

TECHNICAL MANUAL

Installation, Operation and Maintenance Instructions

TD 321-3

Tray Dryer

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

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



TECHNICAL MANUAL

including Installation, Operation, and Maintenance Instructions

FOR

TRAYDRYERS

MODEL: TD 321-3

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Thank you for Purchasing this quality Insinger product.

On the space provided please record the Model, Serial Number and Start-up date of this unit:

Model: _____

Serial Number: _____

Start-up Date: _____

When referring to this equipment please have this information available.

Each piece of equipment at Insinger is carefully tested before shipment for proper operation. If the need for service should arise please contact your local Authorized Insinger Service Company. A Service Network Listing is provided within this manual. Check this list for your local authorized servicer.

For proper activation of the *Insinger Limited Warranty* a SureFireTM Start-up should be completed on your machine. Refer to the Introduction section in this manual for an explanation of Insinger's SureFireTM Start-up and Check-out Program.

Please read the Insinger Limited Warranty and all installation and operation instructions carefully before attempting to install or operate your new Insinger product.

To register your machine for warranty by phone, fax, or the internet or for answers to questions concerning installation, operation, or service contact our Technical Services Department:

Toll-Free	800.344.4802
Fax	215.624.6966
Email	service@insingermachine.com
World-Wide Web	http://www.insingermachine.com

Thank you. Insinger

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PART 1 TECHNICAL INFORMATION



TRAYDRYER MODEL: TD 321-3 Table of Contents

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- * Follower Shaft Assembly
- * Chain Assembly
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- * Guide Rail Assembly
- * Guide Rail Installation

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On the space provided please record the Model and Serial Number of this unit:

Model:

Serial Number: _____

When referring to this equipment please have these numbers available.

Each piece of equipment at Insinger is carefully tested before shipment for proper operation. If the need for service should arise please contact your local Authorized Insinger Service Company. If you do not know the name of your Authorized Service Company please contact our Technical Services Department toll-free, 800/344-4802.

For proper activation of the *Insinger Limited Warranty* the **Warranty Registration Card** provided with your unit must be returned within <u>30 days</u> of the installation date.

Please read the Insinger Limited Warranty and all installation and operation instructions carefully before attempting to install or operate your new Insinger product.

Thank you.

Insinger Machine Company

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TD-321

Automatic Tray Dryer

- Automatic conveyor tray dryer provides 99% dry trays
- Unique Air Wiper design reduces ability for bacteria to grow on wet, stacked trays
- Drier and cleaner workplace—less racking of trays for drying
- Increased productivity
- Capacity is compatible with the tray washer and based on a 15" tray
- Designed for left or right hand conveyor travel, as specified.
- Furnished only as an added component to a TRAC 321-2, TRAC 321-2 RPW or TRAC 878 traywasher

STANDARD FEATURES

- Stainless steel frame, legs and feet
- Top mounted NEMA 12 control panel
- SureFire[®] Start-Up & Check-Out Service

OPTIONS

Security packageTray Stacker

SPECIFIER STATEMENT

Specified unit will be an Insinger TD-321 automatic tray dryer. Features include conveyor-belt for tray drying, left or right specification, and compatability with TRAC tray washers.



Additional Information

Capacity Per Hour	Compatible with the tray washer and based on a 15" tray									
Motor Size	10 hp (blower) 1/15 hp (conveyor)									
Shipping Weight	700 lbs.									
Additional Current Draw Amps when Connected to Tray Washer	Electrical									
208/3/60 240/3/60 380/3/50 480/3/60	31.0 28.2 17.0 14.1									

SPECIFICATIONS

CONSTRUCTION- Hood and tank constructed of 16 gauge 18-8 type 304 S/S. Hood unit of all welded seamless construction. S/S frame, legs and feet.

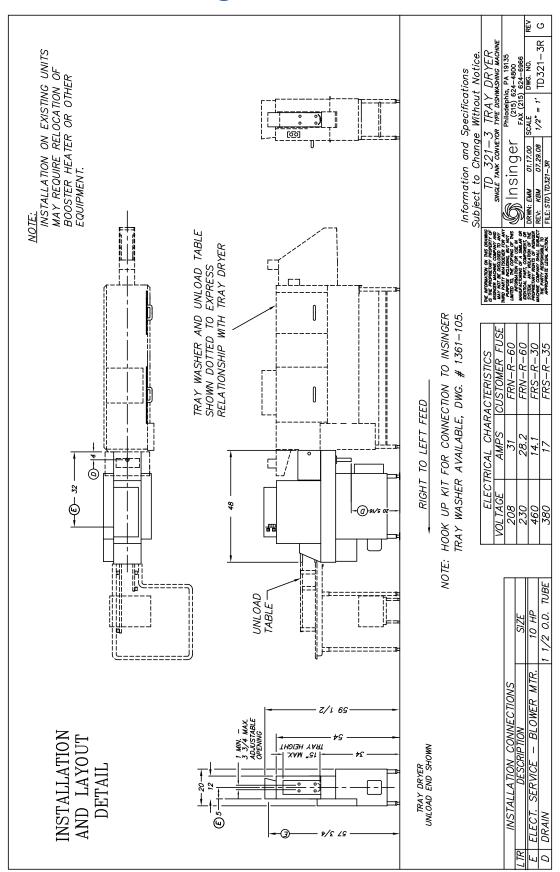
CONVEYOR- One stainless steel roller conveyor chain with tray cradles, through both washer and dryer. Width between guide rails is factory adjustable from 1.5: to 3.7". Conveyor accommodates trays up to 15" high. Conveyor drive system includes direct drive gear motor with frictionless, trouble-free overload release system continuously running.

CONTROLS- Top-mounted control cabinet, NEMA 12 rated, housing motor controls and overload protection, transformer and contactors. All controls safe low voltage 24 VAC.

BLOWER- 10 hp regenerative blower with Insinger's specially designed "air wiper" mounted on either side of conveyor. "Air wipers" are mounted on a diagonal to sweep water in controlled movement preventing splashing and uneven results.

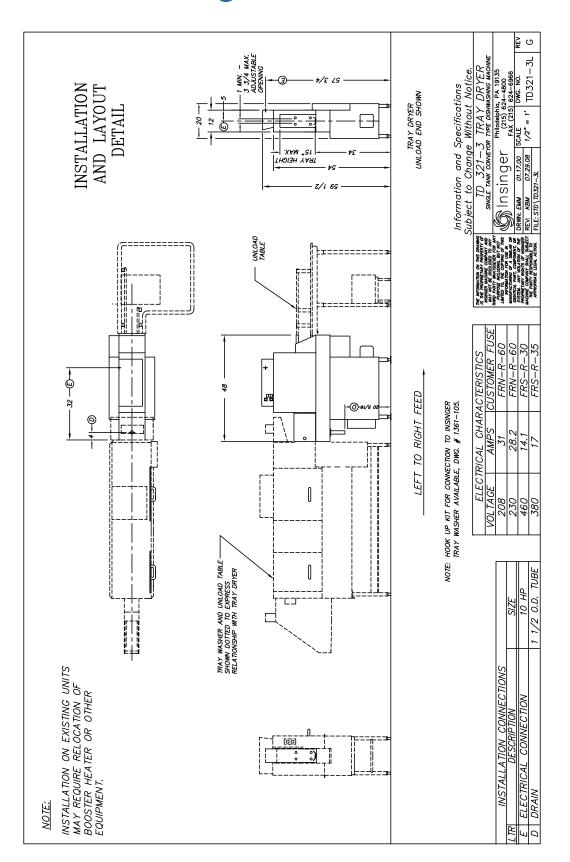
DRAIN- All water is drained back into TRAC 321-2, TRAC 321-2 RPW or TRAC 878 with gravity drain connection. Factory installed drain connection to tray washer provided if dryer is ordered with a TRAC 321-2, TRAC 321-2 RPW or TRAC 878.

UNLOAD TABLE- A stainless steel tray unload table receives clean trays. Table constructed with guide rails which ease the trays onto table.



Technical Drawings

Technical Drawings





PART 2 INSTALLATION and OPERATION INSTRUCTIONS



TD 321-3 INSTALLATION INSTRUCTIONS Section A

A.1 PLACEMENT

- A.1.1 Carefully uncrate machine. Take caution to not damage components which may be mounted on the top or sides of the machine.
- A.1.2 Set unit in place and adjust the feet to level the machine.

Step A.1.3 is for traydryers being retrofitted onto an existing traywasher:

- A.1.3 A significant amount of re-work must be done to install the traydryer at an existing installation.
 - A.1.3.1 Remove the booster and all piping associated with the booster. Remove the unload table from the end of the traywasher.
 - A.1.3.2 Place the traydryer at the end of the traywasher. Connect the two machines together with the bolts provided.
 - A.1.3.3 Re-connect the booster, piping, and unload table.

For installation of a new traywasher and traydryer refer to the installation instructions in the traywasher manual.

A.2 ELECTRICAL CONNECTIONS

- A.2.1 Connect electrical lines sized for the correct voltage, current and phase of the machine. These should agree with machine requirements indicated on the nameplate and labels in control panel.
- A.2.2 A single-point electrical connection is provided for the control circuit and motors.

Is Electrical connections must be made to a circuit breaker or fused disconnect as provided by the enduser and required by local codes. A wiring diagram is laminated inside the control panel.

IMPORTANT: As with any 3 phase system, an electrician should check all motors for proper phasing, i.e., motors must be running in direction indicated by arrow on housing.

A.4 HVAC

A.4.1 Ventilation connections are provided on the traywasher.

A.6 Tabling

A.6.1 Unload tables should be pitched towards the machine to return excess water into the machine.

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TD 321-3 OPERATION and CLEANING INSTRUCTIONS Section B

Insinger dishmachines are user-friendly, making them the easiest dishwashers on the market to operate and maintain.

By following the operation procedure and general cleaning procedures your Insinger dishwasher will give you years of trouble free service.

- **B.1** Operation Instructions
 - B.1.1 Adjust the guide rails for proper clearance for the largest tray being run through the traydryer. The largest tray should have no more than 1/4" clearance on either side.

IMPORTANT: Failure to properly adjust the tray guides may result in jamming of the machine and possible tray damage.

- B.1.2 Move the power toggle switch to the "ON" position. The amber "ON" pilot light will illumintate.
- B.1.3 To begin operation depress the START button. The conveyor and blower will start.
- B.1.4 Follow the operating procedures for the traywasher.
- B.1.5 To stop the operation depress the STOP button and move the power toggle switch to the "OFF" position.
- B.1.6 Refer to the cleaning procedures for proper clean-up of the dishmachine.
- B.1.7 Report any unusual occurrences to qualified service personnel.

The following cleaning procedures should be done daily, at the end of the shift.

B.2 Cleaning Procedures, Daily

- B.2.1 Remove all internal removable parts.
- B.2.2 Remove any debris from the interior of the machine.
- B.2.3 Clean the interior of the machine with a damp cloth.

re Do not hose down the machine

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PART 3 MAINTENANCE and REPAIR PROCEDURES



TD 321-3 MAINTENANCE and REPAIR PROCEDURES Section A

Following is a basic guide for traydryer preventive maintenance and the repair and replacement of common traydryer parts. Refer to the Basic Service Guide for troubleshooting tips.

A.1 MAINTENANCE

- A.1.1 Daily Refer to the operation and cleaning instructions provided in this manual for daily cleaning procedures.
- A.1.2 Weekly
 - A.1.2.1 The entire machine should be wiped down using an industrial grade stainless steel cleaner.
 - A.1.2.2 Inspect the air filter for dirt. Remove excess dirt. Do not immerse the air filter in water. If in need of replacement, replace with Insinger P/N 1165-66.
 - A.1.2.3 Under the supervision of your detergent supplier the machine interior must be properly de-limed.

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- A.1.3 Quarterly
 - A.1.3.1 Inspect the conveyor belt for wear. Replace as necessary.
 - A.1.3.2 Replace the air filter with Insinger P/N 1165-66.
 - A.1.3.3 Inspect the blower flexible tubing. Replace where necessary.

A.1.4 Bi-annually

A.1.4.1 Grease motor bearings with a grease gun using 1-2 strokes of a medium Polyurea Grease such as Shell Dolium R.

IMPORTANT: Over greasing motor may cause premature machine failure.

A.1.3.5 Remove the side panel and clean the blower compartment of dust or debris.

A.2 MAINTENANCE PROCEDURES

IMPORTANT: ELECTRICAL POWER MUST BE TURNED-OFF BEFORE SERVICING EQUIPMENT.

A.2.1 Replacement of Conveyor belt

- A.2.1.1 With power to the machine turned "OFF" locate the master link on the conveyor belt.
- A.2.1.2 Loosen the 2 adjustment bolts located at the load end of the machine.
- A.2.1.3 Remove the cotter pin from the master link. Remove the master link.
- A.2.1.4 Pull the conveyor belt from the machine.
- A.2.1.5 Install the new conveyor belt by reverse of the above.
- A.2.1.6 If belt jams see the Basic Service Guide sympton #5.

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TD 321-3 MAINTENANCE and REPAIR PROCEDURES Section A

A.2.2 Replacement of Blower Flexible Tubing

- A.2.2.1 With power to the machine turned "OFF", remove the access panel located on the side of the machine.
- A.2.2.3 Locate the flexible tubing at the blower (refer to dwg. # 1361-97) and loosen the two hose clamps at each end of the flexible tubing.
- A.2.2.4 Remove the flexible tubing by pulling it off its fitting.
- A.2.2.5 Replace the flexible tubing by slipping it over its mating fitting. Secure it by tightening the hose clamps.
- A.2.2.6 Replace the access panel.
- A.2.3 Blower Motor Lubrication
 - A.2.3.1 With power to the machine turned "OFF", remove the access panel located on the side of the machine.
 - A.2.3.2 Locate the grease fitting on the motor. Using 1 to 2 full strokes from a grease gun apply grease to the motor. Use a Medium Polyurea grease such as Shell Dolium R.

Register Take CAUTION to NOT overgrease the motor.

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TD 321-3 MAINTENANCE and REPAIR PROCEDURES Section B

BASIC SERVICE GUIDE

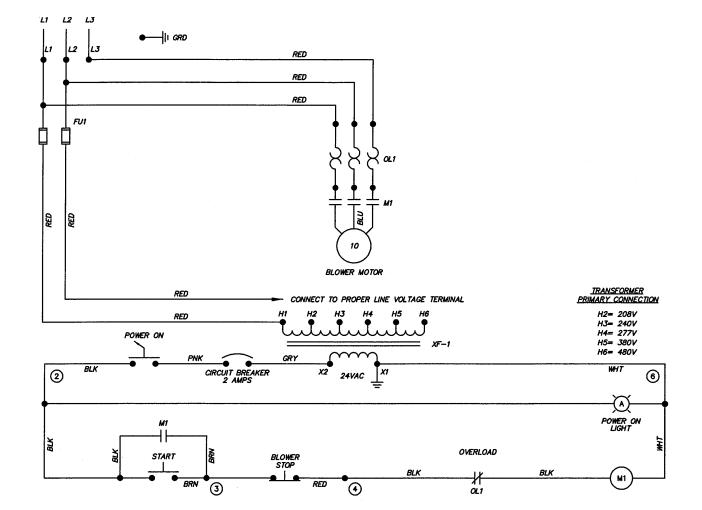
SYMPTOM	POSSIBLE CAUSE	Solution
 Conveyor does not operate 	a. Motor overload(s) tripped	 a. Check power supply b. Conveyor jammed c. Reset overload
2. Blower does not operate	a. Blower motor overload tripped b. Blower motor failure	 a. Reset overload b. Replace blower motor
3. Trays jam	a. Obstruction in path	a. Remove obstruction
4. Trays not dry Please note: trays will NOT be completely dry	 a. Blower not operating b. Flexible tubing ruptured c. Intake filter dirty 	 a. See symptom #2 b. Replace flexible tubing c. Replace filter
5. Belt sticks on sprockets	a. Belt tension too high	a. Loosen adjustment bolts

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PART 4

ELECTRICAL SCHEMATICS and ELECTRICAL REPLACEMENT PARTS

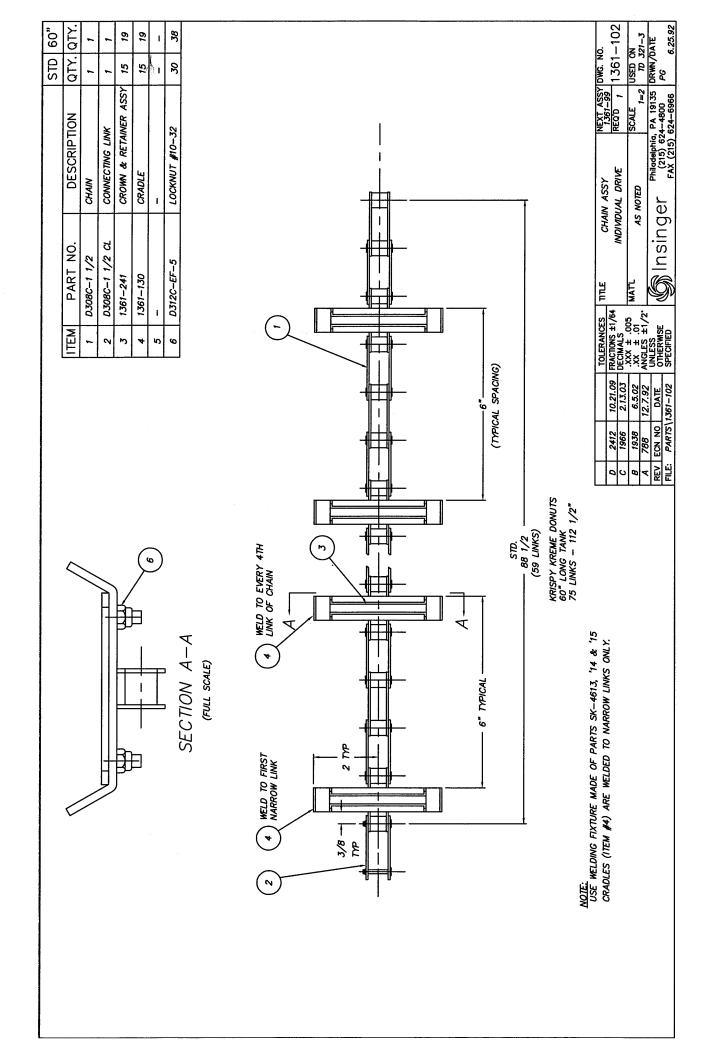


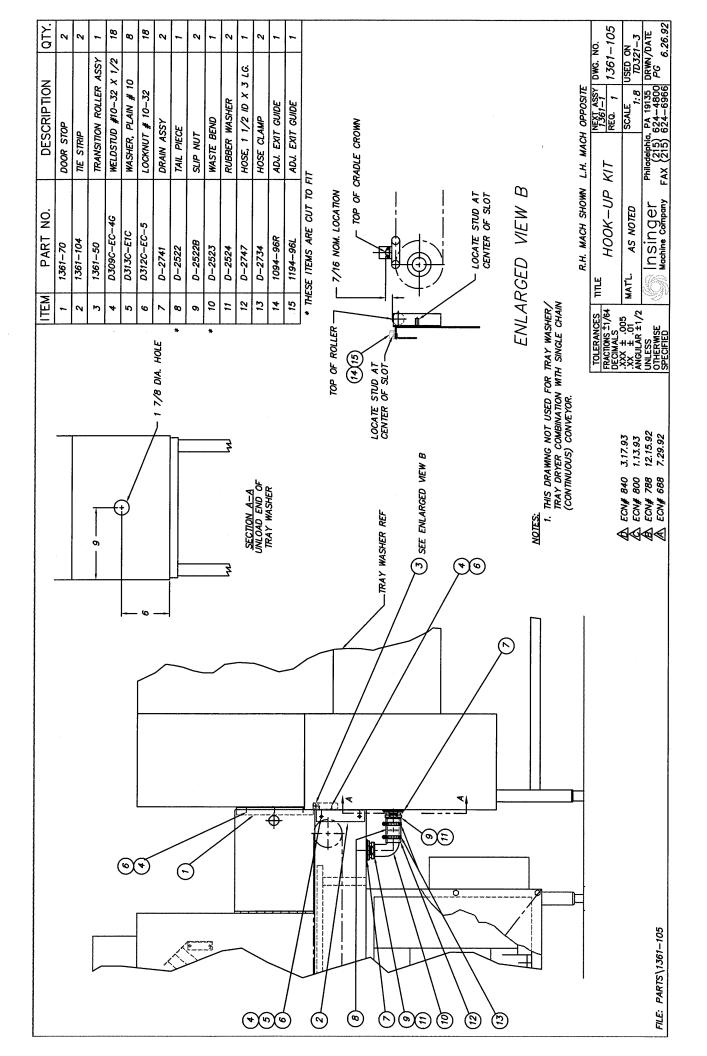
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REV	ECN NO	DATE	BIL	noingor			DRWN/DATE				
FILE:	WRE\WTD	001		isinger	(215) 62 FAX (215) (RAF 06.27.95				

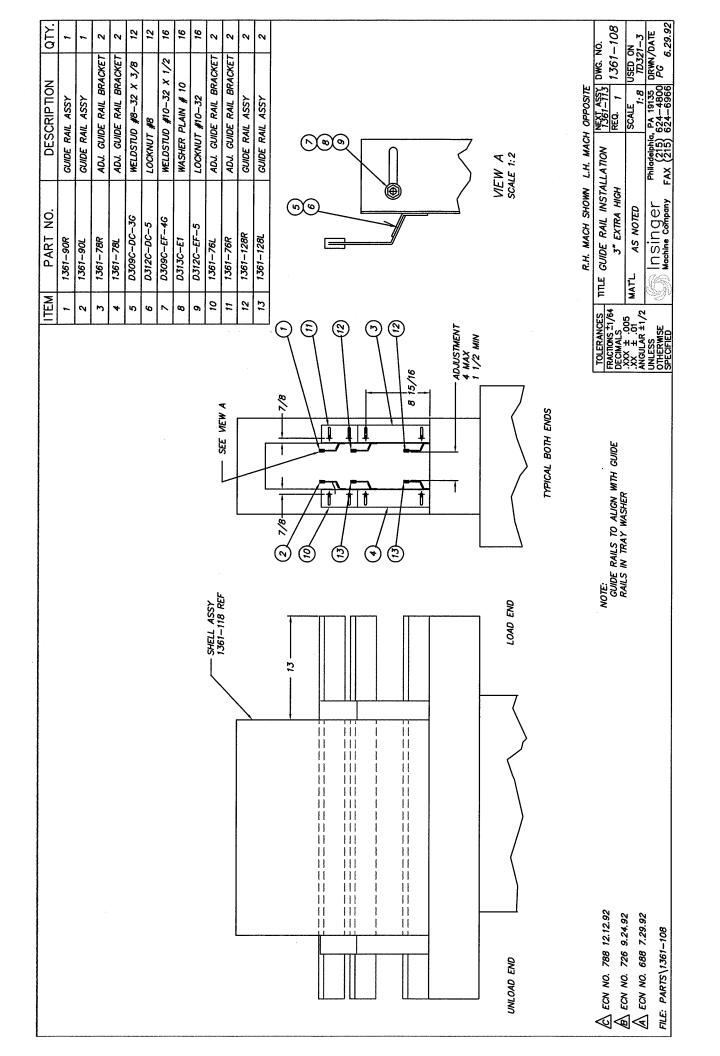
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PART NO.		SK-3772		DF9-16.1	200	DE9-196	DE9-196	DE9-166	DE9-166	DE2-58	DE2-57	DE2-62	DE2-61 DE2 E3	20-210	DE1–93	DE1-56AE	DE1-55AE	DE1-55AE DE1-55AE	DE9-84	DE3-3	DE8-58 DF8-64	DE8-65	DE8-62	DE9-31		D312C-6C-2	1361-45	1361-46	9007-001	D312C-EF-5 SK-3808	L. K.	ουτ	PA 19135 DRWN 1-4800 MFJ 524-6966	DWG. NO. SK-3069 SK-3069
NOLLAI	INTING PLATE	STANDARD (14 3/4 × 9 1/8) SECUPITY BACKACE (10 1/4 : 8 7/8)	50 V4 24 V4C)	(50 VA XFMR)	FUSE (50 VA TRANSFORMER PRIMARY)	FNQ-R5	FNQ-R5		FNQ-R 75	r 12-18 A	9-13 A	23-32 A	16-24 A		SP₄	SP17	SP27	SP27	_	ASSY	H ASSY SY. START	SY, STOP	Y - YELLOW	7 (2A)	1, 1/4-20 M	+ 0			(STANDARD)	(STANDARD) (SECURITY PKG)	TD-321 TRAY DRYER	CONTROL PANEL LAYOUT	nsinger (215) 624	12.1.04 FILE: SKETCH/SK-30690 8.1.03 SCALE DWC. NO. 4.9.01 1=4 SK-3069 2 DATE SKETCH/SK-3069
DESCRIPTION	COMPONENT MOUNTING PLATE	STANDARD (1	TRANSFORMER (50 VA 24 VAC)	FUSE BLOCK KIT (50 VA XFWR)	FUSE (50 VA TR	460 V	380 V	220 - 230 V	208 V	UVERLUAU RELAT 460/3/60	380/3/50	230/3/60	220/3/50 208/3/60	CONTACTOR	460/3/60	380/3/50	230/3/60	208/3/60	DIN RAIL (35 mm)	TERMINAL BLOCK ASSY	PLISHRUTTON ASSY START	PUSHBUTTON ASSY, STOP	PILOT LIGHT ASSY - YELLOW	CIRCUIT BREAKER (2A)	GRUUNDING SIUU,	HEX NUT, 1/4-20	CONTROL BOX	CONTROL BOX COVER	GASKET	NUT CONTROL BOX	ППЕ		Sul S	N 2024 N 1986 L 1872 REV ECN NO
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W DESCRIPTION PART NO. QTY	AUXILIARY CONTACT, NO	D NAME PLATE SK-21140 1 L OVERIDAD RASE DE2-60 1		FOLLOMNG USED WITH STAND ALONE TRAY DRYER:	5 DC DRIVE CONTROL 2M510 4		FUSE BLOCK, 1 POLE (DC MOTOR)	FUSE (DC MOTOR) FNQ-R-2.25) TRANSFORMER (DRY, 250 VA, NOT SHOWN) DE6-26 1			(L2					<u>, </u>		1	10 3/4 X 8 7/8 PANEL SHOWN		(1)(1)	ت الا الا الا الا الا							(security box)
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ITEM DESCRIPTION	29 FUSE BLOCK, 2 POLE (250 VA XFMR)	TUSE (200 VA IRANSFURMER FRIMART) 460 V FNO-R-1.8			PILOT LIGHT ASSY - RED			34 RELAY HOLD DOWN SPRING	AUXILIARY CONTACT, NC													29(30)		14 3/4 × 9 1/8 PANEL SHOWN		22	(B(I) / (I)		/	محر /محر مرد			2	(STANDARD BOX)

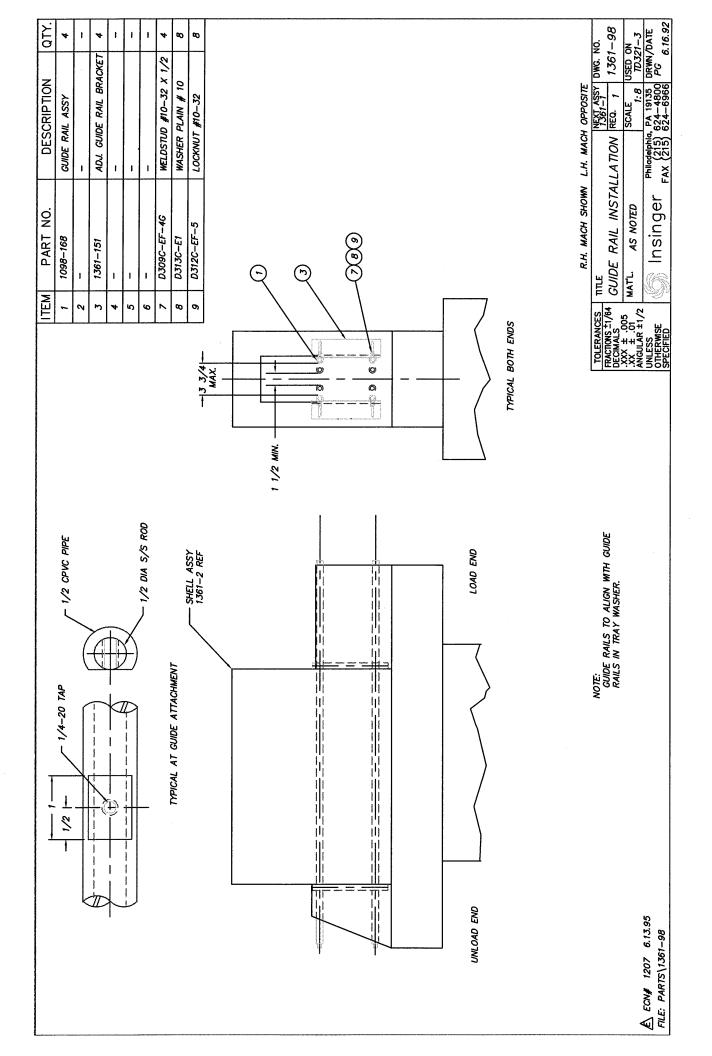


PART 5 REPLACEMENT PARTS











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