformer on the DMC computer is located at the bottom area of the control panel.

9. Reverse *Step #1 through Step #6*.

**NOTE:** When reconnecting the optic switch harness connector for single coin acceptor models, connect the harness to the lower of the two (2) connectors on the DMC computer.

**NOTE:** For models with the dual coin option, the lower denomination harness connector (red/green and orange wires) are connected to the lower connector on the DMC computer. The higher denomination harness (black/green/orange wires) are connected to the higher connector on DMC computer.

## N. TO REPLACE KEYBOARD (TOUCH PAD)

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control door from the dryer (follow **Lint Drawer and Control/Lint Drawer Removal Procedures** in **Section A** and **Section B**).
3. Remove screw located in the bottom right hand corner of the control panel.
4. Open the control panel and disconnect keyboard (touch pad) ribbon connector from the DMC computer by holding onto the blue ribbon connector and pulling outward.
5. Remove the “U” shaped coin reject/return holder located on the bottom of the keyboard (touch pad) by removing the two (2) hex nuts (with a 1/4” nut driver) at the back side of the control panel securing the “U” coin reject/return holder to panel.
6. Peel the keyboard (touch pad) off the panel. The ribbon cable/connector will come out through the slot in the control panel.
7. To replace the keyboard (touch pad), peel the paper backing off the new keyboard (touch pad). Put the ribbon cable/connector through the slot in the control panel. Holding the new keyboard (touch pad) close to the panel, align it into position and gently press into place.
8. Replace the “U” shaped coin reject/return holder removed in *Step #5*.
9. Reverse *Step #1 through Step #4*.

## O. TO REPLACE COIN ACCEPTOR

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. Remove the screw located in the bottom right hand corner of the control panel.
4. Disconnect the optic switch connector(s) from the jumper connector(s). This is done by squeezing the optic switch connector tabs and pulling it apart.
5. Remove the two (2) nuts holding the “U” shaped coin reject/return holder by using a 1/4” nut driver.
6. Remove the two (2) nuts located at the top of the coin acceptor with the same 1/4” nut driver. The coin acceptor can now be removed.
7. Reverse procedure for installing the new coin acceptor.
8. Reestablish power to the dryer.

## P. TO REPLACE EITHER MOTOR RELAY

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. Remove screw located in the bottom right hand corner of the control panel and open control panel.
4. Either the relay can be removed with the control box in place on the dryer, or the control box can be removed from the dryer and placed on a flat surface. To remove the control box, follow **Control Box Removal Procedure** in **Section D**.
5. Disconnect the wires on the particular relay that needs to be replaced. (**NOTE:** the location of each wire on the relay.)
6. Remove the motor relay from the control box by removing the two (2) screws and nuts securing it to the control box.
7. Install new relay by reversing the steps above.

**IMPORTANT:** Be sure to note the location of wires on the relay before removal.

## Q. BASKET (TUMBLER) ALIGNMENT - VERTICAL (REFER TO PAGE 17)

1. Discontinue power to the dryer.
2. Remove the upper half of the rear split back guard panel to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
3. Loosen the four (4) hex head bolts on the sides of the bearing box (two [2] on each side).
4. Back off jam nuts on the two (2) Allen head adjustment screws.
5. Turn the screws clockwise (CW) evenly to raise the basket (tumbler) or counterclockwise (CCW) evenly to lower the basket (tumbler).
6. Rotate the basket (tumbler) from the front and check alignment with the main door opening.

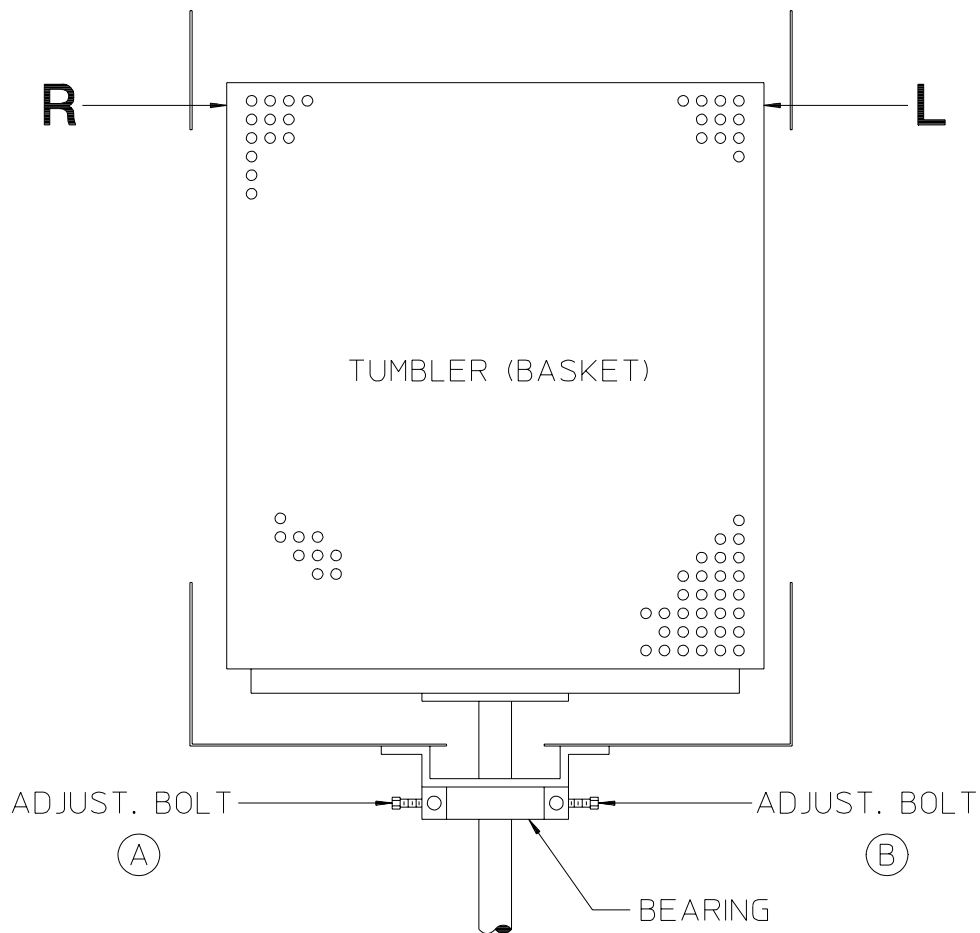
**IMPORTANT:** Leave a larger gap from the inside ring on the top of the front panel opening to the basket (tumbler), and a smaller gap on the bottom to compensate for the weight of the clothes being dried.

7. Tighten the four (4) hex head bolts on the sides of the bearing box and the two (2) jam (hex) nuts on the Allen head adjustment screws.
8. Check the belt tension and make the necessary adjustments (follow **Belt/Idler Tension Adjustment Procedure** in **Section K**).
9. Reinstall the upper half of the rear split back guard panel removed in **Step #2**.
10. Reestablish power to the dryer.

## R. BASKET (TUMBLER) ALIGNMENT (LATERAL)

1. Discontinue power to the dryer.
2. Remove the upper half of the rear split back guard panel to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
3. Loosen the two (2) hex head bolts (one [1] turn is enough) that hold the pillow block bearing to the bearing box.
4. Back off the two (2) jam (hex) nuts on the side adjustment bolts. Rotate the basket (tumbler) from the front of the dryer, checking the space between the basket (tumbler) and the front panel. Door opening **should be** equal on each side.
5. The lateral adjustment (Refer to **illustration** on **next page**)
  - a. To increase gap R, loosen (turn counterclockwise [CCW]) adjustment bolt A and tighten (turn clockwise [CW]) adjustment bolt B.

- b. To decrease gap R, loosen (turn counterclockwise [CCW]) adjustment bolt B and tighten (turn clockwise [CW]) adjustment bolt A.
- c. To increase gap L, loosen (turn counterclockwise [CCW]) adjustment bolt B and tighten (turn clockwise [CW]) adjustment bolt A.
- d. To decrease gap L, loosen (turn counterclockwise [CCW]) adjustment bolt A and tighten (turn clockwise [CW]) adjustment bolt B.



## REAR OF DRYER

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6. Tighten and secure both adjustment bolts and jam (hex) nuts.
7. Tighten bearing bolts loosened in *Step #3*.
8. Check belt tension and make the necessary adjustments (follow **Belt/Idler Tension Adjustment Procedure** in **Section K**).
9. Reinstall the upper half of the rear split back guard panel removed in *Step #2*.
10. Reestablish power to the dryer.

## S. TO REPLACE BASKET (TUMBLER) AND/OR BASKET (TUMBLER) SUPPORT

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control/lint door from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. If lower basket (tumbler) is being serviced, proceed to **Step #4**.

If upper basket (tumbler) is being serviced, slide the control box out 3/4's of the way and disconnect the three (3) wire harness connectors located at the back of the control box, then remove control box from the dryer.

4. Remove front panel from the basket (tumbler) being serviced (follow **Front Panel Removal Procedure** in **Section E**).
5. Remove belt from dryer (follow **Belt Removal Procedure** in **Section H**).
6. Remove both the upper and lower halves of the rear split back guard panels to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
7. Loosen the two (2) setscrews on the pillow block bearing and flange bearing. (The two [2] setscrews on the flange bearing can be reached through the opening at the bottom of the bearing box.)
8. Remove the basket (tumbler) and support assembly from the front of the dryer. If the basket (tumbler) **cannot** be removed freely, clean the shaft area (with emery cloth) and spray with WD-40 or a similar lubricant. Then, with a block of wood against the shaft end, strike the block of wood with a hammer or mallet to move shaft past any burrs made by the setscrews.

**IMPORTANT: DO NOT** strike the shaft directly with a hammer.

9. If entire basket (tumbler) and support assembly is being replaced, proceed to **Step #11**.
10. Removal of support from the basket (tumbler):
  - a. Remove the socket setscrew at center of inside basket (tumbler) back wall.
  - b. Loosen and remove the three (3) sets of nuts and washers from the basket (tumbler) tie rods, then remove the three (3) tie rods.
  - c. Reassemble support to basket (tumbler) by reversing the procedure.
11. Reassemble the basket (tumbler) and support assembly into the dryer by reversing **Step #7 and Step #8**.
12. Reinstall the belt removed in **Step #5**.
13. Reinstall the front panel removed in **Step #4**.

14. Make the necessary vertical alignment and lateral alignment adjustments (follow **Basket [Tumbler] Vertical Alignment and Basket [Tumbler] Lateral Alignment Procedures** in **Section Q** and **Section R**).
15. Reinstall both the upper and lower halves of the rear split back guard panels removed in *Step #6*.
16. Make the necessary belt/idler adjustment (follow **Belt/Idler Tension Adjustment Procedure** in **Section K**).
17. Reverse *Step #1 through Step #3*.

## T. TO REPLACE BASKET (TUMBLER) SUPPORT PILLOW BLOCK BEARING

1. Discontinue power to the dryer.
2. Remove the upper half of the rear split back guard panel to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
3. Loosen pillow block bearing adjustment jam (hex) nuts and bolts (one [1] on each side of bearing support).
4. Loosen the two (2) bearing setscrews.
5. Remove the two (2) sets of nuts, washers, and bolts securing the bearing to the bearing box support, then remove the bearing.
6. Reinstall bearing and hardware by reversing *Step #3 through Step #5*.
7. Make the necessary vertical alignment and lateral alignment adjustments (follow **Basket [Tumbler] Vertical Alignment and Basket [Tumbler] Lateral Alignment Procedures** in **Section Q** and **Section R**).

**IMPORTANT:** Make sure proper belt adjustment is made.

8. Reinstall the upper half of the rear split back guard panel removed in *Step #2*.
9. Reestablish power to the dryer.

## U. TO REPLACE BASKET (TUMBLER) SUPPORT FLANGE BEARING

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control/lint door (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. If the lower basket (tumbler) is being serviced, proceed to *Step #4*.

If upper basket (tumbler) is being serviced, slide the control box out 3/4s of the way and disconnect the three (3) wire harness connectors located at the back of the control box, then remove the control box from the dryer.

4. Remove front panel from the basket (tumbler) being serviced (follow **Front Panel Removal Procedure** in **Section E**).
5. Remove belt from dryer (follow **Belt Removal Procedure** in **Section H**).
6. Remove the upper half of the rear split back guard panel to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
7. Loosen the two (2) setscrews on the pillow block bearing and flange bearing. The two (2) setscrews on the flange bearing can be reached through the opening at the bottom of the bearing box.
8. Remove the basket (tumbler) and support assembly from the front of the dryer. If the basket (tumbler) **cannot** be removed freely, clean shaft area (with emery cloth) and spray with WD-40 or a similar lubricant. Then, with a block of wood against the shaft end, strike the block of wood with a hammer or mallet to move shaft past any burrs made by the setscrews.

**IMPORTANT: *DO NOT* strike the shaft directly with a hammer.**

9. Remove the four (4) sets of nuts, washers, and bolts securing the bearing box assembly to the dryer. Then, remove the bearing box assembly.
10. Remove the four (4) nuts securing the flange bearing to the dryer, then remove the bearing from dryer. Reverse procedure for installing new bearing.
11. Reassemble basket (tumbler)/support assembly into the dryer.
12. Reassemble bearing box assembly to dryer.
13. Reconnect belt to idler/motor removed in **Step #5**.
14. Reinstall the front panel removed in **Step #4**.
15. Make the necessary vertical alignment and lateral alignment adjustments (follow **Basket [Tumbler] Vertical Alignment and Basket [Tumbler] Lateral Alignment Procedures** in **Section Q** and **Section R**).
16. Check belt tension and make the necessary adjustments (follow **Belt/Idler Tension Adjustment Procedure** in **Section K**).



## V. TO REPLACE 330° (BURNER) HI-LIMIT SWITCH (THERMOSTAT)

**NOTE:** The 330° (burner) hi-limit switch (thermostat) is located on the burner box chamber at the rear of dryer.

1. Discontinue power to the dryer.
2. Remove the lower half of the split back guard panel to either the top or the bottom basket (tumbler), depending on which basket (tumbler) is being serviced.
3. Disconnect wiring to the 330° hi-limit switch (thermostat).
4. Disassemble hi-limit from burner chamber by removing the two (2) sheet metal screws securing hi-limit to the burner box chamber.
5. Reverse procedure for installing new 330° (burner) hi-limit switch (thermostat).
6. Reestablish power to the dryer.

## W. TO REPLACE SAIL SWITCH

**NOTE:** The sail switch/damper is located in the area of the gas valve train assembly.

1. Discontinue power to the dryer.
2. Remove the lint drawer and the control/lint door (follow **Lint Drawer and Control/Lint Door Removal Procedures** in **Section A** and **Section B**).
3. Remove the sail switch/damper rod assembly from the dryer.
4. Disassemble the sail switch bracket assembly from the dryer by removing the two (2) Phillips head screws located in the lint drawer area.
5. Disassemble the sail switch from the mounting bracket by loosening and removing the two (2) slotted head machine screws securing the sail switch to the sail switch bracket.

**NOTE:** When disassembling the sail switch from the bracket, hold on to the twin speed nut located at the back side of the sail switch bracket into which the screws are threaded.

6. Disconnect the two (2) wires from the sail switch.
7. Reverse **Step #3 through Step #6** to install new sail switch.
8. Adjust the sail switch by bending the actuator arm of the switch itself, so that when the sail switch damper is manually closed, the sail switch activates and when the damper is released, the sail switch deactivates.
9. Reverse **Step #1 and Step #2**.

## X. TO REPLACE MAIN DOOR SWITCH

1. Discontinue power to the dryer.
2. Open the main door completely.
3. Remove the two (2) Phillips head screws holding the main door switch housing in place.
4. Disconnect the main door switch wires from the switch (two [2] yellow wires).
5. Disassemble door switch by removing the two (2) nuts and washers holding the door switch in place.
6. Reverse this procedure to install new door switch.

**IMPORTANT:** UNDER NO CIRCUMSTANCES should the door switch be disabled.

**IMPORTANT:** When reinstalling the door switch housing to the dryer, be sure the internal wires *DO NOT* get pinched between the door switch housing and the front panel.

7. Reestablish power to the dryer.

## Y. TO REPLACE DIRECT SPARK IGNITION (DSI) MODULE

1. Remove the lint drawer, the control/lint door, and the gas valve train assembly from the dryer (follow **Gas Valve Train Removal Procedure** in **Section C**).
2. Disassemble the DSI module/bracket assembly from the gas valve train slide by removing the two (2) sets of nuts and washers securing the bracket to the gas valve train.
3. Disconnect **ALL** wiring to the DSI module including the orange high voltage (HV) lead.

**IMPORTANT:** Identify the location of each wire for correct reinstallation.

4. Disassemble the DSI module from the bracket by removing the four (4) sets of nuts and washers securing the DSI module to the bracket.
5. Reverse *Step #3 through Step #5* to install the new DSI module.

**IMPORTANT:** Be sure wires removed in *Step #4* are connected to the correct terminal positions. When connecting the orange high voltage (HV) lead to the DSI module, be sure it is securely in place.

6. Reinstall the gas valve train, the control/lint door, and the lint drawer removed in *Step #2*.
7. Reestablish power to the dryer.

## Z. TO REPLACE IGNITOR/PROBE ASSEMBLY

1. Discontinue power to the dryer.
2. Remove the lint drawer, the control/lint door, and the gas valve train assembly from dryer (follow **Gas Valve Train Removal Procedure** in Section C).
3. To replace either ignitor probe or flame sensor probe, simply remove Phillips head screw holding device to bracket and disconnect wire.
4. Reverse **Step #2 and Step #3** to install the new ignitor and/or flame-probe assembly.
5. Reestablish power to the dryer.

## AA. TO REPLACE GAS VALVE

1. Discontinue power to the dryer.
2. Close **ALL** gas shutoff valves in gas supply line to the dryer.
3. Remove the lint drawer, the control/lint door, and the gas valve train assembly from dryer (follow **Gas Valve Train Removal Procedure** in Section C).
  - a. Remove the two (2) sheet metal screws from bottom side of the gas valve train slide, which secure the brackets at the inlet side of the gas valve.
  - b. Remove the two (2) sets of nuts securing the manifold bracket to the gas valve train slide and disassemble valve/manifold assembly from slide.
4. Remove 1/2" street elbow from inlet side of gas valve.
5. Remove manifold from gas valve.
6. Remove pressure test line (brass) elbow from the gas valve pressure tap.
7. Reverse **Step #4 through Step #6** to install the new gas valve.

**IMPORTANT:** When using pipe dope for gas connections, only pipe dope suitable for both natural gas and liquid propane (L.P.) gas applications is to be used!!!

**NOTE:** The new gas valve is supplied with a plug at the pressure tap. Remove this plug and replace it with the brass elbow removed in **Step #6**.

8. Reassemble the gas valve/manifold assembly to the gas valve train slide by reversing **Step #3**.

**NOTE:** When making wiring connections, be sure the jumper wire is in place at gas valve terminal #1 and terminal #3.

9. Reinstall the gas valve train assembly into dryer removed in **Step #3**.

**NOTE:** Be sure the union shutoff valve at the inlet area of the gas valve is in the "On" (open) position.

10. Reinstall the control/lint door and the lint drawer removed in *Step #3*.
11. Open **ALL** shutoff valves closed in *Step #2*.
12. Reestablish power to the dryer.

## **BB. TO CONVERT DRYER FROM NATURAL GAS TO LIQUID PROPANE (L.P.) GAS**

1. Discontinue power to the dryer.
2. Close **ALL** gas shutoff valves in gas supply line to the dryer.
3. Remove the lint drawer, the control/lint door, and the gas valve train assembly from dryer (follow **Gas Valve Train Removal Procedure** in Section C).
4. With the gas valve train assembly removed from the dryer, remove the two (2) sets of nuts securing the manifold bracket to the gas valve train slide.
5. Pull manifold/valve assembly back slightly, so that the burner orifice is exposed.
6. Unscrew burner orifice and replace with L.P. orifice.

**IMPORTANT: Use extreme care when removing and replacing orifice. THIS ORIFICE IS MADE OF BRASS, WHICH IS EASILY DAMAGED.**

**NOTE: Consult factory when replacing orifice for elevations over 2,000 feet (609.6 meters).**

7. Reinstall the valve/manifold assembly by reversing *Step #4 through Step #6*.
8. Locate valve regulator adjustment cover. Remove cover with slotted screwdriver, install the L.P. valve stem/spring kit, then reinstall cover.
9. Reinstall the gas valve train assembly removed in *Step #3*.

**NOTE: Be sure the union shutoff valve at the inlet area of the gas valve is in the “On” (open) position.**

10. Reinstall the control/lint door and the lint drawer removed in *Step #3*.
11. Convert opposite basket (tumbler) by following *Step #2 through Step #11*.
12. Once the conversion of both baskets (tumblers) is complete, open **ALL** gas shutoff valves closed in *Step #2*.

**IMPORTANT: The gas valve pressure regulators are now blocked open. Gas pressure *must now be* regulated at the source (L.P. tank) or a regulator *must be* added in the gas supply line of each dryer. A consistent water column (W.C.) pressure of 10.5 to 11.0 inches (26.1 to 27.4 mb) *must be* provided.**

13. Reestablish power to the dryer.

## CC. TO REPLACE COIN VAULT

1. Discontinue power to the dryer.
2. Remove both the upper and lower lint drawers and the control/lint doors from the dryer (follow **Lint Drawer and Control/Lint Door Removal Procedures** in Section A and Section B).
3. Remove the control box and the lower front panel from the dryer (follow **Front Panel Removal Procedure** in Section E).
4. Remove the coin box.
5. From inside of coin vault, loosen and remove the four (4) nuts securing the coin vault to dryer inner top. Then, remove the coin vault from the dryer.
6. Install the new coin vault by reversing *Step #5*. **DO NOT** tighten the four (4) nuts, they **must be** left loose at this time for the coin vault adjustment.
7. Reinstall the front panel removed in *Step #3*.
8. Tighten the four (4) coin vault hex nuts left loose in *Step #6*.
9. Reinstall the coin box removed in *Step #4*.
10. Reinstall the control box removed in *Step #3*.
11. Reinstall control/lint doors and lint drawers removed in *Step #2*.
12. Reestablish power to the dryer.

## DD. TO REMOVE MAIN DOOR

1. Open main door completely.
2. While holding the door in place, remove the four (4) Phillips head screws securing main door to the front panel hinge.
3. Reinstall the main door by reversing procedure.

## EE. TO INSTALL NEW MAIN DOOR GLASS

1. Remove the main door assembly from the dryer (follow **Main Door Removal Procedure** in **Section DD**).
2. Lay main door on flat surface with front of door face down.
3. Apply a narrow bead of silicone (ADC P/N: 170730) **ALL** around the main door area where the glass will rest.

**IMPORTANT:** This area *must be* completely cleaned for correct bonding.

4. Install the glass onto the door glass adhesive and slightly press glass in place.

**IMPORTANT:** *DO NOT* press hard or silicone thickness between the glass and the door **will be** reduced resulting in poor bonding.

5. The door assembly **should now be** put in an area where it **will not be** disturbed for at least 24 hours. Depending on the conditions, the curing time of this adhesive is 24 to 36 hours.
6. After the 24 to 36 hour curing period, reinstall main door onto the dryer.

## FF. TO REPLACE MAIN DOOR GASKET

1. Open the main door completely.
2. Remove **ALL** existing main door gasket material with a putty knife or similar device. Make sure the door surface is as clean as possible.
3. Apply a small bead of adhesive (ADC P/N: 170730) **ALL** around the main door gasket cavity area.
4. Gently push the gasket in place starting at the left side of the door (near the main door switch).
5. Dryer **should be** left out of operation for at least 8 hours.

## GG. TO REPLACE MAIN DOOR HINGE

1. Discontinue power to the dryer.
2. Remove the lint drawer, the control/lint door, the control box, and the front panel from the dryer (follow **Control Box Removal Procedure** in **Section D**).

**NOTE:** Before removing the front panel from the dryer, remove the main door assembly (follow **Main Door Removal Procedure** in **Section DD**).

3. Remove the main door switch housing from the front panel (follow **Main Door Switch Replacement Procedure** in **Section X**).
4. Disassemble main door hinge from the front panel by removing the four (4) nuts securing hinge to back side of the front panel.
5. Position the new hinge, so that the part of the hinge that the main door is secured to, is towards the front panel main door opening.
6. Install hinge studs through the front panel holes and secure in place with the four (4) nuts removed in **Step #4**.
7. Reinstall the main door switch housing removed in **Step #3**.
8. Reverse **Step #1 and Step #2**.

# SECTION III

## TROUBLESHOOTING

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

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

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

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

**WARNING:** ALL SERVICE AND TROUBLESHOOTING SHOULD BE PERFORMED BY A QUALIFIED PROFESSIONAL.

**WARNING:** WHILE MAKING REPAIRS, OBSERVE ALL SAFETY PRECAUTIONS DISPLAYED ON THE DRYER AND/OR SPECIFIED IN THIS MANUAL.

### **A. No light emitting diode (L.E.D.) display...**

1. Service panel fuse blown or tripped breaker.
2. Blown control circuit fuse (3AG 1/2-amp [Slo-Blo] fuse).
3. Failed Dual Microprocessor Controller (DMC) computer.

### **B. Basket (tumbler) motor does not start, DMC computer shows drying cycle in progress and L.E.D. motor indicator dot is on...**

1. DMC computer indicator is on...
  - a. Failed motor contactor/relay.
  - b. Failed motor.
2. DMC computer indicator is off (and L.E.D. display does not read “door”)...
  - a. Failed DMC computer.

### **C. Basket (tumbler) does not turn but motor and DMC computer motor L.E.D. dot and motor output L.E.D. indicators are on...**

1. Loose basket (tumbler) belt (check tension/adjustment).
2. Basket (tumbler) belt jumped off motor or idler shaft.
3. Broken basket (tumbler) belt.



**D. The dryer will not stop, even with no cycle (light emitting diode [L.E.D.] display reads “FILL”) in progress...**

1. Failed motor contactor/relay.

**E. The dryer operates for a few minutes, and with the dual microprocessor controller (DMC) computer motor L.E.D. indicator dot on, the motor stops, and then after a period of time restarts on its own...**

1. Motor is overheating and tripping out on its internal overload...

- a. Motor air vents clogged with lint.

- b. Low voltage to motor.

**F. The dryer operates for a few minutes and then stops...DMC computer L.E.D. display continues to read cycle in progress, indicator dots are off and dryer can be restarted by pressing selection key...**

1. Intermittent connection in main door/lint drawer circuit...

- a. Main door switch or lint drawer switch is out of proper adjustment.

- b. Loose connection in main door switch or lint drawer switch wiring.

- c. Failed main door switch or lint drawer switch.

**G. The dryer does not start, and the DMC computer L.E.D. display reads “door”...**

1. DMC “door” input L.E.D. is off...

- a. Main door and/or lint drawer is not properly closed.

- b. Failed main door switch.

- c. Failed lint drawer switch.

- d. Open circuit (broken wire and/or termination) in main door switch circuit wiring or lint drawer switch circuit wiring.

- e. Failed 24 VAC step down transformer.

2. DMC “door” input L.E.D. is on...

- a. Failed DMC computer.

**H. The dryer does not start (coin models only)...coin(s) inserted and the L.E.D. display continues to read “FILL” and/or “Amount to Start” (does not read “PUSH”)...**

1. Coin acceptor is not adjusted properly (housing is not flush with panel) or is dirty with lint.

2. Failed coin acceptor optic switch.

3. Parameter in Program Location 01 (PL01) set incorrectly.
  - a. Bad coin program **should be** set for “bCrS” and not “bCLO.”

**I. Dual Microprocessor Controller (DMC) computer light emitting diode (L.E.D.) display reads “dSFL”...**

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

**NOTE:** Once the DMC computer detects a problem, it updates every 30 seconds so that if a problem was a loose connection in this circuit, which corrected itself, the “dSFL” display condition would automatically be canceled.

- a. Loose wire and/or termination in sensor harness somewhere between the sensor bracket and the DMC computer.
- b. Failed DMC computer temperature sensor.

**J. DMC computer L.E.D. display reads “Hot”...**

The “Hot” display condition indicates a possible overheating condition. The DMC computer monitors the temperature in the dryer at **ALL** times. If the DMC computer detects that the temperature in the dryer has exceeded 170° F (77° C), it will disable **ALL** of the dryer outputs (shut the dryer down), the buzzer (tone) will sound for approximately 5 seconds, and the L.E.D. display will read “Hot.” The L.E.D. display will continue to read “Hot” until the temperature has dropped to 170° F (77° C) or lower and the DMC computer is manually reset by closing and opening the Program Switch (PS).

Possible reasons for overheating...

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

**K. Dual Microprocessor Controller (DMC) computer light emitting diode (L.E.D.) display reads “SEFL”...**

The “SEFL” display condition indicates a rotational sensor circuit failure, which means that there is a fault somewhere in the basket (tumbler) rotation detection circuit...or...the DMC computer program related to this circuit (PL01) is set incorrectly in the active mode (“SEn”) where the dryer is not equipped with the optional rotational sensor and **should be** set in the nonactive mode (“nSEn”). If the dryer is equipped with the optional rotational sensor and for whatever reason the DMC computer detects that the basket (tumbler) is not turning, it will disable **ALL** of the dryer outputs (shut the dryer down), and the L.E.D. display will read “SEFL.” The L.E.D. display will continue to read “SEFL” until the DMC computer is manually reset by closing and opening the Program Switch (PS).

Possible causes...

1. Loose/slipping (out of proper adjustment) basket (tumbler) belt.
2. Broken basket (tumbler) belt.
3. Failed motor.
4. Failure in the rotational sensor circuit...
  - a. Failed rotational sensor.
  - b. Loose connection or break between the rotational sensor and the DMC computer.

**L. DMC computer will not accept any, or only accept certain keyboard (touch pad) entries...**

1. Failed keyboard (touch pad) label assembly.
2. Failed DMC computer.

**M. DMC computer locks up and the L.E.D. display reads erroneous message(s) or only partial segments...**

1. Transient power voltage (spikes)...disconnect power to the dryer, wait 1 minute (NOTE: for dryer models with the optional battery back up...disconnect battery), then reestablish power to the dryer. If problem is still evident, proceed to **Items M2** through **M4**.
2. Failed keyboard (touch pad) label assembly.
3. Improper grounding of the dryer or the DMC computer ground connections to the panel or the dryer are not proper.
4. Failed DMC computer.

**N. Dryer stops during a cycle and the DMC computer L.E.D. display returns to “FILL”...**

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

1. Refer to **Item M1**, **Item M3**, or **Item M4** above.

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

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

**O. Heating unit is not operating (no heat)...basket (tumbler) is turning, DMC computer heat indicator dot is on, but “HEAT” output light emitting diode (L.E.D.) is not...**

1. Failed DMC computer.

**P. Gas heating unit is not operating (no heat)...both DMC computer heat indicator dot and “HEAT” indicator are on...but no spark at burner area when the dryer is first started...**

1. Fault in sail switch circuit...
  - a. Sail switch is out of adjustment or has failed.
  - b. Sail switch damper is not closing or is fluttering...
    - 1) Lint drawer/screen is dirty or clogged.
    - 2) Restriction in exhaust ductwork.
2. Fault in burner hi-limit circuit or thermostat.
3. Fault in basket (tumbler) hi-limit circuit or thermostat.
4. Failed Direct Spark Ignition (DSI) module (burner control).
5. Failed DSI ignitor and/or flame-probe assembly.

**Q. No heat (gas models only)...ignitor sparks, but there is no flame at burner...**

1. DSI ignitor probe is out of adjustment.
  - a. Reposition ignitor assembly closer to the burner ribbon area. Also, check to make sure ribbon in burner is flush **ALL** around the top of the burner tube (ribbon should not stick up at any area).
  - b. Check gap between ignitor assembly and top of the burner. Gap **must be** set 1/8” +/- 1/32” (3.175 +/- 0.792 mm).
2. Failed ignitor flame-probe assembly or problem with wiring connections to the assembly.
3. No gas (check shutoff valves) or insufficient (low water column [W.C.] pressure) gas supply.

4. Failed Direct Spark Ignition (DSI) module.
5. Failed gas valve.

**R. No heat (gas models only)...ignitor sparks, burner goes on and off right away...**

1. DSI flame sensor (probe) is out of adjustment...reposition closer to the flame area.
2. Failed DSI flame sensor probe.
3. Sail switch is fluttering...
  - a. Lint drawer/screen is dirty or clogged.
  - b. Restriction in exhaust ductwork.
4. Insufficient make-up air.
5. Failed DSI module.

**S. No heat (electric models only)...both the dual microprocessor controller (DMC) computer heat indicator dot and “HEAT” output light emitting diode (L.E.D.) indicator are on...but electric oven is not operating...**

1. Fault in sail switch circuit...
  - a. Sail switch is out of adjustment or has failed.
  - b. Sail switch damper is not closing or is fluttering...
    - 1) Lint drawer/screen is dirty or clogged.
    - 2) Restriction in exhaust ductwork.
2. Fault in oven hi-limit circuit or thermostat.
3. Fault in basket (tumbler) hi-limit circuit or thermostat.
4. Failed oven contactor.
5. Failed oven electric element.

**T. No heat (steam models only)...both the DMC computer heat indicator dot and “HEAT” output L.E.D. indicator are on...but steam damper system is not operating...**

1. Fault in basket (tumbler) hi-limit circuit or thermostat.
2. No external compressed air to steam damper (80 psi [5.51 bar] is required).
3. Steam damper is stuck or damper system airflow control valve is not adjusted properly.

4. Failed steam damper 24 VAC pneumatic solenoid switch.
5. Failed steam damper piston.

#### **U. Dryer operates, but is taking too long to dry...**

1. Exhaust ductwork run is too long or is undersized...back pressure **must be** no less than 0 and **cannot** exceed 0.3 inches (0.74 mb) water column (W.C.).
2. Low and/or inconsistent gas pressure (gas models only).
3. Insufficient make-up air.
4. Poor air/gas mixture at burner (gas models only)...yellow or poor flame pattern. Adjust gas burner air adjustment shutters.
5. Lint drawer/screen is not being cleaned out on a regular basis or often enough.
6. Extractors (washers) are not performing properly.
7. Sail switch is fluttering...restriction in exhaust (gas and electric models only).
8. Failed dual microprocessor controller (DMC) computer temperature sensor...temperature calibration is inaccurate.
9. Failed DMC computer...temperature calibration is inaccurate.
10. Failed burner/oven hi-limit (gas and electric models only).
11. Failed basket (tumbler) hi-limit thermostat.
12. Steam damper system (steam models only) not functioning properly...
  - a. Steam damper is sticking closed or is not adjusted properly.
  - b. Leak in pneumatic (air) system.
13. Failed electric element (electric models only).
14. Lint accumulation in location exhaust system.

#### **V. Condensation on main door glass...**

1. Too long, undersized, or improperly installed ductwork.
2. Exhaust back draft damper is stuck closed or partially closed.
3. Restriction in exhaust ductwork.

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

1. Check for object(s) caught in the basket (tumbler) wrapper area.
2. Basket (tumbler) is out of proper alignment...
  - a. Check both the vertical alignment and lateral alignment.
  - b. Check gap between the front panel and the basket (tumbler) front...setscrews may have come loose and basket (tumbler) walked forwards or backwards.
3. Loose or broken basket (tumbler) tie rod.
4. Broken basket (tumbler) support.

**X. Excessive noise and/or vibration...**

1. Dryer is not leveled properly.
2. Impellor (fan/blower) is out of balance or broken.
3. Loose basket (tumbler) tie rod.
4. Basket (tumbler) is out of adjustment, or adjustment bolts (hardware) are loose.
5. Loose motor or motor mount assembly.

**Y. Basket (tumbler) turns too fast (as compared to other baskets [tumblers])...**

1. Foreign object(s) caught between basket (tumbler) belt and motor shaft.

**Z. Computer registers more time than what was inserted (i.e. 99 minutes for one [1] coin)...**

1. Replace optic switch (ADC P/N: 137056).
2. Replace computer board.

# SECTION IV

## ELECTRICAL TROUBLESHOOTING

**NOTE:** Diagrams used in this section include: B474721, B472611, B483751, and **ALL** the revisions (a revision is the letter after the number 'ie'...B474721 B.)

**NOTE:** A VOLT/OHM meter is needed for this section.

### **A. No Display Condition...**

1. Check top pocket circuit breaker panel for this particular dryer. If tripped, reset.
2. Check 0.5-amp fuse(s) located in the control box. If blown, replace.
3. Check for voltage (110,208,220,230,240) across the top motor contactor. This will have two (2) black wires together to one point and two (2) white wires to another point on the contactor. Take a voltage reading across these two points. For 208 volts and higher, it will be two (2) black and two (2) red wires.
4. If there is no voltage, the problem is bad wire(s) or termination(s) between the contactor and the J9 power connector, or from the J9 connector to the incoming voltage. If voltage is present, check for voltage across terminal block #6 and #8.
5. If there is no voltage, the problem is bad wire(s) or termination(s) between the contactor and the terminal blocks #6 and #8. If voltage is present, check for voltage across pins 1 and 4 of the computer 4-pin connector (J12).
6. If there is no voltage, the problem is a bad wire(s) or termination(s) between terminal blocks #6 and #8 and the 4-pin connector (J12). If voltage is present, the problem is a faulty computer.

### **B. No Start Condition (motor does not turn)...**

**NOTE:** The following sections *must be* performed with the appropriate output light emitting diode (L.E.D.) and appropriate L.E.D. indicator dots on.

**NOTE:** In the following sections, the voltage readings are for 24 VAC unless otherwise specified.

**NOTE:** If the L.E.D. indicator dot is on and its appropriate L.E.D. output light **is not** on, replace computer.

1. Check to see if the appropriate "door" L.E.D. light is on (refer to **Section VI** of this manual for L.E.D. identification). If light is not on, refer to "door" section in the electrical troubleshooting of this manual.
2. Check for voltage across the coil connections of the particular contactor pertaining to the basket (tumbler) being worked on (top contactor-top pocket, bottom contactor-bottom pocket).



If voltage is present:

- a. Manually push down the top of the contactor. If motor turns, replace the contactor.
- b. If motor does not turn, problem is bad wire(s) or termination(s) from contactor down to the motor or faulty motor.

**NOTE:** Make sure high voltage (110-240V) is present across the top half of the contactor.

If voltage is not present:

- a. Check for voltage across the appropriate 9-pin computer connector, pin #4 and the “GND” terminal of the computer. If voltage is present, problem is bad wire or termination on that blue motor output wire (pin #4) to the contactor coil. Problem could also be a bad wire or termination on the green ground wire from the side of the coil to terminal block #7. If no voltage, replace computer.

### C. No Heat Condition (gas)

1. Check to see if Direct Spark Ignition (DSI) module fault indicator light emitting diode (L.E.D.) is red. If red, refer to **ADC DSI troubleshooting manual (ADC P/N: 450142)**.
2. Check for voltage across the “TH” and “GND” terminals of the module. If voltage is present, refer to **ADC DSI technical manual (ADC P/N: 450142)**.

**NOTE:** In the following steps, when checking the voltage, leave one of your meter leads attached to terminal block #7 or any good ground connection. Make sure sail switch damper is closing properly.

**IMPORTANT:** By no means should the sail switch be tampered with or bypassed when under normal drying conditions!!

3. Check for voltage across both terminals of the sail switch. If voltage is present on both terminals, check for bad wire or termination on the red wire that leaves the sail switch and passes through the gas valve train connector to the “TH” terminal on DSI module. If voltage is present on one (1) terminal of the sail switch, replace the sail switch.
4. Check for voltage across both terminals of the burner hi-limit switch. If voltage is present on both terminals, check for bad wire or termination on the red wire from the burner hi-limit switch through the J19 connector (top basket [tumbler]) or the J20 connector (bottom basket [tumbler]), to the sail switch. If voltage is present on one (1) terminal of the burner hi-limit switch, replace this hi-limit switch.
5. Check for voltage across both terminals of the basket (tumbler) hi-limit switch. If voltage is present on both terminals, check for bad wire or termination on the red wire from the basket (tumbler) hi-limit switch through the J19 connector (top basket [tumbler]) or J20 connector (bottom basket [tumbler]) to the burner hi-limit switch. If voltage is present on only one (1) terminal of the basket (tumbler) hi-limit switch, replace the basket (tumbler) hi-limit switch.
6. Check for the “heat out” voltage of the computer upper Dual Microprocessor Controller (DMC) connector J1 pin #1 for the top basket (tumbler), or the lower DMC connector J12 pin #1 for the bottom basket (tumbler). If voltage is present on the “heat out” pin of the computer, check for bad wire or termination on the red wire from the computer “heat out” which passes through the I/O connector in the back of the computer box to the basket (tumbler) hi-limit switch.

7. If no voltage, replace the computer.

#### D. “No Heat” Condition (electric models)

**NOTE:** The following sections *must be* performed with the appropriate output light emitting diode (L.E.D.) and appropriate L.E.D. indicator dots on. Make sure sail switch damper is closing properly.

**IMPORTANT:** By no means should the sail switch be tampered with or bypassed when under normal drying conditions!!

1. Check for the incoming voltage across the top of the oven contactor. This voltage **should be** 208,240,380, etc... If this incoming voltage is not present, check the external circuit breaker or the dual element time delay fuses.
2. Check for the 24 volts across the coil of the oven contactor. If voltage is present, replace the oven contactor or the oven contactor coil.
3. Check for voltage across both terminals of the sail switch. If voltage is present on both terminals, check for bad wire or termination on the red wire that leaves the sail switch and goes to the oven contactor coil. If voltage is present on one (1) terminal of the sail switch, replace the sail switch.
4. Check for voltage across both terminals of the burner hi-limit switch. If voltage is present on both terminals, check for bad wire or termination on the red wire from the burner hi-limit switch through the J19 connector (top basket [tumbler]) or the J20 connector (bottom basket [tumbler]), to the sail switch. If voltage is present on one (1) terminal of the burner hi-limit switch, replace this hi-limit switch.
5. Check for voltage across both terminals of the basket (tumbler) hi-limit switch. If voltage is present on both terminals, check for bad wire or termination on the red wire from the basket (tumbler) hi-limit switch through the J19 connector (top basket [tumbler]) or J20 connector (bottom basket [tumbler]) to the burner hi-limit switch. If voltage is present on only one (1) terminal of the basket (tumbler) hi-limit switch, replace the basket (tumbler) hi-limit switch.
6. Check for the “heat out” voltage of the computer upper Dual Microprocessor Controller (DMC) connector J1 pin #1 for the top basket (tumbler), or the lower DMC connector J12 pin #1 for the bottom basket (tumbler). If voltage is present on the “heat out” pin of the computer, check for bad wire or termination on the red wire from the computer “heat out” which passes through the I/O connector in the back of the computer box to the basket (tumbler) hi-limit switch.
7. If no voltage, replace the computer.

#### E. “No Heat” Condition (steam models)

**NOTE:** Before proceeding in this section, be sure there is adequate steam pressure being applied to the coil. Adequate air pressure is also necessary (80 psi +/- 10 psi [5.51 bar +/- 0.68 bar]).

**NOTE:** In the following steps, when checking the voltage leave one of your meter leads attached to terminal block #7 or any good ground connection.

**NOTE:** The following sections *must be* performed with the appropriate output light emitting diode (L.E.D.) and appropriate L.E.D. indicator dots on.

1. Check for voltage across the two (2) black wires of the steam damper solenoid. You can check this voltage at the J21 top basket (tumbler) connector or the J22 connector for the bottom basket (tumbler). If voltage is present and damper is not opening, replace the solenoid.
2. Check for voltage across both terminals of the basket (tumbler) hi-limit switch. If voltage is present on both terminals, check for bad wire or termination on the red wire from the basket (tumbler) hi-limit switch through the J19 connector (top basket [tumbler]) or J20 connector (bottom basket [tumbler]) to the burner hi-limit switch. If voltage is present on only one (1) terminal of the basket (tumbler) hi-limit switch, replace the basket (tumbler) hi-limit switch.
3. Check for the “heat out” voltage of the computer upper Dual Microprocessor Controller (DMC) connector J1 pin #1 for the top basket (tumbler), or the lower DMC connector J2 pin #1 for the bottom basket (tumbler). If voltage is present on the “heat out” pin of the computer, check for bad wire or termination on the red wire from the computer “heat out” which passes through the I/O connector in the back of the computer box to the basket (tumbler) hi-limit switch.
4. If no voltage, replace the computer.

#### F. “dOOr” Condition

**NOTE:** The following sections *must be* performed with the appropriate output L.E.D. and appropriate L.E.D. indicator dots on.

**NOTE:** In the following sections, the voltage you are checking for is 24 VAC unless otherwise specified.

**NOTE:** If the L.E.D. indicator dot is on and the appropriate L.E.D. output light **is not** on, replace computer.

**NOTE:** If the display reads “dOOr,” this indicates that there is an open circuit in the computer’s door switch circuit. This fault display involves the door switch, the computer, the transformer, the lint drawer switch, or the harnesses. If the L.E.D. input light on the component side of the computer is on and you are getting the “dOOr” code, replace the computer.

1. Remove the wires from the door switch and check for continuity while pushing down the plunger of the switch. If no continuity, replace door switch. If continuity, reassemble connections onto the switch.
2. Repeat the same process as in *Step #1* for the lint drawer switch.
3. Check for voltage across terminal block #2 and #7. If no voltage is present, replace the 24 volt transformer.

4. Check for voltage on pin #2 (yellow wire) of the computer 9-pin connector (top 9-pin connector is for the top basket [tumbler] and bottom 9-pin connector is for the bottom basket [tumbler]). If voltage is present, replace the computer.
5. If the above steps were performed correctly, the problem could be a bad wire(s) or termination(s), from the 24 volt transformer through the I/O J4 (top basket [tumbler]) or J3 (bottom basket [tumbler]) connectors, or to the main and lint drawer switches.

## **G. “dSFL” Condition**

When the display reads “dSFL” it is an indication that there is a fault in the microprocessor’s heat sensing circuit. This circuit includes the microprocessor controller (computer), the temperature sensor, or the wires or connectors leading to and from these two points.

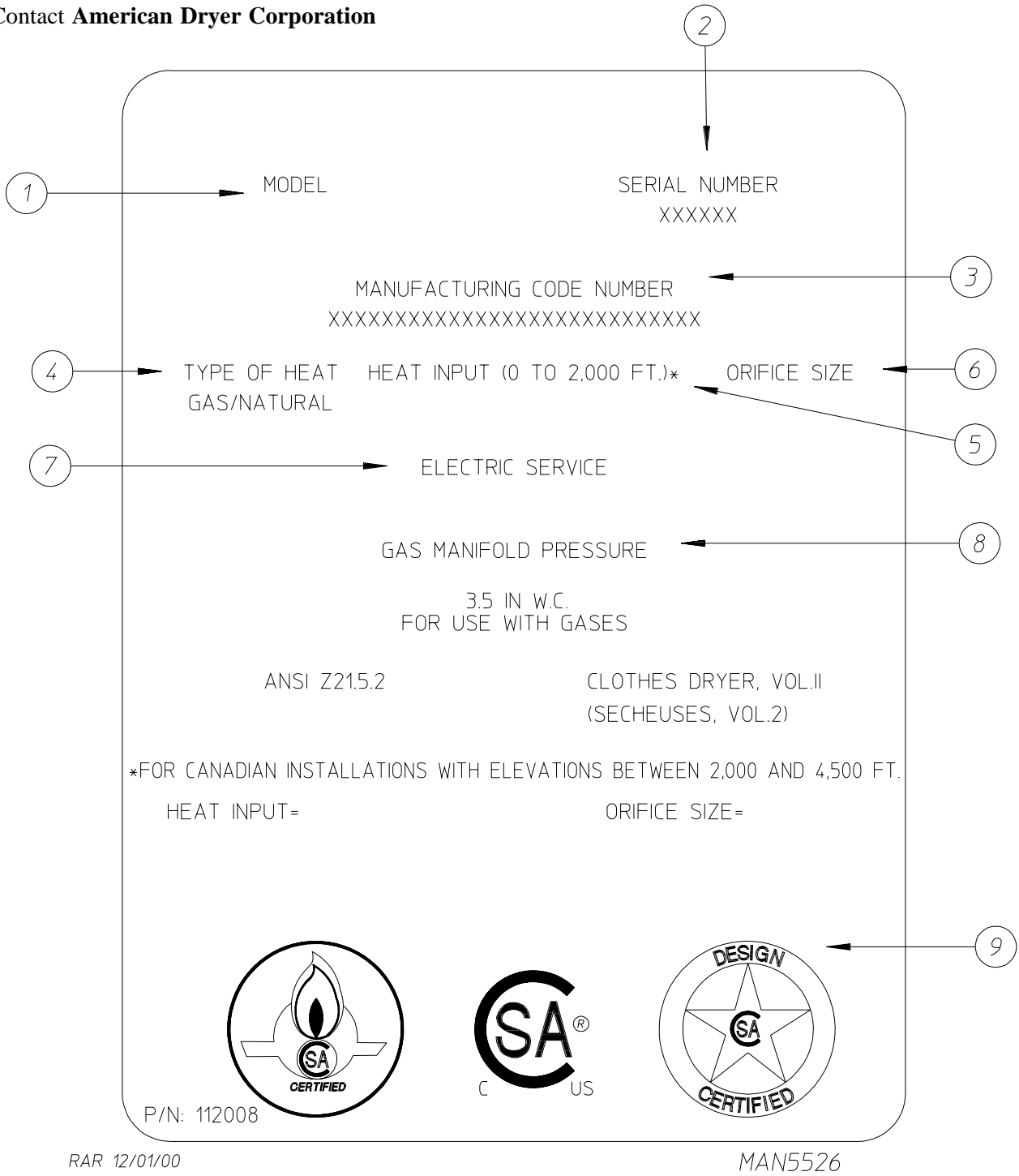
1. Check to see if the 1/8-amp fuse located on the computer is blown. To verify, check with an ohm meter. If no continuity, replace with **ADC** P/N: 136048 fuse. If fuse repeatedly blows out, refer to *Step #4*.
2. Replace the temperature sensor (**ADC** P/N: 880111).
3. Discontinue power to the dryer. Disconnect the 9-pin connector from the computer top basket (tumbler) (top connector) or bottom basket (tumbler) (bottom connector). The temperature sensor is wired into pins 7 and 8 of that 9-pin connector. Check for continuity on each wire from the 9-pin connector to the temperature sensor connector above the lint screen. If there is no continuity on either one of these two wires, the problem is a bad wire or termination from the computer to the temperature sensor bracket.
4. If the computer fuse repeatedly blows, there is a short in one of the sensor wires.

# SECTION V

## DATA LABEL INFORMATION

### A. DATA LABEL

Contact **American Dryer Corporation**



When contacting **American Dryer Corporation**, certain information is required to insure proper service/parts information from **ADC**. This information is on the data label located on the inside of the control door. When contacting **ADC**, please have the **model number** and **serial number** available.

## **THE DATA LABEL**

### **1. MODEL NUMBER**

The model number is an **ADC** number, which describes the size of the dryer and the type of heat (gas, electric, or steam).

### **2. SERIAL NUMBER**

The serial number allows **ADC** to gather information on your particular dryer.

### **3. MANUFACTURING CODE NUMBER**

The manufacturing code number is a number issued by **ADC**, which describes **ALL** possible options on your particular model.

### **4. TYPE OF HEAT**

This describes the type of heat for your particular dryer: gas (either natural gas or liquid propane [L.P.] gas), electric, or steam.

### **5. HEAT INPUT (for GAS DRYERS)**

This describes the heat input in British Thermal Units per Hour (Btu/hr).

### **6. ORIFICE SIZE (for GAS DRYERS)**

Gives the number drill size used.

### **7. ELECTRIC SERVICE**

This describes the electric service for your particular model.

### **8. GAS MANIFOLD PRESSURE (for GAS DRYERS)**

This describes the manifold pressure taken at the gas valve tap.

### **9. APPLICABLE APPROVAL SEAL(S)**

I.E., Canadian Standards Association International.

## B. TESTING AND ADJUSTING GAS PRESSURE

There are two (2) types of devices commonly used to measure water column pressure. They are spring/mechanical-type gauge and manometer. The spring/mechanical-type gauge is not recommended, because it is easily damaged and not always accurate. A manometer is simply a glass or transparent plastic tube with a scale in inches. When filled with water and pressure applied, the water in the tube rises showing the exact water column pressure.

**NOTE:** Manometers are available from the factory by ordering **ADC** Part No. 122804.

### 1. To Test Gas Water Column Pressure:

- a. Connect water column test gauge connection to gas valve pressure tap (1/8" N.P.T.). This pressure tap is located on the outlet (manifold) side of the valve.
- b. Start dryer. With burner on, the correct water column reading in inches would be:

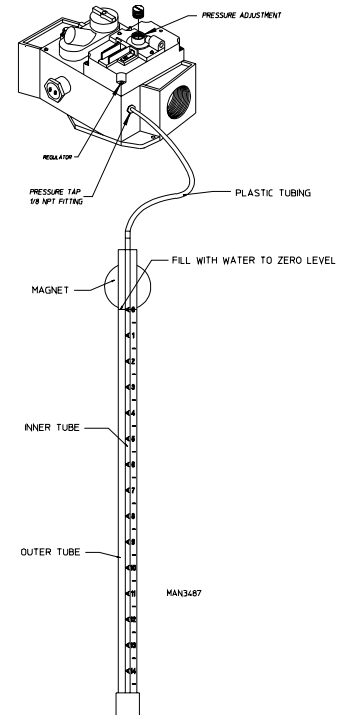
Natural Gas ..... 3.5 Inches (8.7 mb) water column.

Liquid Propane (L.P.) Gas ..... 10.5 Inches (26.1 mb) water column.

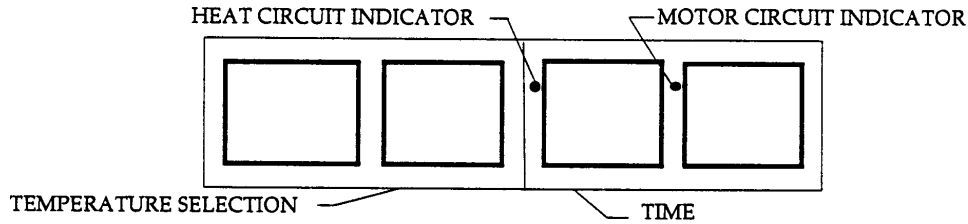
### 2. To Adjust Water Column (W.C.) Pressure (natural gas only, liquid propane [L.P.] gas **must be** regulated at source):

- a. Remove the slotted vent cap on the top of the valve.
- b. Turn the slotted adjustment screw located on the top of the valve next to the terminals. Turn clockwise (CW) to increase manifold pressure and counterclockwise (CCW) to decrease.

**NOTE:** If correct water column pressure cannot be achieved, problems may be due to an undersized gas supply line, a faulty or underrated gas meter, etc.



## C. L.E.D. DISPLAY CODES



<b>A</b>	Automatic Cycle (Slope Program Factor)
<b>ACOn</b>	Accumulative Coin
<b>Adrt</b>	Maximum Auto Dryness Time
<b>AFAt</b>	Amount for Additional Time
<b>AGt</b>	Active Anti-Wrinkle Guard Time
<b>AtIn</b>	Accumulative Time
<b>AtSt</b>	Amount to Start
<b>AUtO</b>	Automatic Mode ( <b>Patent No. 4,827,627</b> )
<b>b</b>	Automatic Cycle (Heat Loss [offset] Factor)
<b>bCLO</b>	Bad Coin Lockout
<b>bCrS</b>	Bad Coin Reset
<b>bUZ</b>	Buzzer (Tone)
<b>CEL</b>	Degree in Celsius
<b>CLCC</b>	Clear Left Coin Count
<b>COIn</b>	Coin Mode
<b>CrCC</b>	Clear Right Coin Count
<b>donE</b>	Drying and Cooling Cycles Complete or Dryer is in Anti-Wrinkle Cycle
<b>dOOr</b>	Door Circuit is Open
<b>dSFL</b>	Dryer Sensor Circuit Failure
<b>FAr</b>	Degree in Fahrenheit
<b>FILL</b>	No Cycle in Progress
<b>FLS</b>	Flash Display Active
<b>FrEE</b>	Free Dry Mode
<b>GdLY</b>	Anti-Wrinkle Delay Time
<b>Gont</b>	Anti-Wrinkle On Time
<b>Grd</b>	Anti-Wrinkle Program Active
<b>HICd</b>	High Cool Down
<b>Hot</b>	Overheating Condition
<b>LCC</b>	Left Coin Count
<b>LCdE</b>	Left Coin Denomination
<b>LOCd</b>	Low Cool Down
<b>nbUZ</b>	No Buzzer (Tone)
<b>nFLS</b>	No Flash Display
<b>nGrd</b>	No Anti-Wrinkle
<b>nSEn</b>	No Rotational Sensor Selected
<b>PdrY</b>	Percent Dry
<b>PL</b>	Program Location
<b>PLOC</b>	Program Location Automatic Review
<b>PPCd</b>	Permanent Press Cool Down
<b>PP</b>	Permanent Press
<b>PUSH</b>	Amount to Start has been Inserted
	Make Temperature Selection
<b>rCC</b>	Right Coin Count
<b>rCdE</b>	Right Coin Denomination
<b>SEFL</b>	Rotational Sensor Circuit Failure
<b>SEn</b>	Rotational Sensor Selected
<b>tFAS</b>	Time For Amount to Start
<b>tInE</b>	Timed Mode



# SECTION VI

## PHASE 5 DUAL MICROPROCESSOR CONTROLLER (DMC)

### SYSTEM DIAGNOSTICS

**ALL** major circuits, including door, lint drawer, microprocessor temperature sensor, heat and motor circuits are monitored. The Phase 5 DMC computer will inform the user, via the light emitting diode (L.E.D.) display and at the outputs of each relay (and door switch circuit) to easily identify failures.

#### A. DIAGNOSTIC (L.E.D. DISPLAY) FAILURE CODES

1. **“dOOr”** - indicates door or lint drawer switch circuit is open.
  - a. Keyboard (touch pad) entry was made while main door is open or
  - b. There is a fault in the door switch circuit (external of the Phase 5 DMC computer).
2. **“dSFL”** - indicates a fault in the microprocessor temperature sensor circuit.
  - a. If a fault is detected in the microprocessor heat sensor circuit, the L.E.D. display will read “dSFL” and the buzzer (tone) will sound for approximately 5 seconds every 30 seconds until...
    - 1) problem is corrected or
    - 2) power to the dryer is discontinued...and the problem is then corrected.

**IMPORTANT:** The Phase 5 DMC computer has its own internal heat sensing circuit fuse protection located on the back side of the Phase 5 DMC computer. If a “dSFL” condition occurs, check to see if this fuse has blown. If it has, **DO NOT** replace the entire microprocessor controller (computer). Replace only the fuse and do so only with a 1/8-amp (Slo-Blo) fuse only.

**NOTE:** Once the Phase 5 DMC computer detects a problem in the heat circuit, it updates every 30-seconds, so if the problem was a loose connection in this circuit which corrected itself, the “dSFL” condition would automatically be cancelled.

3. **“SEFL”**
  - a. Indicates rotational sensor circuit failure, meaning that there is a fault somewhere in the basket (tumbler) rotation detection circuit that the Phase 5 DMC computer program related to this circuit (**PL01**) is set incorrectly in the active mode (“SEn”) where the dryer is not equipped with the optional rotation sensor and **should be** set in the inactive mode (“nSEn”).

**NOTE:** If the dryer is equipped with the rotational sensor and the display reads “SEFL,” reset by closing and opening the Program Switch (PS). Restart the dryer and if the “SEFL” code appears again, investigate further.

#### 4. “Hot”

- a. Indicates a possible overheating condition. The Phase 5 Dual Microprocessor Controller (DMC) computer monitors the temperature in the dryer at **ALL** times. If the Phase 5 DMC computer detects that the temperature in the dryer has exceeded 170° F (77° C), it will disable **ALL** the outputs (shut the dryer down), the tone (buzzer) will sound for approximately 5-seconds and the display will read “Hot.” The light emitting diode (L.E.D.) display will continue to read “Hot” until the temperature sensed has dropped to 170° F (77° C) or lower and the Phase 5 DMC computer is manually reset by closing and opening the Program Switch (PS).

### B. L.E.D. DISPLAY INDICATORS (DOTS)

The L.E.D. indicator dots located at the top portion of the display (refer to the **illustration** on **page 44**) indicate the various microprocessor controller (computer) output functions while a cycle is in progress. These dots **DO NOT** necessarily mean that the outputs are functioning. They are only indicating that the function (output) **should be** active (on).

1. Heat Circuit Indicator - This indicator dot is on whenever the Phase 5 DMC computer is calling for the heating circuit to be active (on).
2. Motor Circuit Indicator - This indicator dot is on whenever a cycle is in progress.

### C. PHASE 5 DMC COMPUTER RELAY OUTPUT L.E.D. INDICATORS

There are six (6) L.E.D. indicators (red lights) located on the back side area of the Phase 5 DMC computer (refer to the **illustration** on **page 47**), which are identified or labeled “U” (upper) and “L” (lower) for the appropriate circuit (i.e. door, motor, or heat). These L.E.D.s indicate that the outputs of the Phase 5 DMC computer, or in the case of the door/lint drawer circuit, the inputs are functioning.

1. “dOOr” L.E.D. Indicators
  - a. **Should be** on at **ALL** times (even if dryer is not running) unless the main door or lint drawer is open or there is a problem (open circuit) in either of these circuits.

**NOTE:** If the dryer is started (the display L.E.D. indicator dots are on) and there are no outputs (heat and/or motor outputs L.E.D.s are off) and the appropriate “dOOr” input L.E.D. is on, the fault is in the Phase 5 DMC computer itself.

**NOTE:** If the failure was elsewhere, (i.e. dryer’s door/lint drawer circuit) the display would read “dOOr” if a keyboard (touch pad) entry was attempted. If the display L.E.D. indicators are on, and the door L.E.D. input and motor/heat output L.E.D.s are on, and yet the motor and/or heat **is not** active (on); then the problem **is not** the door switch circuit or the Phase 5 DMC computer, the problem is elsewhere in the dryer.

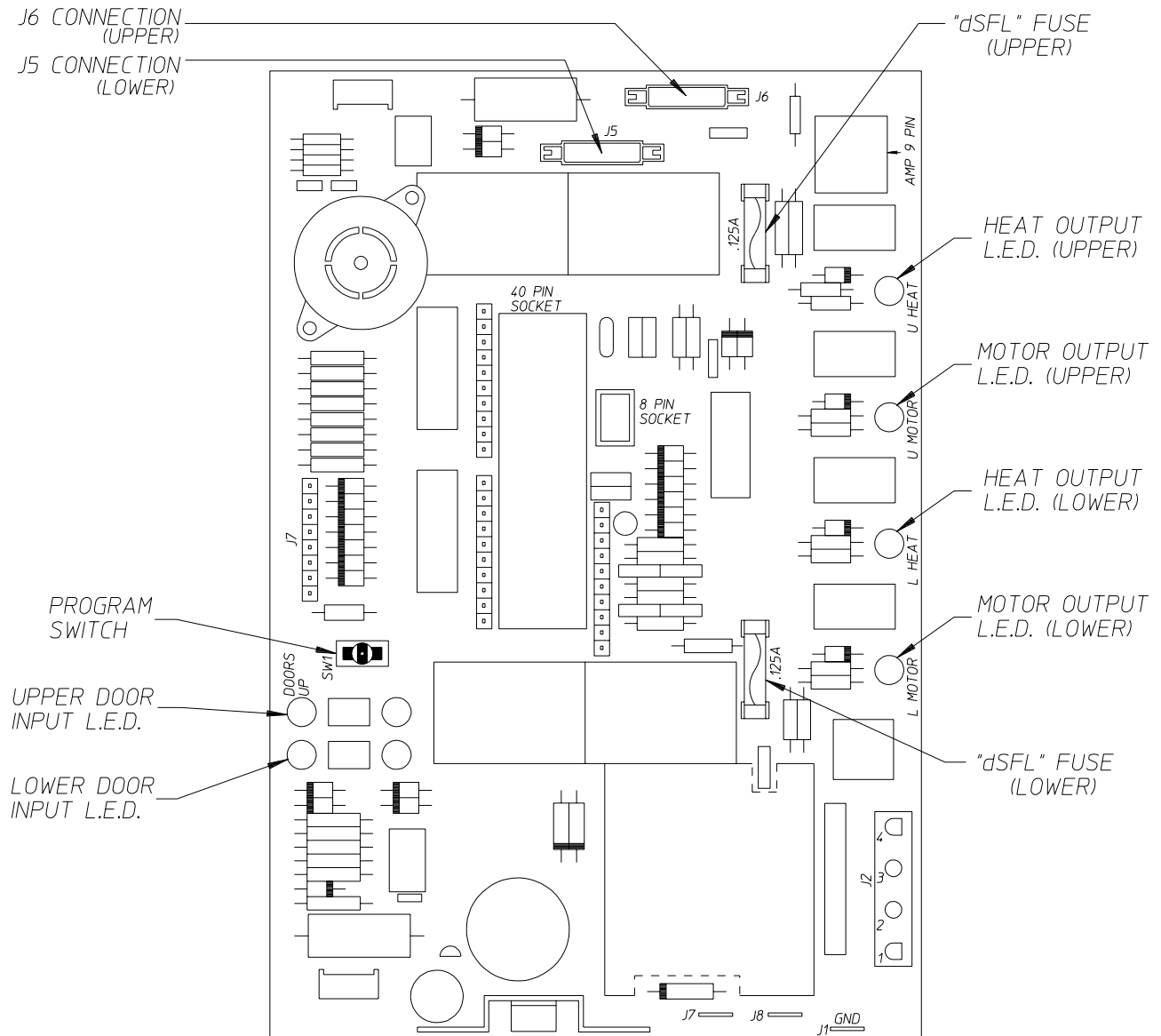
2. **“HEAT”** Output light emitting diode (L.E.D.) Indicator

- a. If the dryer is started and there is no heat, yet the Phase 5 Dual Microprocessor Controller (DMC) computer display heat circuit indicator dot is on, but the “HEAT” output L.E.D. indicator is off, then the fault is in the Phase 5 DMC computer itself. If both the heat indicator dot and the “HEAT” output L.E.D. indicator dots are on, then the problem is elsewhere (i.e., external of the Phase 5 DMC computer).

3. **“MOTOR”** Output L.E.D. Indicator

- a. If the dryer is started and the motor is not operating, yet the Phase 5 DMC computer display motor circuit indicator dot and “dOOr” input L.E.D. indicator are on, but the motor output L.E.D. indicator is off; then the fault is in the Phase 5 DMC computer itself. If the motor is is not operating and the “MOTOR” output L.E.D. indicator is on, then the problem is elsewhere (i.e., external of the Phase 5 DMC computer).

**D. PHASE 5 DMC COMPUTER INPUT/OUTPUT L.E.D. INDICATORS**



MAN1194

# SECTION VII

## PHASE 5 DUAL MICROPROCESSOR CONTROLLER (DMC) PROGRAMMING LIMITS

<b>Phase 5 Dual Microprocessor Controller Programming Limits</b>			
Program Location	Parameter	Range	Increments
<b>PL02</b>	<b>"PdrY"</b> Auto Cycle percentage of dryness	90% to 100%	1
<b>PL03</b>	<b>"HI"</b> Drying Temperature	110° F to 150° F 43° C to 66° C	5 degrees 1 degree
<b>PL04</b>	<b>"HI"</b> Cool Down Temperature <b>"HI"</b> Cool Down Time	70° F to 100° F 21° C to 38° C 0 to 9	5 degrees 1 degree 1 minute
<b>PL05</b>	<b>"LO"</b> Drying Temperature	110° F to 150° F 43° C to 66° C	5 degrees 1 degree
<b>PL06</b>	<b>"LO"</b> Cool Down Temperature <b>"LO"</b> Cool Down Time	70° F to 100° F 21° C to 38° C 0 to 9	5 degrees 1 degree 1 minute
<b>PL07</b>	<b>"PP"</b> Drying Temperature	110° F to 150° F 43° C to 66° C	5 degrees 1 degree
<b>PL08</b>	<b>"PP"</b> Cool Down Temperature <b>"PP"</b> Cool Down Time	70° F to 100° F 21° C to 38° C 0 to 9	5 degrees 1 degree 1 minute
<b>PL09</b>	<b>"LCdE"</b> Left Coin Denomination	1 to 9999	1
<b>PL10</b>	<b>"rCdE"</b> Right Coin Denomination	1 to 9999	1
<b>PL11</b>	<b>"tFAS"</b> Time For Amount To Start	1 to 99	1 minute
<b>PL12</b>	<b>"AtSt"</b> Amount To Start	1 to 9999	1
<b>PL13</b>	<b>"AFAt"</b> Amount For Additional Time	1 to 9999	1
<b>PL14</b>	<b>"Adrt"</b> Maximum Auto Dry Time	1 to 99	1 minute
<b>PL15</b>	<b>"GdLY"</b> Anti-Wrinkle Guard Delay Time <b>"Gont"</b> Anti-Wrinkle Guard On Time	1 to 9 10 to 99	1 minute 1 second
<b>PL16</b>	<b>"AGt"</b> Anti-Wrinkle Guard Active Time	1 to 99	1 minute
<b>PL17</b>	<b>"A"</b> Auto Cycle Factor <b>"B"</b> Auto Cycle Factor	1 to 9 1 to 99	1 1

<b>ADC450303</b>	<b>1</b> - 04/04/94-10	<b>2</b> - 06/03/94-100	<b>3</b> * 11/21/94-200
	<b>4</b> - 05/08/95-50	<b>5</b> * 10/30/95-200	<b>6</b> * 12/03/96-200
	<b>7</b> - 01/30/98-50	<b>8</b> * 06/05/98-50	<b>9</b> - 09/10/98-100
	<b>10</b> - 08/12/99-100	<b>11</b> - 06/08/00-100	<b>12</b> - 09/26/00-75
	<b>13</b> - 09/07/01-100	<b>14</b> - 04/11/03-10	<b>15</b> * 06/13/03-15

