

# AD-575

## Installation Manual

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

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

### WHAT TO DO IF YOU SMELL GAS

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

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



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

**American Dryer Corporation**  
88 Currant Road Fall River, MA 02720-4781  
Telephone: (508) 678-9010 / Cable: AMDRY  
Telex: 927520 AMDRY FRIV / Fax: (508) 678-9447

ADC Part No. 112139

## **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.

Under **NO circumstances should the dryer door switch or the heat circuit devices ever be disabled.**

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 materials and to change or discontinue models.

### **Important**

For your convenience, log the following information:

DATE OF PURCHASE \_\_\_\_\_ MODEL NO. **AD-575**

DISTRIBUTOR'S NAME \_\_\_\_\_

Serial No.(s) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Replacement parts can be ordered 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) 678-9010. 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.

INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER  
SMELLS GAS MUST BE POSTED IN A PROMINENT LOCATION. THE  
INSTRUCTIONS TO BE POSTED SHALL BE OBTAINED FROM THE  
LOCAL GAS SUPPLIER.

## **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.

## **WARNING**

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

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

## **CAUTION**

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

## **IMPORTANT**

Please observe all safety precautions displayed on the equipment and/or specified in the installation/operators manual included with the dryer.

The dryer 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.

Replacement parts can be ordered 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) 678-9010. Please specify the dryer model number and serial number in addition to the part 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 description of the parts thoroughly before ordering.

## TABLE OF CONTENTS

I.	INSTALLATION . . . . .	3
	A. Reassembly of Dryer . . . . .	3
	B. Location of Dryer . . . . .	3
	C. Service Connections . . . . .	4
	1. Electrical . . . . .	4
	2. Exhaust Air Duct . . . . .	5
	3. Gas Hookup . . . . .	6
	4. Steam Hookup . . . . .	7
	5. Air Intake . . . . .	7
	D. Preparation for Operation . . . . .	8
	E. Preoperational Test . . . . .	9
II.	COMPONENT/SYSTEM DESCRIPTIONS . . . . .	11
	A. Tumbler (Basket) . . . . .	11
	B. Tumbler (Basket) Support System . . . . .	11
	C. Tumbler (Basket) Drive System . . . . .	11
	D. Drive Motor "Soft Start" . . . . .	11
	1. Soft Start Adjustments . . . . .	12
	E. Air Blower and Motor . . . . .	12
	F. Gas Burner . . . . .	13
	G. High Voltage Electrical Box . . . . .	13
	H. Load Door (Right and Left) . . . . .	13
	I. Control Boxes . . . . .	13
	J. Lint Drawer . . . . .	14
	K. Safety Devices . . . . .	14
	1. Door Switches . . . . .	14

2.	Sail Switch (Gas Dryers Only) . . . . .	14
3.	Hi-Limit (Gas Dryers Only) . . . . .	14
4.	Automatic Reset Thermostat . . . . .	15
III.	ROUTINE MAINTENANCE . . . . .	16
IV.	REDESIGNED UPPER DOOR TRACK . . . . .	17
V.	SOFT START ADJUSTMENTS . . . . .	18
VI.	STEAM DAMPER ACTUATOR ADJUSTMENT/MAINTENANCE . . . . .	20
VII.	STEAM DAMPER ASSEMBLY (For Models Mfd. As of October 29, 1990) . . . . .	22
VIII.	NEW STEAM DAMPER ACTUATOR SYSTEM . . . . .	24
IX.	IMPORTANT INFORMATION . . . . .	25

## SECTION I

### Installation

#### A. Reassembly of Dryer

ALWAYS KEEP DRYER IN UPRIGHT POSITION WHEN MOVING IT.

The ADG-575 (gas model) can be shipped two (2) separate ways: as a complete unit fully assembled and ready for hookup or with the middle frame separated from the dryer base. At installation, the middle frame will be lifted onto the base and fastened together with the six (6) 3/8-16 bolts which are provided.

The ADS-575 (steam model) can also be shipped in the same manner as the ADG-575. However, if the unit is shipped with the middle frame fastened to the base, more often than not, the steam coil is removed from the top of the dryer so that it will fit inside enclosed trucks. If the coil has been removed, then at installation, the coil will be repositioned on top of the dryer and rebolted with the 3/8-16 bolts provided. In addition, the steam damper piston must be attached.

First, attach the piston bracket on the top left of the dryer with the two (2) 1/4-20 bolts supplied. Second, attach the piston between the piston bracket and the steam coil housing (top right of dryer). Next, reconnect wiring to microswitch on the piston bracket.

#### B. Location of Dryer

The AD-575 model dryer is designed so that mostly all of the servicing can be done from the front and rear of the dryer. On the gas model, a minimum of 18 inches should be provided between the right side of the dryer (burner side) and any obstruction. The left side requires no clearance. On the steam model, no clearance is required on the sides. At least two (2) feet of space should be left behind the dryer to allow for servicing access.

Although no clearance is required to certain panels as mentioned previously, a minimum of 18 inches is recommended between the sides of this unit and any obstruction for ease of servicing.

The dryer must be lagged to the floor.

It is very important to mount the dryer in a level position. If the dryer needs to be shimmed, use shims that are the same size as the dryer's base foot.

## C. Service Connections

### 1. Electrical

The electrical power supply connection to the dryer is made into the electrical box which is located in the front of the dryer's base. To get into the box, remove its screw-on cover. Connect the supply power wires into the power distribution block which is located at the lower center of the box's left side.

The power distribution block has three (3) poles for connecting the three (3) lines of 3-phase power. If the dryer was built to run on 3-phase/4-wire power, connect the neutral wire into the 3-position terminal block located above the power distribution block.

Before turning on power to the dryer, measure the supply voltage to ensure that it matches the dryer's specified input voltage. This input voltage is marked on the aluminum data tag, located on the inner right wall of the dryer's right-hand control box. Supplying the wrong voltage or low voltage will result in serious damage to the dryer or lead to poor dryer performance. A fused disconnect switch for the supply power must be provided near the dryer.

<u>Model</u>	<u>Supply Voltage</u>	<u>Minimum Disconnect Switch Fuse Rating</u>	<u>Amp Draw</u>
ADG-575	208V, 3Ph, 60Hz	45 Amps	27 Amps
Gas Dryer	230V, 3Ph, 60Hz	40 Amps	24 Amps
	380V, 3Ph, 50Hz	30 Amps	15 Amps
	460V, 3Ph, 60Hz	20 Amps	11 Amps
ADS-575	208V, 3Ph, 60Hz	60 Amps	33 Amps
Steam Dryer	230V, 3Ph, 60Hz	45 Amps	25 Amps
	380V, 3Ph, 50Hz	35 Amps	19 Amps
	460V, 3Ph, 60Hz	30 Amps	15 Amps

SIZE THE SAFETY DISCONNECT SWITCH AND THE POWER SUPPLY WIRES PER THE AMP RATINGS LISTED UNDER THE MINIMUM DISCONNECT SWITCH FUSE RATING COLUMN OF THE ABOVE CHART. Do not use the dryer's approximate amp draw to size wiring and fusing.

Electrical connections should be made by qualified personnel only.

Install dryer per all relevant electrical codes.

Dryer must be electrically grounded for proper operation. Ground each dryer individually. A copper or brass

stake driven into the ground is the best grounding method.

CAUTION: USE ONLY COPPER CABLE FOR ELECTRICAL HOOKUP. USE OF ALUMINUM CABLE WILL VOID YOUR WARRANTY.

## 2. Exhaust Air Ducting

Plant ducting must be kept as short as possible and the number of bends must be kept to a minimum. Avoid 90-degree bends if possible, and use 45-degree bends in their place. The radius of all elbows should be at least 1-1/2 times the duct diameter. The end of the duct which exits the building must be protected from the weather. For ducts which exit a side wall, use a 90-degree elbow to face the duct downward. For ducts which exit a roof, use a 180-degree elbow to also face the duct downward. Leave at least twice the duct's diameter (or if rectangular duct is used, leave twice the largest dimension on the duct face) as clearance to the nearest obstruction.

Clean-out doors must be provided in the plant's exhaust ducting so that any lint buildup can be removed.

The internal dimensions of the rectangular vent on the dryer are 6-5/8" by 16-1/8". Do not use the dryer's rectangular exhaust to size the plant's exhaust ducting. The plant duct must have a larger cross sectional area. The plant ducting must be sized as indicated below.

<u>Minimum Diameter of Round Exhaust Duct</u>	<u>Minimum Cross Sectional Area of Rectangular Exhaust Duct</u>
16-inch Diameter (406mm)	201 sq in (1296 sq cm)

If the plant's exhaust ducting has more than one 90-degree elbow and is longer than 20 feet, run 18-inch diameter ducting. Avoid using screws on any objects which will protrude inside the exhaust ducting and catch lint.

An extremely long run of exhaust ducting or exhaust ducting with many turns in it will result in reduced airflow through the dryer, causing poor dryer performance. If this is the case, an auxiliary fan may have to be installed to boost the exhaust airflow.

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

IMPORTANT: DO NOT USE SCREENS OR CAPS ON THE OUTSIDE OPENING OF THE EXHAUST DUCT WORK.



### 3. Gas Hookup (gas dryers only)

The 1-inch MPT gas inlet connection is located to the rear of the dryer on the upper left-hand side of the dryer (viewing from the rear). The dryer must be connected to the type of heat/gas indicated on the dryer data label located in the right-hand control cabinet. If this information does not agree with the type of gas available, contact the distributor who sold the equipment or the factory.

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

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.

For natural gas, the supply pressure delivered to the dryer must be 7 inches water column minimum and 13 inches water column maximum. If the supply pressure is higher than 13 inches water column, then an external pressure regulator must be installed in the supply line to reduce the gas pressure below 13 inches water column. The pressure supplied from the gas valve on the dryer to the burner will be 4.0 inches water column.

Dryers manufactured for use with liquid petroleum (L.P. gas) have no pressure regulator or means of regulation built into the dryer. Regulation must be provided at the gas supply (L.P. tank), or in the case where another gas appliance of a higher required gas pressure is on the same supply line, separate regulators (vented to the outdoors) serving each dryer should be provided.

The pressure delivered to L.P. gas dryers must be 10.5 inches to 11 inches water column.

NOTE: Gas connections should be made by qualified personnel only.

If more than one dryer is being fed by the same gas supply line, then a 3/4-inch pipe gas loop should be

installed from a point downstream of the last unit to a point upstream of the first unit being supplied. This will equalize the pressure throughout the supply line.

WARNING: TEST ALL CONNECTIONS FOR LEAKS BY BRUSHING ON A SOAPY WATER SOLUTION (liquid detergent also works well). NEVER TEST FOR GAS LEAKS WITH A FLAME.

#### 4. Steam Hookup (steam dryers only)

The steam inlet connection of the steam coil is 1-1/2" MPT, and the condensate outlet connection is 3/4" MPT. The working steam pressure of the dryer is 125 psi. Supplying a lower steam pressure to the dryer will result in slower drying times.

When steam mains are lower than steam coil, pitch supply and return lines downward to main pipes.

When steam return runs overhead, a check valve must be installed after main trap.

It is good practice, and you will save energy by insulating the steam supply piping.

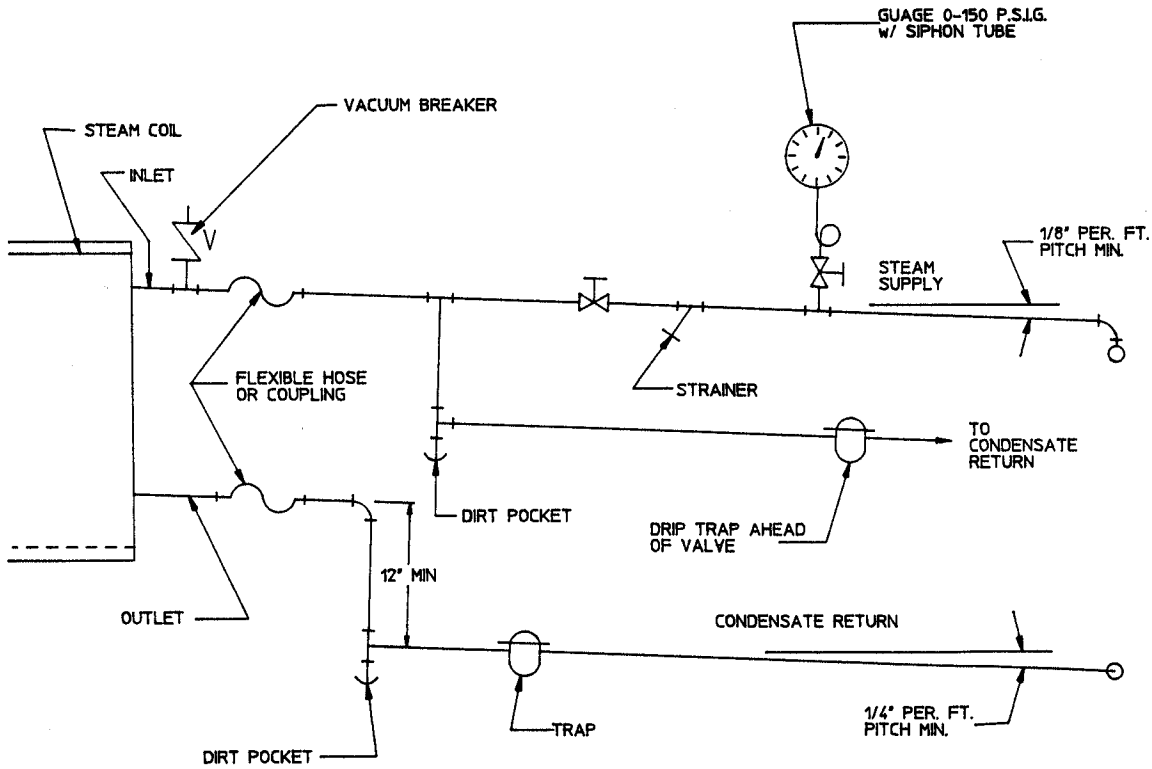
This unit is not equipped with a steam valve. It utilizes an air damper bypass system and a continuously charged coil. With this system, the coil will always be energized and hot. Upon a call for heat, the damper pivots about the steam coil, allowing the air to pass through the coil and closing off cool air. When the temperature in the dryer is satisfied, the damper will pivot back onto the coil directing cool room air directly into the tumbler, bypassing the coil. With this system, heat and cooling are provided instantaneously; and consequently, there is a direct reduction in drying time and energy usage. In addition, the life of the steam coil will be extended because it is not constantly heating up and cooling down.

NOTE: No electrically operated steam valve is supplied, and none should be installed.

#### 5. Air Intake

When the dryer is operating, it draws in room air, heats it, passes this air through the 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. You may have ignition problems and sail switch "fluttering" problems on gas dryers, and you also could have premature motor failures from overheating.

For the AD-575, an opening to the outdoors of at least five (5) square feet is required.



MAN0470

**SUGGESTED STEAM COIL PIPING ARRANGEMENT**

If the opening to the outdoors is going to be louvered, increase the size of the opening by 25 percent. A sufficiently sized opening to an outside air source must be provided to assure an adequate supply of air for proper gas combustion and efficient drying. The opening should be positioned within a few yards from the rear air entrance of the dryer. The air entrance to the dryer must be free of any obstructions closer than the rear wall of the belt guard. Inadequate air supply and exhaust facilities can result in improper operation of the gas burner, excessive temperatures, poor drying performance, premature failure of controls, damage to materials being dried, and reduced fire safety margins. Do not obstruct flow of combustion and ventilating air of dryer. Do not disable thermostat or airflow controls. Determine the cause(s), and make the proper corrections.

**D. Preparation for Operation**

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

1. Read and follow all caution, warning, and direction

labels attached to the dryer.

2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label located in the right-hand control cabinet.
3. Check to assure that the dryer is connected to the type of heat/gas indicated on the dryer data label.
4. The sail switch damper assembly is installed on gas dryers and pre-adjusted at the factory prior to dryer shipment. However, the sail switch adjustment must be checked to assure that this important safety control is functioning.
5. Check bolts, nuts, screws, terminals, and fittings for security.
6. Be sure all gas shut-off valves are in the open position.
7. Be sure all back guard panels and service box covers have been replaced.
8. Rotate the tumbler (drum) by hand to be sure it moves freely.

#### E. Preoperational Test

All dryers are thoroughly tested and inspected before leaving the factory. However, a preoperational test should be taken before the dryer is publicly used. It is possible that adjustments have changed in transit.

1. Turn on electric power to dryer.
2. Refer to the operating instructions in the AD-575 Service Manual (P/N 450105) for starting your particular model dryer.
3. Start dryer. Using a "high heat" selection, accumulate about 20 minutes of time.
4. Remove air from the gas line. Run the dryer about 5 minutes. If the burner does not ignite during these 5 minutes, turn the dryer off and wait a few minutes.

NOTE: The dryer has a safety device (flame sensor) which shuts off the gas if the burner does not ignite in a short time. Wait a few minutes for this safety device to reset.

During this waiting period, check to be sure all gas shut-off valves are open.

5. Make a complete operational check of all the operating controls to assure that the timing is correct, temperature selection switches are functioning, etc.
6. Make a complete operational check of all safety related circuits - door switch(es), hi-limit thermostat, sail switch, cycling thermostats, etc.
7. A 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:

Natural Gas - 4.0 Inches W.C.

L.P. Gas - 11.0 Inches W.C.

8. If computer program changes are required, refer to the Phase 4 OPL "Introduction" section of the accompanying manual.
9. The dryer should be operated through one complete cycle to assure that no further adjustments are necessary and that all components are functioning properly.
10. Check the electric service phase sequence. While the dryer is operating, check to see if the fan is rotating in the counter-clockwise direction (when viewed from the motor end). If so, the phasing is correct. If the fan rotates clockwise, the phasing is incorrect. Correct by reversing two (2) leads at connections L1, L2, or L3 of power supply to the dryer.

## SECTION II

### Component/System Descriptions

This section gives a description of all the mechanical and electrical components and systems.

#### A. Tumbler (Basket)

The tumbler is made of heavy gauge stainless steel, perforated panels, four (4) stainless steel ribs, and two (2) outer tumbler rings made of rolled structural steel channel. The tumbler is a completely welded assembly, and the perforated panels are not removable.

#### B. Tumbler (Basket) Support System

The tumbler sits on four (4) rubber roller wheels which support the tumbler and also drive it. Two (2) of these wheels are on the tumbler drive shaft. This drive shaft is connected to the 3 HP tumbler drive motor by two (2) sets of V-belts and pulleys. The other two (2) wheels are on the tumbler idler shaft. This shaft simply supports half of the weight of the tumbler. Each shaft is 1-1/2 inches in diameter and sits in two (2) pillow block bearings. The position of the bearings (and so, the position of the tumbler) can be adjusted by loosening the two (2) bearing hold-down boots and adjusting the position of the bearings by loosening or tightening the 1/2-13 bearing adjustment screws.

#### C. Tumbler (Basket) Drive System

The 3 HP tumbler drive motor is located in the base at the rear of the dryer. It sits on an adjustable base so that the motor can be easily adjusted to the left or right in order to tighten or loosen the V-belts. The speed-reducing idler shaft which is located next to the drive motor is supported on two (2) pillow block bearings. Each bearing can be adjusted forward and backward by tightening or loosening the adjustment screws located to the left of each pillow block bearing. This allows you to keep the proper tension on the V-belts.

The drive motor is started through a reversing magnetic starter which is located in the high voltage electrical box.

#### D. Drive Motor "Soft Start"

An extremely important component in the tumbler drive system is the reduced voltage soft start motor control.

This is a fully solid-state electrical device which feeds a reduced voltage to the drive motor upon startup so the motor will start slowly and build up gradually to full speed. This makes for a very smooth or "soft" start. It also increases the life of the drive components (roller wheels, belts, etc.) because of the reduction in the starting torque which is a result of the slower startup. A second benefit of the soft start is the reduction in starting average surge. This device is mounted inside the high voltage electrical box, which is located on the dryer's base.

#### 1. Soft Start Adjustments

There are two (2) adjustments which can be altered to change the "softness" of the soft start. These are located on the top left of the soft start and are labeled "initial torq 1" and "start time 1."

The initial torq 1 adjustment screw controls the amount of starting voltage delivered to the motor. This should be set so that the drive motor shaft will start to spin as soon as voltage is applied to the motor. The tumbler must be fully loaded when making this adjustment.

The start time 1 adjustment screw controls the "ramp up" time to full running voltage. This should be adjusted to give a smooth increase in motor speed.

The adjustments have been made at the factory and should not have to be adjusted in the field.

Because the initial torque adjustment is set with the tumbler fully loaded, when running the dryer with the tumbler empty or with a very light load, the basket may "bounce" on the roller wheels, causing a rumbling noise at startup. If you keep getting the rumbling noise when running the dryer with the tumbler loaded, you will want to lower the initial torque (initial starting voltage).

There are two (2) other adjustment screws in the soft start. The PFC voltage and line voltage limiter adjustments have been factory set and do not have to be field adjusted.

For more detailed information and a complete adjustment procedure for the four (4) adjustment screws, refer to the soft start adjustment instructions in the technical data section at the end of this manual.

#### E. Air Blower and Motor

This unit is located in the base of the dryer. The

impellor is a backward curved paddle wheel which is directly connected to the shaft of the blower motor. Gas dryers have a 3 HP blower motor for 60Hz machines, and all steam dryers as well as 50Hz gas dryers have a 5 HP motor. These motors contain sealed bearings that do not have to be lubricated.

The blower motor is started by a non-reversing magnetic starter which is located in the high voltage electrical box. The blower motor also has an internal thermal protection switch.

#### F. Gas Burner

Gas-heated dryers are equipped with a gas burner assembly located (viewing from front) on the top right-hand side of the dryer. This assembly consists of three (3) burner tubes, gas valve, ignitor, sail switch, and hi-limit thermostat. The inlet piping enters through the rear of the dryer on the right-hand side and runs to the front of the dryers where the gas valve is located.

#### G. High Voltage Electrical Box

This box is located in the base at the front of the dryer. The magnetic starters for both the tumbler drive motor and the blower motor are located here. Each starter is equipped with resettable overload heaters. Each of these motors is also protected by Slo-Blo cartridge fuses which are located in this box.

The soft start device and the control voltage transformer are also located in this box. You can get access to these devices from the front of the dryer by removing the front base panel.

#### H. Load Door (Right and Left)

The load door is made up of two (2) horizontally sliding doors. Both doors ride on a linear slide located at the top of the door and roller wheels located at the bottom of the door. Both doors are insulated with 1/2-inch insulation so they remain cool when the dryer is in use.

The two (2) doors are held together by a 1-1/8 wide by 1/4 thick by 44-inch long magnetic strip located on the left door. Both doors are opened manually by pulling them apart.

#### I. Control Boxes

There are two (2) 14-inch wide by 3-1/2 deep by 52-5/8 high boxes on each side of the load doors on the front of the dryer. Each box has its own door which is hinged and latched.



Opening the right control door reveals the electric control components and the computer which is located on the back of the door. On steam models, opening the left control door reveals the control mechanisms for the steam damper assembly. In the lower back of each box is a clean-out access panel so you can clean any lint accumulation inside the dryer.

#### J. Lint Drawer

The lint drawer is a pull out type, and it is located in the base on the left front leg. Simply grab the lint drawer handle, slide out the drawer, brush off the lint, and slide the drawer back in.

The lint screen must be kept clean in order for the dryer to function properly.

#### K. Safety Devices

##### 1. Door Switches

There are two (2) door switches located in the middle front of the dryer just above the load doors. When either of the load doors open, the corresponding switch will also open, preventing the dryer from operating. See the parts manual for detailed assembly.

##### 2. Sail Switch (Gas Dryers Only)

The sail switch is located in the front top right-hand corner of the dryer next to the gas valve. A sail switch consists of a round damper plate on a lever arm which is in contact with an electric switch. When the air blower comes on, it draws air through the gas burner. This creates a negative pressure inside the burner box, and this negative pressure pulls in the round damper and activates the sail switch. If there is an improper (low) airflow through the dryer, the sail switch damper will not pull in, preventing the burners from coming on.

Improper airflow can be caused by improperly designed exhaust ducting where the duct run is too long or has too many sharp bends in it. It can also be caused by lack of make-up air.

##### 3. Hi-Limit (Gas Dryers Only)

A hi-limit thermostat is located at each gas burner. This is an automatically reset disc-type thermostat set at 330° Fahrenheit. If the flame in the burner should get too hot, this thermostat will shut off both burners. This is generally caused by low airflow through the dryer.

#### 4. Automatic Reset Thermostat

This is located inside the dryer on the left-hand side above the lint drawer. This thermostat senses the heated air after it has passed through the tumbler. If the air temperature gets too hot, the thermostat will shut off the burners. The dryer will not heat up until the air temperature cools down. At this time, the thermostat will automatically reset. The tumbler and blower motors will run, but the dryer will not heat.

## SECTION III

### Routine Maintenance

#### AFTER EVERY LOAD

Clean lint screen. A clogged lint screen will cause poor dryer performance. The lint screen is located in the left leg of the base. Pull out the lint drawer, remove the screen, and clean off the lint.

#### WEEKLY

Open the hinged access door at the rear of the dryer and remove any accessible lint. Use a vacuum cleaner if necessary. Inspect the temperature sensor and remove any lint.

#### BI-WEEKLY

Clean lint accumulation from drive and blower motors.

Remove lint buildup from steam coil lint screen (steam dryers only).

#### MONTHLY

Remove access covers on front panel located behind right and left control cabinet. Remove all lint.

Clean burner area completely. Blow out burner tubes with compressed air.

Clean lint accumulation from electrical box and motors.

Check V-belts. Retighten if required.

Apply a high temperature grease to the zirc fittings which feed the tumbler shaft pillow block bearings.

#### EVERY SIX MONTHS

Grease tumbler drive motor with Chevron SR#1-2 grease or equivalent, unless otherwise stamped on the motor label.

Grease the two (2) 1-1/4-inch speed-reducing drive bearings.

Clean lint accumulation from plant exhaust duct.

Check electrical service and grounding connections for any looseness which may have been caused by vibration.

## SECTION IV

### Redesigned Upper Door Track

Effective August 3, 1990, ADC began manufacturing our model AD-575 dryer with a redesigned upper door track. Due to this redesign, the following procedure should be followed if it becomes necessary to replace the upper door track:

1. Discontinue power to dryer.
2. Disconnect all wires from door track that run into right-hand cabinet.
3. Remove the six (6) bolts that secure upper door track to cabinets.
4. Remove the six (6) phillips head screws that secure slide brackets to top of doors (see illustration below).
5. Remove upper door track - THE LOAD DOORS WILL HAVE NO TOP SUPPORT AT THIS TIME. Be EXTREMELY CAREFUL when removing the tracks. Slide load doors behind front cabinets for support as they will fall forward, possibly causing damage and injury.
6. Drill four (4) 3/8-inch diameter holes - two (2) in the right cabinet and two (2) in the left cabinet - in the back of the cabinets 2-1/8 inches above the existing mounting holes (see illustration below).
7. Install new, redesigned upper door track by reversing steps 1 through 5. Use special washer nuts (included) to secure the two (2) bolts to side walls of cabinets (see illustration below).

## SECTION V

### Soft Start Adjustments

#### ADJUSTMENTS FOR REDUCED VOLTAGE SOFT START CONTROLLERS

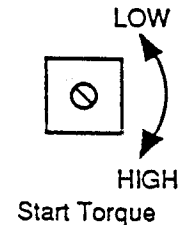
This procedure to be used with all **SERIES 25** control styles.

To properly adjust a soft start controller to give a satisfactory start, two characteristics of the motor and load must be considered. The frictional load determines the amount of torque required to break-away or obtain initial movement of the motor and load. A system with a high frictional load will require a higher setting of the START TORQUE adjustment than a system with little or no frictional load. Second, the amount of inertia in the system will determine the START TIME adjustment setting. Generally, systems with low inertia will require a long START TIME adjustment to give a satisfactory start, whereas systems with high inertia may need only a very short START TIME. The softest possible start will occur when the start time adjustment is set to maximum and the initial torque adjustment is set at the point where the motor just starts the load moving when power is first applied.

#### START TORQUE Adjustment

The START TORQUE adjustment is factory preset for maximum torque (maximum starting voltage).

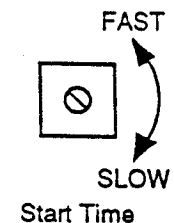
1. Rotate the START TIME adjustment fully clockwise so that the longest starting time is obtained.
2. Rotate the START TORQUE adjustment to midrange on the dial which will lower the starting torque.
3. Start the motor. If more or less torque is desired, turn off the power, rotate the START TORQUE adjustment in the appropriate direction until an acceptable soft start is obtained.



#### START TIME Adjustment

The START TIME adjustment range is 1/2 to 30 seconds. The higher the value of the START TORQUE, the shorter the duration of the overall time period.

1. During the START TORQUE adjustment process, the START TIME was adjusted for the longest start possible. If a shorter time is required, rotate the adjustment counter-clockwise.
2. Start the motor and determine if the soft start is acceptable. If not, continue to rotate the START TIME adjustment until an acceptable start is obtained.



#### Adjustment of Dual Ramp Controls

When dual ramp soft-start is used, Ramp2 START TIME and Ramp 2 START TORQUE are adjusted in the same way as described above. Before attempting to adjust Ramp 2 check to make sure that the Ramp 2 connection has been selected.

## ADJUSTMENTS FOR REDUCED VOLTAGE SOFT-STOP (Ramp Down)

This procedure to be used with all SERIES 25 control styles.

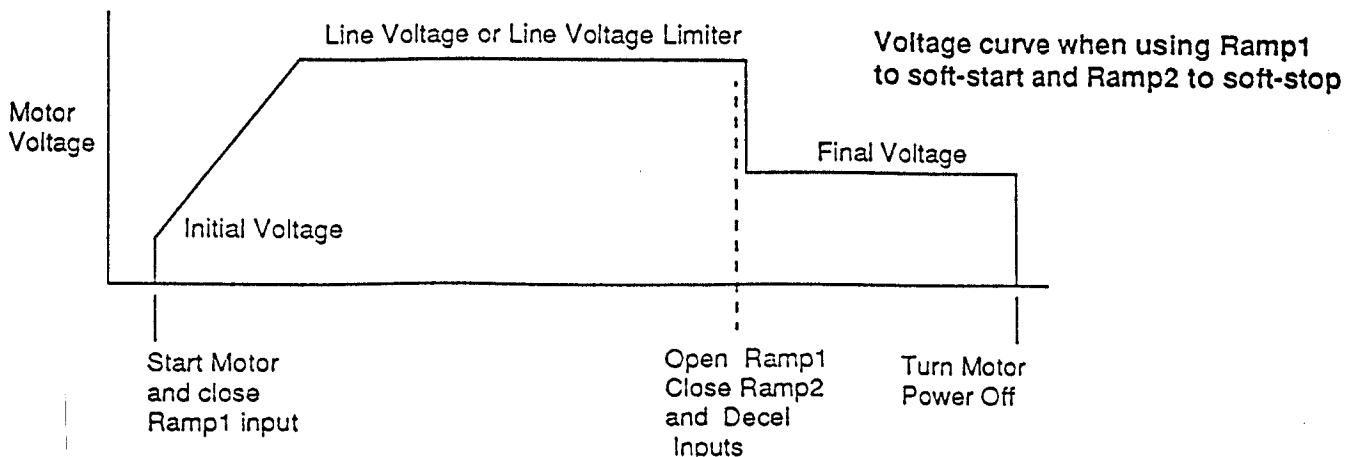
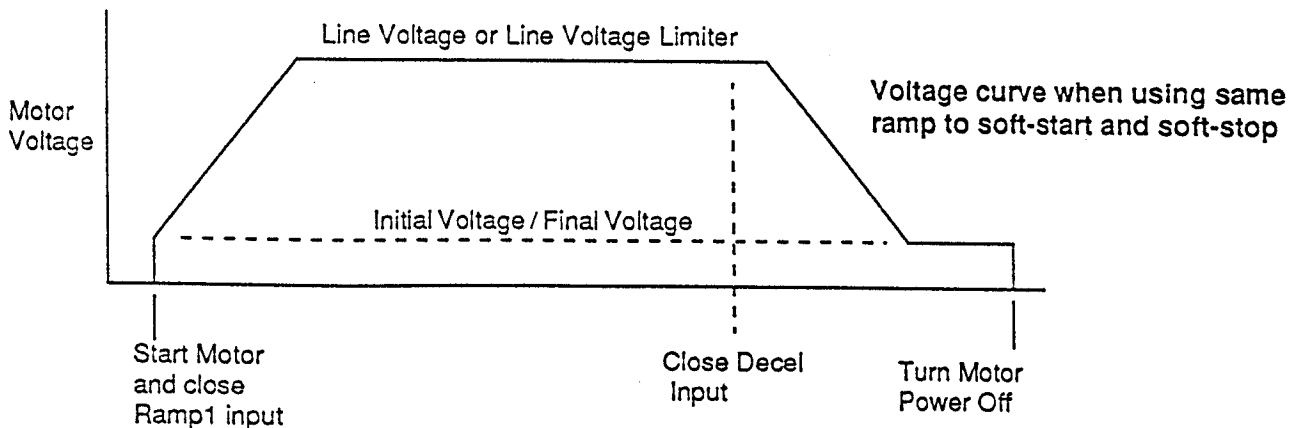
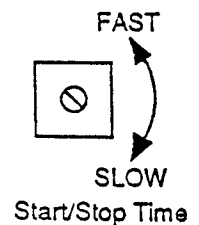
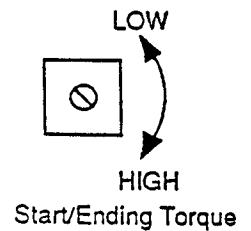
There are two ways the control can be used to achieve a soft-stop.

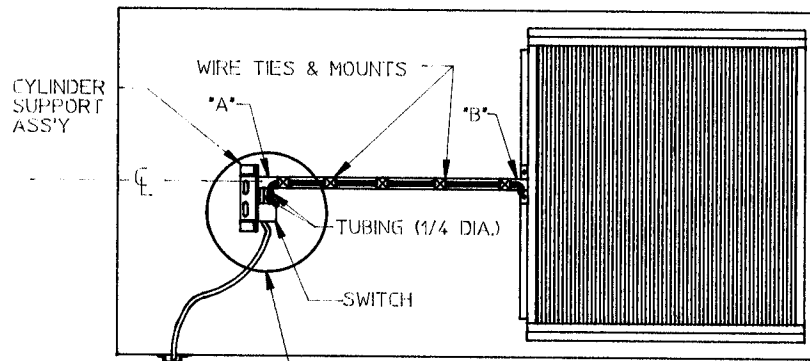
Normally, when a maintained closure is made between terminals Decel and Common, the control voltage to the motor will begin to ramp down from running voltage to the initial voltage value and will take the same amount of time to ramp down as it did to ramp up, (Start Time and Stop Time are the same and use the same adjustment; Initial Torque and Final Torque are the same and use the same adjustment).

An alternate method to performing a soft-start and soft-stop is to start the motor using the Ramp1 adjustments and stop the motor using a combination of the Ramp2 adjustments and Decel.

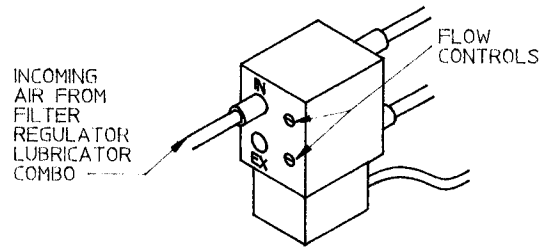
With either method it may be necessary to automatically turn off the motor power.

The illustrations below indicates how each method works.

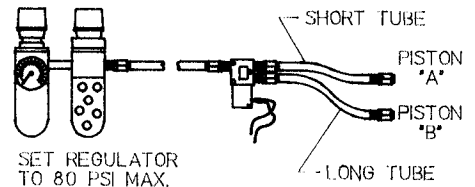
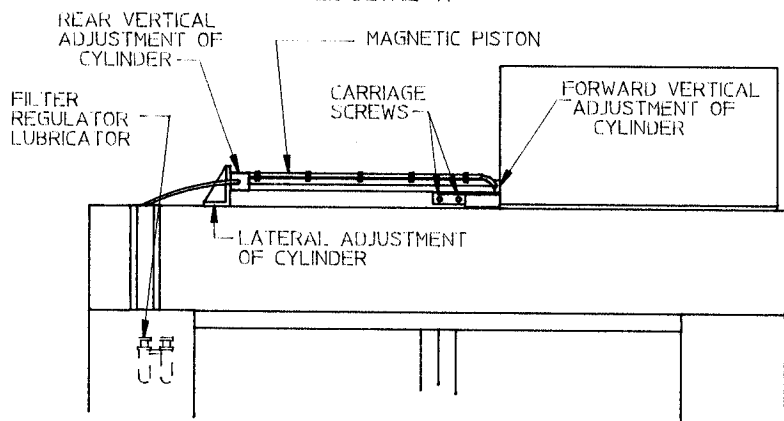




DETAIL OF SWITCH (SOLENOID VALVE)



NOTE:  
THE BRASS SCREWS ON THE SWITCH ARE AIR FLOW CONTROLS. TURNING CLOCKWISE RESTRICTS THE AIR FLOW. TURNING COUNTERCLOCKWISE ALLOWS FOR HIGHER FLOW.



DETAIL "A"

- NOTES: 1. SEE ADDITIONAL INSTRUCTIONS FOR ADJUSTMENT OF CYLINDER.  
2. USE SAE-10/90 SSU DETERGENT LUBRICATING OIL-MOBIL DTE LIGHT OR EQUIVALENT. ALWAYS MAINTAIN OIL IN THE LUBRICATOR.

## ADS 575 DAMPER ACTUATOR ARRANGEMENT

## STEAM DAMPER ACTUATOR ADJUSTMENT/MAINTENANCE

### A. Lateral Adjustment of Cylinder:

1. Discontinue air power to the dryer.
2. Bleed the air from the system at the regulator.
3. Loosen the two bolts that secure the cylinder support assembly to the top of the dryer.
4. Slide the damper back and forth locating a position for the cylinder support assembly where the damper stays centered in relation to the steam coil assembly throughout the entire stroke. Be certain there is no binding.
5. Retighten the two (2) bolts loosened in step 3.

### B. Vertical Adjustment of Cylinder:

1. Discontinue air power to the dryer.
2. Bleed the air from the system.
3. Loosen the two (2) nuts that secure the adjustable bracket at the forward end of the cylinder.
4. Loosen the two (2) screws (nuttred on back of cylinder support assembly) that secure the adjustment bracket at the rear end of the cylinder.
5. Slide the damper all the way out from under the steam coil.
6. Retighten the screws at the rear end of the cylinder.
7. Slide the damper back and forth a few times the full travel of the cylinder.
8. Find the highest point that the forward adjustment bracket reaches. Retighten the nuts at that point.
9. Again, slide the damper plate back and forth, making sure there is no binding. If the damper appears to slide too tight, it may be necessary to relocate the forward or rear adjustment bracket slightly to find the ideal position.

### C. Flow Control Adjustment:

1. The switch (solenoid valve) located on the cylinder support assembly has two (2) flow control adjustment screws located on the air inlet side of the switch.
2. If the cylinder is sliding too fast and slamming at the end of the travel, the flow controls must be turned clockwise to restrict the flow.
3. If the cylinder is sliding too slow or stopping, it may be necessary to turn the flow controls counterclockwise to increase the flow. However, the cylinder adjustment should also be checked if this problem exists.

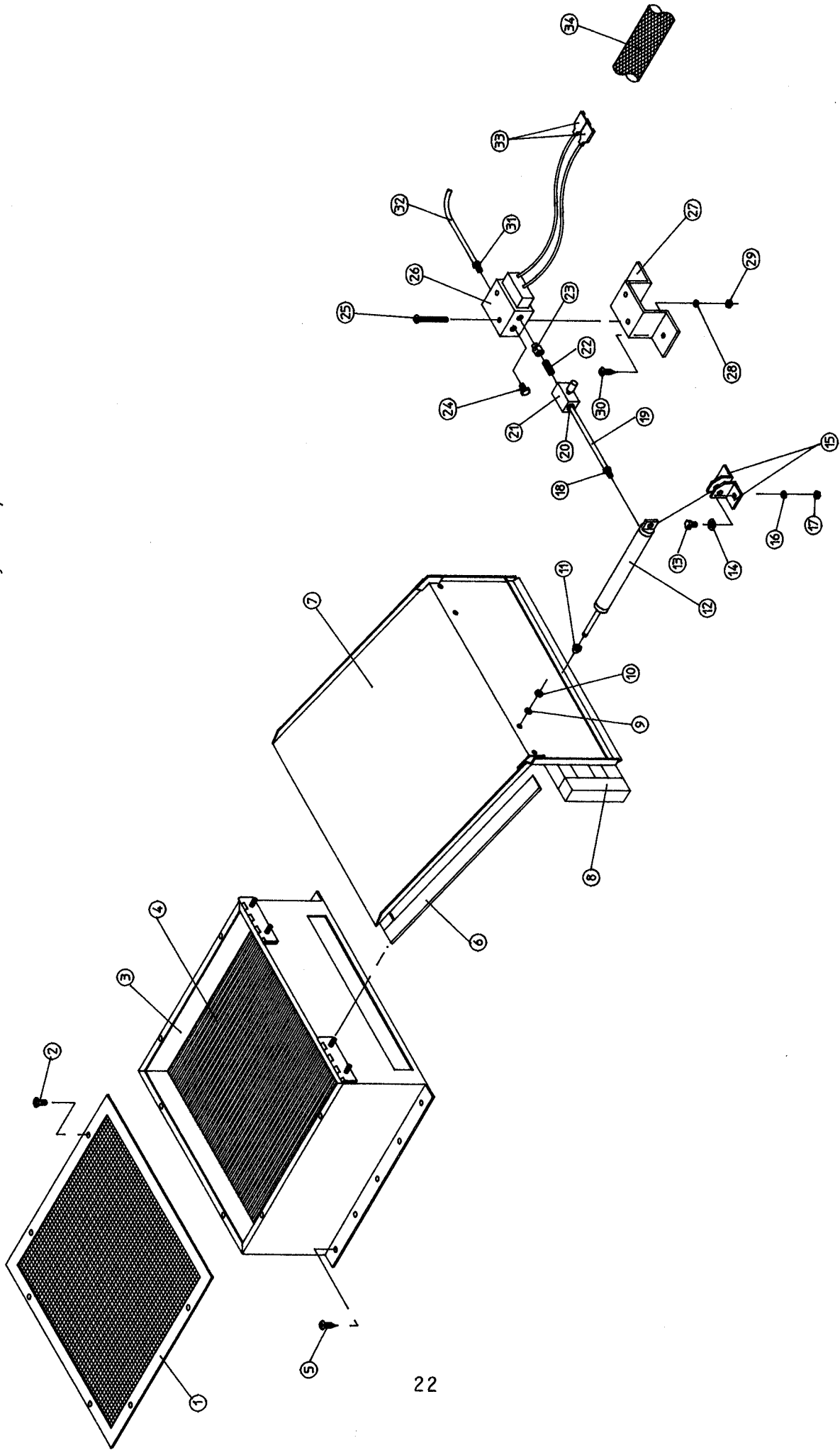
### NOTES:

1. Regularly clean the top of the dryer to keep contaminants off the wheels on which the damper rides and wipe the cylinder down with a clean, dry rag.
2. Maintain oil in the lubricator. Use SAE 10/90 SSU detergent lubricating oil - Mobil DTE Light or equivalent.
3. The ideal operating pressure is 80 psi. However, this may be adjusted up or down slightly to find the smoothest operation.
4. The damper should not "slam" when it reaches the end of the travel. If this occurs, adjust the flow controls as indicated in section "C" (Flow Control Adjustment).
5. There are two (2) screws that hold the cover plate to the carriage on the bottom of the cylinder (flat head screws). These screws should not be tight. They are to only be threaded in enough to make contact with the carriage cover and hold it closed. If they are tightened down, the carriage will not slide.



ADS-575 STEAM DAMPER ASSEMBLY

(For Models Mfd. As of October 29, 1990)



ADS-575 STEAM DAMPER ASSEMBLY

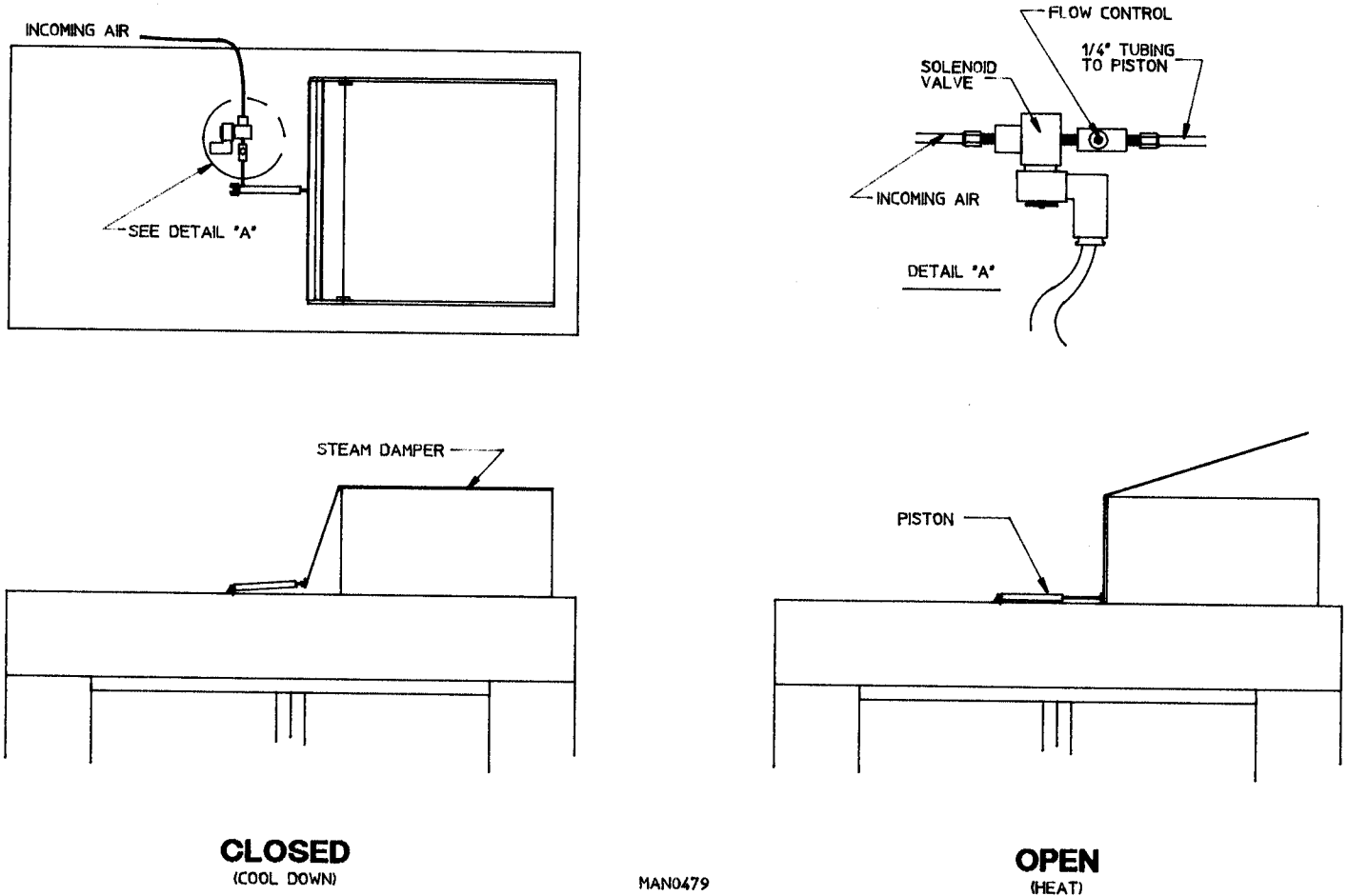
(For Models Mfd. As of October 29, 1990)

<u>Illus.</u> <u>No.</u>	<u>Part</u> <u>No.</u>	<u>Qty.</u>	<u>Description</u>
1	844433	1	ADS-575 Steam Coil Screen Assembly
2	150405	6	10-24x3/8" Flat Head Machine Screw
3	844467	1	ADS-575 Steam Coil Housing Assembly
4	165016	1	ADS-575 Steam Coil
5	150523	10	1/4-20x3/4" S.D. Screw
6	102376	3	ADS-575 Steam Damper Gasket (36" long)
7	844461	1	ADS-575 Steam Damper Assembly
8	102350	1	ADS-575 Steam Damper Foam (68-1/2" long)
9	153007	4	1/4" Lock Washer
10	152002	4	1/4-20 Hex Nut
11	151006	1	5/16-24 Stainless Steel Acorn Nut
12	100494	1	1-1/16" Bore x 5" Stroke Piston
13	150615	4	1/4-20x3/4" Hex Head Bolt
14	153018	4	1/4" Flat Washer
15	100492	1	Piston Support Bracket
16	153007	4	1/4" Lock Washer
17	152002	4	1/4-20 Hex Nut
18	100472	1	1/4"x1/8" Connector
19	143110	1	1/4" Tubing (sold in feet)
20	100472	1	1/4"x1/8" Connector
21	100496	1	1/8" Needle Valve
22	143238	1	1/8" Close Nipple
23	143264	1	1/4" to 1/8" Reducing Bushing
24	143250	1	1/8" Plug
25	150009	2	6-32x1-1/2" Slotted Machine Screw
26	100490	1	3-Way Micro Valve
27	330987	1	Micro Valve Support Bracket
28	153010	2	#6 Star Washer
29	152000	2	6-32 Hex Nut
30	150415	2	10-16x1/2" Phil. R.H. Crimptite Screw
31	150609	1	1/4"x1/4" Straight Connector
32	143110	A/R*	1/4" Tubing (sold in feet)
33	121000	2	1/4" Spade Terminal
34	121501	1	1/2" Glass Sleeving

\* As required.

## NEW STEAM DAMPER ACTUATOR SYSTEM FOR THE ADS-575

Effective October 29, 1990, ADC began manufacturing our model ADS-575 dryer with a new steam damper actuator system. This new actuator system, as shown in the illustration below, must be provided with a clean, dry, regulated air supply. The ideal operating pressure is 80 psi. However, this may be adjusted up or down slightly to find the smoothest operation for the system.



The steam damper should not "slam" when it reaches the end of the travel. Conversely, the steam damper should not bind and/or stop during travel. If either one of these situations occur, adjust the flow control as follows:

1. If the actuator (piston) is sliding too fast and slamming at the end of the travel, the flow control knob must be turned clockwise to restrict the airflow. However, the actuator (piston) adjustment should also be checked.
2. If the actuator (piston) is sliding too slowly or binding/stopping, it will be necessary to turn the flow control knob counterclockwise to increase the airflow. However, the actuator (piston) adjustment should also be checked.

## SECTION IX

### Important Information

#### A. Receiving and Handling

Upon delivery, the dryer and/or protective packaging, and wooden skid should be visually inspected for shipping damage. If any damage whatsoever is noticed, inspect further before delivering carrier leaves.

#### Dryers Damaged in Shipment

1. All dryers should be inspected upon receipt and before they are signed for.
2. If there is suspected damage or actual damage, the trucker's receipt should be so noted.
3. If the dryer is damaged beyond repair, it should be refused. Those dryers which were not damaged in a damaged shipment should be accepted, but the number received and number refused must be noted on the receipt.
4. If you determine that the dryer has been damaged after the trucker has left your location, you should call your local freight terminal immediately and request an inspection and freight claim form. The freight claim is very difficult to get paid and becomes extremely difficult when more than a day or two passes after the freight was delivered.
5. If you need assistance in handling the situation, please call ADC's Traffic Manager at 508-678-9000.

IMPORTANT: THE DRYER SHOULD BE TRANSPORTED AND HANDLED IN AN UPRIGHT POSITION AT ALL TIMES.

#### B. Safety Precautions

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

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. What to do if you smell gas:
  - a. DO NOT TRY TO LIGHT ANY APPLIANCE.
  - b. DO NOT TOUCH ANY ELECTRICAL SWITCH.
  - c. DO NOT USE ANY PHONE IN YOUR BUILDING.
  - d. CLEAR THE ROOM, BUILDING, OR AREA OF ALL OCCUPANTS.
  - e. Immediately call your gas supplier FROM A NEIGHBOR'S PHONE. Follow the gas supplier's instructions.
  - f. If you cannot reach your gas supplier, call the fire department.
4. Installation and service must be performed by a qualified installer, service agency, or the gas supplier.
5. Dryer(s) must be exhausted to the outdoors.

WARNING: Children should not be allowed to play on or in the dryer(s).

WARNING: Children should be supervised if near dryer(s) in operation.

6. Although ADC produces 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" cleaner. Explosion could result.

WARNING: Do not dry rags or articles coated or contaminated with gasoline, kerosene, oil, paint, wax. Explosion could result.

WARNING: Do not dry mop heads. Contamination by wax or flammable solvents will create a fire hazard.

WARNING: Do not use heat for drying articles that contain plastic, foam, sponge rubber, or similarly textured rubberlike materials. Drying in a heated basket may damage plastics or rubber and also may be a fire hazard.

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

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

8. For personal safety, the dryer must be electrically grounded in accordance with local and/or the National Electric Code ANSI/NFPA No. 70-latest edition.
9. Under no circumstances should the dryer door switch, lint drawer switch, or heat circuit safety devices ever be disabled.

WARNING: Personal injury or fire could result.

10. This dryer is not to be used in the presence of dry cleaning solvents or fumes.
11. Remove articles from the dryer as soon as the drying cycle has been completed.

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

12. Do not operate steam dryers with more than 125 psi steam pressure. Excessive steam pressure can damage steam coil and/or harm personnel.
13. Replace leaking flexible steam hoses or other steam fixtures immediately. Do not operate dryer with leaking flexible hoses. Personal injury may result.
14. Read and follow all caution and direction labels attached to dryer.

