



TECHNICAL MANUAL

Installation, Operation and Maintenance Instructions

BLOWER DRYER

For Rack Conveyors & Flight Types

Insinger Machine Company
6245 State Road
Philadelphia, PA 19135-2996

800-344-4802
Fax: 215-624-6966
www.insingermachine.com

1.0 EQUIPMENT DESCRIPTION

The blower-dryer is a partially recirculating dryer, recirculating a nominal 90% of the air flow to conserve energy, and drawing in 10% room air to keep the recirculating air stream from becoming saturated with moisture.

Air is drawn into the heating chamber through a reusable metal filter at the exit end of the drying tunnel. Air then passes through either an electric resistance heating coil or a pair of steam coils, drawn by a squirrel cage centrifugal blower, and is heated to a nominal 170° F. The heated air is discharged into a plenum chamber in the top of the drying tunnel and finally exits from the plenum into the tunnel through a pair of slot nozzles. A nominal 90% of the discharged air is recirculated through the heating chamber and coils; the remainder is exhausted through the vent system. Make-up room air is drawn into the air stream through the exit end of the unit.

2.0 SPECIFICATIONS

2.1 Exhaust (ventilation):

The vent connection at the entrance to the blower-dryer also serves the washer; a separate washer exit vent connection is not required.

Rack conveyor blower-dryer: 6" x 22" vent connection.
1400 cfm.

Rackless blower-dryer: 6" x 24" vent connection.
1600 cfm.

2.2 Blower motor: 1-1/2 hp, 1750 rpm drip proof motor.

2.3 Steam heated blower-dryer:

2 steam coils, each with steam trap.

Single (common) 1/2" NPT condensate connection.

Single (common) 1-1/4" NPT steam inlet connection.

Steam consumption: 120 lb/hr at 20 psig minimum.

Maximum steam pressure: 75 psig.

Electrical power and control supplied from the dishwasher electrical enclosure.

2.4 Electrically heated blower-dryer:

Single 30 KW heating element with 2 banks of elements.

The electrical power system for the blower-dryer is independent of the dishwasher system. There are no interlocks or controls between the two systems. A separate electrical service for the blower-dryer must be connected to the enclosure at the exit end. Power for the blower motor, heating elements, and controls is:

208/3/60	90 full load amps.
230/3/60	78 full load amps.
380/3/50	49 full load amps.
460/3/60	39 full load amps.

3.0 MAINTENANCE AND ADJUSTMENTS

3.1 Air stream filter.

An all metal filter is located in the air stream at the inlet to the heating chamber. This filter is located at the exit end of the blower-dryer, at the top of the drying tunnel. The filter should be periodically washed to remove accumulations of grease and dirt. Remove the two clamps on either side of the filter and send the element through the dishwasher. Do not operate the blower-dryer for more than 1/2 hr. without the filter in place.

3.2 Blower drive.

The blower is driven by a V belt and pulley system. Periodically check the pulley set screws for tightness against the motor and blower shafts. Inspect the belt for wear and tension; belt should deflect approximately 1" when squeezed between the thumb and fingers.

3.3 Steam heat temperature regulator.

A mechanically operated thermostatic valve controls the blower dryer air temperature. A scale, numbered 1 to 10, is on the side of this valve. Higher scale settings correspond to higher operating temperatures.

To adjust this valve, place the 1/4" dia. rod (chained to the valve body) in one of the adjustment holes on the valve stem collar. Turn the collar counterclockwise to increase the scale setting. Make changes in increments of 1/2 scale divisions. Allow the temperature to stabilize between settings.

The blower dryer should operate between 170° and 190° F. This corresponds to a nominal setting of 5 on the valve scale.

3.4 Steam heat condensate traps.

A condensate trap is mounted on the rear of the blower dryer for each of the two steam coils, with a common condensate connection below the traps. Check to see that each trap is operating correctly, allowing condensate to flow when the steam regulator is open. A condensate trap that is stuck shut, possibly due to corrosion, will not allow the condensate to flow, therefore no heat will be released to the air stream. A trap that is stuck open will not permit the dryer to reach full operating temperature. A faulty trap should be replaced.

3.5 Electric heat temperature control.

The electric heating element is set to cycle (on-off) between air stream temperatures of 170° and 200° F. These two set points are individually set by two temperature control boards in the electrical enclosure. The temperature bandwidth was selected to provide maximum contactor life and should not be reduced.

A pressure switch to monitor air flow through the heating elements is mounted on top of the heating chamber and will turn off power to the elements if the air flow is reduced, such as by a dirty filter.

A separate high limit temperature control is mounted on the top of the heating chamber and will turn off power to the elements if the air temperature exceeds 400° F. Should this unlikely event occur, the control must be manually reset (button on top of control housing) after the machine cools and the cause of the over temperature corrected.

3.6 Blower motor and steam shutdown (steam heated units).

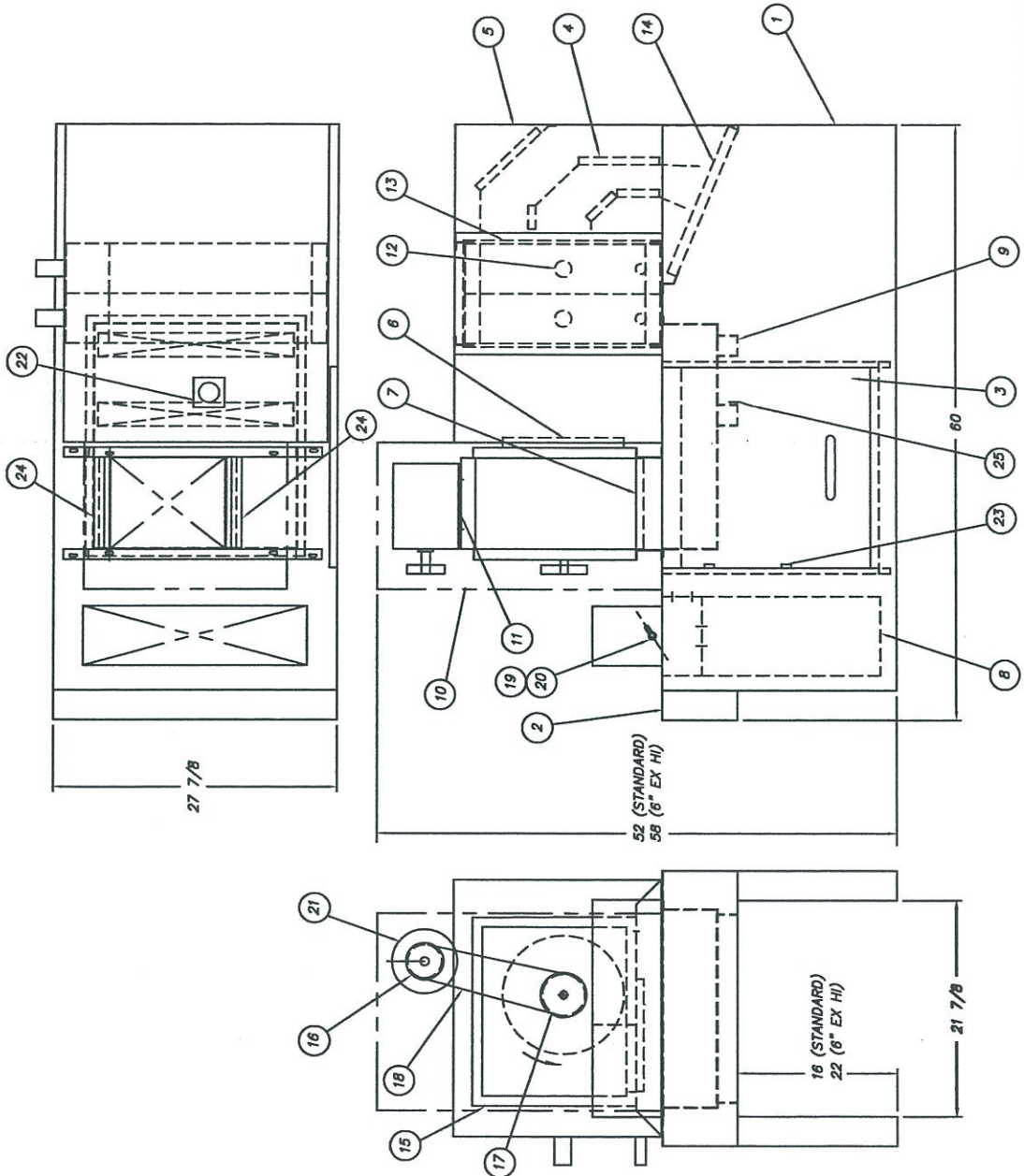
The blower and heating system are started by pressing the green start pushbutton at the dishwasher control enclosure. When the blower motor is running, the blower-dryer steam supply solenoid valve is opened. When the red stop pushbutton is pressed, power is removed from the motor and solenoid valve.

The dishwasher energy saver timer will stop both the dishwasher and the blower-dryer if the 5 minute time period elapses. The blower-dryer and the dishwasher must each be manually restarted.

3.7 Blower motor shutdown (electrically heated units).

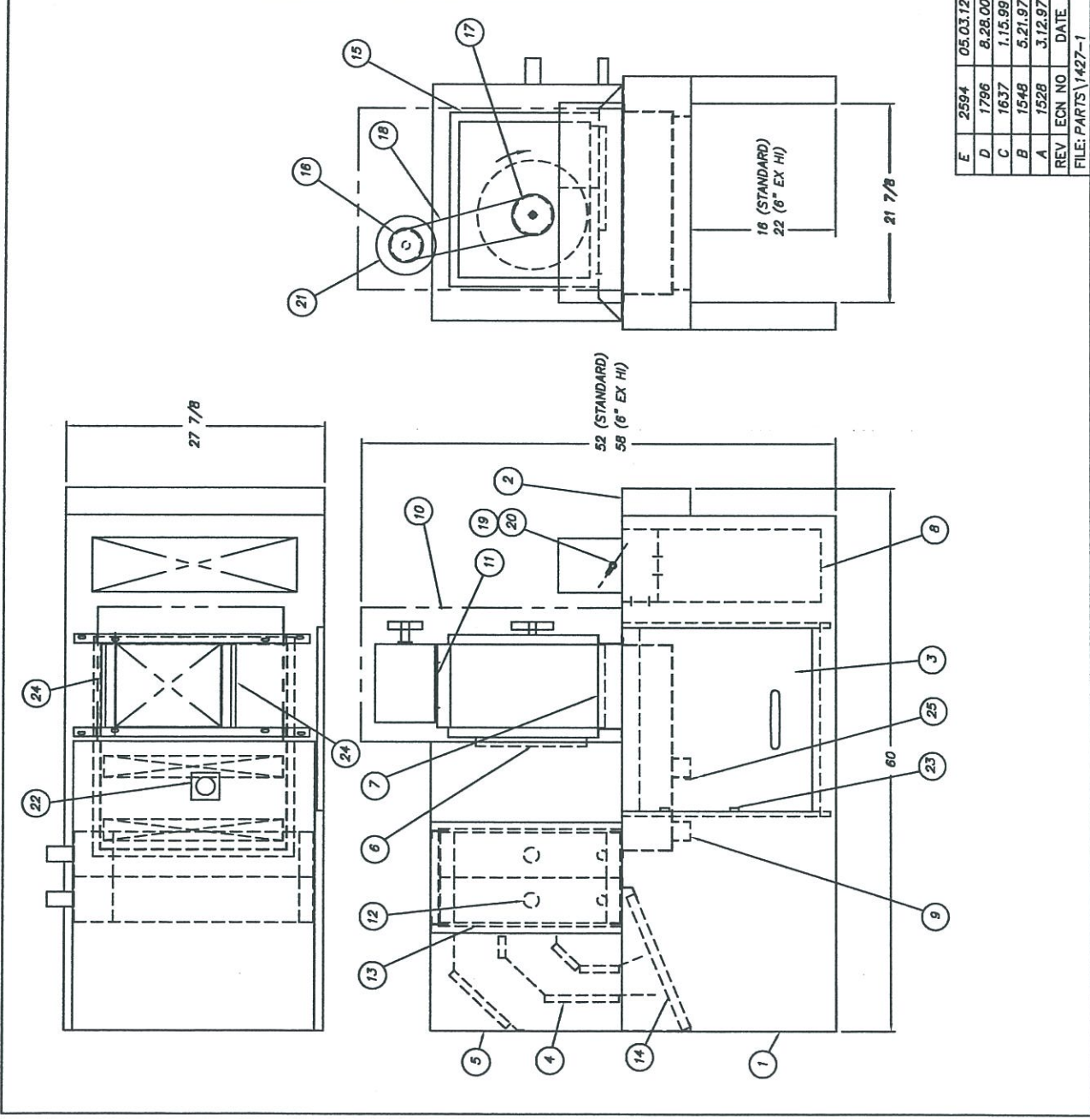
The blower and heating system are started by pressing the green start pushbutton on the blower-dryer control enclosure. When the red stop pushbutton is pressed, power is removed from the heating elements but the motor will run for an additional 80 sec. before automatically stopping. This time delay allows the interior of the heating chamber to cool to avoid tripping of the over temperature limit switch during temperature "soak back".

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1427-2	B	SHELL ASSEMBLY	1
2	1427-9	A	END HOOD	1
3	1427-10	A	DOOR	1
4	1427-11	B	BAFFLES	1
5	1427-12	B	COIL HOUSING	1
6	1427-19	B	FAN EXTENSION	1
7	1427-20	B	FAN SUPPORT	1
8	1427-21	B	VENT EXTENSION	1
9	1427-22	B	PLENUM	1
10	1427-23	B	FAN ENCLOSURE	1
11	1427-24	A	MOTOR MOUNT	1
12	1427-26	B	COMMON STEAM & CONDENSATE	1
13	1427-25	B	COIL ASSEMBLY	1
14	D2813	-	FILTER (16 X 25)	1
15	D2801	-	BLOWER (CCW FACING DRIVE)	1
16	D2804	-	PULLEY, BC 38 X 7/8 KSS (60 Hz)	1
17	D2805	-	PULLEY, BC 46 X 7/8 KSS (50 Hz)	1
18	D2831	-	BELT B39 (60 Hz)	1
19	D2852	-	BELT B40 (50 Hz)	1
20	D2-831	A	DAMPER ASSEMBLY	1
21	1427-27	A	DAMPER	1
22	1427-41	B	MOTOR, M3154T 1 1/2 HP, 1725 RPM	1
23	D2715	A	TEMPERATURE BULB INSTALL.	1
24	1427-42	A	DOOR LATCH ASSEMBLY	2
25	1427-40	B	CLOSE-OFF, FAN SUPPORT	2
			DEFLECTOR	1



LEFT TO RIGHT MACHINE		SHEET 1 OF 4	
E 2594	05.03.12	TOLERANCES	FRACCTIONS ±1/64
D 1796	8.28.00	DECIMALS	.XXX ± .005
C 1637	1.15.99		.XX ± .01
B 1548	5.21.97		ANGLES ±1/2°
A 1528	3.12.97		UNLESS OTHERWISE SPECIFIED
REV	ECN NO.	DATE	
FILE: PARTS\1427-1			
TITLE		NEXT ASSY DWG. NO.	
BLOWER DRYER (STEAM)		1427-1	
GENERAL ASSEMBLY		SCALE USED ON	
MTRL		1"=1'-0" STD	
NOTED		DRWN/DATE	
Insinger		Philadelphia, PA 19135	
		(215) 624-4800	
		FAX (215) 624-6986	
		70.3.94	

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1427-2	B	SHELL ASSEMBLY	1
2	1427-9	A	END HOOD	1
3	1427-10	A	DOOR	1
4	1427-11	B	BAFFLES	1
5	1427-12	B	COIL HOUSING	1
6	1427-19	B	FAN EXTENSION	1
7	1427-20	B	FAN SUPPORT	1
8	1427-21	B	VENT EXTENSION	1
9	1427-22	B	PLENUM	1
10	1427-23	B	FAN ENCLOSURE	1
11	1427-24	A	MOTOR MOUNT	1
12	1427-26	B	COMMON STEAM & CONDENSATE	1
13	1427-25	B	COIL ASSEMBLY	1
14	D2813	-	FILTER (16 X 25)	1
15	D2802	-	BLOWER (CW FACING DRIVE)	1
16	D2804	-	PULLEY, BC 38 X 7/8 KSS (60 Hz)	1
17	D2851	-	PULLEY, BC 46 X 7/8 KSS (50 Hz)	1
18	D2805	-	PULLEY, BC 46 X 3/4 KSS	1
19	D2831	-	BELT B39 (60 Hz)	1
20	D2852	-	BELT B40 (50 Hz)	1
21	D2-831	A	DAMPER ASSEMBLY	1
22	1427-27	A	DAMPER	1
23	-	-	MOTOR, M315AT 1 1/2 HP, 1725 RPM	1
24	1427-41	B	TEMPERATURE BULB INSTALL.	1
25	D2715	A	DOOR LATCH ASSEMBLY	2
26	1427-42	A	CLOSE-OFF, FAN SUPPORT	2
27	1427-40	B	DEFLECTOR	1



RIGHT TO LEFT MACHINE

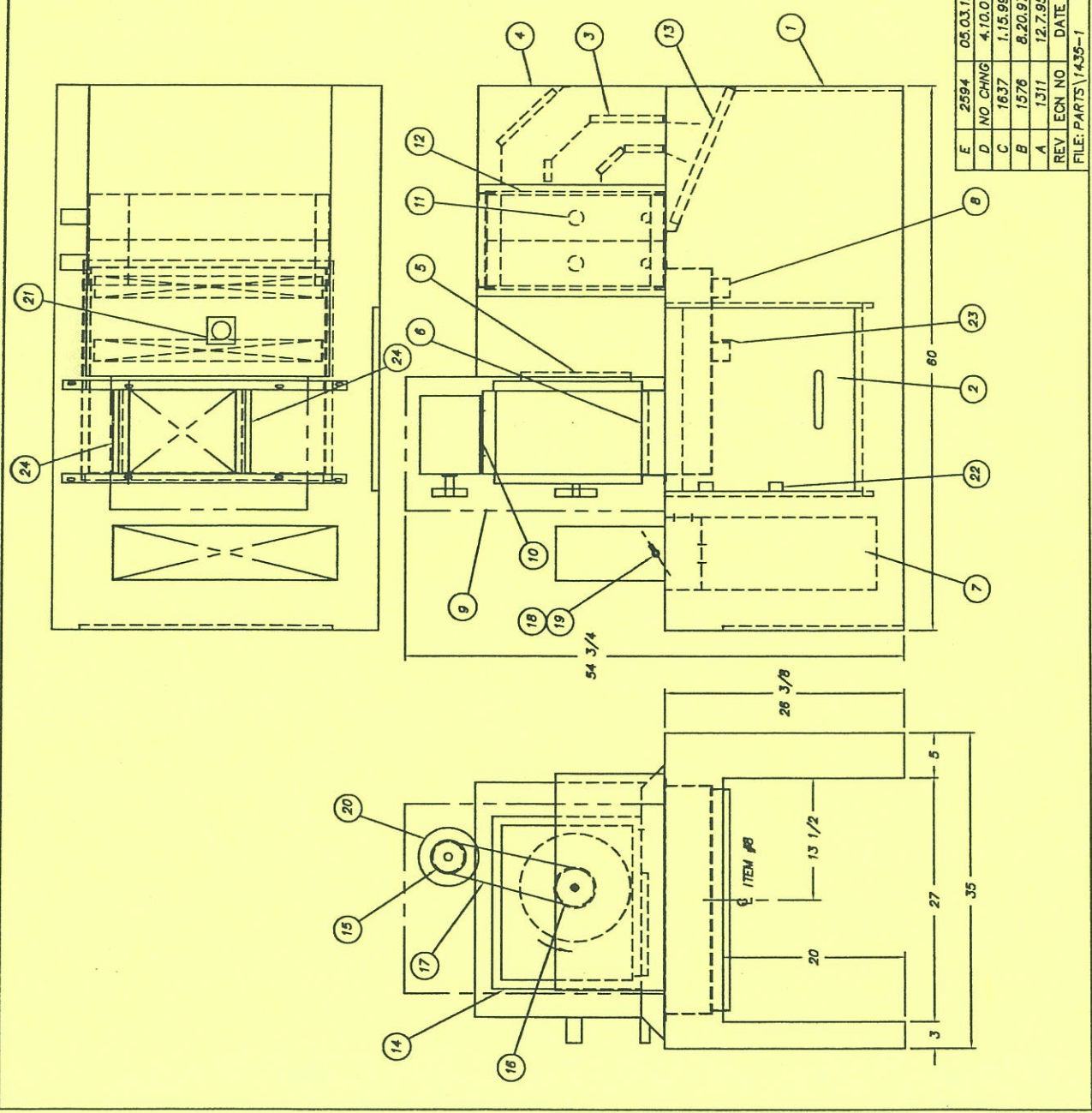
TOLERANCES	05.03.12	FILE: PARTS \1427-1
FRACTIONS	±1/64	
DECIMALS	.XXX ± .005	
	.XX ± .01	
ANGLES	±1/2°	
UNLESS OTHERWISE SPECIFIED		

TITLE	BLOWER DRYER (STEAM)	NEXT ASSY DWG. NO.	1427-1
GENERAL ASSEMBLY		REQD	1
MATL	NOTED	SCALE	1=12
		USED ON	STD
		DRWN/DATE	PG

Philadelphia, PA 19135
 (215) 624-4800
 FAX (215) 624-8966
 10.3.94

E	2594	05.03.12
D	1796	8.28.00
C	1637	1.15.99
B	1548	5.21.97
A	1528	3.12.97
REV	ECN NO.	DATE

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1435-2	B	SHELL ASSEMBLY	1
2	1427-10	A	DOOR	1
3	1427-11	B	BAFFLES	1
4	1427-12	B	COIL HOUSING	1
5	1427-19	B	FAN EXTENSION	1
6	1435-12	B	FAN SUPPORT	1
7	1435-6	B	VENT EXTENSION	1
8	1435-7	B	PLENUM	1
9	1427-23	B	FAN ENCLOSURE	1
10	1427-24	A	MOTOR MOUNT	1
11	1427-26	B	COMMON STEAM & CONDENSATE	1
12	1427-25	B	COIL ASSEMBLY	1
13	D2813	-	FILTER (16 X 25)	1
14	D2801	-	BLOWER (CCW FACING DRIVE)	1
15	D2804	-	PULLEY, BC 38 X 7/8 KSS	1
16	D2805	-	PULLEY, BC 46 X 3/4 KSS	1
17	D2831	-	BELT	1
18	D2-831	A	DAMPER ASSEMBLY	1
19	1435-18	A	DAMPER	1
20	-	-	MOTOR, M3154T 1 1/2 HP, 1725 RPM	1
21	1427-41	B	TEMPERATURE BULB INSTALL.	1
22	D2715	A	DOOR LATCH ASSEMBLY	2
23	1435-14	B	DEFLECTOR	1
24	1427-42	A	CLOSE-OFF	2



LEFT TO RIGHT MACHINE

TOLERANCES
 FRACTIONS ±1/84
 DECIMALS
 .XXX ± .005
 .XX ± .01
 ANGLES ±1/2°
 UNLESS OTHERWISE SPECIFIED

FILE: PARTS\1435-1

REV | ECN NO | DATE

A 1311 12.7.95
 B 1578 8.20.97
 C 1637 1.15.99
 D NO CHNG 4.10.01
 E 2594 05.03.12

SCALE 1=12
 USED ON FLUTE MACH.

NOTED

PHILADELPHIA, PA 19135
 (215) 624-4800
 FAX (215) 624-6986

PG 2.13.95

SHEET 1 OF 4

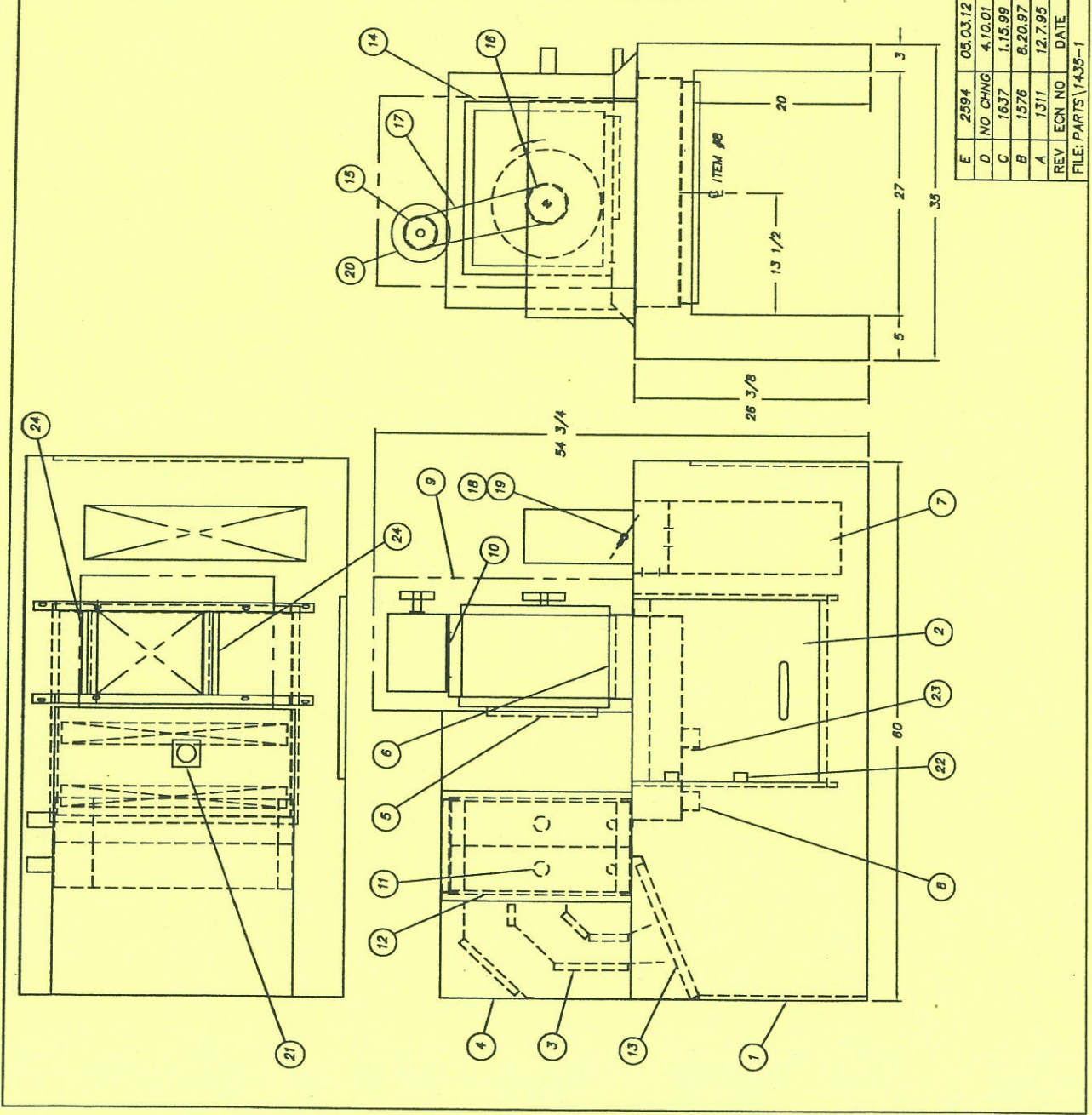
NEXT ASSY/DWG. NO. 1435-1

REQ'D 1

TITLE BLOWER DRYER (STEAM) GENERAL ASSEMBLY



ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1435-2	B	SHELL ASSEMBLY	1
2	1427-10	A	DOOR	1
3	1427-11	B	BAFFLES	1
4	1427-12	B	COIL HOUSING	1
5	1427-19	B	FAN EXTENSION	1
6	1435-12	B	FAN SUPPORT	1
7	1435-6	B	VENT EXTENSION	1
8	1435-7	B	PLENUM	1
9	1427-23	B	FAN ENCLOSURE	1
10	1427-24	A	MOTOR MOUNT	1
11	1427-26	B	COMMON STEAM & CONDENSATE	1
12	1427-25	B	COIL ASSEMBLY	1
13	D2873	-	FILTER (16 X 25)	1
14	D2802	-	BLOWER (CW FACING DRIVE)	1
15	D2804	-	PULLEY, BC 38 X 7/8 KSS	1
16	D2805	-	PULLEY, BC 46 X 3/4 KSS	1
17	D2831	-	BELT	1
18	D2-831	A	DAMPER ASSEMBLY	1
19	1435-18	A	DAMPER	1
20	-	-	MOTOR, M3154T 1 1/2 HP, 1725 RPM	1
21	1427-41	B	TEMPERATURE BULB INSTALL.	1
22	D2715	A	DOOR LATCH ASSEMBLY	2
23	1435-14	B	DEFLECTOR	1
24	1427-42	A	CLOSE-OFF	2

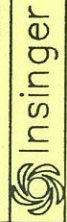


RIGHT TO LEFT MACHINE

SHEET 2 OF 4

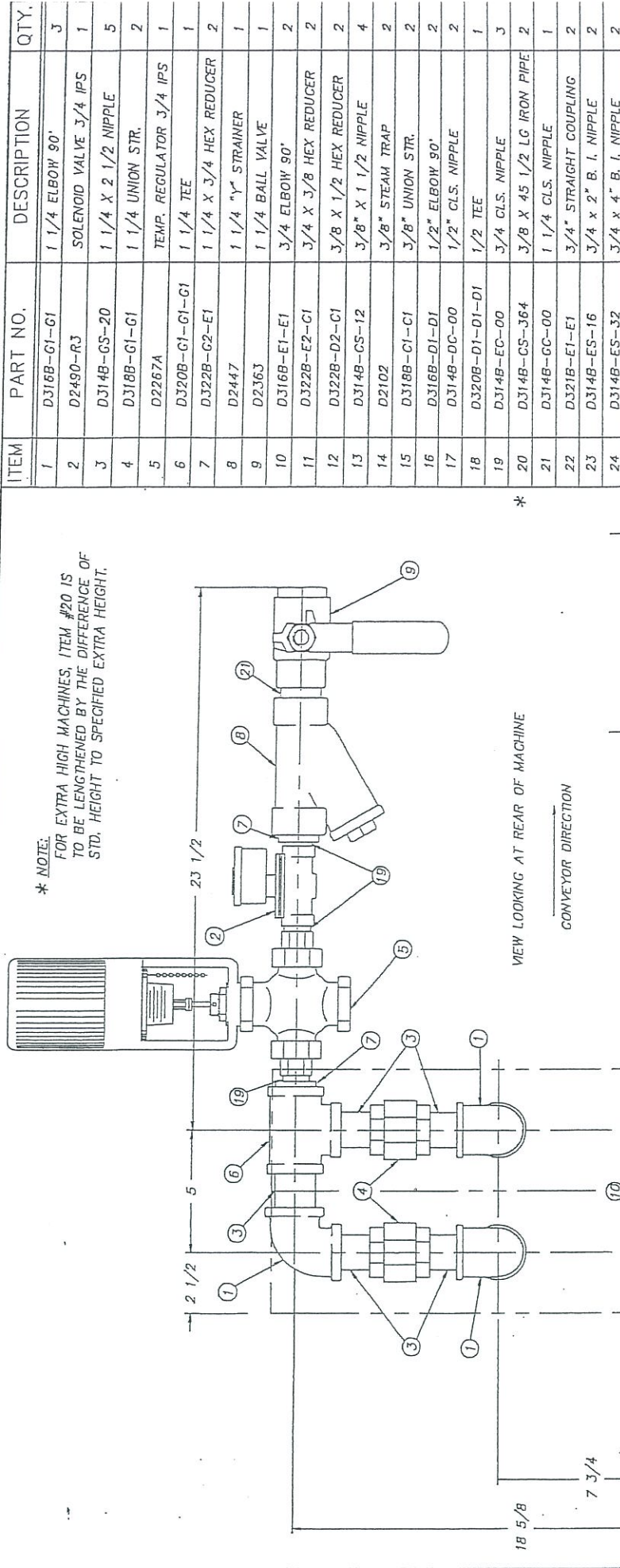
TITLE		NEXT ASSY DWG. NO.	
BLOWER DRYER (STEAM)		REG'D	1435-1
GENERAL ASSEMBLY		SCALE	1=12
MATERIAL		USED ON	PLATE MACH.
NOTED		DRWN/DATE	PA 19135
Philadelph, PA 19135		PG	2.13.95
(215) 624-4800			
FAX (215) 624-6986			

E	2594	05.03.12	TOLERANCES
D	NO CHNG	4.10.01	FRACTIONS ±1/64
C	1637	1.15.99	DECIMALS
B	1576	8.20.97	.XXX ± .005
A	1311	12.7.95	.XX ± .01
UNLESS OTHERWISE SPECIFIED			
REV	LECN NO	DATE	
FILE: PARTS\1435-1			



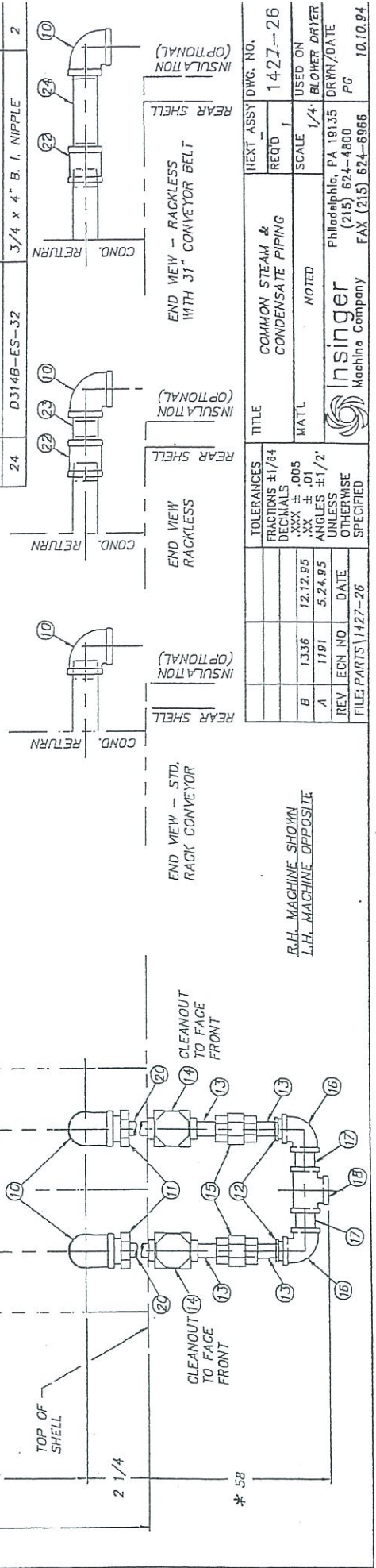
Insinger
 Philadelphia, PA 19135
 (215) 624-4800
 FAX (215) 624-6986

* NOTE:
FOR EXTRA HIGH MACHINES, ITEM #20 IS
TO BE LENGTHENED BY THE DIFFERENCE OF
STD. HEIGHT TO SPECIFIED EXTRA HEIGHT.



VIEW LOOKING AT REAR OF MACHINE

CONVEYOR DIRECTION



ITEM	PART NO.	DESCRIPTION	QTY.
1	D316B-G1-G1	1 1/4 ELBOW 90°	3
2	D2490-R3	SOLENOID VALVE 3/4 IPS	1
3	D314B-CS-20	1 1/4 X 2 1/2 NIPPLE	5
4	D318B-G1-G1	1 1/4 UNION STR.	2
5	D2267A	TEMP. REGULATOR 3/4 IPS	1
6	D320B-G1-G1-G1	1 1/4 TEE	1
7	D322B-G2-E1	1 1/4 X 3/4 HEX REDUCER	2
8	D2447	1 1/4 "Y" STRAINER	1
9	D2363	1 1/4 BALL VALVE	1
10	D316B-E1-E1	3/4 ELBOW 90°	2
11	D322B-E2-C1	3/4 X 3/8 HEX REDUCER	2
12	D322B-D2-C1	3/8 X 1/2 HEX REDUCER	2
13	D314B-CS-12	3/8" X 1 1/2 NIPPLE	4
14	D2102	3/8" STEAM TRAP	2
15	D318B-C1-C1	3/8" UNION STR.	2
16	D316B-D1-D1	1/2" ELBOW 90°	2
17	D314B-DC-00	1/2" CLS. NIPPLE	2
18	D320B-D1-D1-D1	1/2 TEE	1
19	D314B-EC-00	3/4 CLS. NIPPLE	3
20	D314B-CS-J64	3/8 X 45 1/2 LG IRON PIPE	2
21	D314B-GC-00	1 1/4 CLS. NIPPLE	1
22	D321B-E1-E1	3/4" STRAIGHT COUPLING	2
23	D314B-ES-16	3/4 x 2" B. I. NIPPLE	2
24	D314B-ES-32	3/4 x 4" B. I. NIPPLE	2

TOLERANCES	TITLE	COMMON STEAM & CONDENSATE PIPING	RECT ASSY DWG. NO.
FRACTIONS ±1/64			1427-26
DECIMALS .005			
XXX ±.01			
ANGLES ±1/2°			
UNLESS OTHERWISE SPECIFIED			
		NOTED	
		SCALE 1/4"	
		USED ON	
		BLOWER DRYER	
		DRWN./DATE	10.10.94
		PAGE	PG

R.H. MACHINE SHOWN
L.H. MACHINE OPPOSITE

INSULATION (OPTIONAL)
REAR SHELL
COND. RETURN

END VIEW - RACKLESS WITH 31" CONVEYOR BELT

INSULATION (OPTIONAL)
REAR SHELL
COND. RETURN

END VIEW - RACKLESS WITH 31" CONVEYOR BELT

INSULATION (OPTIONAL)
REAR SHELL
COND. RETURN

END VIEW - STD. RACK CONVEYOR

CLEANOUT TO FACE FRONT

CLEANOUT TO FACE FRONT

TOP OF SHELL

FILE: PARTS \1427-26

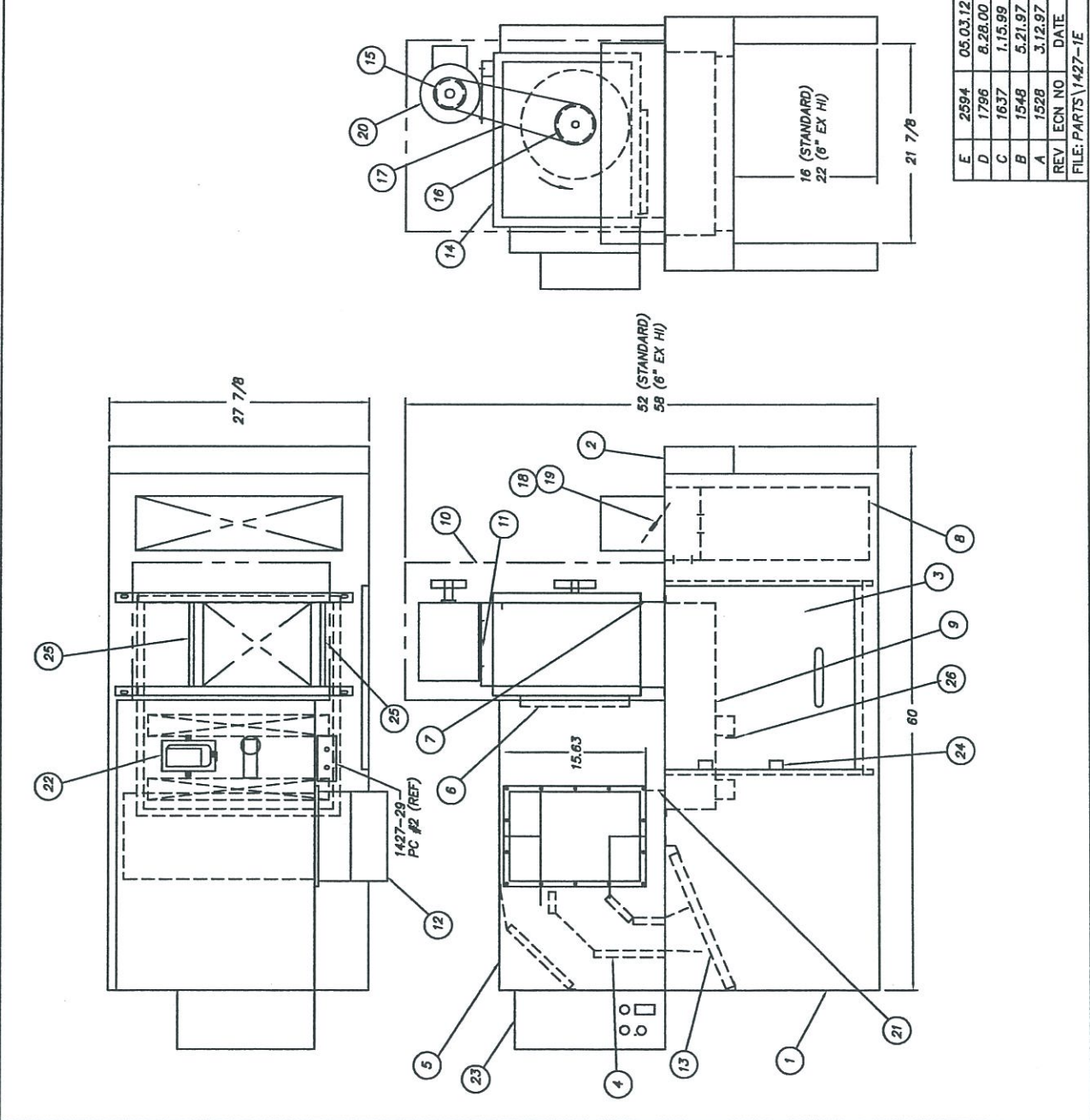
* 58

Insinger
Machine Company
Philadelphia, PA 19135
(215) 624-4800
FAX (215) 624-6966

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1427-30	B	SHELL ASSEMBLY	1
2	1427-9	A	END HOOD	1
3	1427-10	A	DOOR	1
4	1427-35	B	BAFFLES	1
5	1427-31	B	HEATER ENCLOSURE	1
6	1427-19	B	FAN EXTENSION	1
7	1427-20	B	FAN SUPPORT	1
8	1427-21	B	VENT EXTENSION	1
9	1427-22	B	PLENUM	1
10	1427-36	B	FAN ENCLOSURE	1
11	1427-24	A	MOTOR MOUNT	1
12	-	-	HEATER	1
13	D2813	-	FILTER (16 X 25)	1
14	D2801	-	BLOWER (CCW FACING DRIVE)	1
15	D2804	-	PULLEY, BC 38 X 7/8 KSS (60 Hz)	1
16	D2851	-	PULLEY BC 46 X 7/8 KSS (50 Hz)	1
17	D2805	-	PULLEY, BC 46 X 3/4 KSS	1
18	D2831	-	BELT B39 (60 Hz)	1
19	D2852	-	BELT B40 (50 Hz)	1
20	D2-831	A	DAMPER ASSEMBLY	1
21	1427-27	A	DAMPER	1
22	-	-	MOTOR, M315AT 1 1/2 HP, 1725 RPM	1
23	1427-37	A	CLOSE OFF BAFFLE	1
24	1435-21	B	TEMP. \PRESS. CONTROL INSTALL.	1
25	979-23	B	CONTROL BOX	1
26	D2715	A	DOOR LATCH ASSEMBLY	2
27	1427-42	A	CLOSE-OFF, FAN SUPPORT	2
28	1427-40	B	DEFLECTOR	1

ITEM # 12 HEATER		VOLTAGE PHASE	
PARTH	KW	VOLTAGE	PHASE
9017-008	20	208	3
9017-009	20	240	3
9017-006	20	480	3
9017-007	30	208	3
9017-010	30	240	3
9017-002	30	480	3

TOLERANCES		TITLE	
E	2594	05.03.12	BLOWER DRYER (ELECTRIC)
D	1796	8.28.00	GENERAL ASSEMBLY
C	1637	1.15.99	SCALE 1=12 S/D
B	1548	5.21.97	USED ON 1427-1
A	1528	3.12.97	SCALE 1=12 S/D
REV	ECN NO.	DATE	DRWN/DATE
			10.31.94



RIGHT TO LEFT MACHINE SHEET 4 OF 4

INSINGER
 Philadelphia, PA 19135
 (215) 624-4800
 FAX (215) 624-6966

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1427-30	B	SHELL ASSEMBLY	1
2	1427-9	A	END HOOD	1
3	1427-10	A	DOOR	1
4	1427-35	B	BAFFLES	1
5	1427-31	B	HEATER ENCLOSURE	1
6	1427-19	B	FAN EXTENSION	1
7	1427-20	B	FAN SUPPORT	1
8	1427-21	B	VENT EXTENSION	1
9	1427-22	B	PLENUM	1
10	1427-36	B	FAN ENCLOSURE	1
11	1427-24	A	MOTOR MOUNT	1
12	-	-	HEATER	1
13	D2813	-	FILTER (16 X 25)	1
14	D2802	-	BLOWER (CW FACING DRIVE)	1
15	D2804	-	PULLEY, BC 38 X 7/8 KSS (60 Hz)	1
16	D2805	-	PULLEY, BC 46 X 7/8 KSS (50 Hz)	1
17	D2831	-	BELT B39 (60 Hz)	1
18	D2852	-	BELT B40 (50 Hz)	1
19	D2-831	A	DAMPER ASSEMBLY	1
20	1427-27	A	DAMPER	1
21	-	-	MOTOR, M3154T 1 1/2 HP, 1725 RPM	1
22	1427-37	A	CLOSE OFF BAFFLE	1
23	1435-21	B	TEMP. PRESS. CONTROL INSTALL.	1
24	979-23	B	CONTROL BOX	1
25	D2715	A	DOOR LATCH ASSEMBLY	2
26	1427-42	A	CLOSE-OFF, FAN SUPPORT	2
27	1427-40	B	DEFLECTOR	1

ITEM # 12 HEATER			
PART#	KW	VOLTAGE	PHASE
9017-008	20	208	3
9017-009	20	240	3
9017-006	20	480	3
9017-007	30	208	3
9017-010	30	240	3
9017-002	30	480	3

TOLERANCES		TITLE	
FRACTIONS ±1/64	DECIMALS	BLOWER DRYER (ELECTRIC)	
.XXX ± .005	.XX ± .01	REQ'D	1
.XX ± 1/2"	ANGLES ±1/2"	SCALE	1=12 STD
UNLESS OTHERWISE SPECIFIED		USED ON	

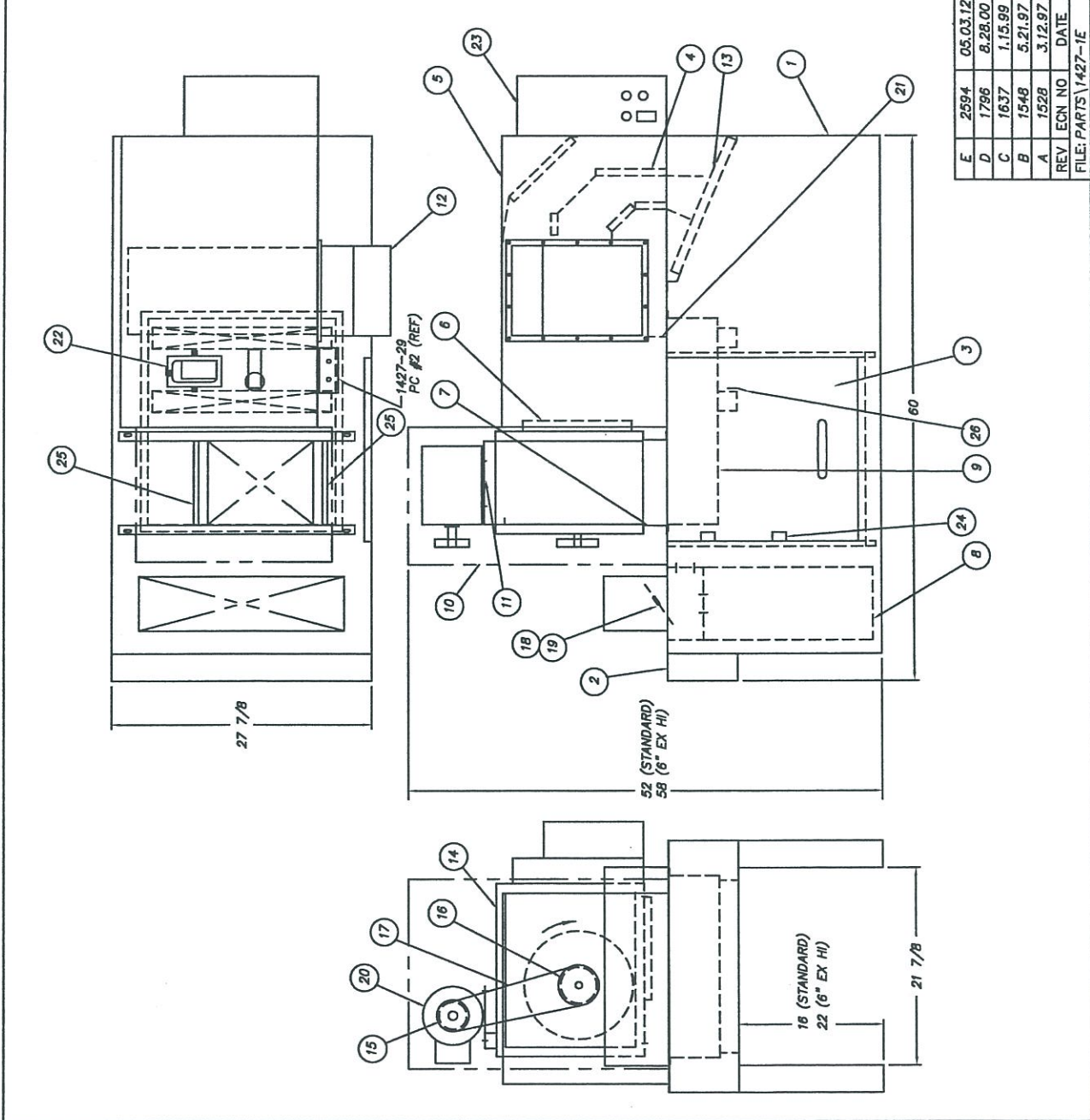
LEFT TO RIGHT MACHINE SHEET 3 OF 4

NEXT ASSY DWG. NO. 1427-1

Philadelphia, PA 19135
(215) 624-4800
FAX (215) 624-6966

Insinger

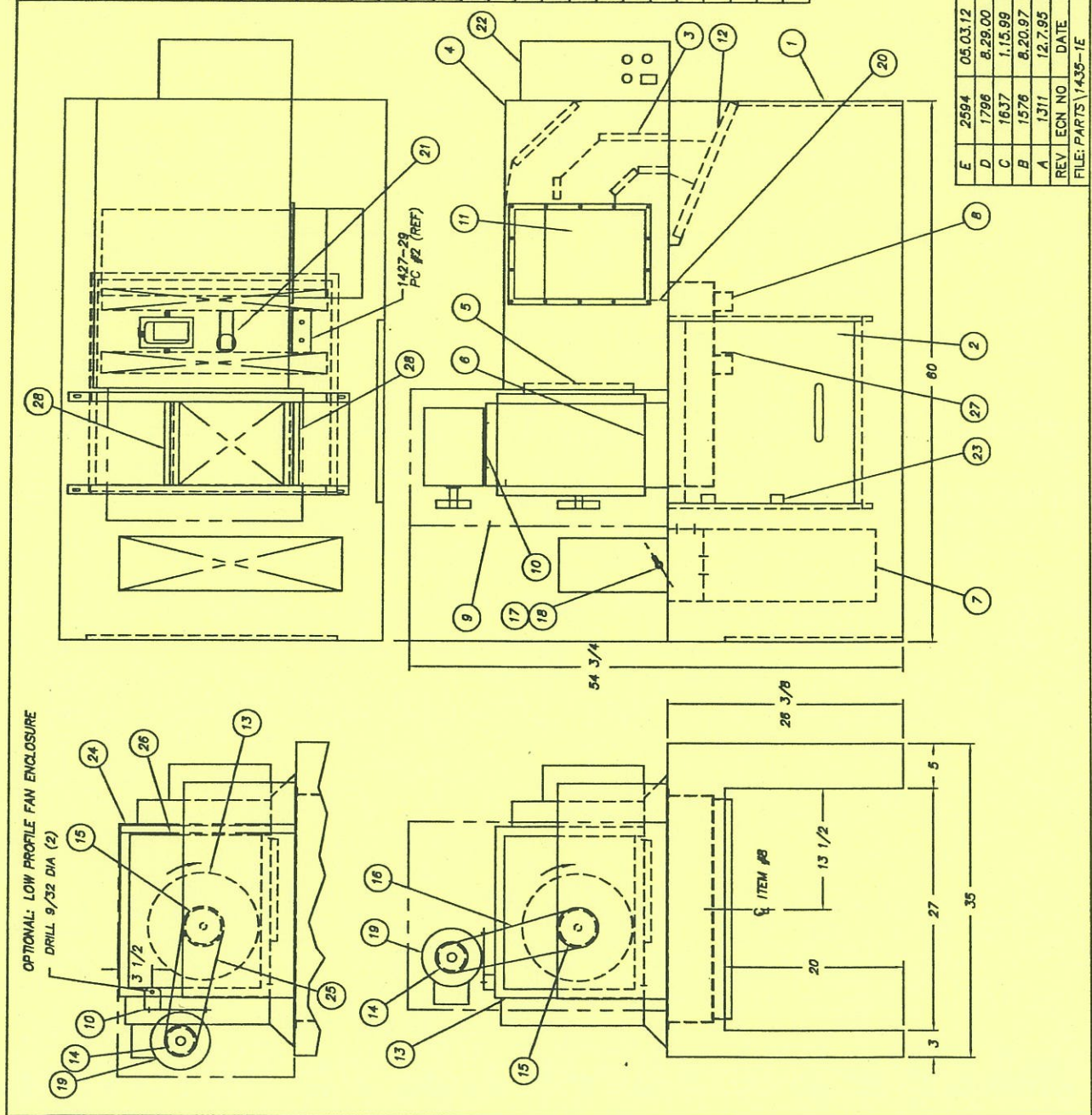
DRWN/DATE PG
10.31.94



REV	ECN NO	DATE	FILE: PARTS\1427-1E
A	1528	3.12.97	
B	1548	5.21.97	
C	1637	1.15.99	
D	1796	8.28.00	
E	2694	05.03.12	

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1435-15	B	SHELL ASSEMBLY	1
2	1427-10	A	DOOR	1
3	1427-35	B	BAFFLES	1
4	1427-31	B	HEATER ENCLOSURE	1
5	1427-19	B	FAN EXTENSION	1
6	1435-12	B	FAN SUPPORT	1
7	1435-6	B	VENT EXTENSION	1
8	1435-7	B	PLENUM	1
9	1427-36	B	FAN ENCLOSURE	1
10	1427-24	A	MOTOR MOUNT	1
11	-	-	HEATER	1
12	D2813	-	FILTER (16 X 25)	1
13	D2802	-	BLOWER (CW FACING DRIVE)	1
14	D2804	-	PULLEY, BC 38 X 7/8 KSS	1
15	D2805	-	PULLEY, BC 46 X 3/4 KSS	1
16	D2831	-	BELT	1
17	D2-831	A	DAMPER ASSEMBLY	1
18	1435-18	A	DAMPER	1
19	-	-	MOTOR, M3154T 1 1/2 HP, 1725 RPM	1
20	1427-37	A	CLOSE-OFF BAFFLE	1
21	1435-21	B	TEMP. \PRESS. CONTROL INSTALL	1
22	979-23	B	CONTROL BOX	1
23	D2715	A	DOOR LATCH ASSEMBLY	2
24	1435-39	B	FAN ENCLOSURE - LOW PROFILE	1
25	D2854	-	V-BELT B36	1
26	1435-41	A	FAN ADAPTER ANGLE	1
27	1435-14	B	DEFLECTOR	1
28	1427-42	A	CLOSE-OFF	2

ITEM # 11 HEATER		VOLTAGE		PHASE	
PART#	KW	20	208	3	
9017-008	20	240	3		
9017-009	20	240	3		
9017-006	20	480	3		
9017-007	30	208	3		
9017-010	30	240	3		
9017-002	30	480	3		



LEFT TO RIGHT MACHINE SHEET 3 OF 4

TOLERANCES ±1/64
 FRACTIONS ±1/64
 DECIMALS .XXX ± .005
 .XX ± .01
 ANGLES ±1/2°
 UNLESS OTHERWISE SPECIFIED

REV | ECN NO. | DATE

E 2594 05.03.12
 D 1796 8.29.00
 C 1637 1.15.99
 B 1576 8.20.97
 A 1311 12.7.95

FILE: PARTS \1435-1E

TITLE BLOWER DRYER (ELECTRIC)
 GENERAL ASSEMBLY

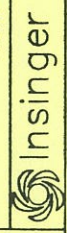
REGD 1 1435-1

SCALE 1=12
 USED ON FLUTE MACH.

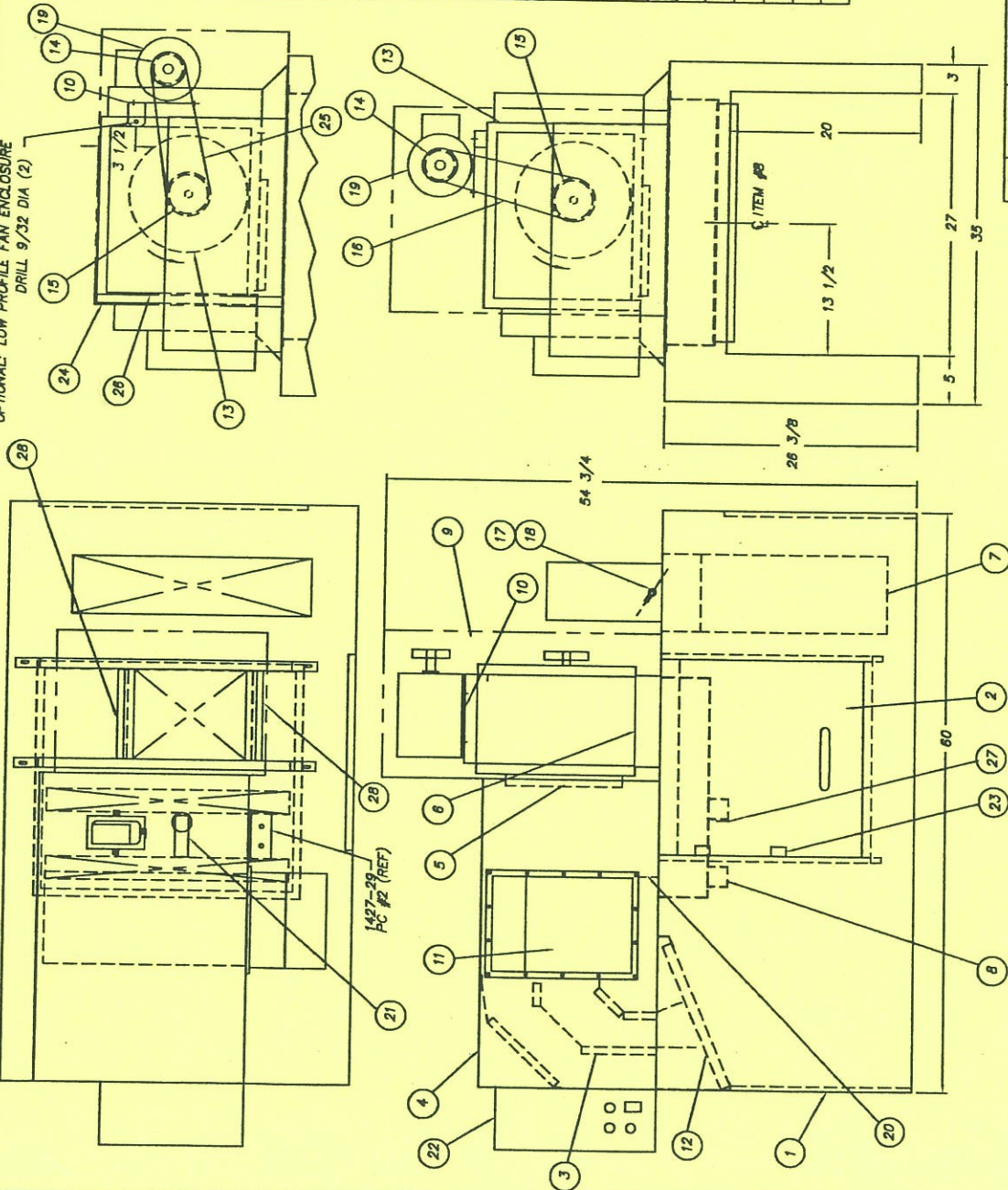
MATL NOTED

Philadelph, PA 19135
 (215) 624-4800
 FAX (215) 624-6988

PC 213.95



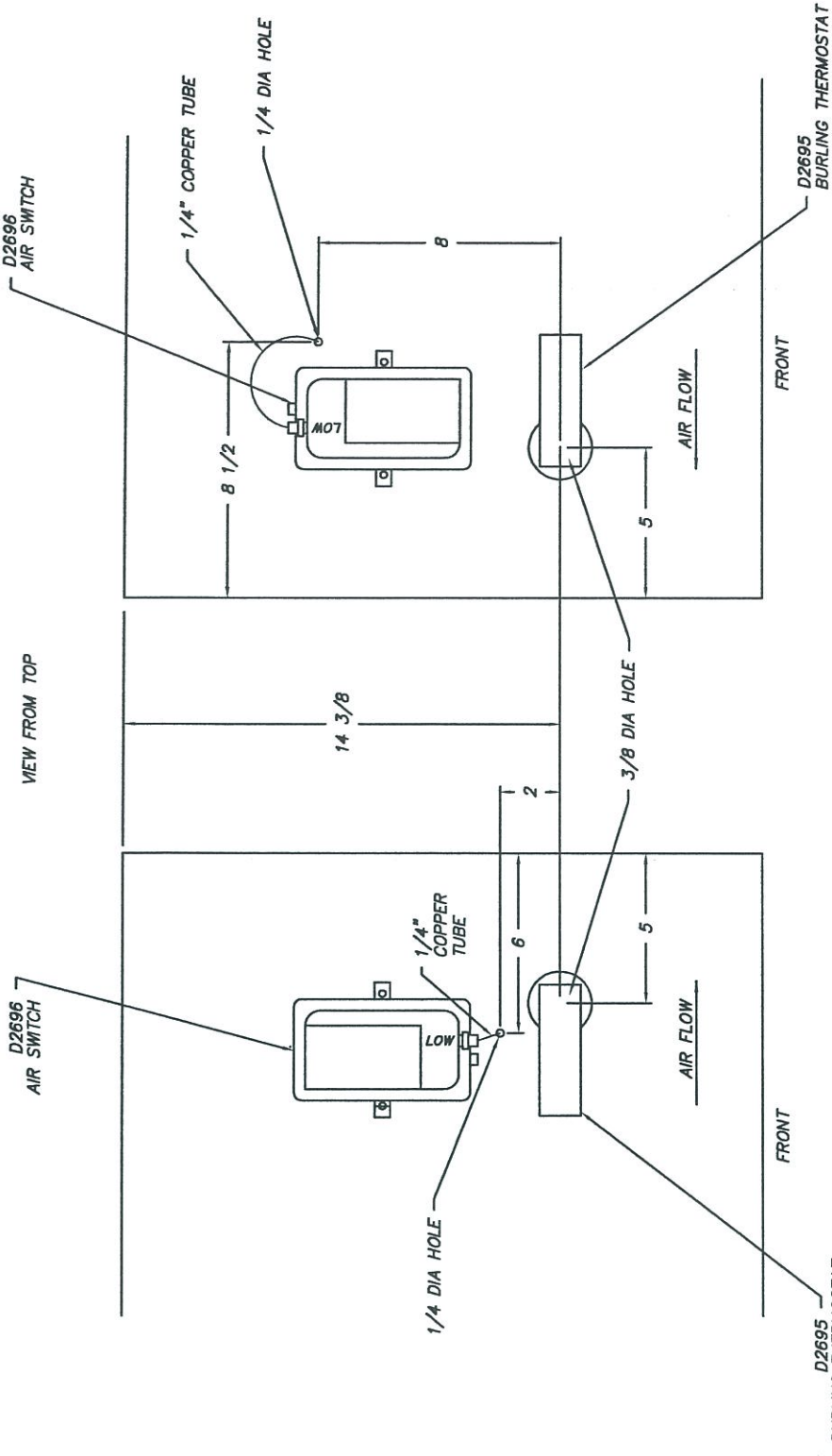
OPTIONAL: LOW PROFILE FAN ENCLOSURE
DRILL 9/32 DIA (2)



ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1435-15	B	SHELL ASSEMBLY	1
2	1427-10	A	DOOR	1
3	1427-35	B	BAFFLES	1
4	1427-31	B	HEATER ENCLOSURE	1
5	1427-19	B	FAN EXTENSION	1
6	1435-12	B	FAN SUPPORT	1
7	1435-6	B	VENT EXTENSION	1
8	1435-7	B	PLENUM	1
9	1427-36	B	FAN ENCLOSURE	1
10	1427-24	A	MOTOR MOUNT	1
11	-	-	HEATER	1
12	D2813	-	FILTER (16 X 25)	1
13	D2801	-	BLOWER (CCW FACING DRIVE)	1
14	D2804	-	PULLEY, BC 38 X 7/8 KSS	1
15	D2805	-	PULLEY, BC 46 X 3/4 KSS	1
16	D2831	-	BELT	1
17	D2-831	A	DAMPER ASSEMBLY	1
18	1435-18	A	DAMPER	1
19	-	-	MOTOR, M3154T 1 1/2 HP, 1725 RPM	1
20	1427-37	A	CLOSE-OFF BAFFLE	1
21	1435-21	B	TEMP. \PRESS. CONTROL INSTALL.	1
22	979-23	B	CONTROL BOX	1
23	D2715	A	DOOR LATCH ASSEMBLY	2
24	1435-39	B	FAN ENCLOSURE - LOW PROFILE	1
25	D2854	-	V-BELT B36	1
26	1435-41	A	FAN ADAPTER ANGLE	1
27	1435-14	B	DEFLECTOR	1
28	1427-42	A	CLOSE-OFF	2

ITEM #11 HEATER	PART#	KW	VOLTAGE	PHASE
	9017-008	20	208	3
	9017-009	20	240	3
	9017-006	20	480	3
	9017-007	30	208	3
	9017-010	30	240	3
	9017-002	30	480	3


E 2594	05.03.12	TOLERANCES	TITLE	RIGHT TO LEFT MACHINE SHEET 4 OF 4
D 1796	8.29.00	FRACTIONS ±1/64	BLOWER DRYER (ELECTRIC)	NEXT ASSY DWG. NO.
C 1637	1.15.99	DECIMALS	GENERAL ASSEMBLY	REQ'D 1
B 1576	8.20.97	.XXX ± .005	MATL	SCALE 1=12
A 1311	12.7.95	.XX ± .01	NOTED	USED ON
REV	ECON NO	DATE	PHILADELPHIA, PA 19135	DRWN/DATE
			(215) 624-4800	PG
			INSINGER	2.13.95
			FILE: PARTS\1435-1E	

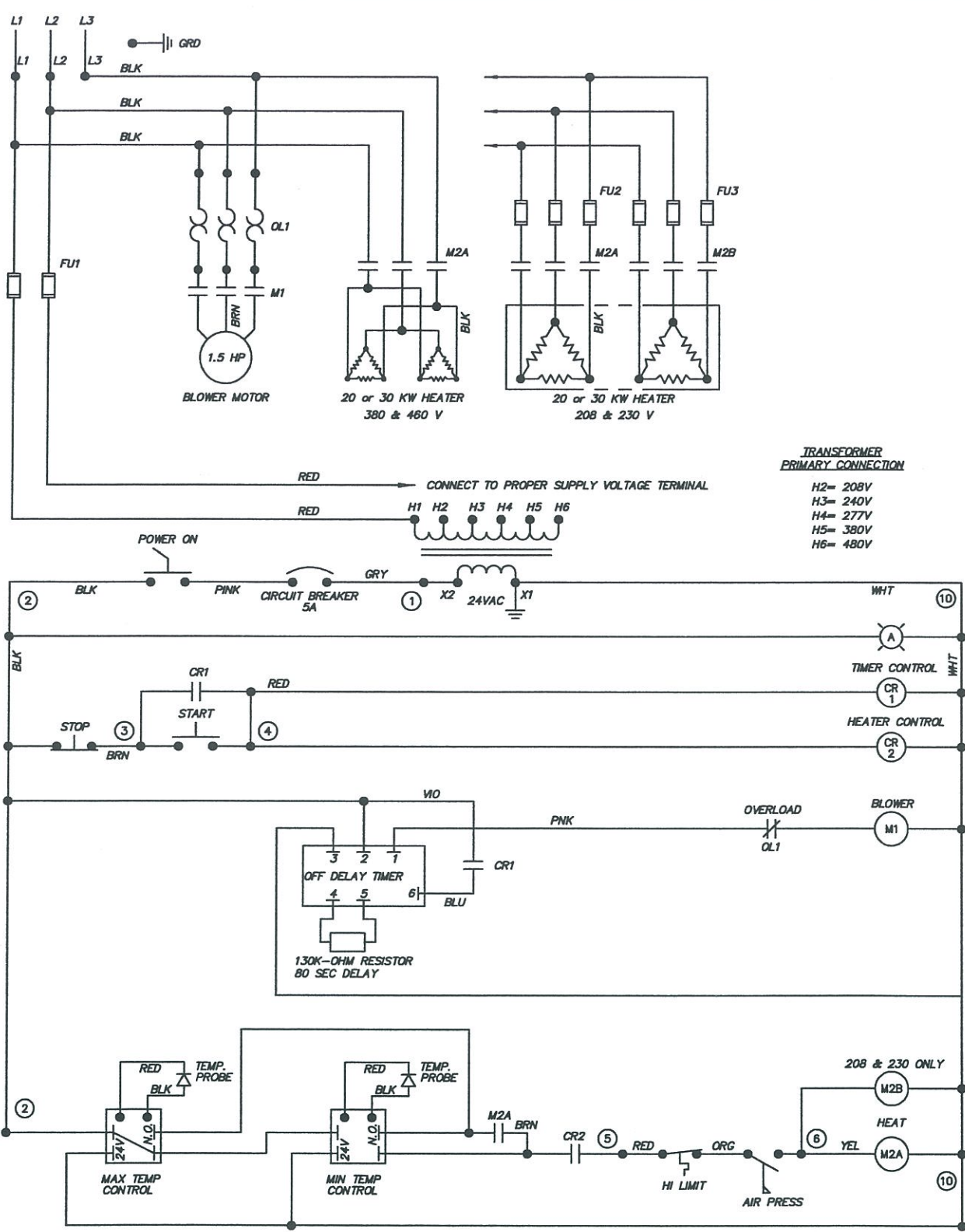


HEATER ENCLOSURE LEFT HAND MACHINE

HEATER ENCLOSURE RIGHT HAND MACHINE

ELECTRIC MACHINES ONLY

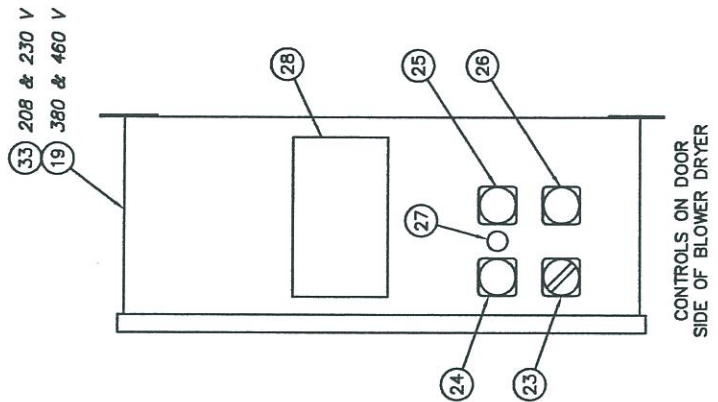
TOLERANCES	FRACTIONS ±1/64	DECIMALS	.XXX ± .005	.XX ± .01	ANGLES ±1/2°	UNLESS OTHERWISE SPECIFIED
REV	A	ECN NO.	1528	DATE	3.11.97	
FILE:	PARTS\1435-12					
TITLE	TEMP. PRESS. CONTROL INSTALLATION					
MAT'L	NOTED					
SCALE	1=4					
REQ'D	1					
NEXT ASSY DWG. NO.	1435-21					
USED ON	BLOWER DRYER					
DRWN/DATE	19135					
PC	(215) 624-4800					
FAX	(215) 624-6966					
 Insinger Machine Company Philadelphia, PA 19135 (215) 624-4800 (215) 624-6966						



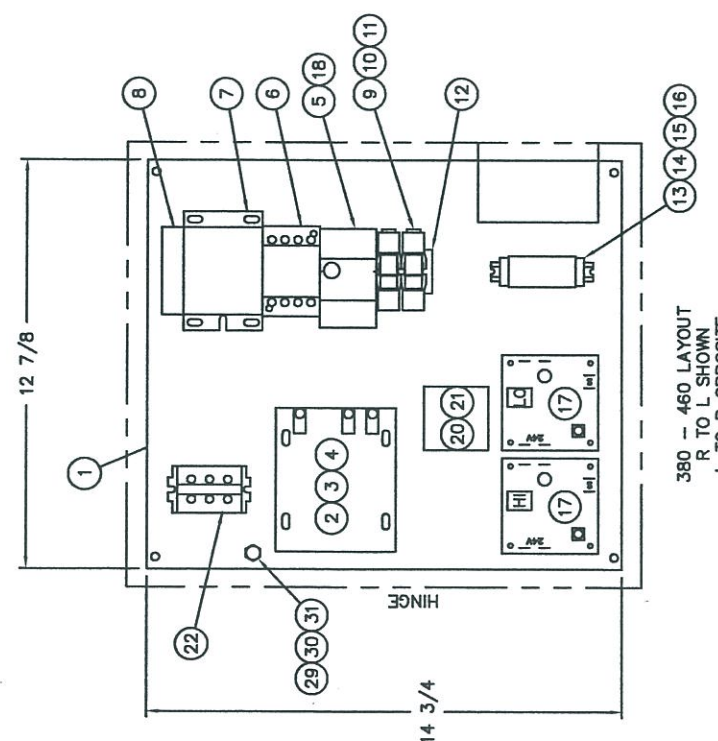
**TRANSFORMER
PRIMARY CONNECTION**
 H2= 208V
 H3= 240V
 H4= 277V
 H5= 380V
 H6= 480V

F	-	09.24.12	TITLE	BLOWER DRYER	DWG. NO.	WBD010
E	2041	9.21.05				
D	1500	12.1.96				
REV	ECN NO	DATE			DRWN/DATE	MFJ
FILE:	WIRE\WBD010		Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966		5.23.95	

ITEM	DESCRIPTION	PART NO.	QTY
1	COMPONENT MOUNTING PLATE 12 7/8 X 14 3/4	979-23	1
2	TRANSFORMER (100 VA, 24 VAC)	DE6-6	1
3	FUSE BLOCK KIT (100 VA XFMR)	DE9-163	1
4	FUSE (100 VA TRANSFORMER PRIMARY)		2
	460 V	DE9-166	
	380 V	DE9-166	
	230 V	DE9-168	
	208 V	DE9-200	
5	OVERLOAD RELAY (1-1/2 HP BLOWER MOTOR)		1
	460/3/60	DE2-52	
	380/3/50	DE2-53	
	230/3/60	DE2-54	
	208/3/60	DE2-54	
6	CONTACTOR (BLOWER MOTOR) SP4	DE1-93	1
7	CONTACTOR (HEATER)		
	460/3/60	DE1-110	
	380/3/50	DE1-110	
	230/3/60	DE1-110	
	208/3/60	DE1-110	
8	AUXILIARY CONTACT (NO/NC) FOR DE1-110		
9	RELAY BASE	DE1-115	1
10	RELAY	DE2-37	2
11	RELAY HOLD DOWN SPRING	DE2-38	2
12	DIN RAIL (35 mm)	DE3-43	2
13	DIN RAIL (15 mm)	DE9-84	1
14	TERMINAL SECTION	DE3-42	1
15	TERMINAL END COVER PLATE	DE3-39	AR
16	TERMINAL END CLAMP	DE3-40	1
17	TEMPERATURE CONTROL BOARD	DE3-41	2
18	OVERLOAD BASE	DE9-251	2
19	ENCLOSURE (14 X 16 X 6 1/2)	DE2-60	1
		979-23	1



CONTROLS ON DOOR
SIDE OF BLOWER DRYER

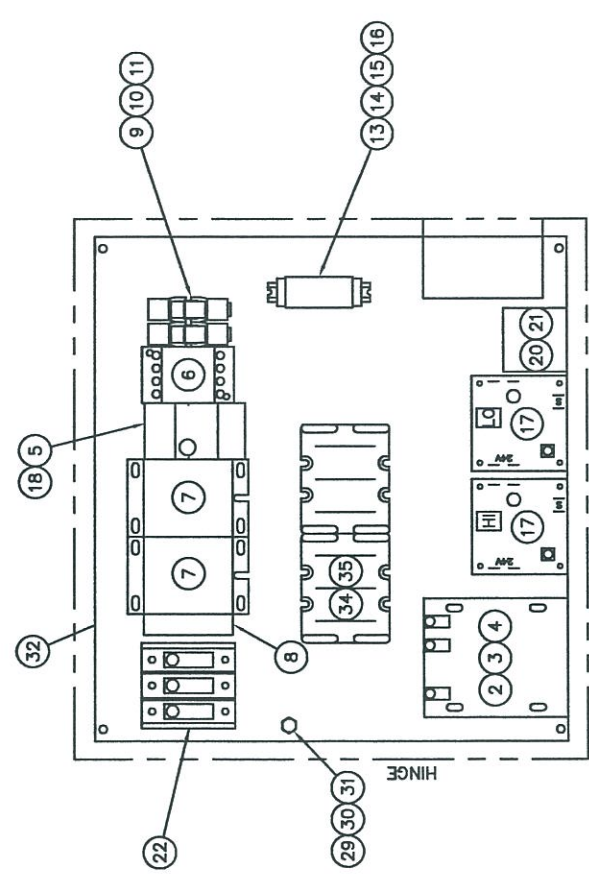


380 - 460 LAYOUT
R TO L SHOWN
L TO R OPPOSITE

TITLE		ELECTRIC BLOWER DRYER CONTROL PANEL LAYOUT	
Insinger		Philadelphia, PA 19135	DRWN/DATE
		(215) 624-4800	MPJ
		FAX (215) 624-8986	5.24.95
L	08.24.12	FILE: SKETCH\SK-3345	
K	1986	SCALE	DWG. NO.
J	1945	1=4	SK-3345
REV	ECN NO	DATE	

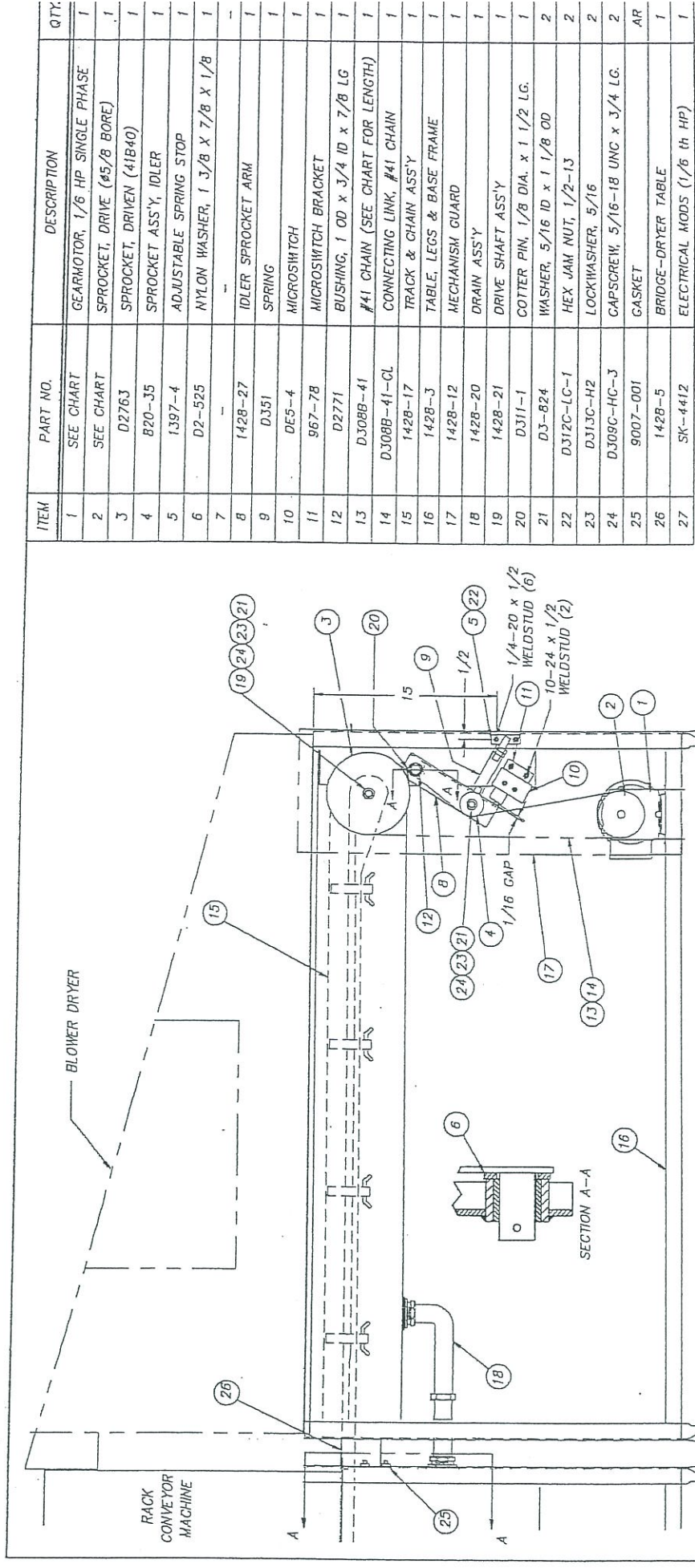
ITEM	DESCRIPTION	PART NO.	QTY
20	TIMER	DE7-30	1
21	RESISTOR (4 MEG-OHMS - 80 SEC DELAY)	-	1
22	TERMINAL BLOCK ASSY 460 - 380 V	DE3-3	1
	230 - 208 V	DE3-152	
23	SELECTOR SWITCH ASSY	DE8-58	1
24	PILOT LIGHT ASSY - YELLOW	DE8-62	1
25	PUSHBUTTON ASSY, START	DE8-64	1
26	PUSHBUTTON ASSY, STOP	DE8-65	1
27	CIRCUIT BREAKER (5A)	DE9-43	1
28	DECAL	SK-3068	1
29	GROUNDING STUD, 1/4-20	D309C-GC-4G	1
30	LOCKWASHER, 1/4	D313C-G5	1
31	HEX NUT, 1/4-20	D312C-GC-2	1
32	COMPONENT MOUNTING PLATE 15 7/8 X 14 3/4	SK-3890	1
33	ENCLOSURE (17 X 16 X 6 1/2)	SK-3890	1
34	FUSEBLOCK (208 & 230V ONLY)	DE9-224	2
35	FUSE (HEATER CIRCUIT)		6
	208 V 20 KW	JAN-35	
	230 V 20 KW	JAN-30	
	208 V 30 KW	JAN-60	
	230 V 30 KW	JAN-45	

NOT SHOWN:
TEMPERATURE SENSOR

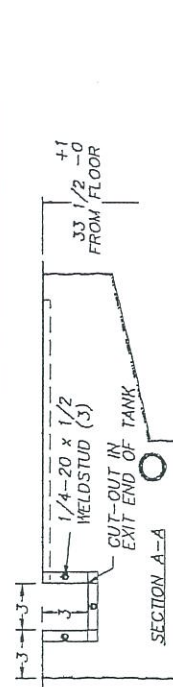


208 - 230 LAYOUT
R TO L SHOWN
L TO R OPPOSITE

TITLE		ELECTRIC BLOWER DRYER CONTROL PANEL LAYOUT	
Insigner		Philadelphia, PA 19135	DRWN/DATE
		(215) 624-4800	MFJ 5.24.95
		FAX (215) 624-6866	
L	09.24.12	FILE: SKETCH/ SK-3345	
K	1986	SCALE	DWG. NO.
J	1945	8.1.03	1=4
REV	ECN NO	DATE	SK-3345



ITEM	PART NO.	DESCRIPTION	QTY.
1	SEE CHART	GEARMOTOR, 1/6 HP SINGLE PHASE	1
2	SEE CHART	SPROCKET, DRIVE (45/8 BORE)	1
3	D2763	SPROCKET, DRIVEN (41B40)	1
4	820-35	SPROCKET ASS'Y, IDLER	1
5	1397-4	ADJUSTABLE SPRING STOP	1
6	D2-525	NYLON WASHER, 1 3/8 X 7/8 X 1/8	1
7	-	-	-
8	1428-27	IDLER SPROCKET ARM	1
9	D351	SPRING	1
10	DE5-4	MICROSWITCH	1
11	967-78	MICROSWITCH BRACKET	1
12	D2771	BUSHING, 1 OD x 3/4 ID x 7/8 LG	1
13	D308B-41	#41 CHAIN (SEE CHART FOR LENGTH)	1
14	D308B-41-CL	CONNECTING LINK, #41 CHAIN	1
15	1428-17	TRACK & CHAIN ASS'Y	1
16	1428-3	TABLE, LEGS & BASE FRAME	1
17	1428-12	MECHANISM GUARD	1
18	1428-20	DRAIN ASS'Y	1
19	1428-21	DRIVE SHAFT ASS'Y	1
20	D311-1	COTTER PIN, 1/8 DIA. x 1 1/2 LG.	1
21	DJ-824	WASHER, 5/16 ID x 1 1/8 OD	2
22	D312C-LC-1	HEX JAM NUT, 1/2-13	2
23	D313C-H2	LOCKWASHER, 5/16	2
24	D309C-HC-3	CAPSCREW, 5/16-18 UNC x 3/4 LG.	2
25	9007-001	GASKET	AR
26	1428-5	BRIDGE-DRYER TABLE	1
27	SK-4412	ELECTRICAL MODS (1/8 th HP)	1



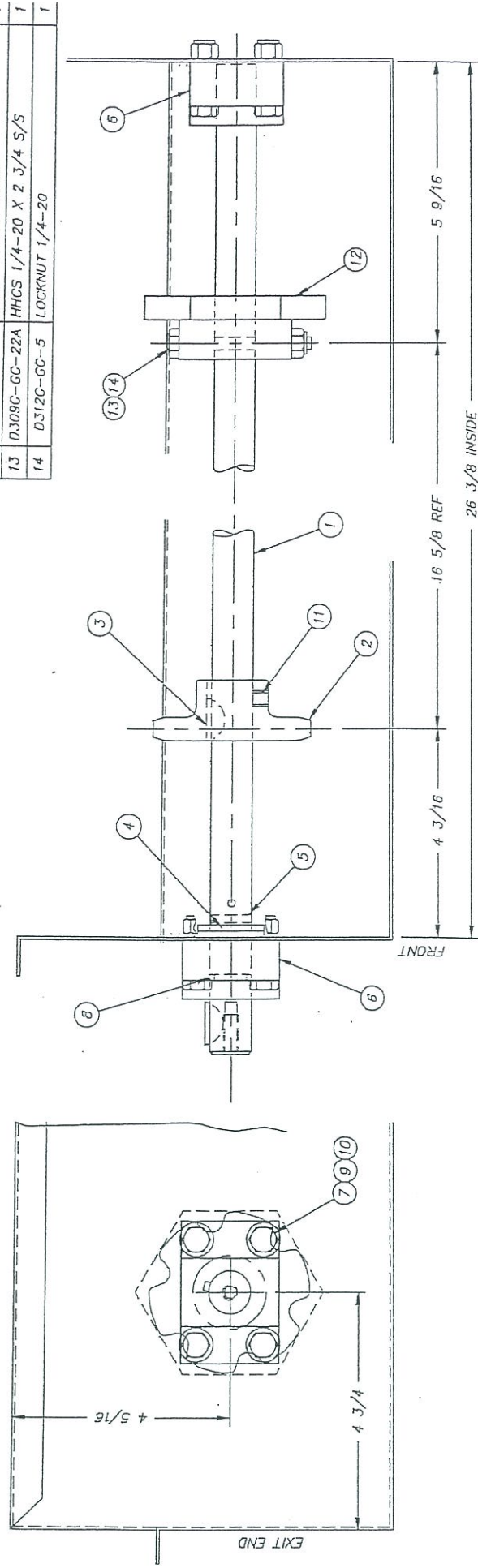
MODEL NUMBER	GEARMOTOR PN	HP	RPM	FREQ (HZ)	DRIVE SPROCKET NUMBER	SPROCKET PN	CHAIN-NO OF LINKS	* SPRING COMPRESSION	REV	ECN NO	DATE	FILE: PARTS\1428-1
ADMIRAL 44 & 66-4	6Z817	1/6	16	60	41B20-5/8 KSS	D2855	117	3 11/16	G	2017	10.4.04	
ADMIRAL 44 & 66-4	6Z817		13.3	50	41B24-5/8 KSS	D2823	119	3 11/16	F	1992	8.22.03	
SPEEDER 64 & 86-3	6Z817		16	60	41B25-5/8 KSS	D2765	121	3 11/16	D	1637	11.11.98	
SPEEDER 64 & 86-3	6Z817		13.3	50	41B30-5/8 KSS	D2764	124	3 11/16	E			

TOLERANCES	FRACIONS ±1/64	DECIMALS	ANGLES ±1/2°	OTHERWISE SPECIFIED
±.005	.XXX ± .005	.XX ± .01		

REV	ECN NO	DATE
G	2017	10.4.04
F	1992	8.22.03
E	1752	4.11.00
D	1637	11.11.98

MODEL NUMBER	GEARMOTOR PN	HP	RPM	FREQ (HZ)	DRIVE SPROCKET NUMBER	SPROCKET PN	CHAIN-NO OF LINKS	* SPRING COMPRESSION	REV	ECN NO	DATE	FILE: PARTS\1428-1
ADMIRAL 44 & 66-4	6Z817	1/6	16	60	41B20-5/8 KSS	D2855	117	3 11/16	G	2017	10.4.04	
ADMIRAL 44 & 66-4	6Z817		13.3	50	41B24-5/8 KSS	D2823	119	3 11/16	F	1992	8.22.03	
SPEEDER 64 & 86-3	6Z817		16	60	41B25-5/8 KSS	D2765	121	3 11/16	D	1637	11.11.98	
SPEEDER 64 & 86-3	6Z817		13.3	50	41B30-5/8 KSS	D2764	124	3 11/16	E			

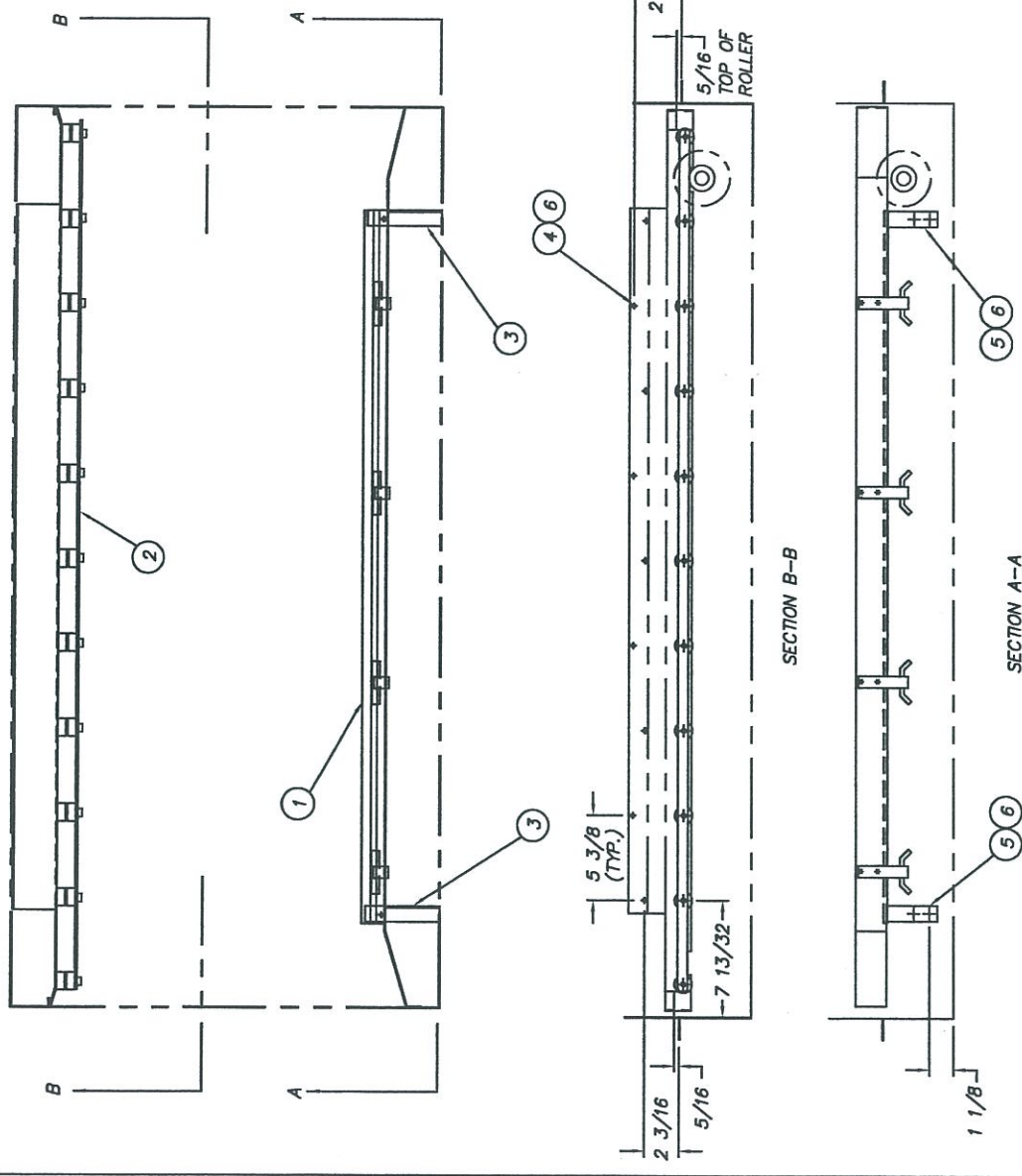
ITEM	PART NO.	DESCRIPTION	QT
1	142B-19	CONVEYOR DRIVE SHAFT	1
2	975-55	DRIVE SPROCKET	1
3	D302-4	#11 WOODRUFF KEY S/S	2
4	D2-525	WASHER, NYLON, 1 3/8 X 7/8 X 1/8	2
5	D-311-1	COTTER PIN S/S 1/8 X 1 1/2	1
6	1162-110	BEARING BRACKET	2
7	D312C-HC-5	LOCKNUT 5/16-18	8
8	D2-585	O-RING (O1-115)	1
9	D313C-H1	FLATWASHER 5/16	8
10	D309C-HC-11A	HHCS 5/16-18 X 1 3/8 S/S	8
11	D309C-HC-3H	SET SCREW S/S 5/16-18 X 3/8	2
12	152B-5	RACK EJECTOR PADDLE	1
13	D309C-GC-22A	HHCS 1/4-20 X 2 3/4 S/S	1
14	D312C-GC-5	LOCKNUT 1/4-20	1



TOLERANCES		TITLE		NEXT ASSY/DWG. NO.	
FRACTIONS	±1/64	CONVEYOR DRIVE	REQD 1	142B-21	
DECIMALS	.XXX ± .005	SHAFT ASSEMBLY	SCALE	USED ON	
.XX ± .01		MAT'L	1=2	BLK/HR	
ANGLES	±1/2°			DRWN/DATE	10.19.94
UNLESS				MAM	
OTHERWISE					
SPECIFIED					


 Insinger
 Philadelphia, PA 19135
 (215) 624-4800
 FAX (215) 624-6966

ITEM	PART NO.	DESCRIPTION	QTY.
1	1428-4	FRONT TRACK	1
2	1428-18	REAR TRACK ASS'Y	1
3	1428-8	BRACKET, FRONT TRACK	2
4	D309C-FE-36	WELDSTUD #10-32 x 3/8	9
5	D309C-FE-46	WELDSTUD #10-32 x 1/2	4
6	D312C-EF-5	LOCKNUT #10-32	15
7	9014-XX	CHAIN	1
8	D313C-1E	WASHER #10	3



L.H. SHOWN, R.H. OPPOSITE

TOLERANCES	TITLE	NEXT ASSY DWG. NO.
FRACTIONS ±1/64	TRACK & CHAIN	1428-1
DECIMALS .XXX ±.005	LOCATIONS	1428-17
.XX ±.01	MAT'L	SCALE 1:8
ANGLES ±1/2°		USED ON BLOWER TABLE
UNLESS OTHERWISE SPECIFIED		DRWN/DATE MAM 10.11.94
REV ECN NO DATE		
A		
6.11.09		
FILE: PARTS\1428-17		

Philadelphia, PA 19135
 (215) 624-4800
 Machine Company FAX (215) 624-6986

407 TO "418" & "809" TO "818" BLOWER INSTALLATION AND MAINTENANCE INSTRUCTIONS

RECEIVING INSPECTION

Check for damage or missing parts immediately upon receipt. Ensure that wheel rotates freely.
REPORT ANY DAMAGE PROMPTLY TO CARRIER.

INSTALLATION

Mount blower firmly on rigid flat base or suspend with rod through mounting holes located in the blower frame. Vibration pads or suspension spring isolators and flexible inlet and outlet connections are recommended. Ensure that all fasteners are tight and secure. Double check wheel set screws for tightness and that wheel rotates freely.

MOTOR & V-BELT DRIVES

Mount motor with hardware provided and install pulleys and belt(s) with proper tension. Follow illustrated recommendations on belt installation below.

BELT TENSION & PULLEY ALIGNMENT

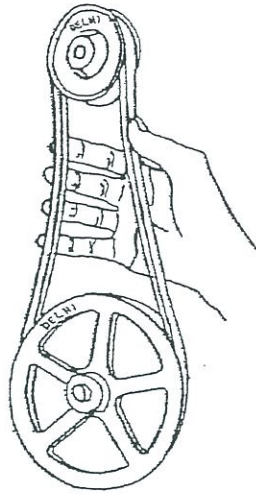
Excessive belt tension is the number 1 cause of blower bearing failure.

Proper belt tension and pulley alignment are essential for trouble free operation.

A simple "Rule of Thumb" for checking belt tension is illustrated.

When the belt is grasped as shown, a total deflection of approximately 1" should be easily attained.

Insufficient deflection indicates that the belt is too tight, resulting in noise from excessive vibration, premature bearing failure, and short belt life. Tight belts may overload a motor that would otherwise be adequate.



Excessive deflection is an indication that the belt is not tight enough. If not corrected, slippage could cause loss of blower speed and belt failure through wear.

A belt should be just tight enough to avoid slippage.

Align pulleys with a straight edge to conserve belt life and eliminate unnecessary noise.

Check tension before start-up, after every pulley adjustment and regularly thereafter.

Set Screws:

Ensure all set screws on both pulleys and the blower wheel are tight.

ELECTRICAL

Connect motor in accordance with applicable codes. Provide properly sized motor overload protection to protect motor against electrical faults and system changes. Confirm proper motor rotation on start-up.

MAINTENANCE

Inspect periodically for mounting rigidity. Verify belt for wear and tension and adjust as required. Inspect wheel for any dust accumulation and clean as indicated.

Caution - do not dislodge balancing clips. Check set screw for tightness.

LUBRICATION

Insert bearings with sealed in lubricant are used on all 400 and 800 series models. No further lubrication is required.

DELHI INDUSTRIES INC., 523 JAMES ST., DELHI, ONTARIO, CANADA N4B 2Z3 PH:(519)582-2440 FX:(519)582-0581

Table 3-5 Troubleshooting Chart

Symptom	Possible Causes	Possible Solutions	
Motor will not start	Usually caused by line trouble, such as, single phasing at the starter.	Check source of power. Check overloads, fuses, controls, etc.	
Excessive humming	High Voltage.	Check input line connections.	
	Eccentric air gap.	Have motor serviced at local Baldor service center.	
Motor Over Heating	Overload. Compare actual amps (measured) with nameplate rating.	Locate and remove source of excessive friction in motor or load. Reduce load or replace with motor of greater capacity.	
	Single Phasing.	Check current at all phases (should be approximately equal) to isolate and correct the problem.	
	Improper ventilation.	Check external cooling fan to be sure air is moving properly across cooling fins. Excessive dirt build-up on motor. Clean motor.	
	Unbalanced voltage.	Check voltage at all phases (should be approximately equal) to isolate and correct the problem.	
	Rotor rubbing on stator.		Check air gap clearance and bearings.
			Tighten "Thru Bolts".
	Over voltage or under voltage.	Check input voltage at each phase to motor.	
	Open stator winding.	Check stator resistance at all three phases for balance.	
	Grounded winding.	Perform dielectric test and repair as required.	
	Improper connections.	Inspect all electrical connections for proper termination, clearance, mechanical strength and electrical continuity. Refer to motor lead connection diagram.	
Bearing Over Heating	Misalignment.	Check and align motor and driven equipment.	
	Excessive belt tension.	Reduce belt tension to proper point for load.	
	Excessive end thrust.	Reduce the end thrust from driven machine.	
	Excessive grease in bearing.	Remove grease until cavity is approximately $\frac{3}{4}$ filled.	
	Insufficient grease in bearing.	Add grease until cavity is approximately $\frac{3}{4}$ filled.	
	Dirt in bearing.	Clean bearing cavity and bearing. Repack with correct grease until cavity is approximately $\frac{3}{4}$ filled.	
Vibration	Misalignment.	Check and align motor and driven equipment.	
	Rubbing between rotating parts and stationary parts.	Isolate and eliminate cause of rubbing.	
	Rotor out of balance.	Have rotor balance checked and repaired at your Baldor Service Center.	
	Resonance.	Tune system or contact your Baldor Service Center for assistance.	
Noise	Foreign material in air gap or ventilation openings.	Remove rotor and foreign material. Reinstall rotor. Check insulation integrity. Clean ventilation openings.	
Growling or whining	Bad bearing.	Replace bearing. Clean all grease from cavity and new bearing. Repack with correct grease until cavity is approximately $\frac{3}{4}$ filled.	



Insinger Machine Company
6245 State Road
Philadelphia, PA 19135-2996
800-344-4802
Fax: 215-624-6966
www.insingermachine.com