



ADG-385 / WDA-385 Service Manual 1996 thru 1998

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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 properly licensed technicians should service this equipment.

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

WARNING: UNDER NO CIRCUMSTANCES should the door switch or the heat circuit devices ever be disabled.

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

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. _____

DISTRIBUTORS NAME _____

Serial Number(s) _____

Replacement parts can be obtained from your distributor or the ADC factory. When ordering replacement parts from the factory, you can FAX your order to ADC at (508) 678-9447 or telephone your orders directly to the ADC Parts Department at (508) 678-9000. 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.

CAUTION

LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION.

VERIFY PROPER OPERATION AFTER SERVICING.

CAUTION

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

WARNING

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

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

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.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOR 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.

IMPORTANT

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

Dryer(s) **must not** be installed or stored in an area where it will be exposed to water and/or weather.

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

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SECTION I

Important Information

A. Safety Precautions

1. **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
2. Purchaser/user should consult the local gas supplier for proper instructions to be followed in the event the user smells gas. The instructions **should be** posted in a prominent location.
3. Dryer **must be** exhausted to the outdoors.
4. Although ADC's dryer is a very versatile machine, there are some articles, that due to fabric composition or cleaning method, **should not be** dried in it.

WARNING: Dry only water-washed fabrics. **DO NOT** dry articles spotted or washed in dry cleaning solvents, a combustible detergent, or "All-Purpose" cleaners. **FIRE or EXPLOSION COULD RESULT.**

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

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

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

5. A program **should be** established for the inspection and cleaning of lint in the burner area and exhaust duct work. The frequency of cleaning can best be determined from experience at each location.

WARNING: The collection of lint in the burner area and exhaust duct work can create a *POTENTIAL FIRE HAZARD.*

6. For personal safety, the dryer **must be** electrically grounded in accordance with local codes and/or the National Electric Code ANSI/NFPA No. 70-LATEST EDITION.
7. Under no circumstances should the dryer door or lint drawer switch(es) or heat safety devices ever be disabled.

WARNING: PERSONAL INJURY or FIRE COULD RESULT.

8. Read and follow **ALL** caution and direction labels attached to dryer.

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

SECTION II

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 duct work system. The frequency of cleaning can best be determined from experience at each location. Maximum operating efficiency is dependent upon proper air circulation. The accumulation of lint can restrict this airflow. If the guidelines in this section are met, 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*.

SUGGESTED INTERVAL

FUNCTION

DAILY

Clean Lint screen. Inspect lint screen and replace if torn.

90 DAYS

Remove lint accumulation from lint chamber thermostats and sensors.

WARNING: To avoid the hazard of electrical shock, discontinue electrical supply to dryer.

90 DAYS

Remove lint from the motor air vents and surrounding area.

IMPORTANT: Lint accumulation will restrict internal motor air flow, causing overheating and irreparable damage. Motor failure due to lint accumulation ***WILL VOID THE MANUFACTURER'S WARRANTY.***

120 DAYS

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

6 MONTHS

Inspect and remove lint accumulation in customer-furnished exhaust duct work system. Inspect exhaust back draft dampers to insure they are not binding. Inspect and remove **ALL** lint accumulation from in and around control box area, including coin acceptors. Clean lint accumulation from around tumbler wrapper area.

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

AS REQUIRED

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

B. Adjustments

SUGGESTED INTERVAL

FUNCTION

6 MONTHS

Motor and drive belts **should be** examined. Cracked or seriously frayed belts **should be** replaced. Tighten loose belts when necessary, and check belt alignment.

6 MONTHS

Complete operational check of controls and valves.

6 MONTHS

Complete operational check of **ALL** safety devices (door switches, sail switch, burner and lint chamber thermostats.)

12 MONTHS

Inspect bolts, nuts, screws, non-permanent gas connections, (unions, orifices, etc.) electrical terminals, and grounding connections.

C. Lubrication

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

SECTION III

Installation Requirements

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

National Fuel Gas Code ANSI Z223.1-LATEST EDITION
and/or
National Electric Code ANSI/NFPA No. 70-LATEST EDITION

A. Enclosure, Air Supply, and Exhaust Requirements

NOTE: The following information is very brief and general. For detailed description, refer to the Installation Manual for coin machines.

Bulkheads and partitions around the dryer **should be** made of noncombustible materials. Allowances **should be** made for the opening and closing of the control door and lint door. Also, allowances **should be** made in the rear for ease of maintenance. (Refer to appropriate Installation Manual for recommended distances and minimum allowances required.)

When the dryer is operating, it draws in room air, heats it, passes this air through the basket (tumbler), and exhausts it out of the building. Therefore, the room air **must be** continually replenished from the outdoors. If the make-up air is inadequate, drying time and drying efficiency will be adversely affected. Ignition problems and sail switch "fluttering" problems on gas dryers may result, and you also could have premature motor failure from overheating. The air supply **must be** given careful consideration to insure proper performance of each dryer.

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

Exhaust duct work **should be** designed and installed by a competent technician. Improperly sized duct work will create excessive back pressure which will result in slow drying, increased use of energy, and shutdown of the burner by the airflow (sail) switch, burner hi-limit or lint chamber hi-heat protector thermostat. (Refer to appropriate Installation Manual for more detail.)

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

B. Electrical and Gas Requirements

It is your responsibility to have **ALL** electrical connections made by a properly licensed and competent electrician to assure that the electrical installation is adequate and conforms with local and state regulations or codes. In the absence of such codes, **ALL** electrical connections, material, and workmanship must conform to the applicable requirements of the National Electric Code ANSI/NFPA No. 70-LATEST EDITION.

IMPORTANT: Failure to comply with these codes or ordinances and/or the requirements stipulated in this manual can result in ***PERSONAL INJURY OR COMPONENT FAILURE***.

The dryer installation **must meet** the AMERICAN NATIONAL STANDARD, National Fuel Gas Code ANSI Z223.1-LATEST EDITION, as well as, local codes and ordinances, and **must be** done by a qualified technician.

NOTE: Undersized gas piping will result in ignition problems and slow drying and can create a safety hazard.

The dryer **must be** connected to the type of gas (natural or L.P.) indicated on the dryer data label. If this information does not agree with the type of gas available, contact the distributor who sold the dryer or contact the factory.

The gas input ratings shown on the dryer data label are for elevations up to 2,000 feet, unless elevation requirements of over 2,000 feet were specified at the time the dryer order was placed with the factory. The adjustment for dryers in the field for elevations over 2,000 feet are made by changing the burner orifices. If this adjustment is necessary, contact the distributor who sold the dryer or contact the factory.

NOTE: Any burner changes ***must be*** made by a qualified technician.

C. Operational Service Check Procedure

After performing any service or maintenance function, an operational check **should be** performed to insure that **ALL** components are performing properly.

1. Make a complete operational check of **ALL** the operating controls to insure that the timing is correct, temperature selection switches are functioning properly.
2. Make a complete operational check of **ALL** safety related circuits, door switch(es), hi-limit thermostat, sail switch, cycling thermostats, etc.
3. On gas models, gas pressure test should be taken at the gas valve pressure tap of each dryer to assure that the water column pressure is correct and consistent.

NOTE: Water column pressure requirements: (measured at the pressure tap on the gas valve body.)
Natural Gas - 3.5 to 4 inches W.C.L.P. Gas - 10.5 to 11 inches W.C.

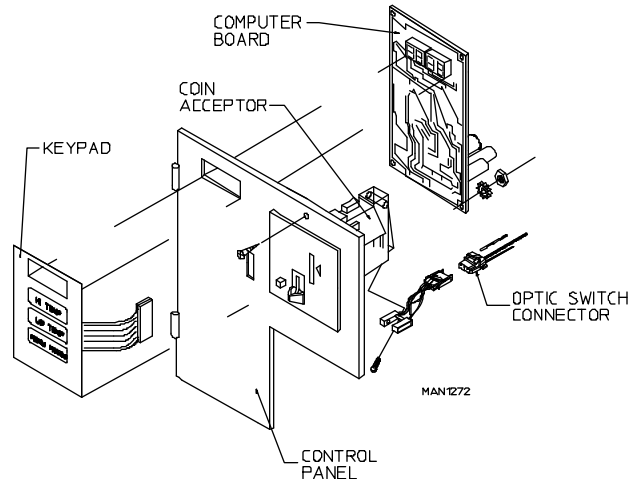
4. The dryer should be operated through one complete cycle to assure that no future adjustments are necessary and that **ALL** components are functioning properly.
5. For 3Ø motor models check the electric service phase sequence while the dryer is operating. Check to see if the blower wheel is rotating in the proper direction. Looking from the front, the blower wheel should spin in the clockwise direction. If so, the phasing is correct. If the phasing is incorrect, reverse two (2) leads at connections L1, L2, L3 of power supply to the dryer.

SECTION IV

Description of Parts

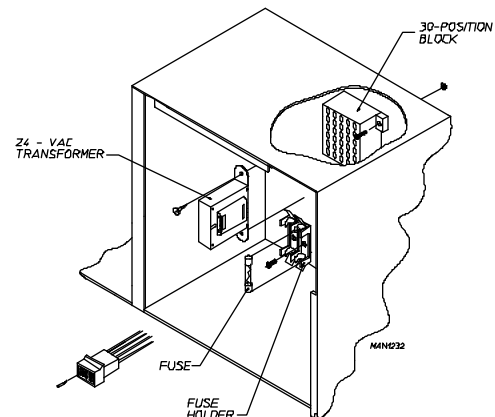
A. Control Panel

Lifting the control door will reveal the control panel assembly. Opening the control panel will allow access to the major components which include the coin acceptors, computer board, and keypad. The coin acceptor sends the signal to the computer that a coin has been inserted. The keypad inputs to the computer what temperature has been selected. The computer controls the entire operation of the machine. It accepts inputs and gives outputs to various parts throughout the machine. Some models are shipped as dual coin machines, however, the basic operation remains the same.



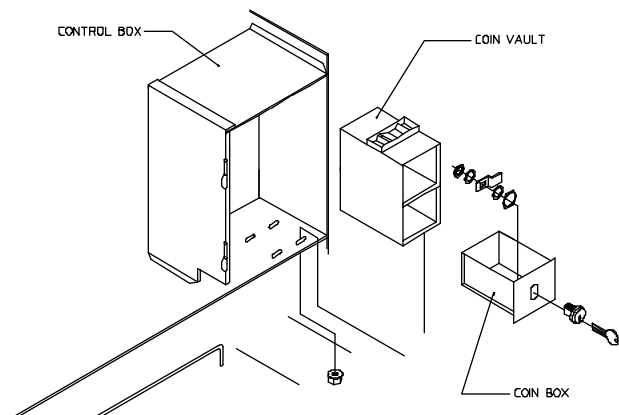
B. Control Box

The computer control box is made up of fuse(s), 24VAC transformer, and a 30 position terminal block. The fuse(s) protect the incoming voltage from shorting. The transformer is used to break down the incoming voltage to 24VAC for the control voltage of the machine. The 30 position terminal block is used to combine the various common wires throughout the machine for simplicity and ease of service.



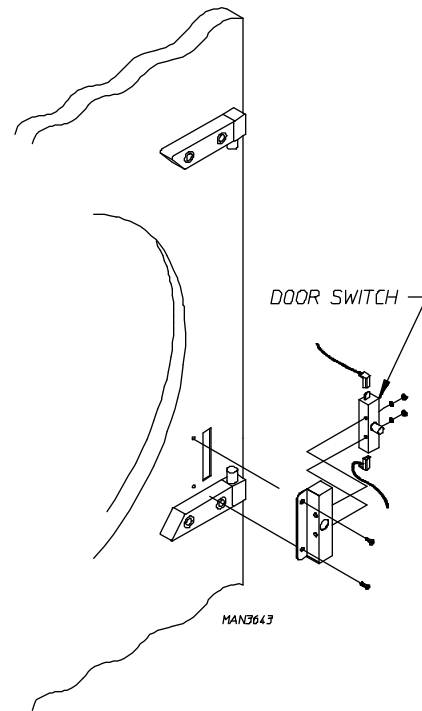
C. Coin Box and Vault

The coin box and vault are located in the control box. When a coin passes the coin sensor, it drops into the coin vault. Lifting the control doors reveals the coin box. To remove the coin box turn the key and pull out.



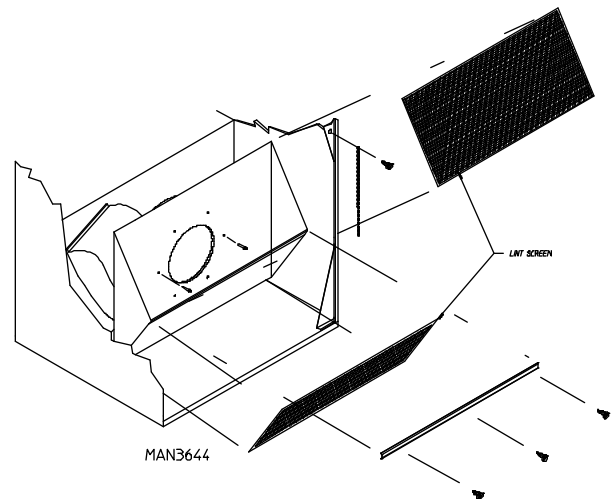
D. Main Door Switch

The main door switch is located behind the main door on the right hand side. When the main door is opened, the switch will also open preventing the dryer from operating. The main door switch is a safety device and **should never be** disabled.



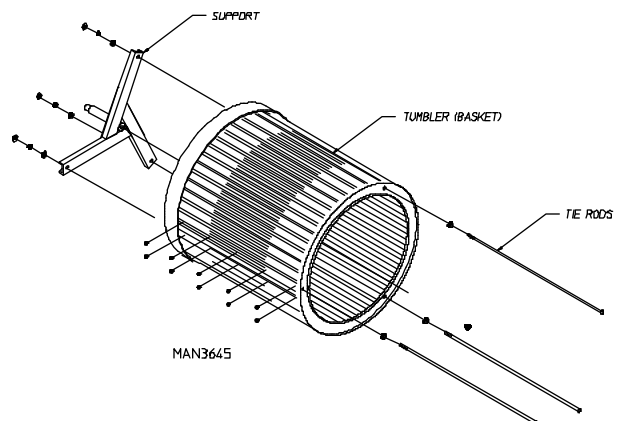
E. Lint Coop

The lint coop is the bottom portion of the dryer behind the lint door. Inside the lint coop is the lint screen which prevents lint from entering the exhaust system. The lint screen should be kept clean at all times. On the WDA-385/ADG-385 models there are two (2) lint screens. The lint screens should be cleaned on a daily basis. Lint screens with tears or holes **should be** replaced immediately.



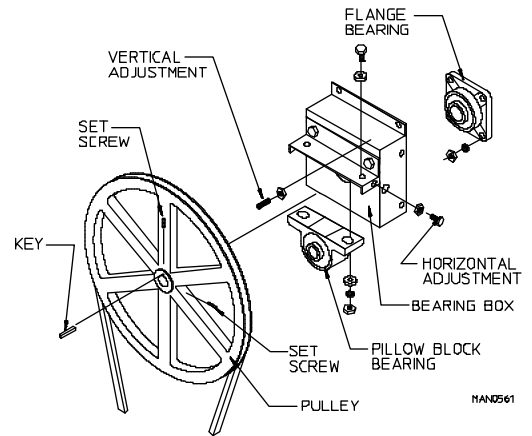
F. Tumbler

The tumbler consists of three or four ribs and a perforated basket along with a front and back which are riveted or screwed together as an assembly. The tumbler also consists of tie rods which support the tumbler from front to back. The tumbler support is used to mate the tumbler to the drive system in the rear. Some models also have a felt band which helps to keep lint from accumulating behind the basket.



G. Tumbler Bearing and Pulley Arrangement

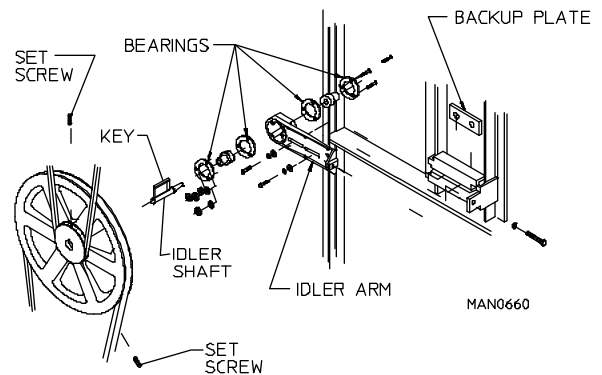
The tumbler bearing and the pulley arrangement is located (viewing from the rear of the dryer) approximately at the upper center of the dryer. The arrangement consists of a pulley, bearing box, and bearing which serve to adjust, drive, and support the tumbler. The bearing box has various nuts and bolts that are made to adjust the basket vertically and horizontally.



H. Idler Bearing

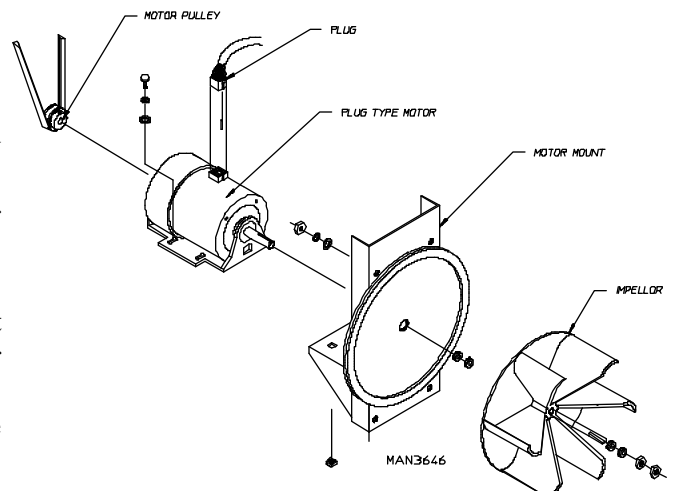
(Viewing from the rear of the dryer)

The idler assembly is located approximately on the lower left hand side of the dryer. The idler assembly consists of one (1) compound pulley. The idler's main purpose is to reduce the speed and increase the torque provided to the tumbler bearing. Also, the idler assembly belt tension can be adjusted.



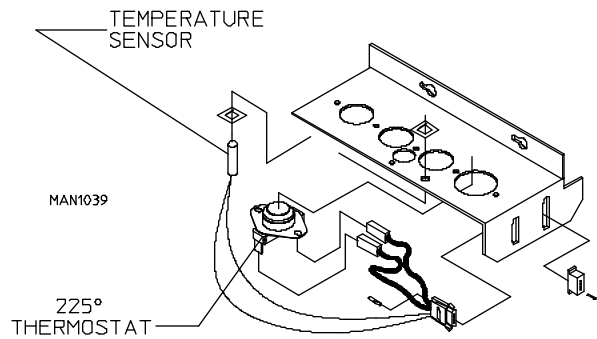
I. Motor Assembly

The drive motor is located on the back, approximately lower center of the dryer. It sits on an adjustable base so that the motor can be easily adjusted to the left or right, up or down. The blower end of the motor is connected to the impellor, a backward curved paddle wheel. The impellor provides air flow in the dryer. It creates a vacuum which pulls the hot air from the burner into the basket through the lint screen and out the exhaust. The single phase machine will have plug type motor as shown to the right.



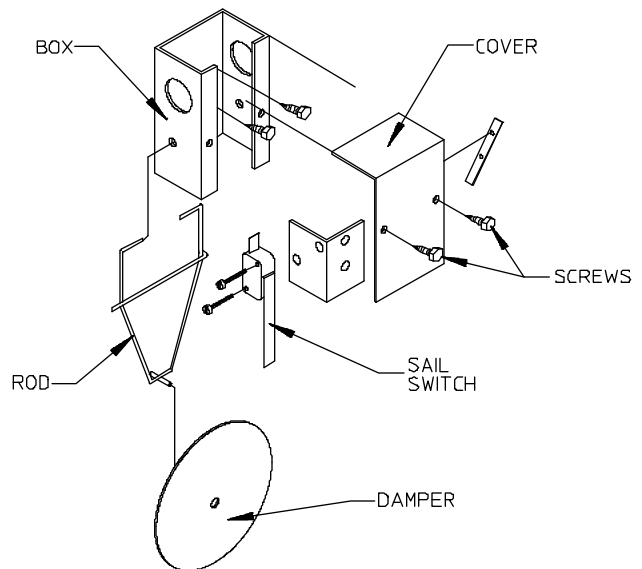
J. Temperature Sensors

The temperature sensor used in a transducer that converts heat into microamps that the computer board then uses to calculate the temperature.



K. Sail Switch

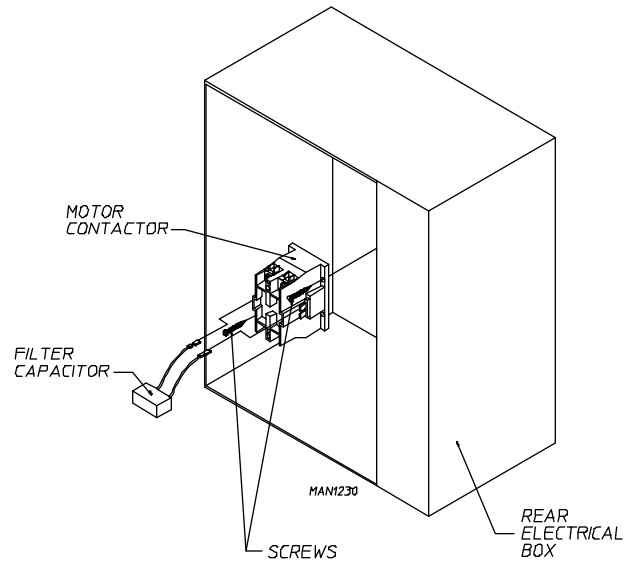
The sail switch consists of a round damper plate on a lever arm which acts like an actuator for a micro-switch. When the air blower comes on, it draws air through the burner. This creates a negative pressure inside the burner box, and this negative pressure pulls in the round damper which activates the sail switch. If there is improper airflow, the damper will not pull in, preventing the burner from coming on. Improper air flow can be caused by improperly designed exhaust ducting, where the duct run is too long or has too many sharp bends on it. It can also be caused by a lack of make up air. Sail switch is located in the back of the burner.



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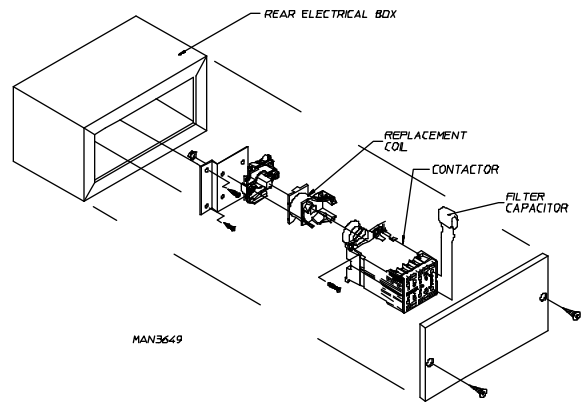
L. Motor Contactor (1Ø Motor)

This motor contactor used on single phase dryers, is located in the rear of the machine, in the Electrical Panel Box. It's purpose is to transfer the higher voltage to the motor when the contactor coil voltage has been achieved. The contactor will have a filter capacitor across the coil connections. This helps smooth out the 24 volt signal from the computer board.



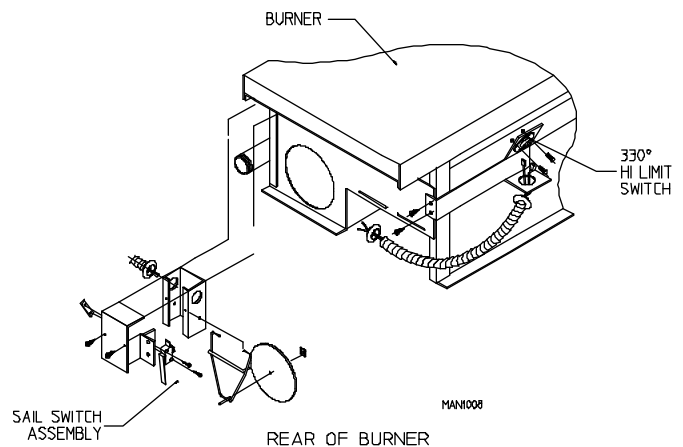
M. Non-Reversing Contactor (3Ø Motor)

The non-reversing contactor is used on 3 phase non-reversing dryers and is located on the upper left hand side of the dryer (view from rear). It is through the contactor that the voltage inputs are fed. Its purpose is to transfer the higher voltage to the motor when the contactor coil voltage have been achieved. The contactor will have a filter capacitor across the coil connections. This helps smooth out the 24 volt signal from the computer board.



N. Hi-Limit Thermostat

The hi-limit thermostat is another safety device that we use on gas and electric models. The hi-limit is located in the burner or oven area. The hi-limit switch cuts off the heat if the temperature exceeds 330° for gas models. Under normal conditions the only way this device would shut off the heat is when the air flow changes to the extent of making the flame brush up against it.



SECTION V

Servicing

ALL electrical/mechanical service or repairs **should be** made with the electrical power to the dryer disconnected (power off).

WARNING: PERSONAL INJURY COULD RESULT

The information provided in this section **should not be** misconstrued as a device for use by an untrained person making repairs. Service work **should be** performed by competent technicians in accordance with local, state, and federal codes.

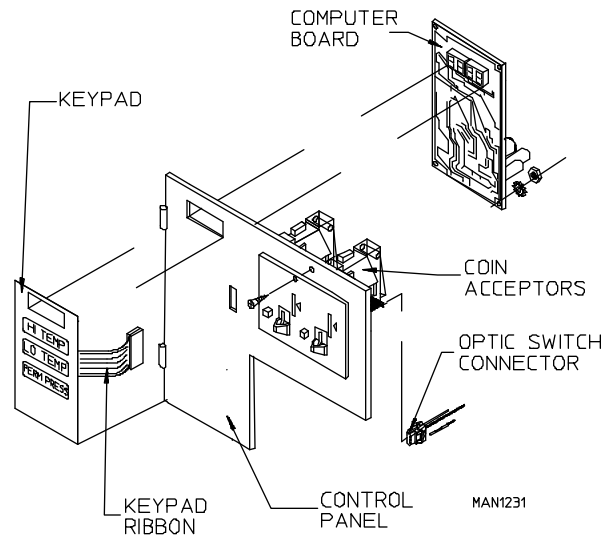
When contacting the factory for assistance, always have the **dryer model** and serial numbers available.

CAUTION: Observe ALL safety precautions displayed on the dryer or specified in this manual before and while making repairs.

Before considering replacement, make sure that **ALL** connectors are in place and making proper contact. Check input voltages and temperature sensor. After replacing any parts or performing adjustments or service run through a complete cycle.

To Replace Control Panel Assembly

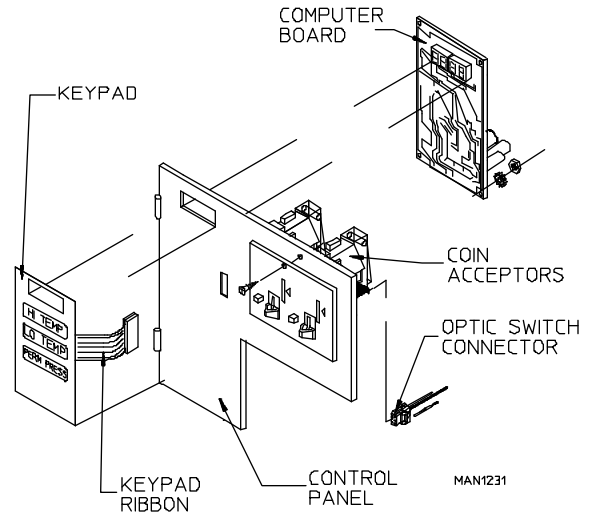
1. Disconnect power to the dryer.
2. Disconnect main power harness from rear of computer by squeezing locking tab and pulling connector straight back.
3. Disconnect the green ground wire from the computer.
4. Disconnect coin acceptor optic switch connector from 15 pin harness.
5. To remove control panel assembly from the control box, gently tap the bottom of the control panel upward and lift off the hinges.
6. Install new control panel assembly by reversing this procedure.
7. Be sure to check or reset programs.



NOTE: Use caution when handling MP Controller. Easily damaged by static electricity.

To Replace Computer

1. Disconnect power to the dryer.
2. Disconnect main power harness from rear of computer by squeezing locking tab and pulling connector straight back.
3. Disconnect the green ground wire from the computer.
4. Disconnect the keypad ribbon from the computer.
5. Remove the two (2) screws securing the computer to the control panel and remove computer from panel, by pulling upwards on the corners.
6. Install new computer by reversing this procedure.
7. Be sure to check or reset programs.



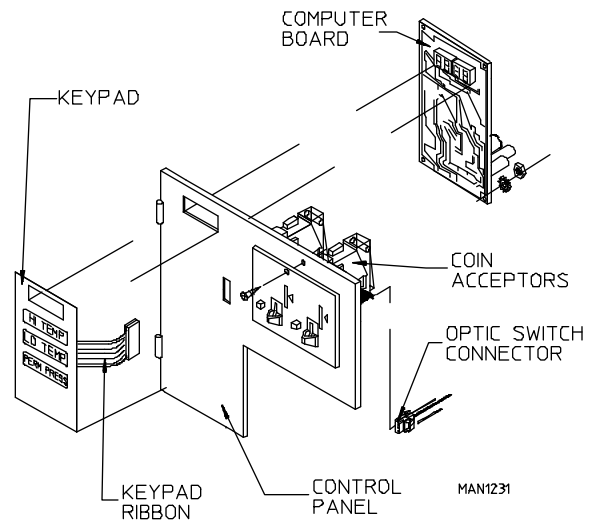
NOTE: Use caution when handling MP Controller. Easily damaged by static electricity.

To Replace Keypad (refer to illustration above)

1. Discontinue power to dryer.
2. Swing control panel open and unplug keypad ribbon from computer board.
3. Peel the keypad from the front of the control panel taking care to avoid scratching the panel.
4. Clean any adhesive residue from the panel.
5. Peel off paper backing from new keypad.
6. Align the display window on the keypad with the cutout in the control panel and press in place.
7. Connect keypad ribbon to the board and reconnect power to the dryer.
8. Test for operation by pressing each temperature selection.

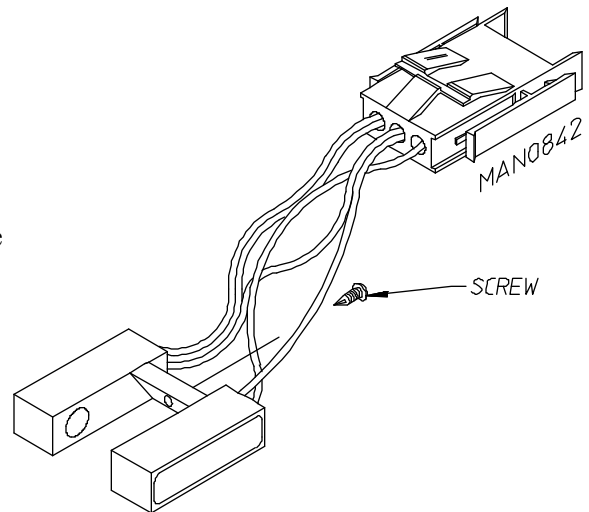
To Replace Coin Acceptor

1. Discontinue power to dryer.
2. Swing control panel open.
3. Unplug optic switch harness connector.
4. Remove one (1) screw holding coin acceptor in place.
5. Pull coin acceptor out gently.
6. Reverse procedure for installing new acceptor.



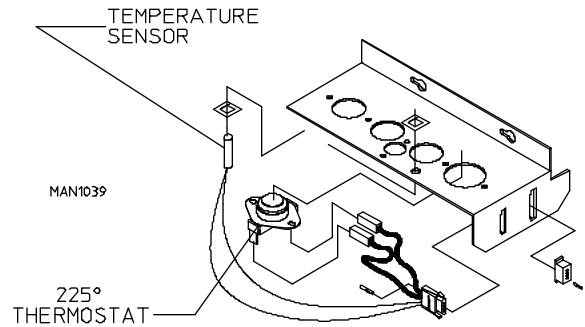
To Remove Optic Switch

1. Unplug optic switch connector.
2. Remove screw and washer holding optic switch to the coin acceptor and pull optic switch away.
3. Reverse procedure for installing new optic switch.



To Replace Microprocessor Temperature Sensor Probe

1. Discontinue power to dryer.
2. Remove M.P. sensor bracket assembly from the dryer.
 - A. Disconnect sensor bracket harness connector
 - B. Loosen the two (2) phillips head screw securing the bracket assembly to the dryer and remove the bracket from the dryer.



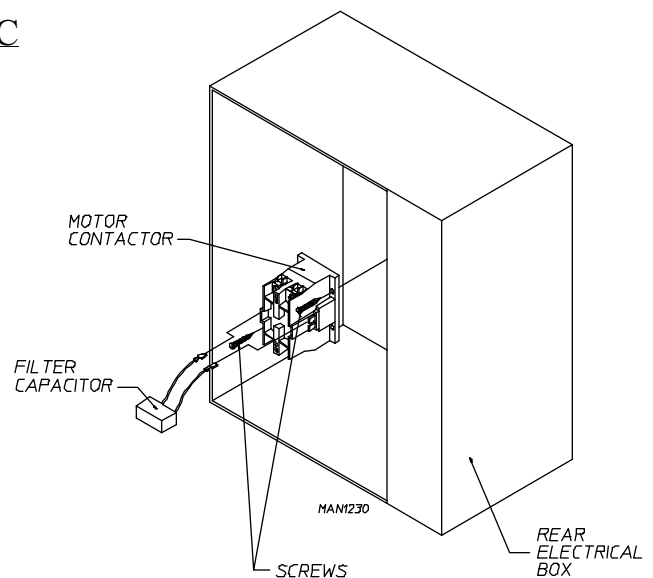
NOTE: DO NOT remove screws.

3. Disassemble sensor probe from bracket assembly by removing the top push-on fastener securing the probe from bracket. Use a small screwdriver to slowly pry the fastener off.
4. Disconnect the two (2) orange wires from the high heat (225 degree) thermostat, and remove modular bracket connector, wires, and probe from bracket assembly.
5. Install new sensor probe assembly (**ADC P/N 880251**) by reversing procedure.
6. Reestablish power to the dryer.

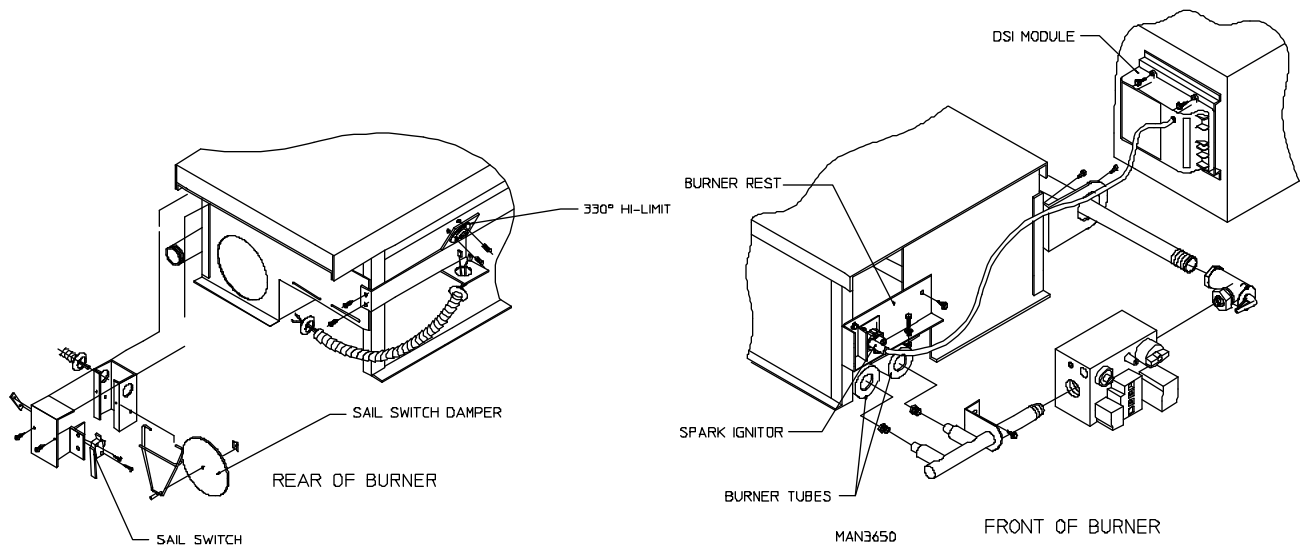
NOTE: If, when power is reestablished, the computer display reads "dSFL", check for a loose connection in the wiring.

To Replace Motor Contactor 2-Pole, 24VAC

1. Discontinue power to dryer.
2. Remove both screws securing motor contactor to the electric panel.
3. Remove **ALL** wires from contactor (**NOTE:** make sure each wire is marked with location removed from).
4. Install new contactor in reverse procedure.
5. Re-establish power to dryer.

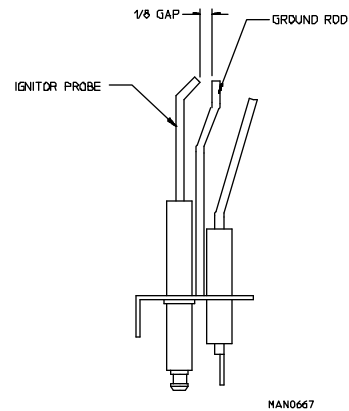


A. Burner Controls (Gas)



To Replace Spark Ignitor

1. Discontinue power to dryer.
2. Disconnect HV connector and flame probe connection from ignitor.
3. Disassemble ignitor from burner by removing the two (2) self-tapping screws.
4. Reverse procedure for installing new ignitor probe.

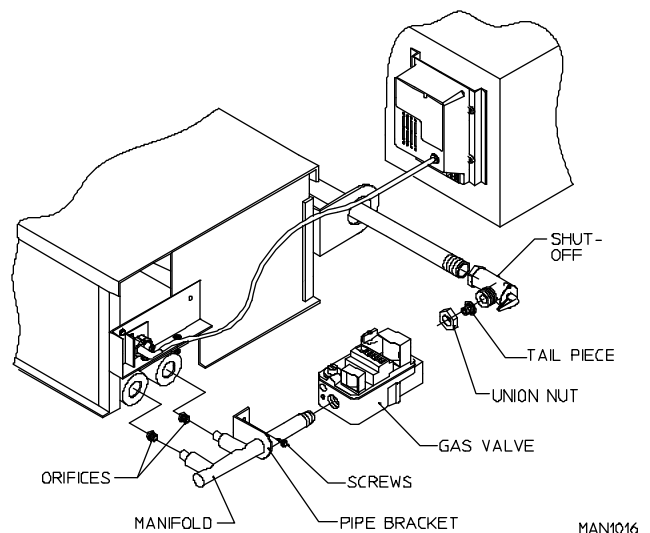


NOTE: Before re-establishing power to dryer, visually check the following: (see illustration)

1. The flame probe, ignitor probe, and ground rod are **ALL** on the same line of axis.
2. There should be a 1/8" gap (+/-, 1/32) between the ignitor probe and ground rod.
3. Do not wrap the red HV wire and flame probe wire together. (Improper operation may result.) They may run along side each other.

To Replace Gas Valve

1. Discontinue power to dryer.
2. Close shut off valve in gas supply line.
3. Disconnect gas valve wiring.
4. Break union connection before gas valve.
5. Loosen and remove two (2) screws securing pipe bracket to the burner.
6. Remove gas valve / manifold assembly from the dryer.
7. Remove manifold from output of the gas valve.
8. Remove union tail piece from valve. Use a 1/2" allen wrench (ADC P/N: 410001)
9. Reverse procedure for installing new gas valve.



WARNING: Test **ALL** connections for leaks by brushing on a soapy water solution
(Never Test For Leaks With A Flame)

To Replace Main Burner Orifices (See Chart On Following Page)

1. Refer to "TO REPLACE GAS VALVE" and follow steps one (1) through six (6).
2. Unscrew main burner orifices and replace.

NOTE: Use extreme care when removing and replacing orifices. These orifices are made of brass and are easily damaged.

3. Reverse the removal procedure for re-installing.

WARNING: Test **ALL** connections for leaks by brushing on a soapy water solution.
"Never Test For Leaks With A Flame".

To Test and Adjust Gas (Water Column) Pressure

There are two (2) types of devices commonly used to measure water column pressure. They are spring/mechanical-type gauges and manometers. 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 P/N: 122804**

1. To Test Gas Water Column (W.C.) Pressure:

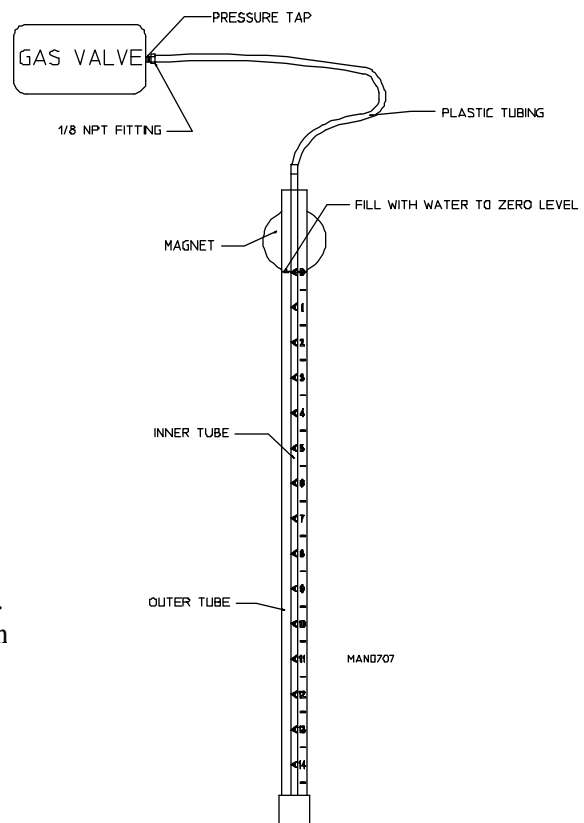
- a. Connect water column test gauge connection to gas valve pressure tap (1/8" NPT). This pressure tap is located on the outlet (manifold) side of the valve.

- b. Start dryer. With burner on, the correct water column reading in inches would be:

Natural Gas – 3.5 to 4 Inches Water Column

L.P. Gas – 10.5 to 11 Inches Water Column

2. To adjust water column pressure: For Natural gas models remove vent cap. Turn the slotted adjustment screw located on top of the valve next to the terminals. Turn clockwise to increase manifold pressure and coun clockwise to decrease. For L.P. gas models there is no regulator on valve.



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

To Replace Burner Tubes

1. Discontinue power to dryer.
2. Close shut off valve in gas supply line.
3. Disconnect gas valve wiring.
4. Break union connection before gas valve.
5. Loosen and remove two (2) screws securing pipe bracket to the burner.
6. Remove gas valve / manifold assembly from the dryer.
7. Remove the screws securing the front flanges of the burner tubes to the burner rest.
8. Remove burner tubes by sliding them out.
9. Replace by reversing procedure.

WARNING: Test **ALL** connections for leaks by brushing on a soapy water solution.
NEVER TEST FOR LEAKS WITH A FLAME.

To Replace DSI Module

1. Discontinue power to the dryer.
2. Remove the wires connected to the terminal strip at the bottom of the module.
3. Remove the soft orange high voltage wire from the module.
4. Remove the two (2) screws securing the module to the plate.
5. Replace module by reversing process.

B. Thermostats and Temperature Sensor

To Replace Hi-Limit Thermostat (330°)

This thermostat is an important safety device serving as an added protection against failure of the air sail switch to open in the event of motor failure or reduced air flow condition.

IMPORTANT: Under no circumstances should heat circuit safety devices ever be disabled.

1. Discontinue power to dryer.
2. Disconnect wires from hi-limit thermostat.
3. Remove screw, washer, and nut securing thermostat to the bracket, remove thermostat.
4. Reverse procedure for installing new thermostat.

To Remove The Temperature Sensor or High Heat Protector

A. High Heat Protector

1. Discontinue power to dryer.
2. Open and remove lint door.
3. Locate temperature sensor bracket assembly under the basket. Loosen the two phillips head screws. Disconnect the connector.
4. Slide bracket toward rear of the machine and remove the bracket assembly from the dryer.
5. At this point you have access to remove either the high heat protector or the temperature sensor.
6. To remove the high heat protection remove the two (2) screws, washers, and nuts holding the high heat protector in place.
7. Remove the high heat protector.
8. Reverse procedure for installation of new high heat protector.

B. Temperature Sensor

1. Discontinue power to dryer.
2. Open and remove lint door.
3. Disconnect sensor bracket harness connector.
4. Loosen the two (2) phillips head screws securing bracket assembly to dryer and remove by sliding bracket towards the rear of the dryer.
5. Disassemble sensor probe from bracket assembly by removing the top push-on fastener securing the probe to the basket.
6. Disconnect the two (2) orange wires from the high heat temperature thermostat remove the four (4) position connector, wires, and probe from the bracket assembly.
7. Install new probe assembly (ADC P/N: 880251) by reversing procedure.

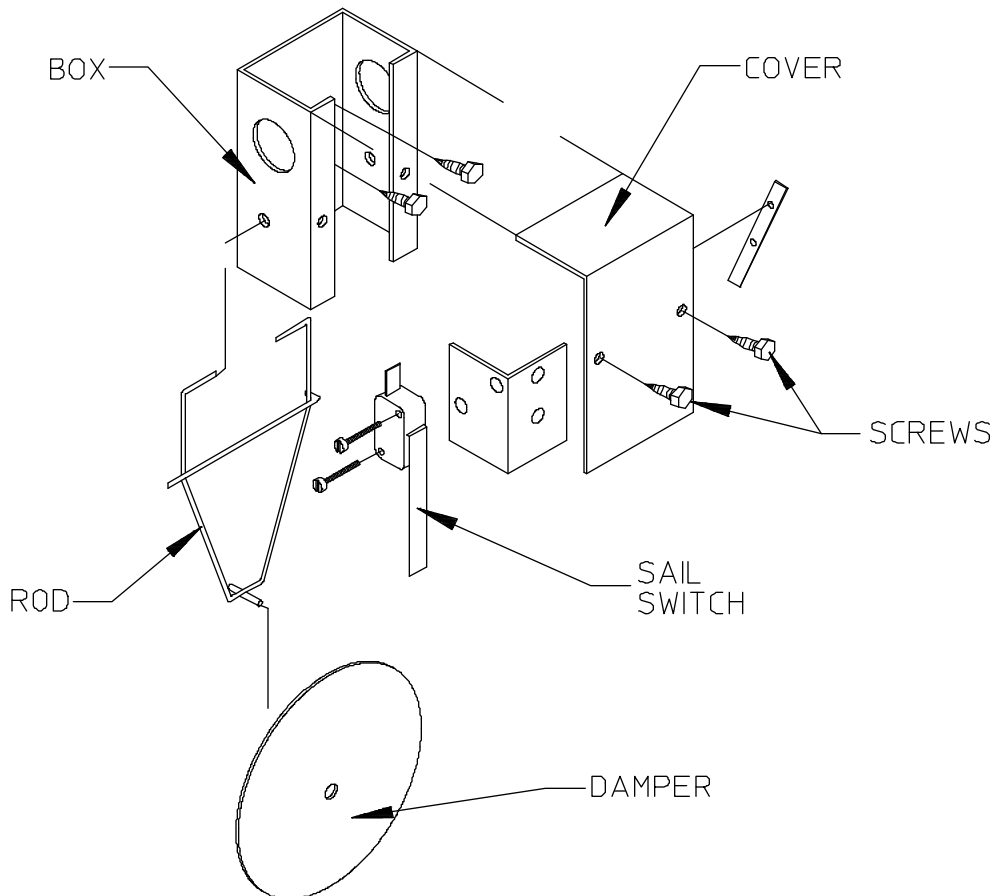
C. Sail Switch Assembly

The sail switch is a heat circuit safety device which controls the heat circuit ONLY. When the dryer is operating and there is proper air flow the sail switch damper pulls in and closes the sail switch. Providing all the other heat-related circuits are functioning properly. If an improper air flow occurs, the sail switch damper will release, and the circuit will open.

IMPORTANT: UNDER NO CIRCUMSTANCES SHOULD HEAT CIRCUIT SAFETY DEVICES EVER BE DISABLED.

To Replace Sail Switch

1. Discontinue power to dryer.
2. Remove the two (2) screws which hold the sail switch box.
3. Disconnect the two (2) wires from the switch.
4. Disassemble sail switch from mounting bracket by removing the two (2) screws securing the switch in place.
5. Reverse this procedure for installing new sail switch. Adjust sail switch as described in the next section.



MAN0569

To Adjust Sail Switch

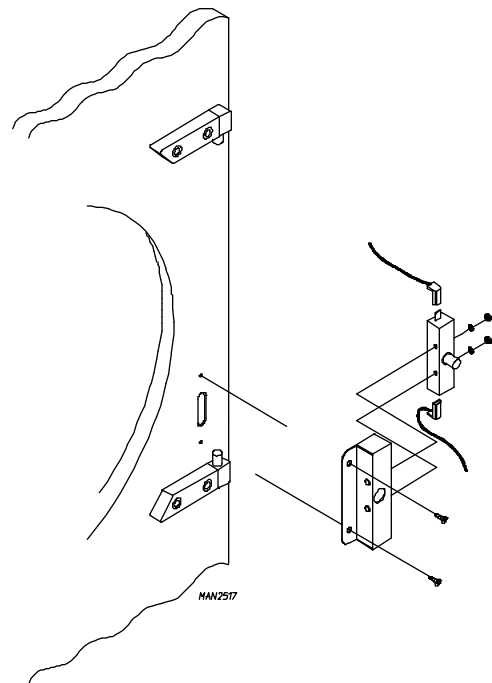
1. Operate the installed dryer normally to verify that the heat system is fully operational.
2. Open the main dryer door.
3. Manually depress the door switch actuator.
4. While continuing to depress the door switch actuator, and with the door open, start the dryer.
5. If the heat system is not activated in 15 seconds, the sail switch is properly adjusted.
6. If the heat system is activated, the sail switch is improperly adjusted and **must be** readjusted by bending the actuator arm of the sail switch toward the front of the dryer. If the actuator arm is bent too far toward the front of the dryer, the dryer may not have heat when needed. After any adjustments of the sail switch, the above procedure **must be** repeated to verify proper operation.

CAUTION: *DO NOT* disable this switch by taping or screwing sail switch damper to burner. PERSONAL INJURY or FIRE COULD RESULT.

D. Front Panel and Main Door Assemblies

To Replace Main Door Switch (Steel Door)

1. Discontinue power to dryer.
2. Open main door.
3. Remove the two (2) Phillips head screws holding the main door switch in place.
4. Disconnect the two (2) connectors from the door switch
5. Disassemble door switch bracket by removing the two (2) nuts holding the door switch to the housing, and remove the door switch.
6. Reverse this procedure for installing new door switch.



TO REPLACE MAIN DOOR ASSEMBLY (STEEL DOOR)

1. Discontinue power to the dryer,
2. Remove the two (2) top 3/16" Allen screws securing the top hinge pin to the front panel.
3. Remove the door from the dryer by lifting the door off the bottom hinge pin.
4. Remove the bottom hinge pin assembly from the front panel two (2) 3/16" Allen screws securing the hinge pin to the front panel.

NOTE: Be careful not to lose the plastic washer on the hinge pin.

5. Re-assemble in the reverse steps.

TO INSTALL NEW MAIN DOOR GLASS

1. Remove main door assembly from dryer (follow main door removal procedure).
2. Lay main door on a flat surface with front of door face down.
3. Remove glass and clean all old sealant off main door. This area must be completely cleaned for correct bonding.
4. Apply a narrow bead of silicone (**ADC P/N: 170730**) all around main door area where glass will rest.
5. Install glass on to door/adhesive and slightly press glass in place.

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

6. 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 the adhesive is 24 to 36 hours.
7. After 24 hour curing period, install main door on dryer by reversing step 1.

To Replace Front Panel

1. Discontinue power to dryer.
2. Disconnect main door switch wiring from inside control wire box.

NOTE: Identify location of each wire for correct reinstallation.

3. Follow procedure for removal of main door assembly.
4. Open control (service) door.
5. Open lint door.
6. Remove the screws securing the front panel to the dryer.
7. Gently remove front panel assembly from dryer.

IMPORTANT: When removing front panel assembly be careful not to damage main door switch wires disconnected in step 2.

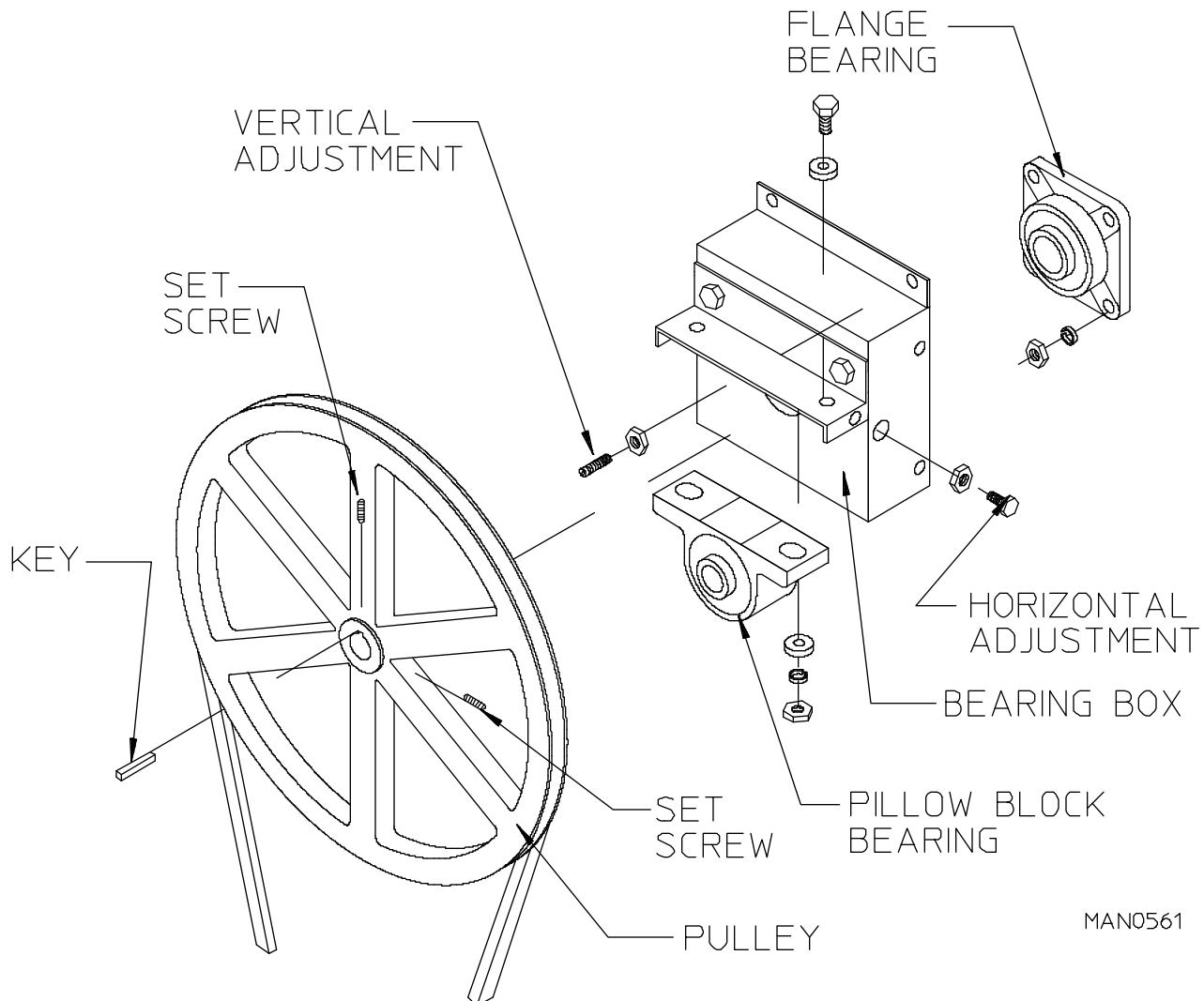
8. Reverse this procedure for installing new front panel.

E. Tumbler and Bearing Assembly (Remove backguard to access assembly)

To Replace Tumbler Pulley

1. Remove backguard.
2. Loosen v-belts, then rotate pulley and roll v-belts out of grooves.
3. Loosen two (2) set screws on the pulley and pull the pulley off the shaft.
4. Reverse procedure for installing new tumbler pulley.

NOTE: Check belt alignment before operating dryer.



MAN0561

To Replace Rear Tumbler Bearing

1. Remove tumbler pulley (follow tumbler pulley removal procedure).
2. Remove the four (4) bolts securing the bearing box to the back of the dryer.
3. Loosen screws securing bearing to shaft.

IMPORTANT: LOCTITE® NOW BEING USED.

Effective January 24, 1996, LOCTITE® is being used on the ADG-385/WDA-385 dryer. LOCTITE® is being applied to ALL bearing set screws, used on **ALL** basket (tumbler) shafts, **ALL** idler shafts, **ALL** impellor (fan/blower) shafts, and **ALL** drive shaft bearings.

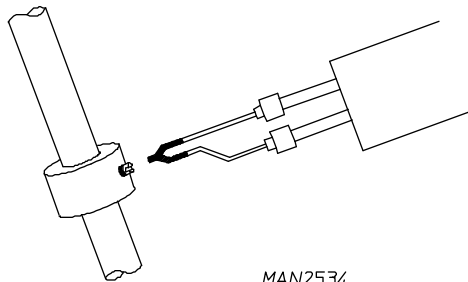
A yellow label (ADC Part No. 112801) is affixed to the dryer to inform customers of the use of LOCTITE®. This label is shown immediately below;

IMPORTANT
LOCTITE® ADHESIVE HAS BEEN USED
TO SECURE SET SCREWS AND BEARINGS
IN PLACE. ONCE SET SCREWS HAVE BEEN
REMOVED, A GEAR PULLER MAY BE NECES-
SARY TO REMOVE BEARING TO AVOID DAMAGE.

P/N: 112801

One (1) of these labels is attached to each Tumbler (basket) Bearing Assembly (pillow block bearing box) on the ADG-385/WDA-385 dryer.

Should readjustment or removal of set screws become necessary in the field and the process becomes difficult, apply heat to the set screw with a soldering gun (450° F) for a few minutes.



4. Pull bearing box and bearing off of shaft.

NOTE: If any rust has developed, use an emery cloth to polish the shaft.

5. Remove bolts securing bearing to bearing box and remove tumbler bearing.

IMPORTANT: LOCTITE® adhesive has been used to secure set screws and bearings in place. Once set screws have been removed, a gear puller may be necessary to remove bearing to avoid damage.

6. Reverse procedure for installing new tumbler bearing.

NOTE: Check alignment of pulleys before operating dryer.

NOTE: Check tension of belts and alignment of tumbler before operating dryer.

To Replace The Front Tumbler Bearing

1. Remove tumbler pulley and bearing box (follow "To Replace The Rear Tumbler Bearing" steps 1 through 4).
2. Loosen set screws on front tumbler bearing.

IMPORTANT: LOCTITE® NOW BEING USED.

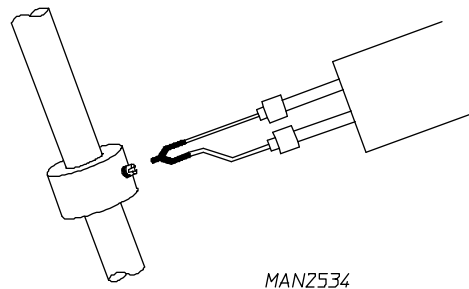
Effective January 24, 1996, LOCTITE® is being used on the ADG-385/WDA-385 dryer. LOCTITE® is being applied to **ALL** bearing set screws, used on **ALL** basket (tumbler) shafts, **ALL** idler shafts, **ALL** impellor (fan/blower) shafts, and **ALL** drive shaft bearings.

A yellow label (ADC Part No. 112801) is affixed to the dryer to inform customers of the use of LOCTITE®. This label is shown immediately below;

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SARY TO REMOVE BEARING TO AVOID DAMAGE.
P/N: 112801

One (1) of these labels is attached to each Tumbler (basket) Bearing Assembly (pillow block bearing box) on the ADG-385/WDA-385 dryer.

Should readjustment or removal of set screws become necessary in the field and the process becomes difficult, apply heat to the set screw with a soldering gun (450° F) for a few minutes.



3. Using a wheel puller gently push the tumbler shaft towards the front through the front tumbler bearing.

NOTE: An alternative method **would be** to place a block of wood on the end of the tumbler shaft and strike it with a heavy hammer. To prevent damage to the shaft the wheel puller method is preferred.

4. Remove the four (4) nuts securing the bearing to the dryer back and remove the bearing.
5. Reverse procedure for installing new tumbler bearing.

NOTE: Check tension of belts and alignment of tumbler before operating dryer.

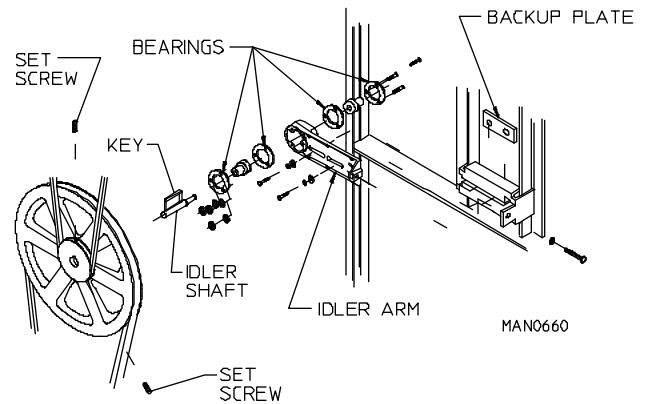
6. Replace backguard.

F. Idler and Bearing Assembly

(Remove backguard to access assembly.)

To Replace Idler Pulley

1. Remove backguard.
2. Loosen v-belts, then rotate pulley and roll v-belts out of grooves.
3. Loosen the two (2) set screws on the pulley and pull off the shaft.
4. Reverse procedure for installing new idler pulley.



NOTE: Check tension and alignment of belts before operating dryer.

IMPORTANT: LOCTITE® NOW BEING USED.

Effective January 24, 1996, LOCTITE® is being used on the ADG-385/WDA-385 dryer. LOCTITE® is being applied to **ALL** bearing set screws, used on **ALL** basket (tumbler) shafts, **ALL** idler shafts, **ALL** impellor (fan/blower) shafts, and **ALL** drive shaft bearings.

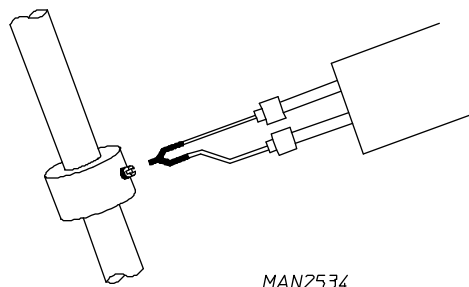
A yellow label (ADC Part No. 112801) is affixed to the dryer to inform customers of the use of LOCTITE®. This label is shown immediately below;

IMPORTANT
LOCTITE® ADHESIVE HAS BEEN USED
TO SECURE SET SCREWS AND BEARINGS
IN PLACE. ONCE SET SCREWS HAVE BEEN
REMOVED, A GEAR PULLER MAY BE NECES-
SARY TO REMOVE BEARING TO AVOID DAMAGE.

P/N: 112801

One (1) of these labels is attached to each Tumbler (basket) Bearing Assembly (pillow block bearing box) on the ADG-385/WDA-385 dryer.

Should readjustment or removal of set screws become necessary in the field and the process becomes difficult, apply heat to the set screw with a soldering gun (450° F) for a few minutes.



To Replace Idler Bearing

NOTE: The bearings in the idler arm assy. are pressed on the shaft. If you do not have means of pressing the bearings on to the shaft, the idler arm assy. complete is what you should purchase.

1. Remove idler pulley (follow "To Replace Idler Pulley").
2. Remove idler arm.
 - A. Remove two (2) bolts securing idler arm to the idler backup plate.
 - B. Remove idler arm assembly.
 - C. Loosen set screws on both the front and rear bearing and remove the idler shaft.
 - D. Remove 3 bolts securing the bearing to the idler arm and remove bearings.
3. Reverse procedure for installing new idler bearings.

NOTE: Check tension and alignment of belts before operating dryer.

G. Drive Pulley

1. Remove backguard.
2. Loosen v-belts then rotate pulley and roll v-belts out of grooves.
3. Loosen set screws and pulley motor pulley out.

NOTE: If rust has developed on the shaft use an emery cloth to polish this shaft.

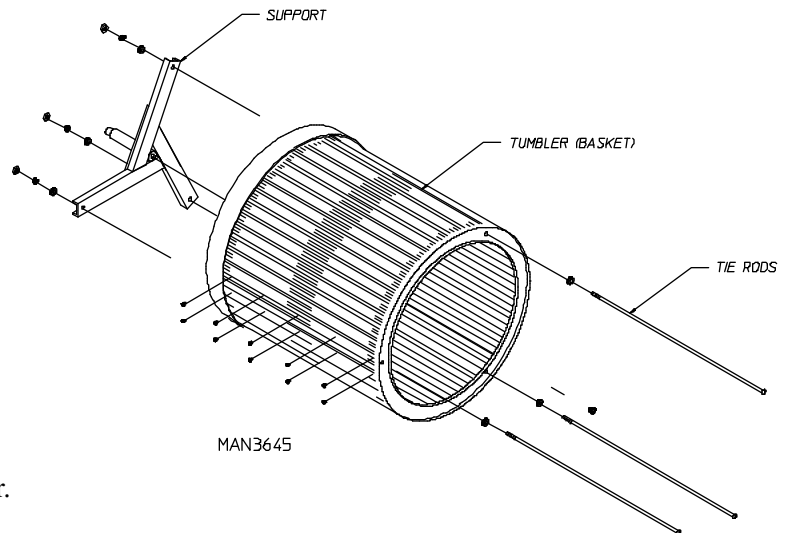
4. Reverse procedure for installing new drive pulley.

NOTE: Check tension and alignment of belts before operating dryer.

H. Tumbler (basket)

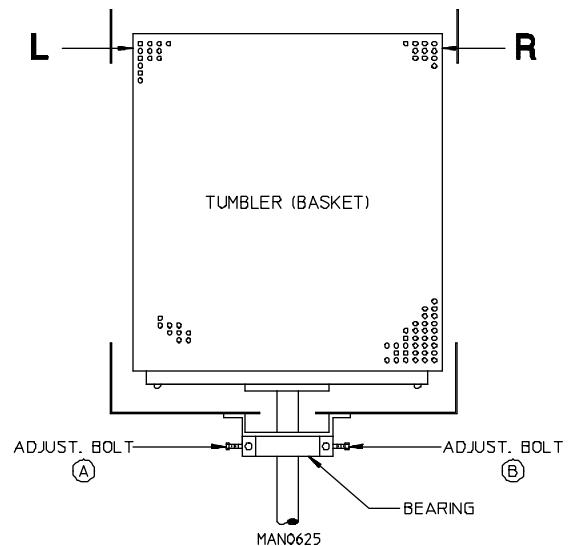
Tumbler Alignment (vertical)

1. Discontinue power to dryer.
2. Remove backguard.
3. Loosen the four (4) hex head bolts on the sides of the bearing box (2 on each side).
4. Back off jam nuts on the two (2) allen head adjustment screws.
5. Turn the screws clockwise evenly to raise the number or counter clockwise evenly to lower the number.
6. Rotate the tumbler from the front and check alignment with the main door opening.
7. Leave a large gap from the inside ring on the top of the front panel opening to the tumbler, and a smaller gap on the bottom to compensate for the weight of the clothes drying.
8. Tighten the four (4) hex head bolts on the sides of the bearing box, and the two (2) allen head adjustment screws.
9. Replace backguard.
10. Reconnect power to dryer.



Tumbler Alignment (lateral)

1. Discontinue power to dryer.
2. Remove backguard.
3. Loosen the two (2) hex head bolts, (one turn is enough), that holds the pillow block bearings to the bearing box.
4. Back off the two (2) jam nuts on the side adjustment bolts. Now rotate the tumbler from the front of the dryer, checking the space between the tumbler and the front panel. This **should be** equal on the left hand and right hand side.



REAR OF DRYER

5. Lateral adjustment (viewing from the rear)

- A. Loosening (by turning counterclockwise) the left hand adjustment bolt and tightening (by turning clockwise) the right hand adjustment bolt will shift the basket to the left.
- B. Loosening (by turning counterclockwise) the right hand adjustment bolt and tightening (by turning clockwise) the left hand adjustment bolt will shift the basket to the left.

6. Tighten and secure both adjustment bolts and jam nuts.

7. Tighten the bearing box bolts.

8. Replace backguard and re-establish power to dryer.

To Replace The Tumbler and/or Tumbler Support

1. Remove tumbler pulley and bearing box (follow "To Replace The Rear Tumbler Bearing" steps 1 through 4).

2. Remove front panel assembly.

- A. Discontinue power to dryer.
- B. Disconnect main door switch wiring from inside control wire box.

NOTE: Identify location of each wire for correct re-installation.

- C. Open control (service) door.
- D. Open lint door.
- E. Remove the screws securing the front panel to the dryer.
- F. Gently remove front panel assembly from the dryer.

IMPORTANT: When removing front panel assembly be careful not to damage door switch wires.

3. Loosen set screws on rear tumbler bearing.

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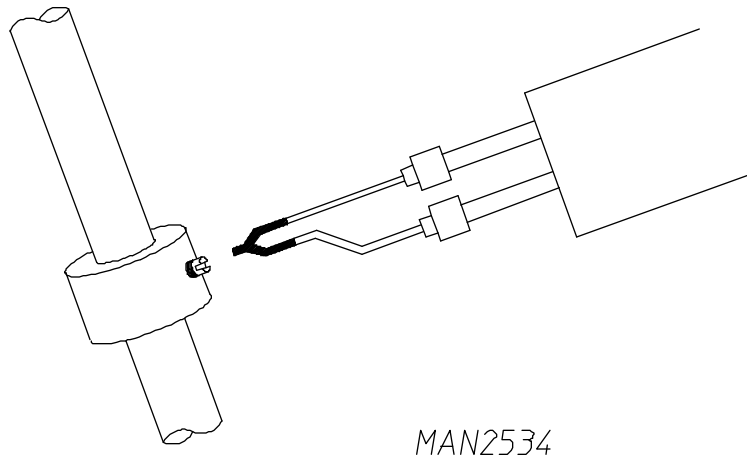
A yellow label (ADC Part No. 112801) is affixed to the dryer to inform customers of the use of LOCTITE®. This label is shown immediately below;

IMPORTANT
LOCTITE® ADHESIVE HAS BEEN USED
TO SECURE SET SCREWS AND BEARINGS
IN PLACE. ONCE SET SCREWS HAVE BEEN
REMOVED, A GEAR PULLER MAY BE NECES-
SARY TO REMOVE BEARING TO AVOID DAMAGE.

P/N: 112801

One (1) of these labels is attached to each Tumbler (basket) Bearing Assembly (pillow block bearing box) on the ADG-385/WDA-385 dryer.

Should readjustment or removal of set screws become necessary in the field and the process becomes difficult, apply heat to the set screw with a soldering gun (450° F) for a few minutes.



4. Using a wheel puller gently push the tumbler shaft towards the front through the front tumbler bearing.

NOTE: An alternate method **would be** to place a block of wood on the end of the tumbler shaft and strike it with a heavy hammer. To prevent damage to the shaft, the wheel puller method is preferred.

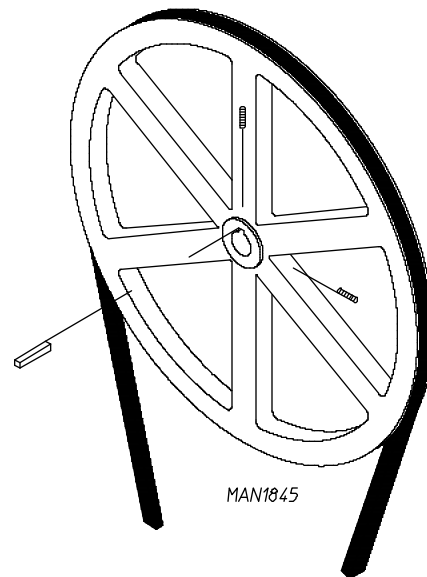
5. Remove the tumbler and support through the front of the dryer.
 - A. Remove the bolt in the center of the tumbler back wall.
 - B. Loosen and remove the nuts and washers from the tumbler tie rods. Remove the rods.
 - C. Replace either tumbler or tumbler support by reversing the procedure.
6. Reassemble components into dryer by reversing steps 1 through 4.
7. Check tumbler lateral and vertical alignment. Also, check belt tension and alignment.
8. Replace backguard and re-establish power to dryer.

I. V-Belts (refer to illustration in Sections I, J and K)

V-Belts should have proper tension. If too loose, they will slip, if too tight excessive wear on the bearing will result. If the pulleys are not properly aligned, excessive belt wear will result. Proper belt tension will allow 1/2" displacement under normal thumb pressure at mid span of the belt.

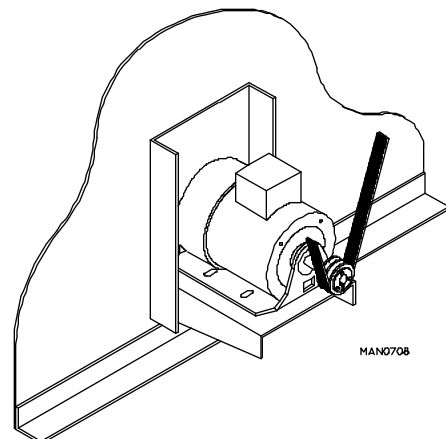
V-Belt Tension Adjustment-Tumbler To Idler

1. Loosen two (2) bolts connecting to back-up plate.
2. Back off jam nut on the adjustment bolt.
3. Tighten belts by turning adjustment bolt clockwise.
(turn counterclockwise to loosen belts)
4. Tighten both bolts connecting to back up plate.
5. Check vertical plane of idler pulley for parallel alignment with tumbler pulley.
6. If realignment is required, loosen tumbler pulley and move tumbler pulley to proper position.
7. Re-tighten jam nut.



V-Belt Tension Alignment - Motor To Idler

1. Loosen two (2) bolts connecting idler arm to back-up plate.
2. Back-off on jam nut(s) on the adjusting bolt.
3. Loosen/tighten adjustment bolt to relax/increase belt tension.
4. Tighten adjustment bolt jam nuts(s).
5. Tighten the two (2) bolts loosened in step 1.



To Replace V-Belts

1. Loosen tension on V-Belts, so that they can easily be rolled off pulleys.
2. Replace V-Belts.
3. Re-tighten V-Belts and adjust tension and alignment per previous instructions.

J. Motor

To Replace Motor

1. Discontinue power to dryer.
2. Remove drive belt.
3. Disconnect wiring harness from motor.
4. Remove nuts and washers holding the motor mount to the rear of the dryer and pull motor mount away.
5. Remove the two (2) left hand nuts on the motor shaft retaining the impeller. Work the impeller free from the motor shaft by means of a puller to prevent damage to the motor shaft.
6. Remove the bolts holding the motor to the motor mount and replace it with a new motor.
7. Remove pulley from old motor and install on new motor.
8. Align motor with impellor face in plane with the motor mount at no less than 3/16" clearance.

K. Impeller

NOTE: Follow steps 1 through 5, 8 in "Section V, Part N."

L. Lintscreen

To Replace Lintscreen

1. Open lint door and remove.
2. Remove the two (2) hex head screws securing lintscreen, hold down in place and remove from trap.
3. Slide Lintscreen out along the lint coop track.
4. Reverse procedure for installing new lint screen.
5. Close lint door.

SECTION VI

Trouble Shooting

The information provided will help isolate the most probable components 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 ALWAYS BE CHECKED FOR FAILURE BEFORE BEING RETURNED TO THE FACTORY.

The information provided should not be misconstrued as a device for use by an untrained person in making repairs. Only properly licensed technicians should service the equipment.

OBSERVE ALL SAFETY PRECAUTIONS DISPLAYED ON THE EQUIPMENT OR SPECIFIED IN THIS MANUAL WHILE MAKING REPAIRS.

A. Phase 5 Coin System Diagnostics

ALL major circuits, including door, microprocessor temperature sensor, heat and motor circuits are monitored. The Phase 5 coin microprocessor controller will inform the user via the L.E.D. display of certain failure codes along with indicators both in L.E.D. display at the outputs of each relay and door switch circuit to easily identify failures.

Diagnostic (L.E.D. Display) Failure Codes

1. "**dOO**r" - indicates door switch circuit is open.
 - a. Keyboard entry was made while main door is open, or
 - b. There is a fault in the door switch circuit (external of the microprocessor controller).
2. "**dSFL**" - indicates a fault in the microprocessor temperature sensor circuit. If a fault is detected in the microprocessor heat sensor circuit, the display will read "dSFL," and the tone (buzzer) will sound for approximately 5 seconds every 30 seconds until ...
 - a. The problem is corrected, or
 - b. Power to the dryer is discontinued and the problem is then corrected.

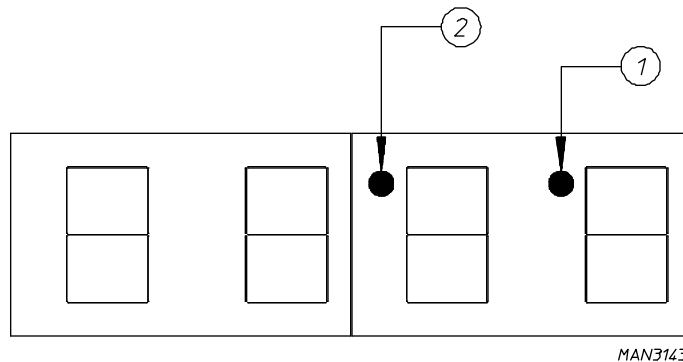
IMPORTANT: The Phase 5 coin microprocessor controller has its own internal heat sensing circuit fuse protection located on the back side of the controller. If a "**dSFL**" condition occurs, check to see if this fuse has blown. If it has, **DO NOT** replace the entire microprocessor controller; replace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

NOTE: Once the microprocessor controller detects a problem in the heat circuit, it updates every 30 sec. If the problem was a loose connection in this circuit which corrected itself, the "**dSFL**" condition would automatically be cancelled.

3. "**SEFL**" - indicates rotational sensor circuit failure meaning that there is a fault somewhere in the basket (tumbler) rotation detection circuit, or the Phase 5 coin microprocessor controller (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 non-active mode (**nSEn**).
4. "**Hot**" - indicates a possible overheating condition. The Phase 5 coin microprocessor controller (computer) monitors the temperature in the dryer at **ALL** times. If the microprocessor controller detects that the temperature in the dryer has exceeded 220°F (104°C), it will disable **ALL** outputs (shut the dryer down), the tone (**BUZ**) 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 sensor has dropped to 220°F or lower and the microprocessor controller is manually reset by closing and opening the program switch (PS) on the back side of the controller (as shown in the illustration on the next page).

L.E.D. Display Indicators

The L.E.D. indicator dots located at the top portion of the L.E.D. display (as shown in the illustration below) indicate the Phase 5 coin 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).



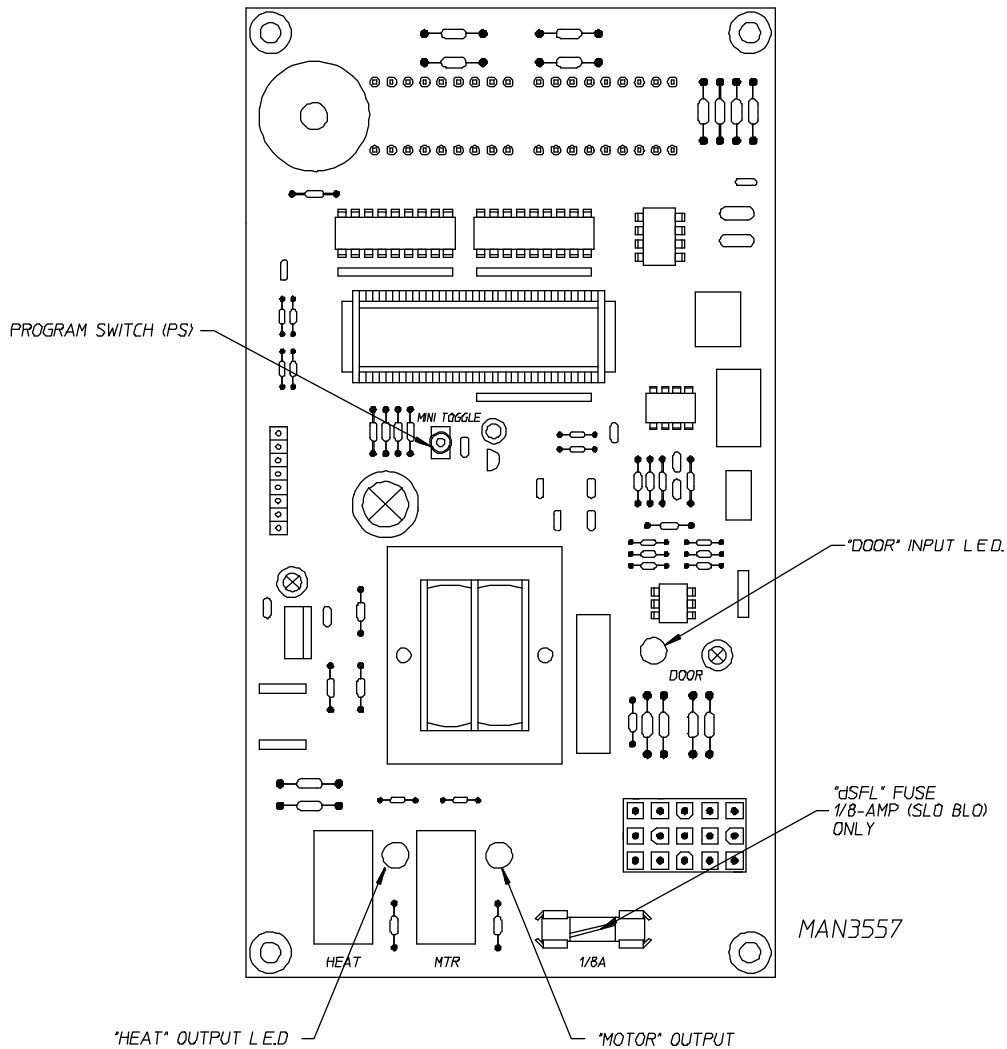
1. **Heat Circuit Indicator** - indicator dot is on whenever the Phase 5 coin microprocessor controller is calling for the heating circuit to be active (ON).
2. **Motor Circuit Indicator** - indicator dot is on whenever a cycle is in progress.

Microprocessor Controller Relay Output L.E.D. Indicators

There are three (3) L.E.D. indicators (red lights) located at the lower backside area of the controller are identified/labeled "DOOR," "MTR," and "HEAT" (as shown in the illustration on the next page). These L.E.D.'s indicate that the outputs of the Phase 5 coin microprocessor controller (computer) or, in the case of the door switch, the input is functioning.

1. "**DOOR**" L.E.D. indicator **should be** on **ALL** the time (even if the dryer is not running) unless the main door is open or there is a problem (open circuit) in the main door switch circuit.

NOTE: If the dryer is started (the L.E.D. display indicator dots are on) and there are no outputs (heat and/or motor output L.E.D.'s are off) and the "dOOr" input L.E.D. is on, the fault is in the Phase 5 coin microprocessor controller (computer) itself. If the failure was elsewhere (i.e., dryer's door switch circuit) the L.E.D. display would read "dOOr" if a keyboard entry was attempted. If the L.E.D. display indicators are on and the door L.E.D. input and motor/heat output L.E.D.'s are on and the motor and/or heat is not active (ON), then the problem is not the door switch circuit or the Phase 5 coin microprocessor controller; the problem is else where in the dryer.

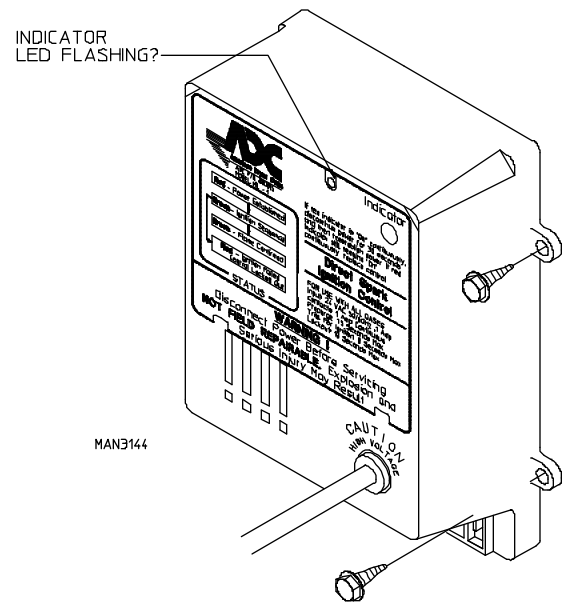


2. **"MOTOR"** Output L.E.D. Indicator - If the dryer is started and the motor is not operating, yet both the microprocessor controller display motor indicator dot and the "dOOr" input L.E.D. indicator are on, but the motor output L.E.D. indicator is off, then the fault is in the Phase 5 coin microprocessor controller itself. If the motor is not operating and the "MOTOR" output indicator is on, then the problem is else where (i.e., external of the microprocessor controller).
3. **"HEAT"** Output L.E.D. Indicator - If the dryer is started and there is no "HEAT," yet the microprocessor controller 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 coin microprocessor controller (computer) itself. If both the display heat indicator dot and the heat output L.E.D. indicator are on, then the problem is elsewhere (i.e., external of the microprocessor controller).

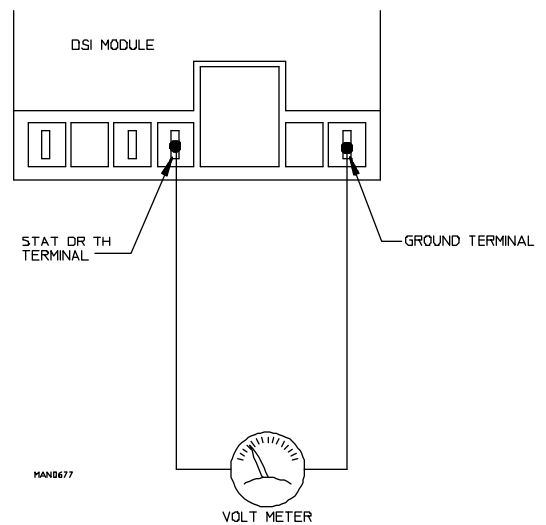
B. No Heat Condition

The following procedure **must be** performed with the microprocessor controller (computer) display in the normal operating mode, and the heat indicator dot on, and the L.E.D. heat output light on. Voltage is 24 VAC unless otherwise specified.

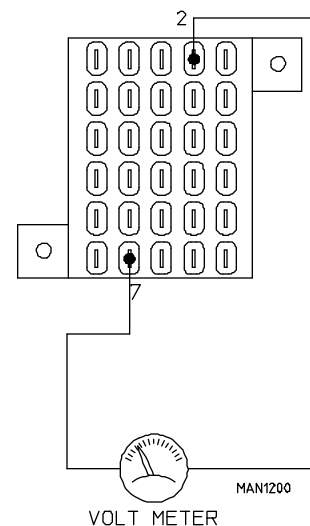
1. Check to see if DSI module fault indicator L.E.D. is on or flashing. If yes, refer to "DSI" Trouble shooting Booklet. (P/N: 450142)



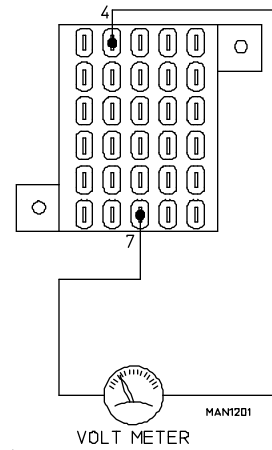
2. Check for voltage (approx. 25VAC) across DSI module terminals "STAT" or "TH" and "GND." If voltage is evident, refer to "DSI" Trouble Shooting Booklet. (P/N: 450142)



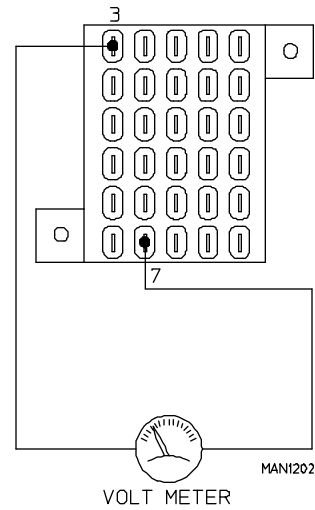
3. Check for voltage between TB#2 and TB#7. If voltage is evident, problem is break in wire or termination between TB#2 and TB#7, and the DSI module "STAT", "TH", or "GND" terminal.



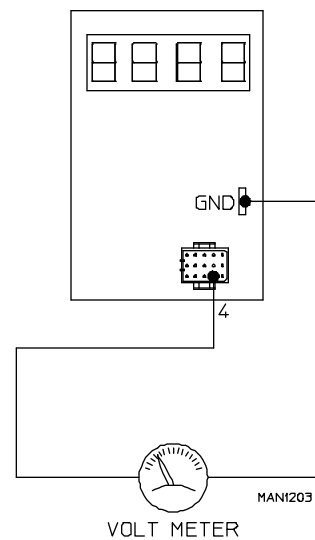
4. Check for voltage across TB#4 and TB#7. If voltage is evident, problem is defective burner hi-limit switch P/N: 130401 or the sail switch* P/N: 122200, or the harness connecting these two (2) devices to the terminal (block #4 and #2).



5. Check for voltage across TB#3 and TB#7. If voltage is evident, problem is defective basket hi-limit switch P/N: 130103 or the harness connecting this device to the terminal block #3 and #4.



6. Check for voltage across the computer's 15-pin connector, #4 (orange wire), and GND. Spade terminal on the computer. If voltage is evident, problem is the orange wire from the computer's 15-pin connector, #4 to the terminal block #3. There is a bad connection on either end or faulty computer.



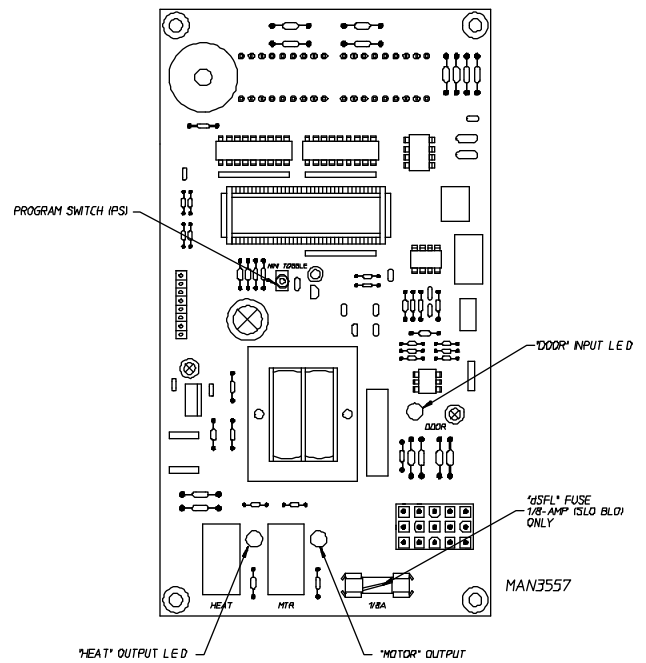
* Make sure the sail switch damper is closing properly. If so, check to see if it is making contact with the switch. If the sail switch damper is not closing properly check for exhaust restriction, or exhaust damper restriction and/or clogged lint screen.

NOTE: For models with a 3-phase motor, check rotation direction of impellor (fan) as noted on label at rear of dryer.

C. No Start Condition

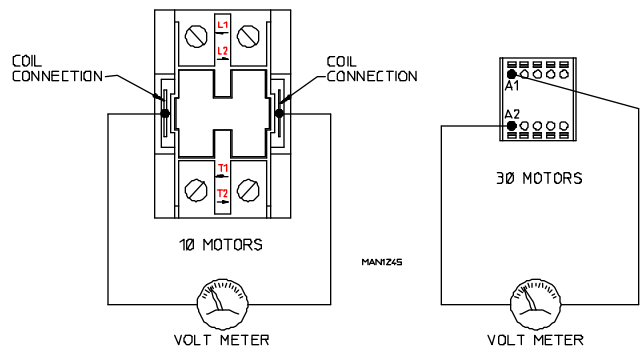
Follow this test procedure, providing that the microprocessor controller is functioning where the display is in the normal operating mode and the motor indicator dot is on, and the L.E.D. motor output light is on. The voltage you **should be** reading is 24 VAC unless otherwise specified.

1. Check to see if "dOOr" L.E.D. input light is on (located on component side of computer board). If light is off, refer to "dOOr" in the trouble shooting section.

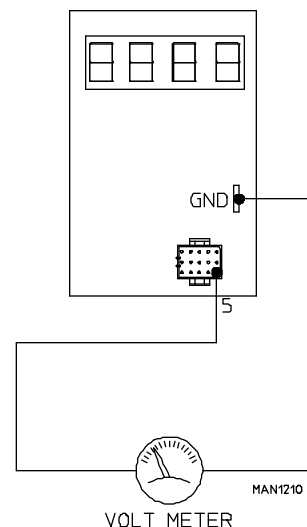


2. Check for voltage across the coil connections of the motor relay. If no voltage is evident:

- A. Manually push down on the top of contactor, if motor turns, replace contactor.
- B. If motor doesn't turn problem is bad wire or termination from contactor down to motor or faulty motor.



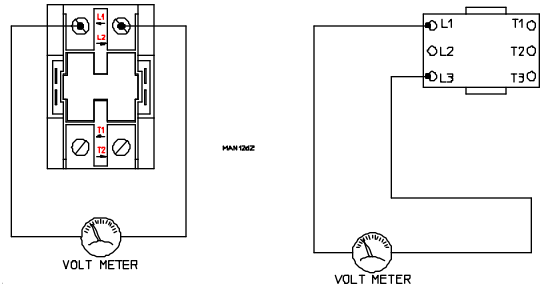
3. Check for voltage across the microprocessor's 15 pin connector #5 (blue wire) and GND spade terminal on the microprocessor. If voltage is evident, problem is bad wire or termination on blue wire from the computer to the contactor coil or the green wire from TB #7 to the opposite end of the contactor coil. If no voltage is evident, problem is faulty computer.



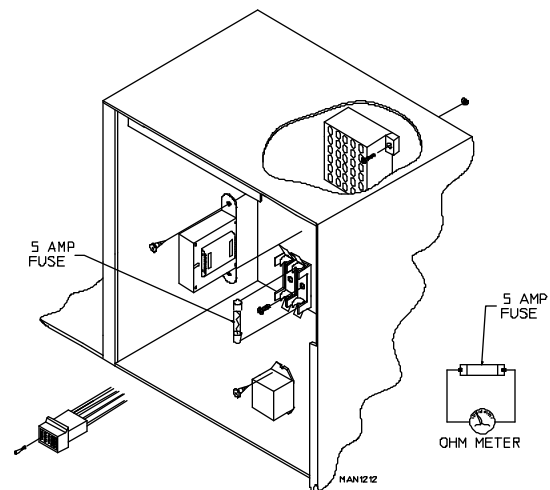
D. No Display Condition

1. Check power supply. (dryer voltage 110v, 208v, 220v ...)

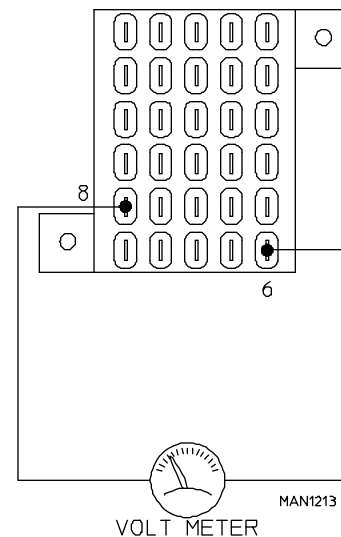
2. Check for voltage across (L1) and (L2) of motor relay. (110v, 208v, 220v ...) For 3 phase machines, check across (L1) and (L3). If no voltage is evident, problem is bad wire(s) or termination from circuit breaker panel to top of motor contactor.



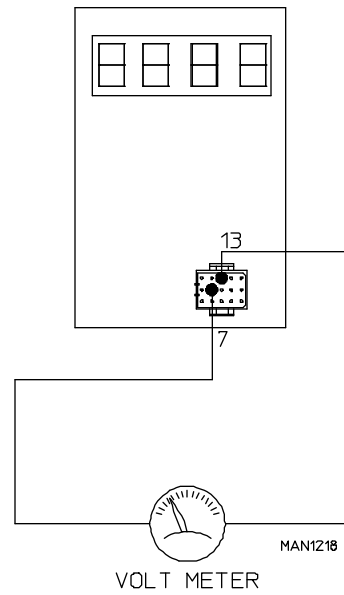
3. Check the .5 amp fuse(s) in the control box. If dryer is rated at 110v, 115v, or 120v there will only be one fuse. Voltages of 208v, 220v will have two (2) fuses. If blown, replace with P/N: 136057.



4. Check voltage across TB #8 and TB #6 (110v, 208v, 220v). If no voltage is evident, problem is bad wire or termination from TB #8 and TB #6 to the L1 and L2 connection on the motor relay.



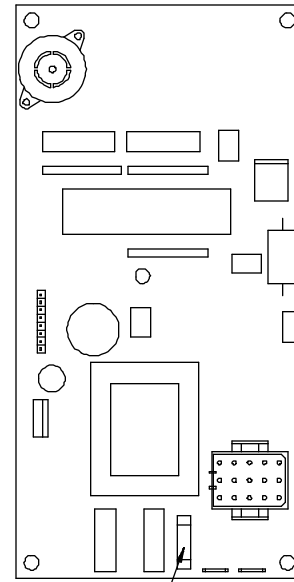
5. Check for voltage across the computer's 15-pin connector #7 and #13 (110v, 208v, 220v). If no voltage is evident, problem is bad wire or termination from the computer's 15-pin connector #7 and #13 to TB #6 and #8. If voltage is evident, problem is faulty computer.



E. "dSFL" Display Condition

When the display reads "dSFL" this condition indicates a fault in the microprocessor controller's heat circuit. This circuit includes the microprocessor controller, microprocessor temperature sensor (located in lint compartment) and wires to and from these two (2) points.

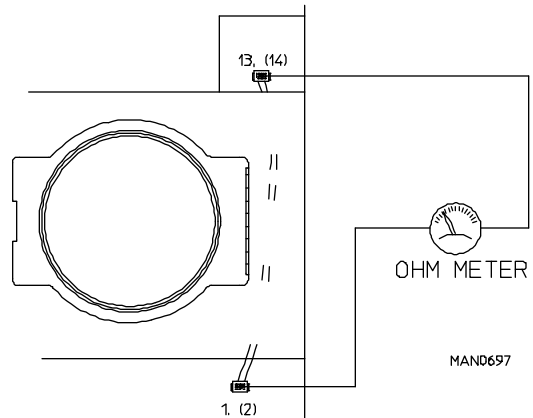
1. Check to see if microprocessor controller has 1/8 amp fuse on the board, if it does check with out ohm meter. If no continuity replace with **ADC** P/N: 136048. If fuse repeatedly burns out go to step 4.
2. Check for loose connection at the microprocessor sensor bracket harness connector (located in lint compartment), and the microprocessor 15 position connector at the microprocessor controller.



1/8 AMP FUSE

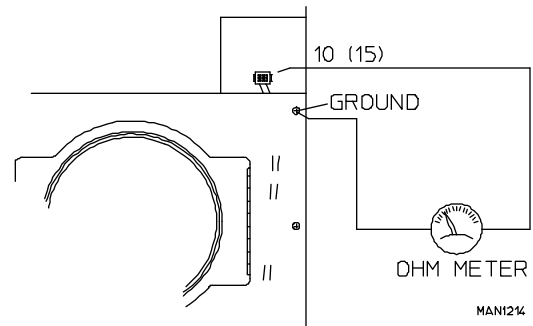
MAN1018

3. Discontinue power to dryer. Disconnect the microprocessor 15 position connector from microprocessor controller and locate connector holes no. 10 and 15. Disconnect sensor harness from sensor bracket assembly (located in the lint compartment). Check for continuity across each wire from harness connector in lint compartment to appropriate microprocessor 15 position connector hole (10 and 15). If no continuity, problem is break in wire or termination.



MAND697

4. Check for continuity across each microprocessor sensor wire (microprocessor 15-position connector hole no. 10 and 15) to ground. If continuity is evident, problem is wire pinched to ground somewhere behind the front panel area.



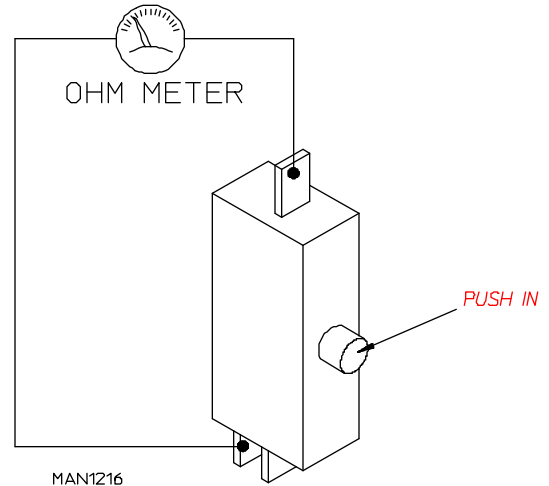
MAN1214

5. If above procedures check out okay, problem is a defective microprocessor temperature sensor.

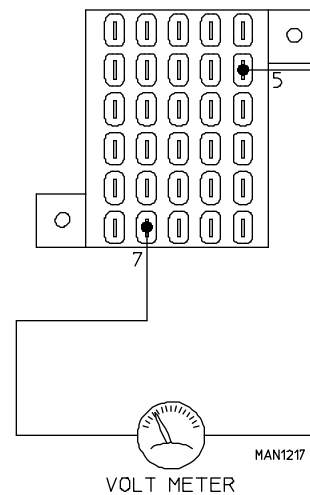
F. "dOOOr" Display Condition

When the display reads "dOOOr," this indicates that there is a fault (open circuit) somewhere in the microprocessor controller's door switch circuit. Includes the door switch, microprocessor controller and the wires to and from these two (2) points. Before following this test procedure, check the component side of the computer to see if L.E.D. input light is on. If on, replace computer. Voltage is 24VAC unless otherwise specified.

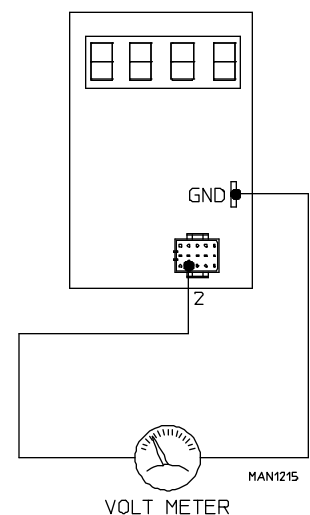
1. Remove door switch assembly from dryer. Check for continuity across the two (2) terminals of the door switch with plunger pushed in. If no continuity, replace the door switch. If continuity is evident, reassemble door switch back on dryer.



2. Make sure main door is closed and the plunger of the door switch is pushed in. Check for voltage across TB #5 and #7. If no voltage is evident, problem could be faulty transformer (P/N: 141403) or bad wire or termination in the door switch harness, from door switch to terminal block.



2. Check for voltage across microprocessor's 15-pin connector #2 (yellow wire), and the spade terminal on the microprocessor marked GND. If no voltage, problem is bad wire or termination in wire from microprocessor connector #2 to TB #5. If voltage, problem is faulty computer.

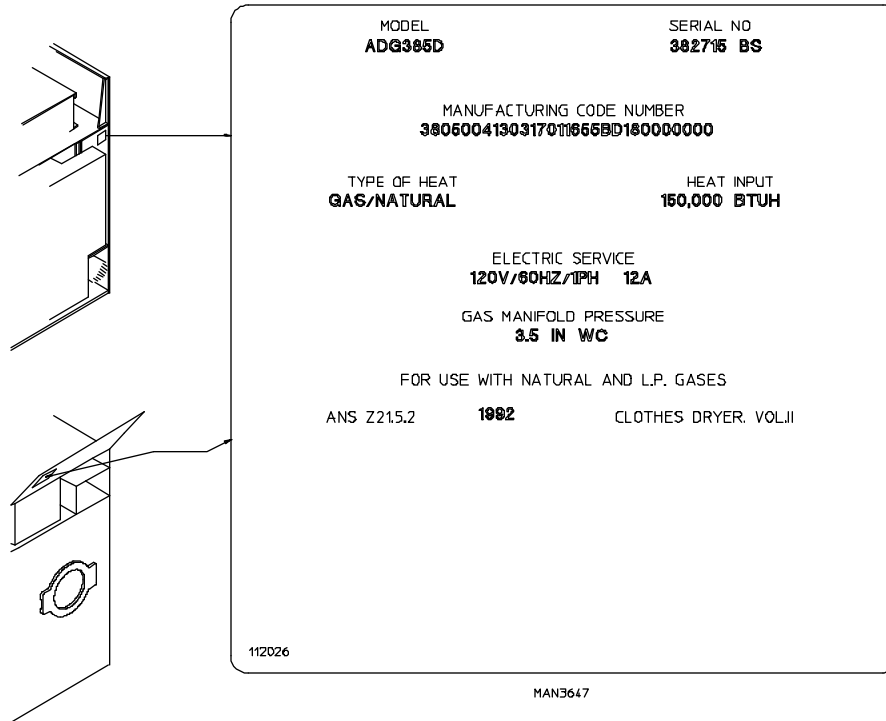


SECTION VII

Technical Information

A. Data Label

Contact American Dryer Corporation



When contacting **American Dryer Corporation** certain information is required to insure proper services/parts information from **American Dryer**. This information is on the data label located on the control door. When contacting American Dryer please have to **model number** and **serial number** handy.

THE DATA LABEL

1. **MODEL NUMBER** - The models number is an **ADC** number which describes the size of the dryer and the type of heat (gas 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** - Describes the type of heat; gas (natural or L.P.) or steam or electric.
5. **HEAT INPUT** - (For gas dryers) describes the heat input in British thermal units.
6. **ELECTRIC SERVICE** - Describes the electric service for your particular models.
7. **GAS MANIFOLD PRESSURE** - Describes the manifold pressure as taken at the gas valve pressure tap. (see How To Use A Manometer)

B. Using A Manometer

How To Use A Manometer

1. With dryer in non-operating mode remove plug on the gas valve pressure tap.
2. Attach plastic tubing to pressure tap. (fitting is supplied with manometer see illustration.)
3. Attach manometer to dryer using magnet.

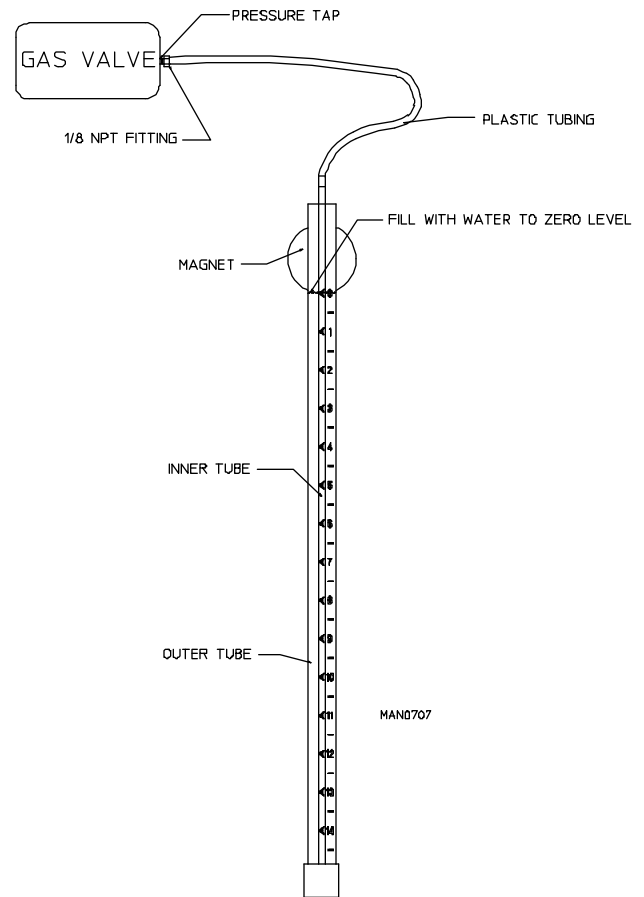
NOTE: Place manometer in a position so that readings can be taken at eye level.

4. Fill manometer as shown in illustration to the zero (0) level.
5. Start dryer. With burner on take a reading.
 - A. Read water level at the inner tube.
Readings **should be** taken at eye level.

B. Correct readings should be:

NATURAL GAS: 3.5 - 4.0 inches w.c.
L.P. GAS: 11 -10.5 inches w.c.

6. If water column pressure is incorrect refer to "To Adjust Gas Pressure"
7. Reverse procedure for removing manometer.

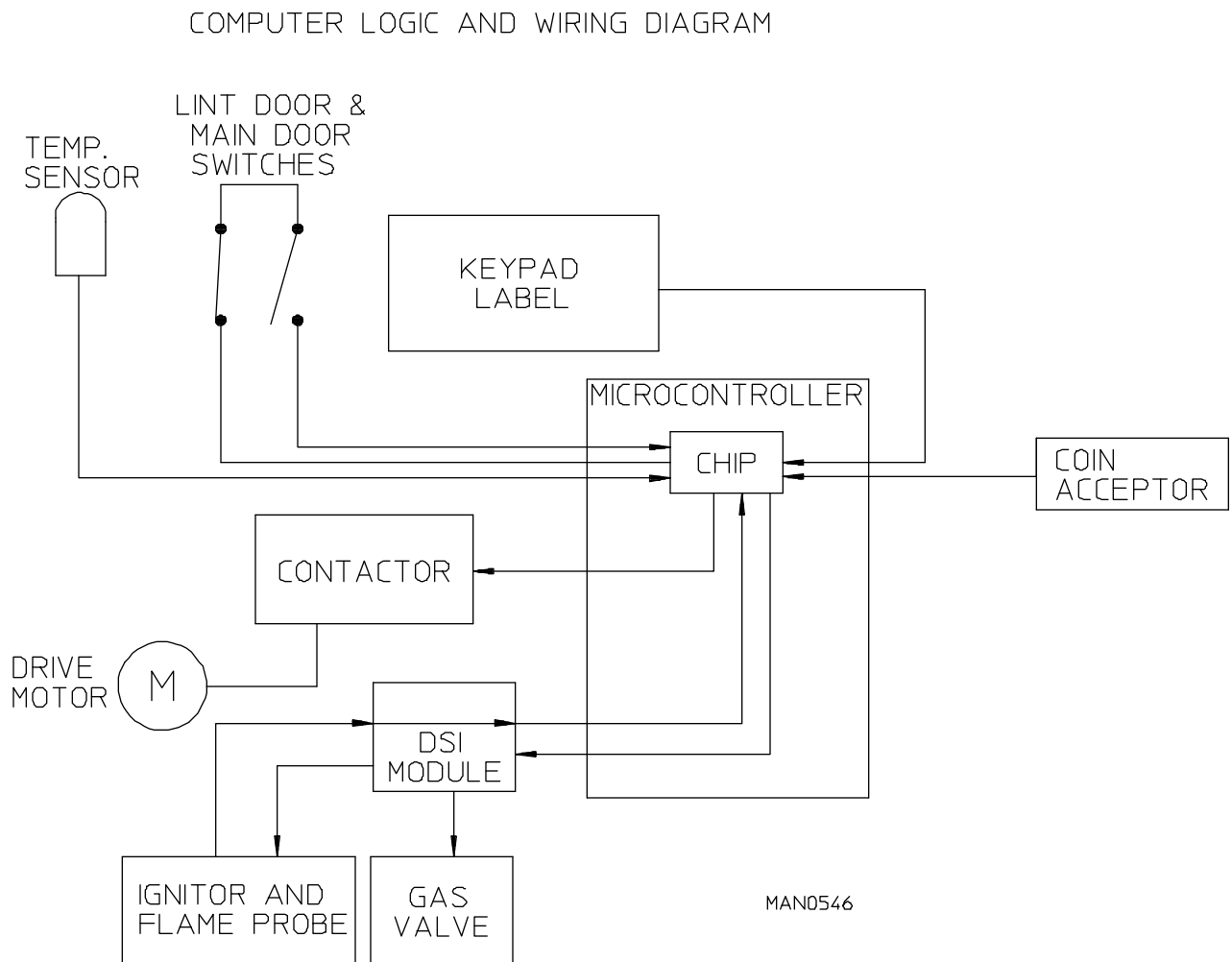


C. L.E.D. Display Codes

ACOn	Accumulative Coin
Adrt	Maximum Auto Dryness Time
AFAt	Amount for Assitional Time
AGt	Active Anti-wrinkle Guard Time
AtIn	Accumulative Time
AtSt	Amount to Start
AUtO	Automatic Mode
bCLO	Bad Coin Lockout
bCrS	Bad Coin Reset
bUZ	Buzzer(Tone)
°CEL	Degrees in Celsius
CLCC	Clear Left Coin Count
Coin	Coin Mode
CrCC	Clear Right Coin Count
donE	Drying and cooling cycles complete or Dryer is in Anti-wrinkle Cycle
door	Door Circuit is Open
drYL	Dryness Level
dSFL	Dryer Sensor Circuit Failure
°FAr	Degrees in Fahrenheit
FILL	No cycle in progress
FLS	Flash Display Active
FrEE	Free Dry Mode
GdLY	Anti-wrinkle Delay Time
Gont	Anti-wrinkle On Time
Grd	Anti-wrinkle Program Active
HICd	High Cool Down
LCC	Left Coin Count
LCdE	Left Coin Denomination
LOCd	Low Cool Down
nBUZ	No Buzzer (Tone)
nFLS	No Flash Display
nGRD	No Anti-wrinkle
OFF	Bad Coin Lockout Tripped
PL	Program Location
PPCd	Perm Press Cool Down
PUSH	Amount to Start has been Inserted, Make Temperature Selection
rCC	Right Coin Count
rCdE	Right Coin Denomination
tInE	Time Mode
tPLC	Time Per Left Coin

D. Computer Logic and Wiring Diagram

1. Operator inserts coin.
2. Operator enters desired selection(s) ...
3. Information entered is sent to the micro-controller via the keyboard ribbon.
4. The input information is sorted/processed and executed by the micro-computer chip.



5. The micro-computer output signal activates the contactors and DSI module which control machines functions.

NOTE: When contacting American Dryer Corporation with electrical questions, please have on hand the correct wiring diagram number for your particular machine.

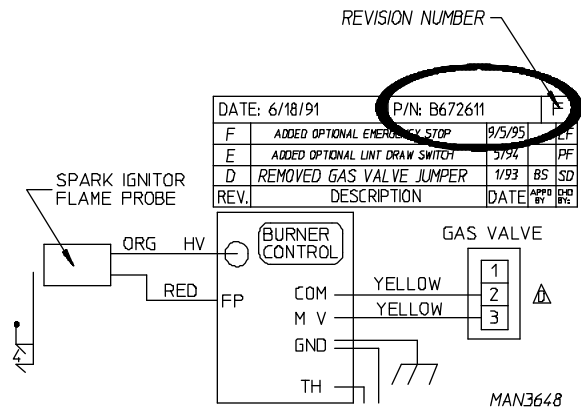
This number is located on the top right hand corner of the diagram. It is a six (6) digit number followed by a letter to distinguish the version dates (see illustration).

The wiring diagram on the next page is specifically for dryers manufactured at the time of publishing. Your particular model **will be** different depending on the date of manufacturing and options available.

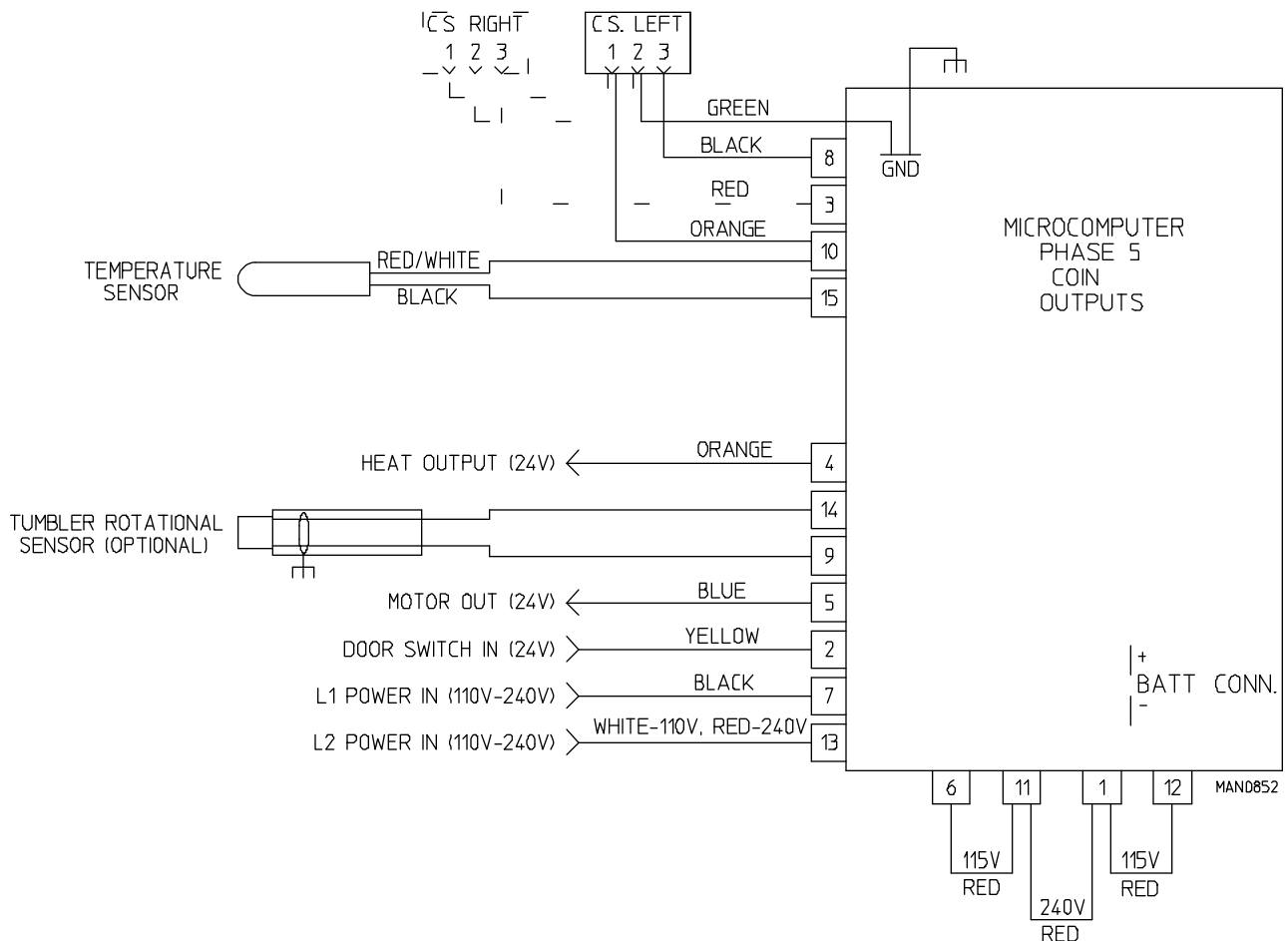
The correct wiring diagram and number is taped to the rear of the control door on each dryer.

Diagrams for this book are as follows:
(including **ALL** revisions of the number listed below)

B672611



PHASE 5 COIN CONTROLLER CIRCUITS



ADC450179 1- 01/08/98-50 2* 05/21/98-50

