



TECHNICAL MANUAL

Installation, Operation and Maintenance Instructions

MASTER & CLIPPER

Flight Type Dishwashers

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

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



Thank you for purchasing this quality Insinger product.

On the space provided below 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 on our web site, www.insingermachine.com or call Insinger at 800-344-4802 for your local authorized servicer.

For proper activation of the *Insinger Limited Warranty* a SureFire™ Start-Up & Check-Out Service should be completed on your machine. Refer to the Introduction section in this manual for an explanation of Insinger SureFire™ Start-Up & 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 question concerning installation, operation, or service contact our Technical Services Department:

TECHNICAL SERVICE CONTACTS	
Toll-Free	800-344-4802
Fax	215-624-6966
E-mail	service@insingermachine.com
Web	www.insingermachine.com

TABLE OF CONTENTS

Part 1		
Technical Information		3-13
• Introduction		
• Cut-sheets & Installation Drawings		
• Warranties		
Part 2		
Installation Instructions		14-15
• Installation and Start-Up Procedures		
Part 3		
Operating & Cleaning Instructions		16-17
• Operating Procedures		
• Cleaning Procedures		
Part 4		
Maintenance & Repair Procedures		18-20
• Maintenance & Repair Procedures		
• Basic Service Guide		
Part 5		
Electrical Schematics & Replacement Parts		21-31
• Machine Wiring Diagrams		
• Control Panel Layout & Component Drawings		
Part 6		
Spare Parts List		32
• Recommended Spare Parts List		
Part 7		
Replacement Parts		33-73
• Overall Assembly Drawings for:		
Clipper RC		
Master RC		
• Conveyor Overload Assembly		
• Pump Assemblies		
• Fill & Final Rinse Piping Assemblies		
• Photo-eye Assembly		
• Level Float & Detergent Probe Locations		
• Curtain Locations		
• Electrical Heaters		
• Steam Heating		
• Lighting Parts		
• Conveyor Assemblies		

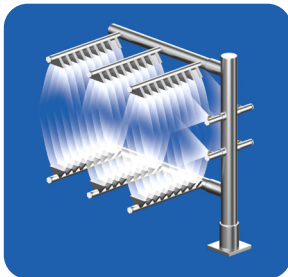


ESSENTIAL SERIES

Project _____
Item _____
Quantity _____
CSI - 11400 _____
Approval _____
Date _____

CLIPPER Three Tank Rackless Conveyor Dishwasher

- Automatic conveyor, flight type three tank dishwasher with recirculating prewash, wash and rinse; and fresh water final rinse
- 124 gallons/hour final rinse consumption
- Capacity is 8,812 dishes per hour
- Conveyor speed of 6.8 feet per minute
- CrossFire® Wash System provides superior cleaning
- Error proof replacement with color-coded curtains
- Designed for left or right hand conveyor travel, as specified



The patented CrossFire® Wash System power sprays water horizontally, as well as, from above and below, cleaning and sanitizing the dirtiest of ware.

STANDARD FEATURES

- CrossFire® Wash System
- SureFire® Start-Up & Check-Out Service
- Tank heat: 60.0 kW electric immersion heaters or steam injectors
- Capillary thermometers for pre-wash, wash, rinse and final rinse
- Final rinse pressure gauge
- Vacuum breaker on all incoming water lines
- Manifold clean-out brush
- Inspection and clean-out doors
- S/S frame, legs and feet
- S/S front enclosure panel
- Automatic tank fill
- Low water protection
- Detergent connection provision
- Top mounted NEMA 12 control panel
- Simplified scrap screen design
- Door safety switch
- Exhaust connections with adjustable dampers
- Standard frame drip proof motors
- Conveyor reversing switch
- Polypropylene belt with removable rack sections
- Conveyor safety stop bar
- Interior work lights
- Override switch for de-liming
- End caps/pipe plugs secured to prevent loss
- Color-coded curtains

OPTIONS

- Stainless steel steam coil tank heat
- Steam
- Electric booster
- Pressure reduction valve and line strainer
- Single point electrical connection: motors, controls and heaters.
- S/S panels on all sides
- Security package
- Totally enclosed motors
- Insulated hood
- Stainless steel belt with removable rack sections





CLIPPER

Three Tank Rackless Conveyor Dishwasher

Capacity Per Hour	8,812 dishes 500-1,000 meals
Tank Capacity	24 gals. (pre-wash) 27 gals. (wash) 30 gals. (rinse)
Motor Size	1 1/2 hp (pre-wash) 2 hp (wash) 2 hp (rinse) 1/2 hp (conveyor)
Electric Usage	60.0 kW wash tanks *15.0 kW booster 40° rise *27.0 kW booster 70° rise
Steam Consumption at 20 psi min.	218 lbs./hour tank 54 lbs./hour remote booster 40° rise 96 lbs./hour remote booster 70° rise
Final Rinse Peak Flow at 20 psi min.	2.1 gallons/minute
Final Rinse Consumption at 20 psi min.	124 gallons/hour
Exhaust Hood Requirement	750 CFM Load 750 CFM unload
Peak Rate Drain Flow	23 gallons/minute
Shipping Weight	3000 lbs.

Machine Electrical		
Motors, Controls Tank Heat	Steam	Electric
208/3/60	25.2	198.9
240/3/60	22.9	171.8
480/3/60	11.4	85.6
380/3/50	13.8	107.6

*Booster requires separate electrical connection

Contact Insinger Sales at 800-344-4802 for an installation drawing specific to your application. This drawing is available on the Insinger website at www.insingermachine.com

Note: Due to product improvement we reserve the right to change information and specifications without notice.

SPECIFICATIONS

CONSTRUCTION- Hood and tank all welded seamless construction using 16 gauge 18-8 type 304 S/S. S/S frame, legs and feet. All internal castings are non-corrosive nickel alloy, bronze or S/S.

DOORS- Three extra large die formed 18-8 type 304 S/S front inspection doors riding in all S/S channels. A triple ply leading edge on the door channels made of S/S with no plastic or nylon sleeves or liners used. Two intermediate S/S door-safety stops on each door.

CONVEYORS- Removable polypropylene or S/S rack section on S/S belt with polyethylene rollers. Conveyor drive system includes large speed reducer with cut gears operating in oil bath and frictionless, trouble-free overload release system. Conveyor transports dishware automatically through all washing and rinsing systems and is driven by an independent 1/2 hp motor. A trip bar at the end of the unload section stops the conveyor if any ware reaches the bar. A reversing switch is provided to assist in removing jams in the belt.

PUMPS- Centrifugal type "packless" pump with a brass petcock drains. Construction includes ceramic seal and a balanced cast impeller on a precision ground stainless steel shaft, extension or sleeve. All working parts mounted as an assembly and removable as a unit without disturbing pump housing. Two 2 hp motors wash and rinse and 1/2 hp pre-wash, all standard horizontal C-face frame, drip-proof, internally cooled with ball-bearing construction.

CONTROLS- Top mounted control cabinet, NEMA 12 rated with heat insulation provided between hood and control cabinet, housing motor controls and overload protection, transformer, contactors and all dishwasher integral controls. All controls safe low voltage 24 VAC.

ENERGY SAVER- Electric photo eye automatically operates the final rinse solenoid only when ware passes, saving water and energy. The photo eye also activates an adjustable timer control. If no ware passes during the set time, the machine shuts down.

SPRAY SYSTEM- Spray arms made of type 304 stainless steel pipe. Spray assemblies removable without the use of tools.

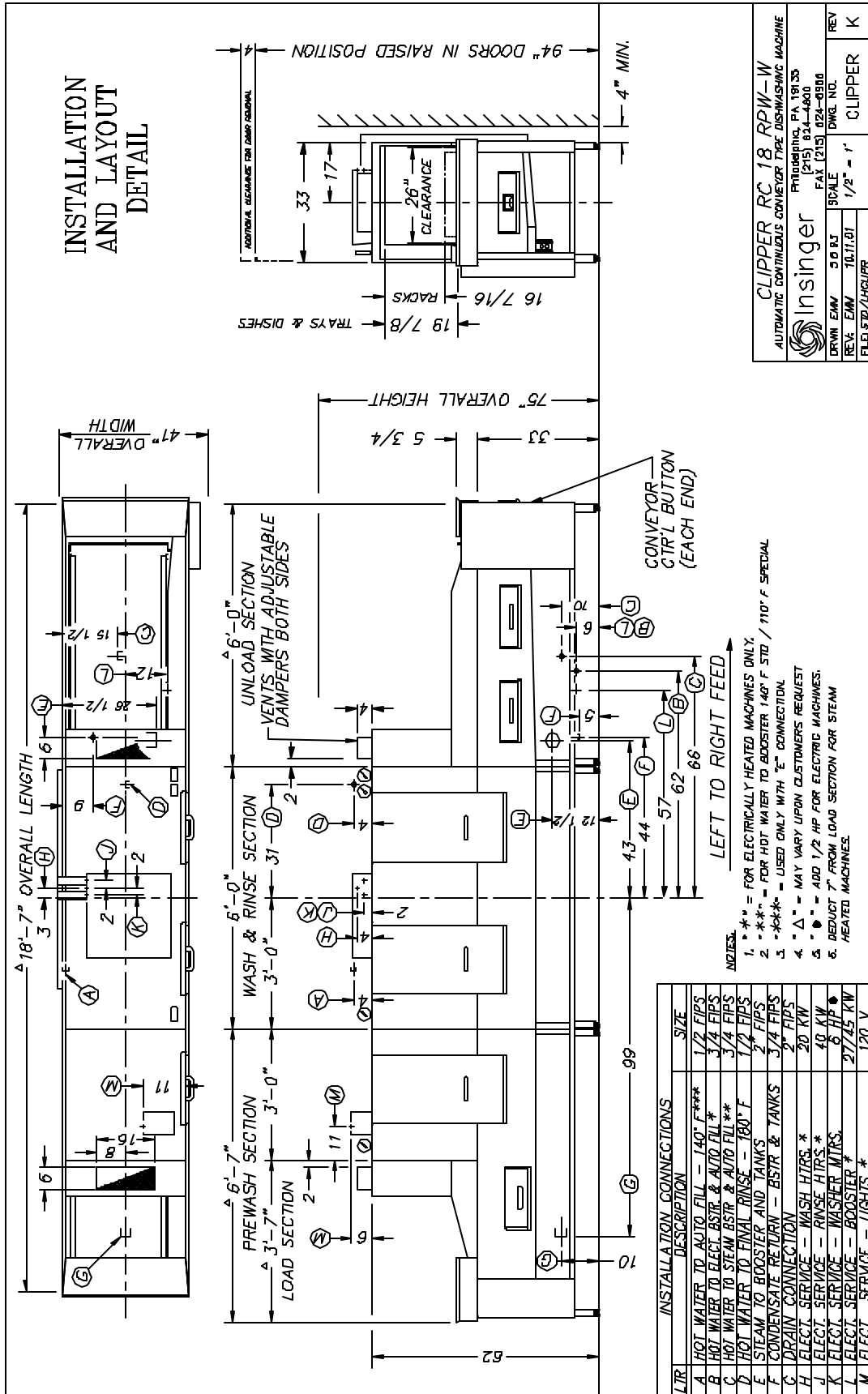
PRE-WASH- Upper and lower manifolds. One manifold above with 3 power pre-wash nozzles, one manifold below with 3 power pre-wash nozzles.

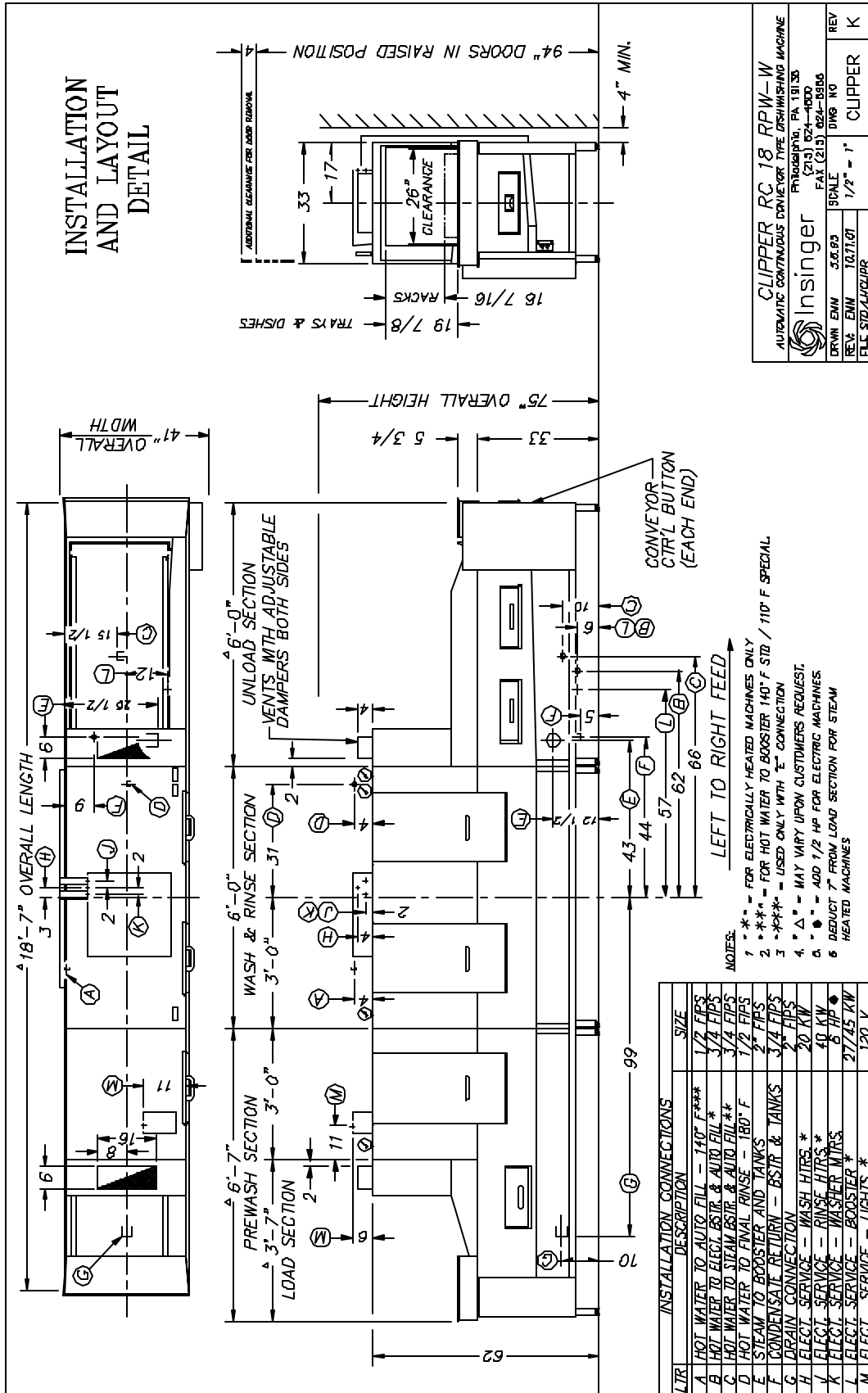
WASH- Upper and lower manifolds with the patented CrossFire® Wash System. Each manifold has 3 upper and 4 lower power wash arms designed with pressure action cleansing slots. The slots are precision milled for water control producing a fan spray. Wash arms are fillet welded to the S/S manifold. The CrossFire system provides 2 horizontally spraying high pressure nozzles.

RINSE- Upper and lower manifolds. Each manifold has 3 upper and 4 lower power rinse arms designed with pressure action fan spray reducing water consumption, maximizing heat retention.

FINAL RINSE- Eight nozzle assemblies above and four nozzles below threaded into S/S schedule 40 pipes. Nozzle assemblies produce a fan spray reducing water consumption, maximizing heat retention.

DRAIN- Drain valve externally controlled. Overflow assembly with skimmer cap is removable without the use of tools for drain line inspection. Heater is protected by low water level control.





CLIPPER RC 18 RPW-W	
AUTOMATIC CONTINUOUS CONVEYOR TYPE DISHWASHING MACHINE	
Philadelphia, PA 19135	
(215) 624-4800	
FAX (215) 624-0905	
INSINGER	SCALE
DRWN: ENM 3.6.99	DWG NO
REV: ENM 10/11/01	1/2" = 1"
FILE: STD.A14212.R	CLIPPER
REV	K

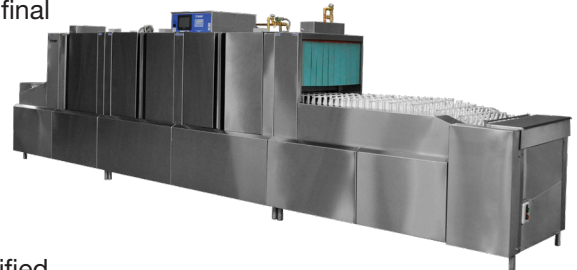


ESSENTIAL SERIES

Project _____
 Item _____
 Quantity _____
 CSI - 11400 _____
 Approval _____
 Date _____

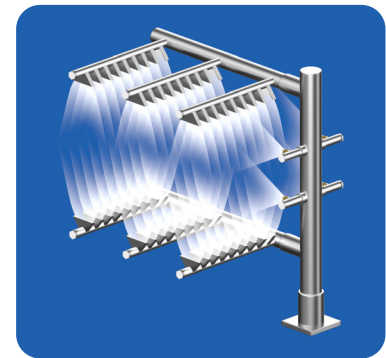
MASTER Three Tank Rackless Conveyor Dishwasher

- Automatic conveyor, flight type three tank dishwasher with recirculating prewash, wash and rinse; and fresh water final rinse.
- 124 gallons/hour final rinse consumption
- Capacity is 14,300 dishes per hour
- Conveyor speed of 11 feet per minute
- CrossFire® Wash System provides superior cleaning
- Error proof replacement with color-coded curtains
- Designed for left or right hand conveyor travel, as specified



STANDARD FEATURES

- Patented CrossFire® Wash System
- SureFire® Start-Up & Check-Out Service
- Tank heat: 60.0 kW electric immersion heaters or steam injectors
- Capillary thermometers for pre-wash, wash, rinse and final rinse
- Final rinse pressure gauge
- Vacuum breaker on all incoming water lines
- Manifold clean-out brush
- Inspection and clean-out doors
- S/S frame, legs and feet
- S/S front enclosure panel
- Automatic tank fill
- Low water protection
- Detergent connection provision
- Top mounted NEMA 12 control panel
- Simplified scrap screen design
- Door safety switch
- Exhaust connections with adjustable dampers
- Standard frame drip proof motors
- Conveyor reversing switch
- Polypropylene belt with removable rack sections
- Conveyor safety stop bar
- Interior work lights
- Override switch for de-liming
- End caps/pipe plugs secured to prevent loss
- Color-coded curtains



The patented CrossFire® Wash System power sprays water horizontally, as well as, from above and below, cleaning and sanitizing the dirtiest of ware.

OPTIONS

- Stainless steel steam coil tank heat
- Gas tank heat
- Steam booster
- Electric booster
- Pressure reduction valve and line strainer
- Single point electrical connection: motors, controls and heaters.
- S/S panels on all sides
- Heavy duty ultra durable scrap screens
- Security package
- Totally enclosed motors
- Insulated hood
- Stainless steel belt with removable rack sections





MASTER Three Tank Rackless Conveyor Dishwasher

Capacity Per Hour	14,000 dishes 1,000-2,200 meals
Tank Capacity	24 gals. (pre-wash) 36 gals. (wash) 40 gals. (rinse)
Motor Size	2 hp (pre-wash) 3 hp (wash) 3 hp (rinse) 1/2 hp (conveyor)
Electric Usage	60.0 kW wash tanks *15.0 kW booster 40° rise *27.0 kW booster 70° rise
Steam Consumption at 20 psi min.	215 lbs./hour tank 54 lbs./hour remote booster 40° rise 96 lbs./hour remote booster 70° rise
Gas Consumption	205,000 BTUH 200 CFH natural gas 82 CFH propane
Final Rinse Peak Flow at 20 psi min.	2.1 gallons/minute
Final Rinse Consumption at 20 psi min.	124 gallons/hour
Exhaust Hood Requirement	750 CFM Load 750 CFM unload
Peak Rate Drain Flow	23 gallons/minute
Shipping Weight	3327 lbs.

Machine Electrical			
Motors, Controls Tank Heat	Steam	Gas w/o booster	Electric
208/3/60	32.3	39.5	203.9
240/3/60	29.2	35.8	178.2
480/3/60	14.6	17.9	88.8
380/3/50	17.7	21.7	111.5

*Booster requires separate electrical connection

Contact Insinger Sales at 800-344-4802 for an installation drawing specific to your application. This drawing is available on the Insinger website at www.insingermachine.com

Note: Due to product improvement we reserve the right to change information and specifications without notice.

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DOORS- Three extra large die formed 18-8 type 304 S/S front inspection doors riding in all S/S channels. A triple ply leading edge on the door channels made of S/S with no plastic or nylon sleeves or liners used. Two intermediate S/S door-safety stops on each door.

CONVEYORS- Removable polypropylene or S/S rack section on S/S belt with polyethylene rollers. Conveyor drive system includes large speed reducer with cut gears operating in oil bath and frictionless, trouble-free overload release system. Conveyor transports dishware automatically through all washing and rinsing systems and is driven by an independent 1/2 hp motor. A trip bar at the end of the unload section stops the conveyor if any ware reaches the bar. A reversing switch is provided to assist in removing jams in the belt.

PUMPS- Centrifugal type "packless" pump with a brass petcock drains. Construction includes ceramic seal and a balanced cast impeller on a precision ground stainless steel shaft, extension or sleeve. All working parts mounted as an assembly and removable as a unit without disturbing pump housing. Two 2 hp motors wash and rinse and 1/2 hp pre-wash, all standard horizontal C-face frame, drip-proof, internally cooled with ball-bearing construction.

CONTROLS- Top mounted control cabinet, NEMA 12 rated with heat insulation provided between hood and control cabinet, housing motor controls and overload protection, transformer, contactors and all dishwasher integral controls. All controls safe low voltage 24 VAC.

ENERGY SAVER- Electric photo eye automatically operates the final rinse solenoid only when ware passes, saving water and energy. The photo eye also activates an adjustable timer control. If no ware passes during the set time, the machine shuts down.

SPRAY SYSTEM- Spray arms made of type 304 stainless steel pipe. Spray assemblies removable without the use of tools.

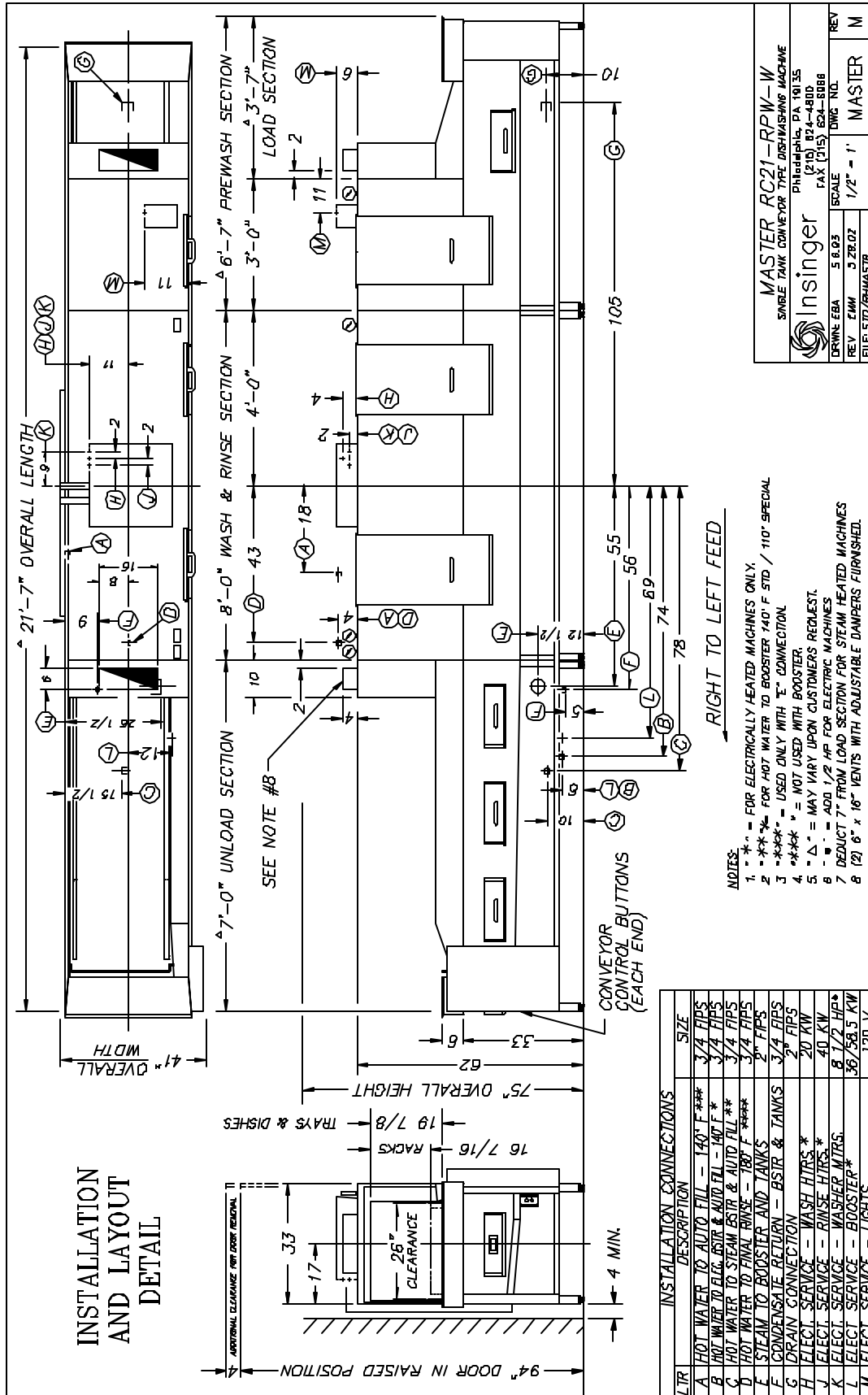
PRE-WASH- Upper and lower manifolds. One manifold above with 3 power pre-wash nozzles, one manifold below with 3 power pre-wash nozzles.

WASH- Upper and lower manifolds with the patented CrossFire® Wash System. Each manifold has 3 upper and 4 lower power wash arms designed with pressure action cleansing slots. The slots are precision milled for water control producing a fan spray. Wash arms are fillet welded to the S/S manifold. The CrossFire system provides 2 horizontally spraying high pressure nozzles.

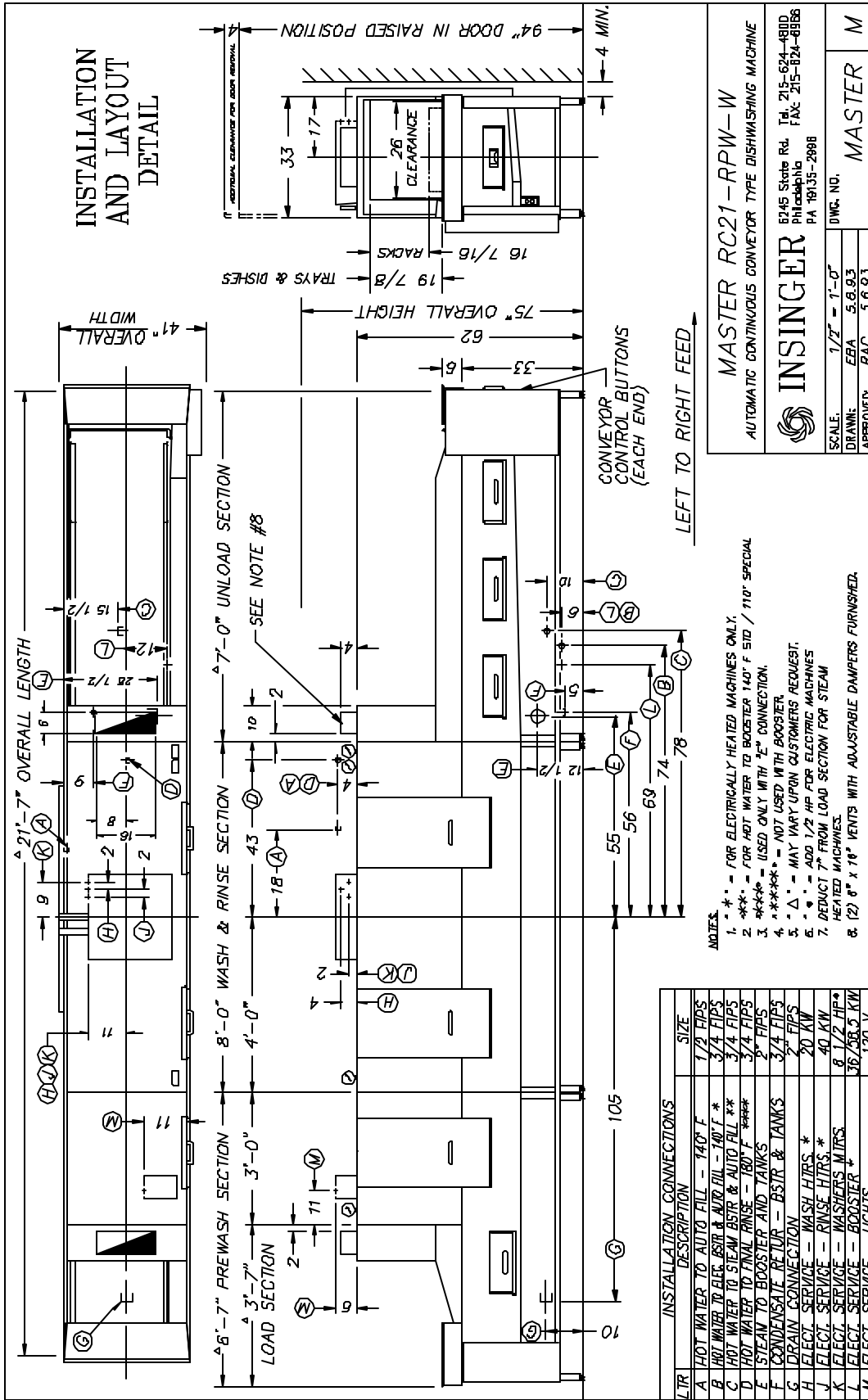
RINSE- Upper and lower manifolds. Each manifold has 3 upper and 4 lower power rinse arms designed with pressure action fan spray reducing water consumption, maximizing heat retention.

FINAL RINSE- Eight nozzle assemblies above and four nozzles below threaded into S/S schedule 40 pipes. Nozzle assemblies produce a fan spray reducing water consumption, maximizing heat retention.

DRAIN- Drain valve externally controlled. Overflow assembly with skimmer cap is removable without the use of tools for drain line inspection. Heater is protected by low water level control.



MASTER RC21-RPW-W	
SIMPLE TANK CONVEYOR TYPE DISHWASHER MACHINE	
Philadelphia, PA 19135	
Insinger	
TAX (210) 874-4900	
FAX (215) 854-8086	
DRIVE EBA	5 8.05
REV	5 28.02
SCALE	1/2" = 1'
DRWG NO.	MASTER
REV	M
FILE	STD/RH/MASTR



MASTER/CLIPPER FLIGHT MACHINES

INTRODUCTION

Purpose

The purpose of this technical manual is to provide installation, operation, cleaning and maintenance directions.

A section is provided for replacement parts.

Scope

This manual contains all pertinent information to assist in the proper installation, operation, cleaning, maintenance, and parts ordering for Insinger Flight machines including the Clipper and Master.

The **installation instructions** are intended for qualified equipment installers. The **operation and cleaning instructions** are intended for the daily users of the equipment. The **maintenance and parts sections** are intended for qualified service and/or maintenance technicians. Replacement parts may be ordered directly from our factory or from your local Insinger Authorized Service Agency. You can speak to the **Insinger Technical Services Department, 800/344-4802**, or e-mail us at **service@insingermachine.com**. When calling for warranty information or replacement parts please provide the model and serial number of your Insinger Equipment. These important numbers should be noted in this manual on the spaces provided on the opening page.

Surefire™ Start-up & Check-out Program
Insinger is proud to offer our exclusive Surefire™ Start-up & Check-out Program to our commercial customers. This service is included in the purchase price of your new Insinger dishwasher. We will provide an authorized factory service technician for the initial start-up of your new Insinger dishwasher to ensure it is running at optimum levels from the very first pass. Please call the factory or your local Insinger Sales Representative to schedule this service.

NSF 3-2003 requirements for detergent and chemical sanitizer dispensers.

This machine must be operated with an automatic detergent dispenser and, if applicable, an automatic chemical sanitizer feeder, including a visual means to verify that detergents and sanitizers are delivered or a visual or audible alarm to signal if detergents and sanitizers are not available for delivery to the respective washing and sanitizing systems. Please see instructions for electrical and plumbing connections located in this manual and in the feeder equipment manual.

Definitions

Throughout this guide you will find the following terms: WARNING, CAUTION, & NOTE.

WARNING indicates potential physical danger.
CAUTION indicates potential equipment damage.
NOTE indicates helpful operating hints or tips.

You will visually be able to identify each as shown below:

**WARNING:**

Indicates potential physical danger.

**NOTE:**

Indicates helpful operating hints or tips.

CAUTION:

Indicates potential equipment damage.

INSINGER MACHINE COMPANY LIMITED WARRANTY

Insinger Machine Company, Inc. (Insinger) hereby warrants to the original retail purchaser of this Insinger Machine Company, Inc. product, that if it is assembled and operated in accordance with the printed instructions accompanying it, then for a period of either 15 months from the date of shipment from Insinger or 1 year (12 months) from the date of installation, that said Insinger product shall be free from defects in material and workmanship. Whichever one of the two aforesated limited warranty time periods is the longest shall be the applicable limited warranty coverage time period.

Insinger may require reasonable proof of your date of purchase; therefore, you should retain your copy of invoice or shipping document.

This limited warranty shall be limited to the repair or replacement of parts which prove defective under normal use and service and which on examination shall indicate, to Insinger's satisfaction, they are defective. Any part that is claimed to be defective and covered by this limited warranty must be returned to Insinger, this may be done through an Authorized Service Agency. Furnish serial number of machine with shipment and send to:

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

If Insinger's inspection confirms the defect and the claim, Insinger will repair or replace such part without charge and return it to you freight or postage prepaid.

This limited warranty does not cover any failure or accident, abuse, misuse, alteration, misapplication, improper installation, fire, flood, acts of God or improper maintenance or service, or failure to perform normal and routine maintenance as set out in

the instruction booklet (operating instructions) or for improper operation or failure to follow normal operating instructions (as set out in the instruction booklet). Insinger is not responsible nor liable for any conditions of erosion or corrosion caused by corrosive detergents, acids, lye or other chemicals used in the washing and or cleaning process.

Service must be done by either Insinger Appointed Service Agencies or agencies receiving prior authorization from Insinger.

All warranty work must be done during normal working hours, unless purchaser receives prior authorization from Insinger.

There are no other express warrants except as set forth herein and any applicable implied warranties of merchantability and fitness are limited in duration to the period of coverage of this express written limited warranty. This limited warranty supersedes all other express warranties, implied warranties of merchant-ability and fitness or limited warranties as of this date, January 1, 1998. Some states do not allow limitation on how long an implied warranty lasts so this limitation may not apply to you.

Insinger is not liable for any special, indirect or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation nor exclusion may not apply to you.

Insinger does not authorize any person or company to assume for it any other obligation or liability in connection with the sale, installation, use, removal, return or replacement of its equipment: and no such representations are binding on Insinger.

**INSINGER MACHINE COMPANY LIMITED WARRANTY
COMMERCIAL MARINE USE**

Insinger Machine Company, Inc. (Insinger) hereby warrants to the original retail purchaser of this Insinger Machine Company, Inc. product, that if it is assembled and operated in accordance with the printed instructions accompanying it (installation manual), then for a period of 18 months from the date of installation on board the vessel, that said Insinger product shall be free from defects in material and workmanship.

Insinger may require reasonable proof of your date of equipment install, therefore, you should retain your copy of invoice or shipping document.

This limited warranty shall be limited to the replacement of parts which prove defective under normal use and service and which on examination shall indicate, to Insinger's satisfaction, they are defective. Any part that is claimed to be defective and covered by this limited warranty must be returned to Insinger. Furnish serial number of machine with shipment and send to:

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

If Insinger's inspection confirms the defect and the claim, Insinger will repair or replace such part without charge and return it to you freight or postage prepaid. If part damages are not covered, Insinger will contact Customer and advise.

If a factory trained authorized technician is required to repair or replace defective parts or material during the 18 month warranty period, the cruise line will be responsible for the payment of travel expense and a minimum of four hours labor. Labor will be billed to the

customer at a reduced rate of \$40.00 per hour. If sailing with a vessel is required, then an eight hour per day minimum will apply.

This limited warranty does not cover accident, abuse, misuse, alteration, misapplication, improper installation, fire, flood, or improper maintenance or service, or failure to perform normal and routine maintenance as set out in the instruction booklet (operating instructions) or for improper operation or failure to follow normal operating instructions (as set out in the instruction booklet).

Insinger is not responsible nor liable for any conditions of erosion or corrosion caused by corrosive detergents, acids, lye or other chemicals used in the washing, caring and or cleaning process.

Warranty service must be done by either Insinger Appointed Service Agencies or agencies, customers galley engineers receiving prior authorization from Insinger.

There are no other express warrants except as set forth herein and any applicable implied warranties of merchantability and fitness are limited in duration to the period of coverage of this express written limited warranty. This limited warranty supersedes all other express warranties, implied warranties of merchantability and fitness or limited warranties as the above date.

Insinger does not authorize any person or company locally or overseas to assume for it any other obligation or liability in connection with the sale, installation, use, removal, return or replacement of its equipment; and no such representations are binding on Insinger.

INSTALLATION INSTRUCTIONS

Placement

Carefully uncrate machine.

Bolt the three sections together.

**NOTE:**

Use a silicone caulking between the sections in addition to the gasketing material provided. This will minimize the possibility of leaks.

Electrical Connections

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.

On machines not provided with a single-point connection there is an electrical connection required for the, **1.** Pumps and control circuit, **2.** Wash tank heaters (electric heat only) and, **3.** Rinse tank heaters (electric only).

Machines provided with a single-point connection require one electrical connection in the control panel for all functions excluding the booster.

**NOTE:**

In each case connections must be made to a circuit breaker or fused disconnect as provided by the end-user and required by local codes. A wiring diagram is supplied inside the control panel. Please return diagram when finished.

**NOTE:**

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

Electrical termination points are also required between each of the sections in the termination box located on the frame in the rear of the machine near where the sections meet.

Mechanical Requirements

Connect 140°F and 180°F water supply to the tank and final rinse feeds respectively as tagged on the machines and noted on the installation drawing.

If machine is provided with steam heat connect the steam lines and steam condensate lines as tagged and noted on installation drawings.

Connect the drain lines.

**NOTE:**

Drain lines must be as specified on installation drawings. Drain line should be properly vented and should have fall of not less than ¼" to the foot of proper flow. Some area plumbing codes require drains to flow into an open gap with an opening twice the diameter of the pipe. Check with your local plumbing codes for the type of drain connection required.

**NOTE:**

All lines should be flushed prior to use to remove debris.

**NOTE:**

Do not reduce the size of lines as specified in installation drawings. All lines are sized to facilitate necessary flows, pressures, etc.

Adjust the compression spring located on the conveyor overload shutoff mechanism. This can be found on the unload end of the machine under the mechanism guard. There is sticker marked with the factory test setting of the spring. Adjust to this point then run the conveyor full of ware. If the machine does not shut down the adjustment is set. If it does shut down adjust the spring tighter until the machine runs continuously.

HVAC

Ventilation system should be sized to provide adequate ventilation per machine specs. Refer to spec sheet.

Stainless steel, watertight ducting should be connected to the vent cowls on each end of the machine or an overhead venting system should be installed.

Chemicals

Upon completed installation of the dishwasher contact a local detergent/chemical supplier for the correct chemicals for your area.

Electrical connection points for the detergent dispenser and rinse injector are located inside the control panel. Refer to the wiring diagram for this machine for the proper connection points. The detergent density probe should be located in a convenient place in the wash tank.

Insinger dishwashers 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.

OPERATION INSTRUCTIONS

1. Ensure drain overflow tube is in place. Close all tank drain valves. One drain is provided for each tank of the dish machine.
2. Check for proper installation and cleanliness of all internal, removable components such as suction strainers, scrap screens, and spray manifolds.
3. Ensure all water, and steam lines are open. Ensure electrical circuits are on.
4. Close machine doors.



NOTE:

An interlock is provided to shut the machine down if the doors are open, therefore the machine will not run if doors are opened. Machines provided with the Prison Package do not have this feature.

5. Move the 2 position selector switch to the "ON" position.
6. The machine will automatically begin to fill.
7. When the tanks are full the tank heat will operate automatically.



NOTE:

To ensure proper operation of the auto tank fill feature and the tank heaters the two (2) level probes located in each tank MUST be cleaned daily.

8. Depress the Green button on the control panel to operate the pumps.
9. Located at the load and unload end of the machine is a start/stop station for operating the conveyor system. Depress the green button to start the conveyor.



NOTE:

An emergency stop bar is located at the end of the conveyor belt to shut the belt down. This will minimize ware breakage if the machine is not unloaded in time.

10. For machines provided with the Conveyor Overload Shutoff Mechanism a light labeled "Check Conveyor Belt" is provided on the control panel. When this light illuminates the machine will automatically shut down. Check the conveyor belt for jamming or ware caught in the belt.



NOTE:

Should the light illuminate and the machine shut-down after an initial check for jams, DO NOT continue running the machine. Immediately contact a maintenance person or qualified service technician. Refer to the Conveyor Overload Shutoff Mechanism Adjustment section in the Maintenance Section of the manual.

11. The system is now ready for operation. All ware should be properly scrapped.
12. Place dirty ware on the conveyor belt. The ware will pass through the various machine cycles. The final rinse is automatically started when ware passes the photo-eye located at the entrance of the machine.



NOTE:

The photo-eye located at the entrance of the machine should be cleaned daily of lime build-up for proper operation of the energy saver feature and the final rinse.



NOTE:

Move the Power toggle switch to the "OFF" position before draining the machine.

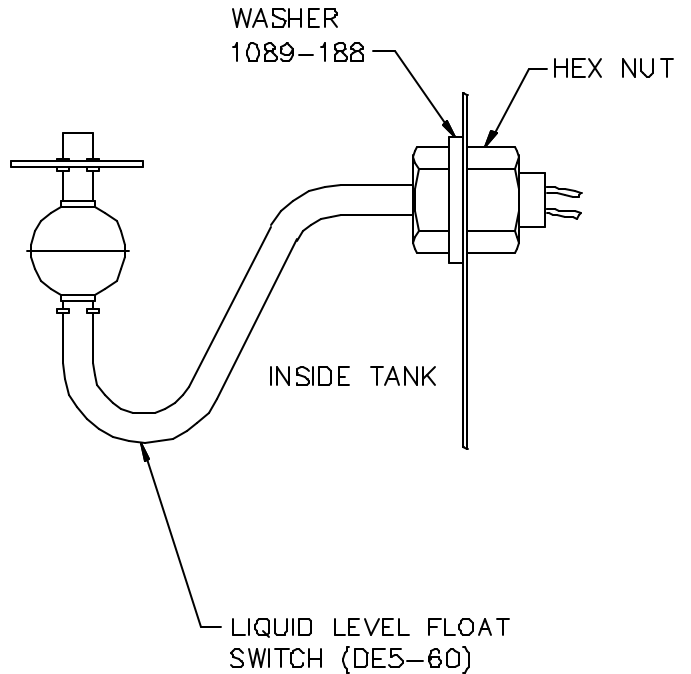
13. Refer to the cleaning procedures for proper clean-up of the dish machine.
14. Report any unusual occurrences to qualified service personnel.


CLEANING PROCEDURES


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

Daily


1. Remove all internal removable parts including spray manifolds, scrap screens, drain overflow tubes, suction strainers and curtains.
2. Remove the end caps from the spray manifolds and clean with the brush provided. Flush the manifolds.
3. Flush scrap screens.
4. Clean drain overflow tube.



 **NOTE:**
V-cup seal on the drain overflow tube may become gummed not allowing a proper seal of the overflow tube. This will cause the drain to leak water. Remove any build-up on the V-cup seal. When the seal becomes worn, replace.

 **WARNING:**
Level floats must be cleaned daily. Build-up of grease and scum will cause faulty operation of tank fill and heating system.

5. Clean suction strainers of build-up.

 **NOTE:**
Improper cleaning of suction strainer will cause the pumps to cavitate. This will cause poor washing results.

7. Clean curtains. When curtains are beyond cleaning or torn they should be replaced.
8. Final rinse nozzles should be cleaned of matter clogging the jet spray.
9. Clean the photo-eye lenses with a damp, soft cloth.
10. Doors should be left open to allow drying of interior surfaces.

6. Clean tank level floats (2 per tank) with Scotch-Brite or equivalent.

The following is a basic guide for the repair and replacement of common dishwasher parts. Refer to the Basic Service Guide for troubleshooting tips.

MAINTENANCE REQUIREMENTS

Daily

1. Refer to the operation and cleaning instructions provided in this manual for daily cleaning procedures.

Weekly

1. The entire machine should be wiped down using an industrial grade stainless steel cleaner.
2. Under the supervision of your detergent supplier the machine interior must be properly de-limed.



NOTE:

The water quality in some areas requires de-liming to be done more frequently. Contact your detergent supplier for recommended de-liming frequency.

Quarterly

1. Remove and clean the strainer screens on water and steam lines. If the screens cannot be cleaned, replace.
2. Inspect condition of solenoid valve seats and diaphragms. Replace where necessary.
3. Inspect drain O-Rings for leakage. Replace where necessary.
4. Adjust conveyor chain tension using adjustment bolts located on exit end of machine.

MAINTENANCE PROCEDURES

Solenoid Valve Disassembly

1. Disconnect power supply to machine. Turn off water supply.
2. Remove cap on top of coil. Remove coil.
3. Remove 4 hex bolts and lift bonnet from valve body. Note positioning of spring and plunger.
4. Remove main piston.
5. Inspect for dirt, wear or lime build-up. Clean or replace as required.
6. Reassemble in reverse of disassembly.

Line Strainer Disassembly

1. Shut off water or steam supply.
2. Remove large hex nut on bottom of strainer body.
3. Remove strainer screen. Inspect and clean or replace as necessary.
4. Reassemble in reverse of disassembly. Water flow must be same direction as arrow on line strainer body. Use new gaskets to insure a tight seal.

Pump Disassembly

1. Before disassembling pump ensure there are no obstructions in the pump intake. Remove and clean the suction strainer (inside tank). See dwg. SK-4702 and SK-4702
2. **IT IS NOT NECESSARY TO REMOVE THE PUMP HOUSING FROM THE MACHINE TO DISASSEMBLE THE PUMP.**
3. Remove the pump motor and impeller adaptor by removing the 4 hex bolts attaching them to the pump housing.
4. Repair or replace the pump parts as required. Reassemble in reverse of disassembly.

Immersion Heater Replacement

1. The immersion heater **MUST** be completely submerged at all times. If this is not the case contact a qualified service technician. The heated surface should never be in contact with sludge. See dwg. SK-4703
2. Remove the housing covering the wiring terminations. Disconnect the immersion heater wires.
3. Remove the immersion heater by loosening and removing the large hex nut.
4. Install in reverse of removal.

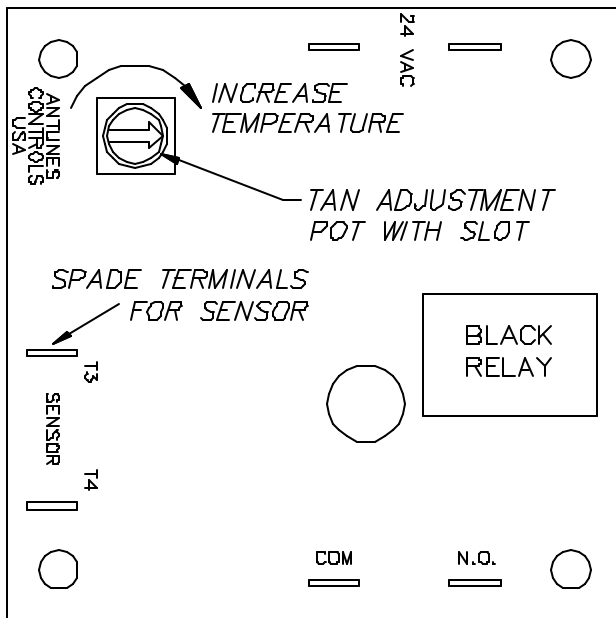


NOTE:

Use plumbers putty as gasketing around the immersion heater to insure no leaks.

Tank Heat Temperature Adjustment

1. A temperature control board is provided in the control panel for easy adjustment of tank temperature. Though tank temperature is adjusted during the machines factory test it is sometimes necessary to re-adjust the temperature at start-up.
2. Locate the temperature control board (P/N DE9-251). Use the control panel layout drawing located in Part 5, Electrical Schematic and Replacement Parts.
3. Adjust the tank temperature to the desired temperature by turning the potentiometer located on the temperature control board. An arrow on the potentiometer indicates increase.



TANK TEMPERATURE CONTROL BOARD
(DE9-251)

Troubleshooting Tank Temperatures Electric Heat

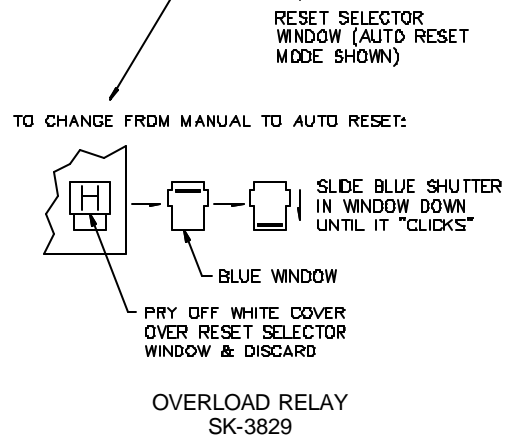
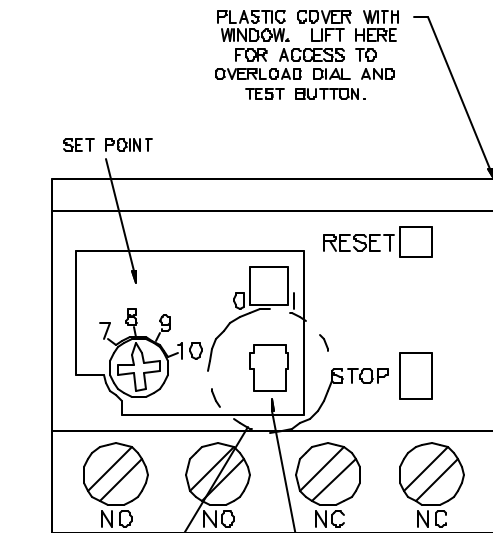
1. If temperature cannot be adjusted, check the temperature control board P/N DE9-251 proper operation. If the temperature control board is faulty, replace.
2. Verify tank heat contactor is working correctly. If not, replace. Verify all immersion heaters are working properly and not limed. If not, replace.

Steam Heat

1. If temperature cannot be adjusted, check the temperature control board P/N DE9-251 proper operation. If the temperature control board is faulty, replace.
2. Verify steam pressure per machine specifications.
3. Verify steam trap is not clogged. If so, replace.

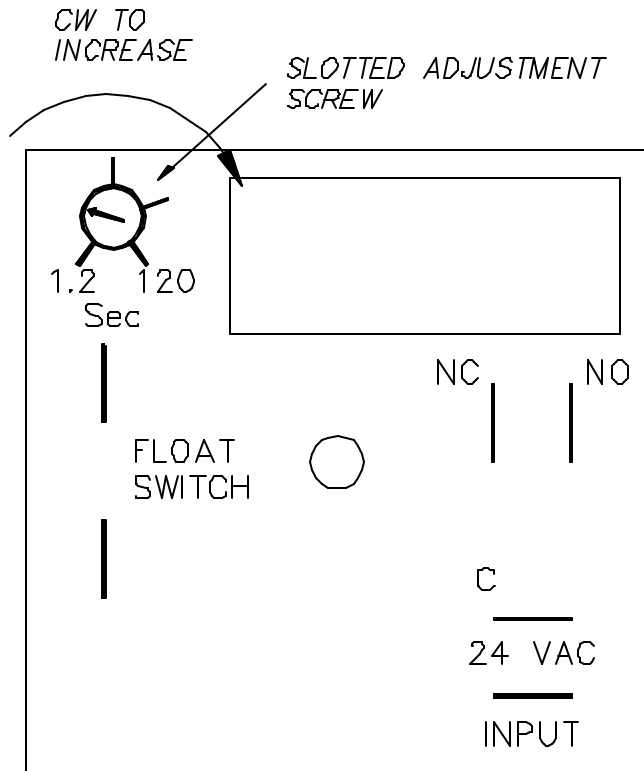
Motor Overloads

1. All motors used on Insinger Machines are provided with motor overloads. Motor overloads are adjusted when the machines are factory tested. Should it be necessary to adjust the motor overloads in the field first verify the motor current draw for the voltage the machine is using.
2. Using the Control Panel Component Layout Dwg. located in Part 5 to identify the overload adjust by turning the dial to the appropriate AMP draw.



Level System

1. The level control system consists of a level board (P/N DE7-35) for both the wash and rinse tank and a level float (P/N DE5-60) per tank.
2. The level float will not allow the tank heat to energize without water in the tank.



LIQUID LEVEL TIMER DE7-35

SKETCHA\SK-4698

Final Rinse Actuator

1. The final rinse is actuated by the photo-eye emitter and receiver located at the entrance to the machine. See dwg. 1100-265.
2. When the beam is broken by a plate, etc., the final rinse time is energized turning on the final rinse solenoid and allowing the water to flow. After one minute the timer will de-energize turning the solenoid off. The energy saver timer (P/N DE7-28) is reset to 0 at the same time the final rinse timer is energized. The energy saver timer is adjustable between 0-300 SEC.

Conveyor Belt Adjustment

1. The conveyor belt tension is adjustable by locating two adjustment bolts on the load side of the machine. The bolts can be moved in and out of the conveyor follower shaft therefore adjusting the belt tension.

Conveyor Overload Shut-off Mechanism Adjustment (P/N 1100-289)

1. A clutchless overload is used to shut the machine completely down should a jam occur in the conveyor system. The jam may be caused by ware being caught, bent tracks or misalignment of the conveyor belt.

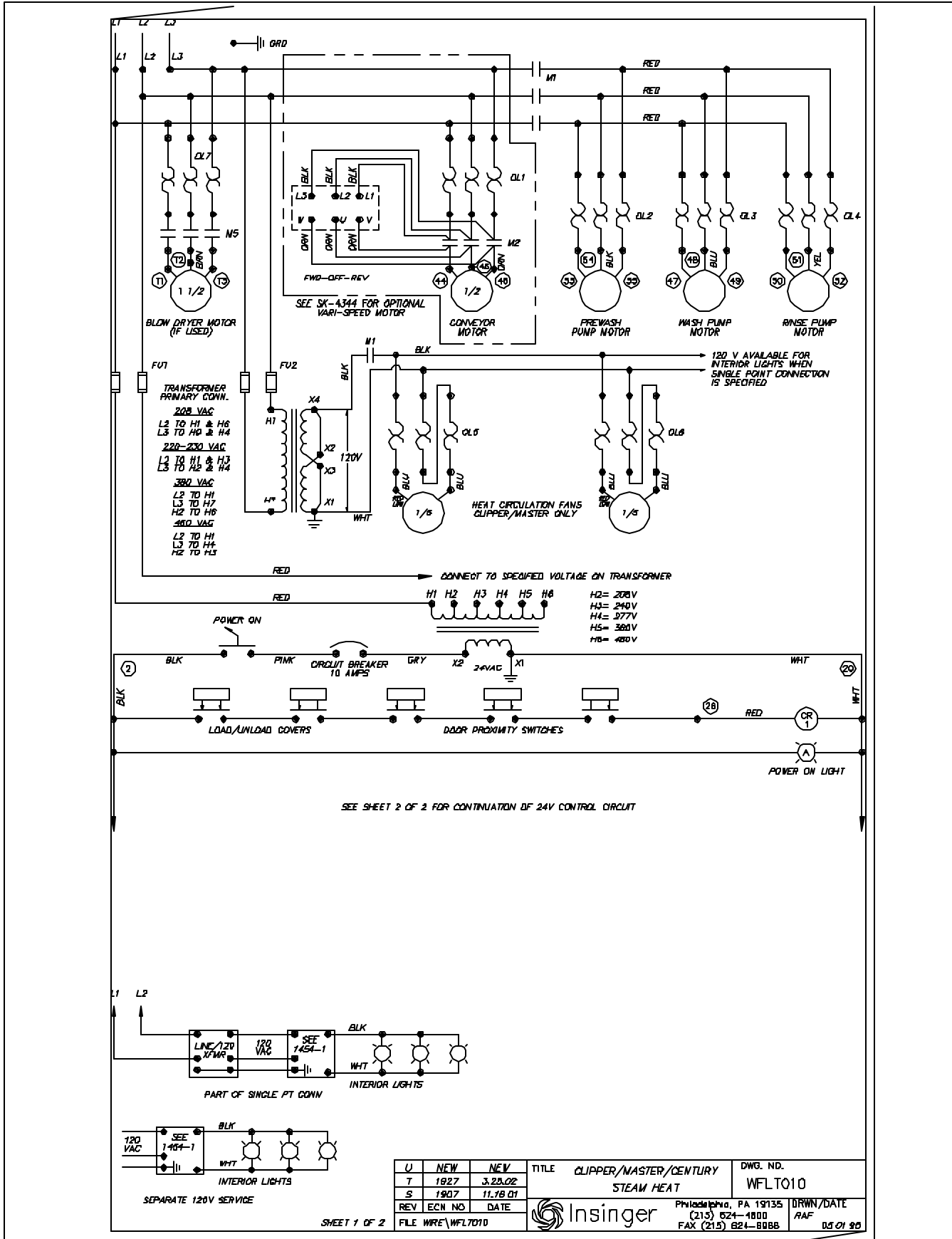
CAUTION:

Should the tank heat energize without water in the tank, troubleshoot the system to find the problem. Check the floats.

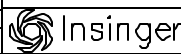


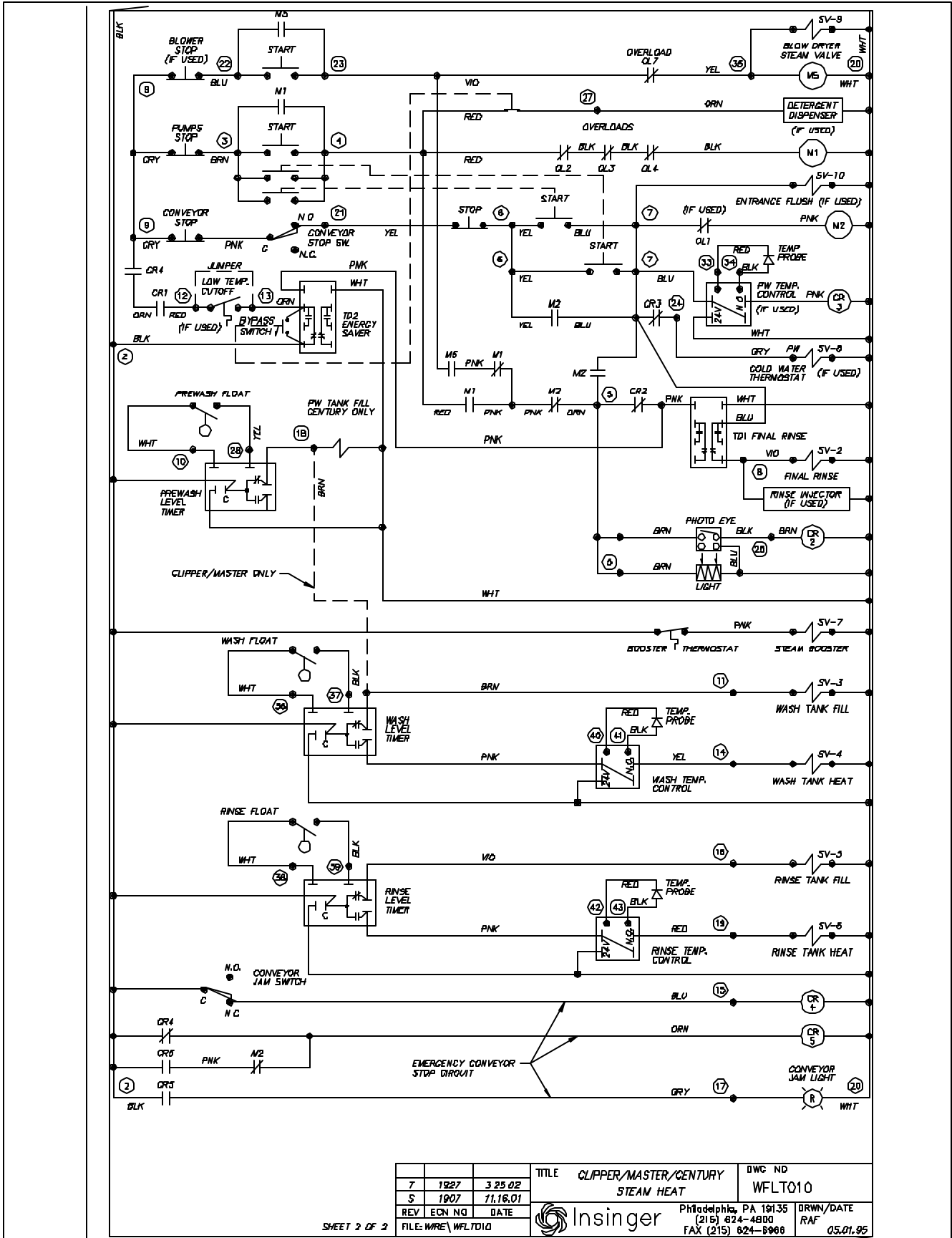
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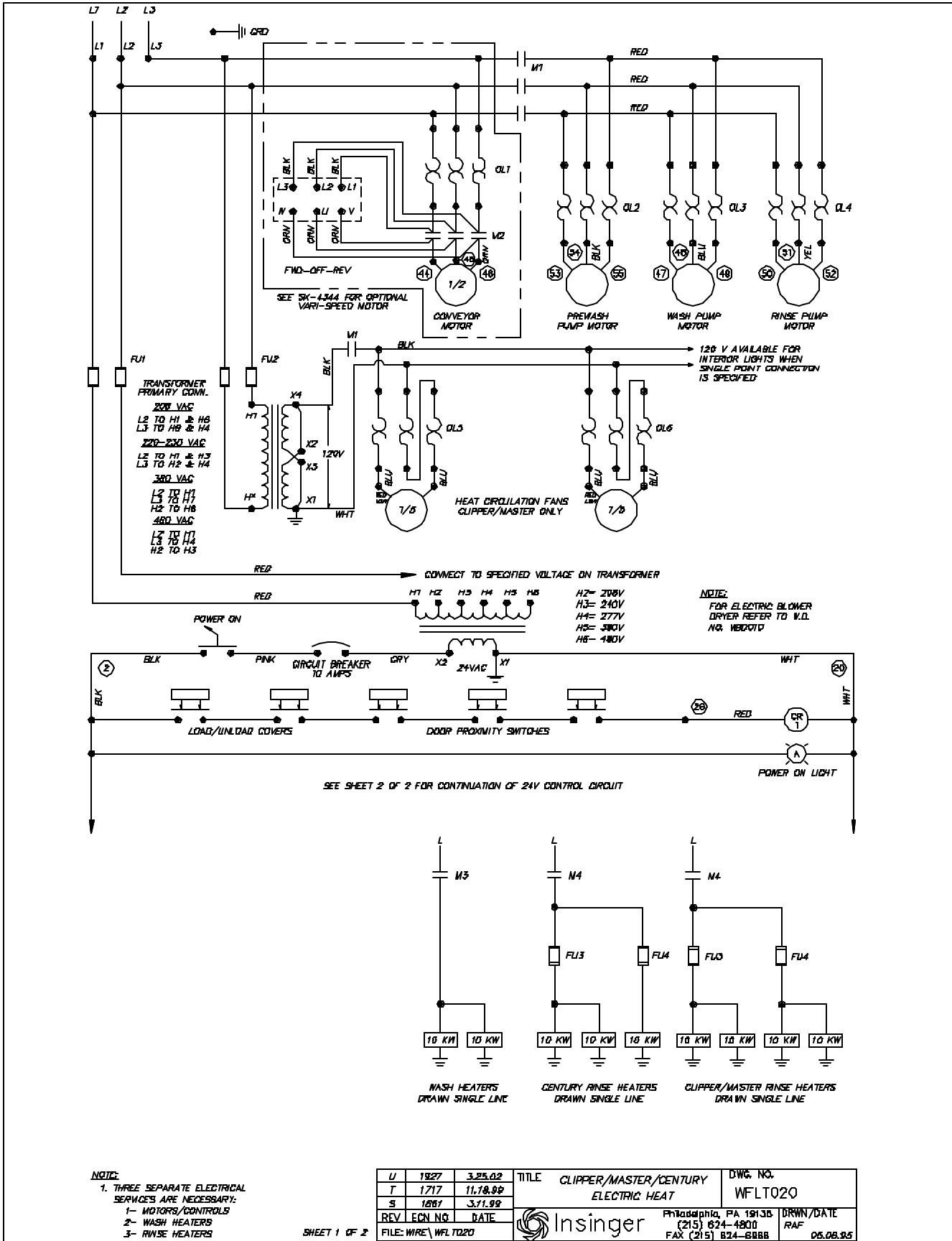
Dirty level floats will cause the tank heat to energize with no water in the tanks. LEVEL FLOATS MUST BE CLEANED DAILY.

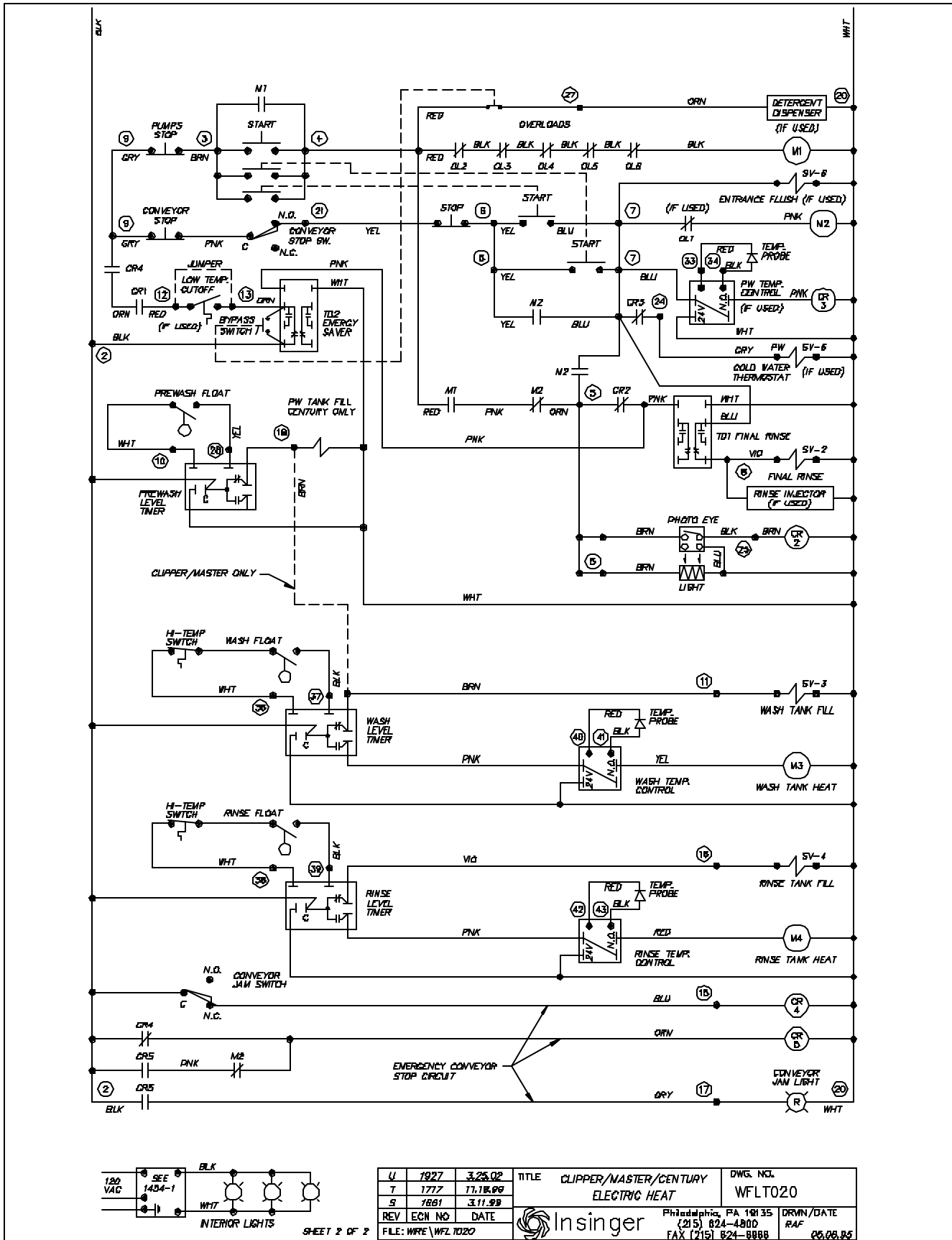


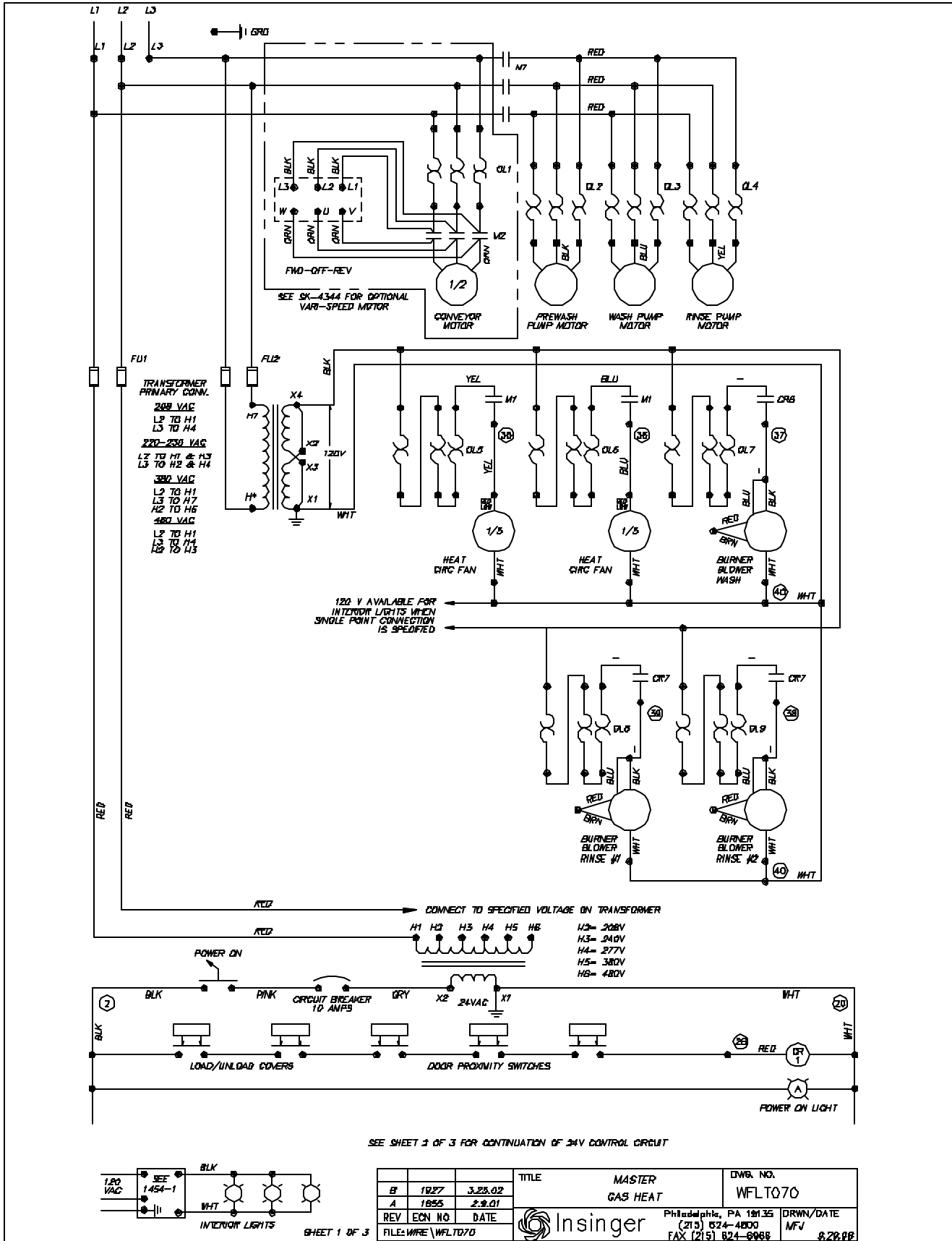
U	NEW	REV	TITLE	DWG. NO.
T	1827	3.25.02	CLIPPER/MASTER/CENTURY	WFLT010
S	1907	11.78.01	STEAM HEAT	
REV	ECN NO	DATE	Philadelphia, PA 19135	DRWN/DATE
			(215) 624-4800	RAF
			FAX (215) 624-8088	05/01/98

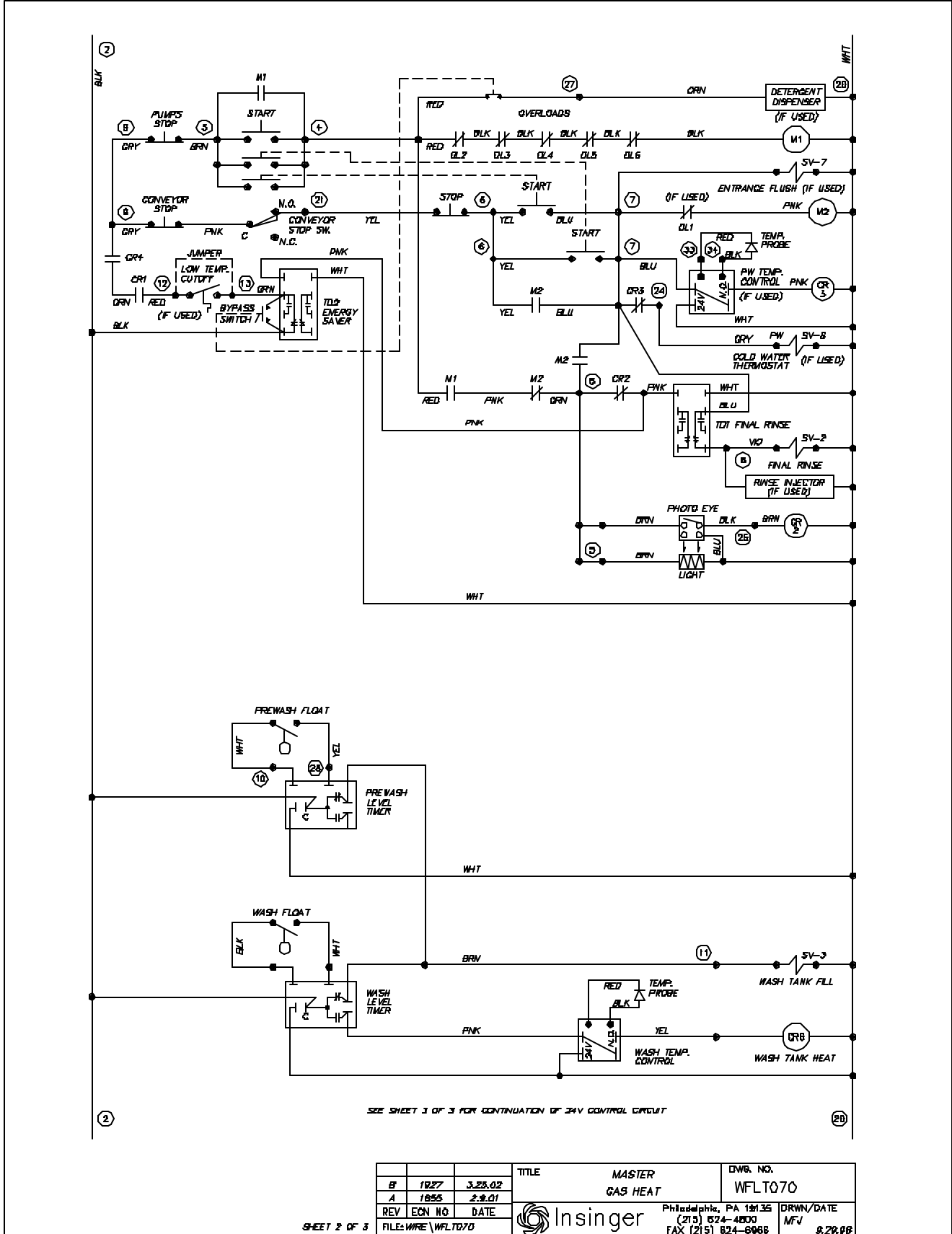


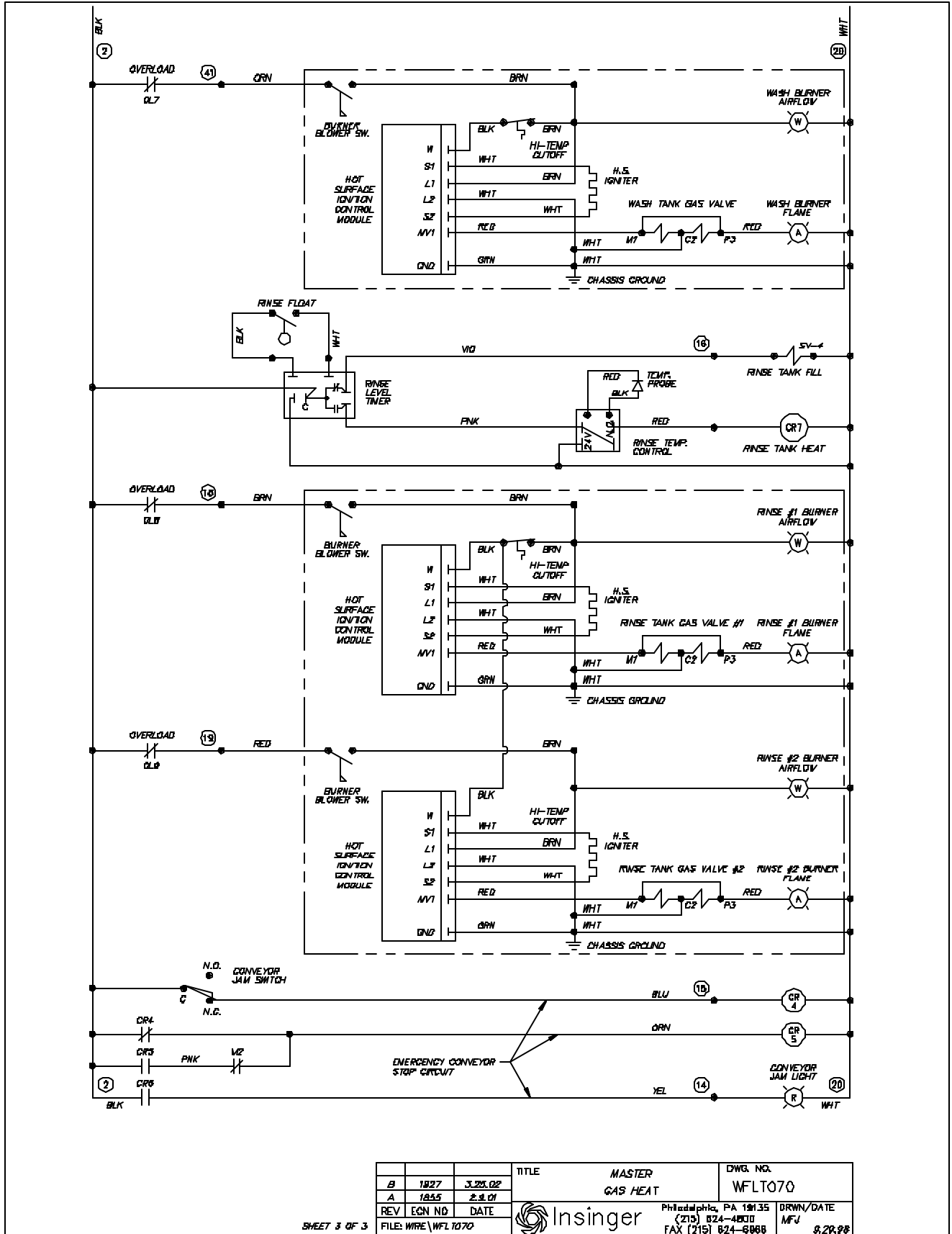






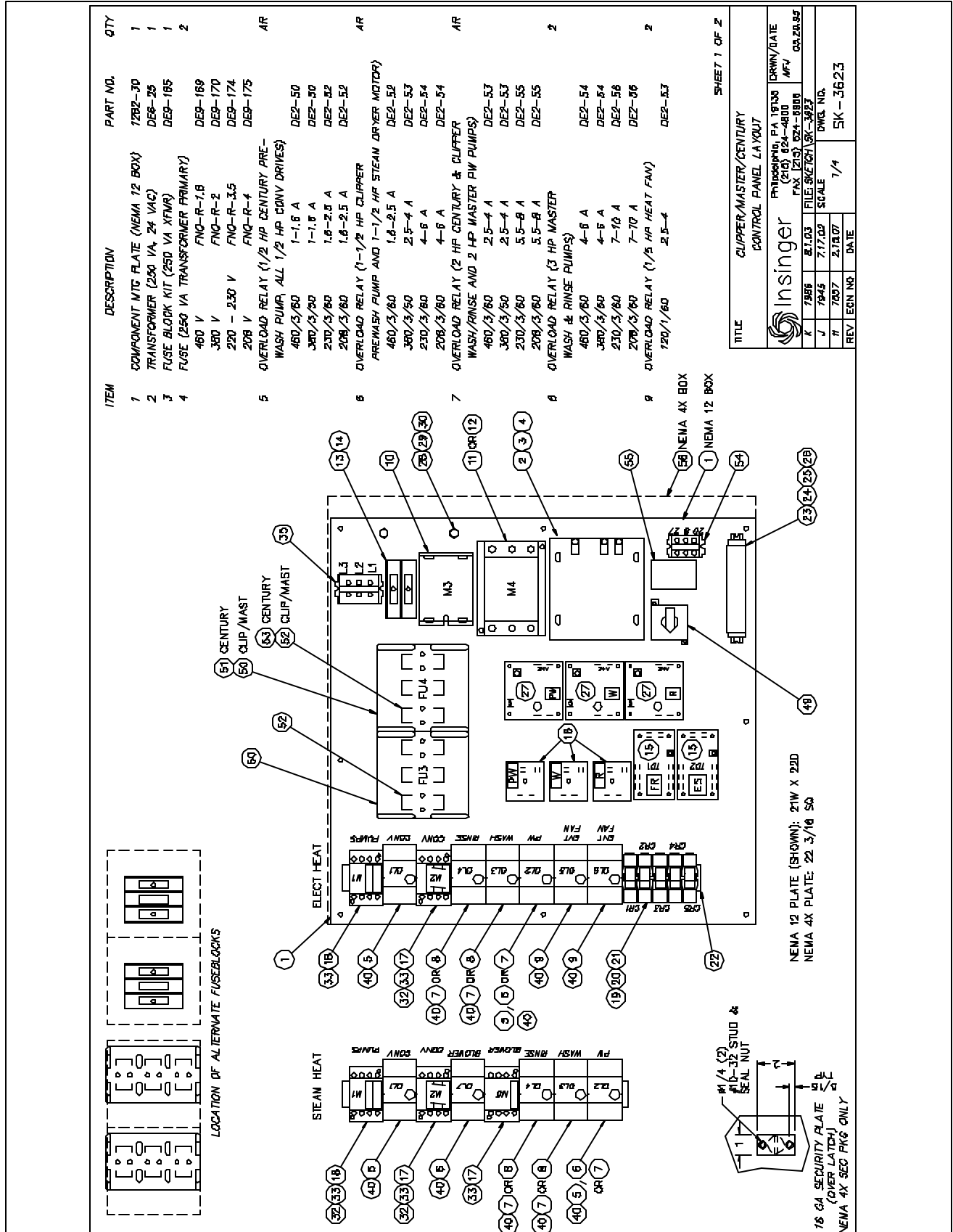






B	1827	3.25.02	TITLE	MASTER GAS HEAT	DWG. NO.	WFLT070
A	1835	2.3.01	REV	EGN NO	DATE	DRWN/DATE
FILE: WFL1070					Philadelphia, PA 19135 (215) 824-4800 FAX (215) 824-5988	Mfj 8.28.98

SHEET 3 OF 3



SHEET 1 OF 2

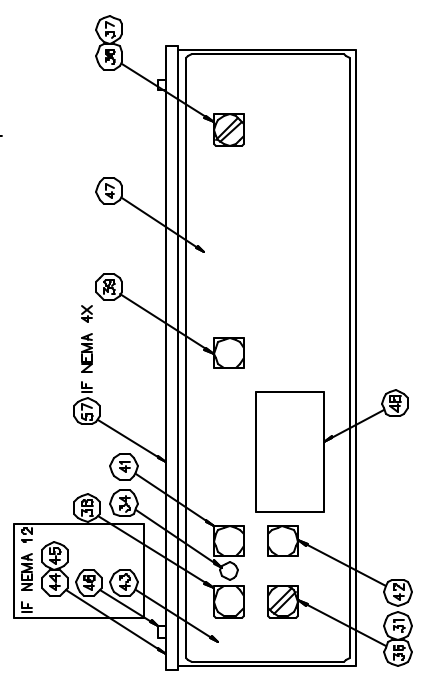
TITLE		CLIPPER/MASTER/CENTURY CONTROL PANEL LA YOUT	
Insinger		Philadelphia, PA 19106	DRWN/DATE
		(215) 824-4800	MFV 08.28.95
K	7986	81.03	FILE #02107 OR-3623
J	7945	7.17.00	SCALE
REV	EGN NO.	DATE	DRAWL NO.
	7	7/07	1/4
			SK-3623

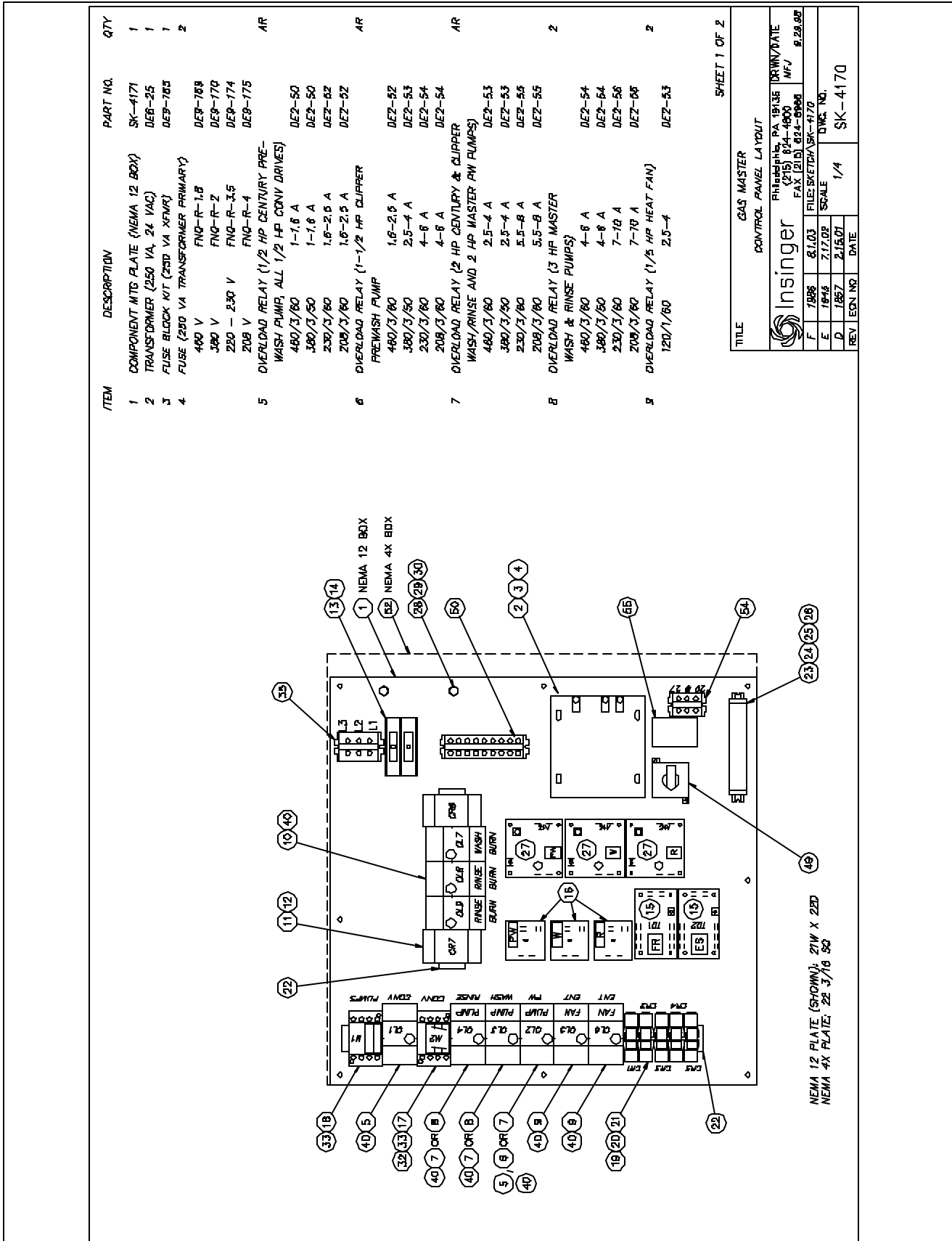
ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
70	CONTACTOR (20 KW ELECT WASH TANK HEAT ONLY) 460/3/60 380/3/60 230/3/60 208/3/60	DE1-109 DE1-110 DE1-111 DE1-111	1	18	CONTACTOR (PUMPS) CENTURY CLIP & MAST (380 - 460 V) SP17 CLIP & MAST (208 - 230 V) SP27	DE1-93 DE1-98AE DE1-98AE DE2-37	1	39	PILOT LIGHT ASSY - RED	DEB-81	1
11	CONTACTOR (30 KW ELECT RINSE TANK HEAT ONLY) 460/3/60 380/3/60 230/3/60 208/3/60	DE1-110 DE1-111 DE1-111 DE1-111	1	19	RELAY BASE	DE2-37	AR	40	OVERLOAD BASE	DE2-80	AR
12	CONTACTOR (40 KW ELECT RINSE TANK HEAT ONLY) 460/3/60 380/3/60 230/3/60 208/3/60	DE1-111 DE1-111 DE1-111 DE1-111	1	20	RELAY	DE2-37	AR	41	PUSHBUTTON ASSY, START	DEB-84	1
13	FUSE BLOCK, 2 POLE (XFRM PRIMARY) 460 V 380 V 230 V 208 V	DE9-186 DE9-176 DE9-178 DE9-178	1	21	RELAY HOLD DOWN SPRING	DE2-38	AR	42	PUSHBUTTON ASSY, STOP	DEB-85	1
14	FUSE BLOCK, 2 POLE (XFRM PRIMARY) 460 V 380 V 230 V 208 V	DE9-186 DE9-176 DE9-178 DE9-178	2	22	DIN RAIL (35 mm)	DEB-216	1	43	CONTROL BOX, NEMA 12	1442-32	1
15	TIMER (ENERGY SAVER & FINAL RINSE) 460/3/60 380/3/60 230/3/60 208/3/60	DE7-349 DE7-349 DE7-349 DE7-349	2	23	DIN RAIL (19 mm)	DE3-43	AR	44	CONTROL BOX COVER, NEMA 12	1442-32	1
16	TIMER (LIQUID LEVEL) 460/3/60 380/3/60 230/3/60 208/3/60	DE7-349 DE7-349 DE7-349 DE7-349	2	24	TERMINAL SECTION	DE3-42	1	45	GASKET, NEMA 12 BOX	8007-001	1
17	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	25	TERMINAL END COVER PLATE	DE3-40	1	46	NUT, NEMA 12 BOX	Q3120-ET-5	4
18	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	26	TERMINAL END CLAMP	DE3-41	2	47	DECAL	SK-3789	1
19	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	27	TEMPERATURE CONTROL BOARD	DEB-267	1	48	SWITCH (FWD - OFF - REV)	SK-3715	1
20	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	28	GROUNDING STUD	D309C-60-46	2	49	FUSEBLOCK	DEB-56	1
21	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	29	LOCKWASHER, 1/4"	D3130-60	2	50	FUSEBLOCK	DEB-186	1
22	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	30	HEX NUT, 1/4-20	D3120-60-2	2	51	FUSEBLOCK (CENTURY ONLY)	DEB-212	1
23	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	31	CONTACT BLOCK, NG	DEB-59	1	52	FUSE	DEB-212	AR
24	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	32	AUX CONTACT NC	DE7-61AE	AR	53	FUSE (CENTURY ONLY)	DEB-104	3
25	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	33	AUX CONTACT NO	DE7-62AE	AR	54	TERMINAL BLOCK ASSY	DEB-189	1
26	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	34	CIRCUIT BREAKER (10A)	DEB-106	1	55	CAUTION LABEL	DEB-209	1
27	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	35	TERMINAL BLOCK ASSY	DE3-3	1	56	COMPONENT MFG PLATE, NEMA 4X BOX	SK-3461	1
28	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	36	SELECTOR SWITCH ASSY	DEB-58	2	57	CONTROL BOX (24 X 24 X 8), NEMA 4X	DEB-249	1
29	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	37	CONTACT BLOCK, NC	DEB-60	1				
30	CONTACTOR (CONV & DRYER BLOWER) SP4 460 V 380 V 230 V 208 V	DE1-93 DE1-93 DE1-93 DE1-93	AR	38	PILOT LIGHT ASSY - YELLOW	DEB-62	1				

NOT SHOWN
ELECTRIC IMMERSION HEATER (10 KW)
440-460 V, 3 PH
380 V, 3 PH
230-240 V, 3 PH
208V, 3PH
TRANSFORMER (OPT) FOR HEAT FANS
1000 VA
1000 VA (208 & 380 V ONLY)
REMOTE START/STOP PUSHBUTTON STA
TEMPERATURE SENSOR

AR
DE13-SF73
DE13-SF83
DE13-SF43
DE13-SF23
DEB-37
DEB-32
DEB-434C
DEB-252

SHEET 2 OF 2
CLIPPER MASTER/CENTURY
CONTROL PANEL LAYOUT
INSINGER
PHILADELPHIA, PA 19135
(215) 824-4800
FAX (215) 824-8945
INSINGER
8.1.03
2.12.07
2.13.07
DATE
REV
REV NO
DATE





SHEET 1 OF 2

TITLE: GAS MASTER CONTROL PANEL LAYOUT

Insinger		PHILADELPHIA, PA 19138	DRYING DATE
		(215) 834-4800	MP/J
		FAX (215) 834-6966	# 29.02
F	7986	6.1.03	FILE: SKETCH/SK-4170
E	1646	2.17.02	SCALE
D	1827	2.16.01	DWG. NO.
REV	ESN	NO.	DATE

SCALE: 1/4
PART NO: SK-4170

ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
10	OVERLOAD RELAY (BURNER BLOWER)	DE2-49	3	17	CONTACTOR (CONV & DRYER BLOWER) SP4	DE1-63	AR	25	TERMINAL END COVER PLATE	DE3-40	1
11	RELAY	DE2-12	2	18	CONTACTOR (PUMPS)	DE1-63	1	26	TERMINAL END CLAMP	DE3-41	2
12	RELAY BASE	DE3-25	2		GENUINE SP4	DE1-63	AR	27	TEMPERATURE CONTROL BOARD	DEB-251	AR
13	FUSE (1500 VA TRANSFORMER PRIMARY)	DEB-185	1		CLIP & MAST (380 - 480 V) SP17	DE1-58AE	AR	28	GROUNDING STUD	D308C-6C-4G	2
14	FUSE (1500 VA TRANSFORMER PRIMARY)	DEB-177	2	19	RELAY BASE	DE2-37	AR	29	LOCKWASHER, 1/4"	D313C-65	2
		FNG-R-6		20	RELAY	DE2-38	AR	30	HEX NUT, 1/4-20	D312C-6C-2	2
		FNG-R-7.5		21	RELAY HOLD DOWN SPRING	DE3-43	AR	31	CONTACT BLOCK, NO	DEB-58	1
		FNG-R-12		22	DIN RAIL (35 mm)	DE3-43	AR	32	AUX CONTACT NC	DE1-61AE	AR
		FNG-R-15		23	DIN RAIL (15 mm)	DEB-216	2	33	AUX CONTACT NO	DE1-62AE	AR
15	TIMER (ENERGY SAVER & FINAL RINSE)	DE7-28	2	24	TERMINAL SECTION	DE3-42	1	34	CIRCUIT BREAKER (10A)	DEB-10R	1
16	TIMER (LIQUID LEVEL)	DE7-35	AR			DE3-39	AR	35	TERMINAL BLOCK ASSY	DE3-3	1
								36	SELECTOR SWITCH ASSY	DEB-58	2
								37	CONTACT BLOCK, NC	DEB-60	1
								38	PILOT LIGHT ASSY - YELLOW	DEB-62	1
								39	PILOT LIGHT ASSY - RED	DEB-61	1
								40	OVERLOAD BASE	DE2-60	AR
								41	PUSHBUTTON ASSY, START	DEB-64	1
								42	PUSHBUTTON ASSY, STOP	DEB-65	1
								43	CONTROL BOX, NEMA 12	1442-32	1
								44	CONTROL BOX COVER, NEMA 12	1442-32	1
								45	GASKET, NEMA 12 BOX	3007-001	1
								46	NUT, NEMA 12 BOX	D312C-6F-\$	4
								47	DECAL	SK-3788	1
								48	DATA DECAL	SK-3715	1
								49	SWITCH (FWD - OFF - REV)	DEB-58	1
								50	TERMINAL BLOCK ASSY	DE3-75B	1
								51	CONTROL BOX (24 X 24 X 8), NEMA 4X	DEB-249	1
								52	COMPONENT MFG PLATE, NEMA 4X BOX	SK-4445	1
								53	TERMINAL BLOCK ASSY	DE3-9	1
								54	TERMINAL BLOCK ASSY	SK-3467	1
								55	CAUTION LABEL		

ITEM	DESCRIPTION	PART NO.	QTY
17	CONTACTOR (CONV & DRYER BLOWER) SP4	DE1-63	AR
18	CONTACTOR (PUMPS)	DE1-63	1
19	RELAY BASE	DE2-37	AR
20	RELAY	DE2-38	AR
21	RELAY HOLD DOWN SPRING	DE3-43	AR
22	DIN RAIL (35 mm)	DEB-216	2
23	DIN RAIL (15 mm)	DE3-42	1
24	TERMINAL SECTION	DE3-39	AR

NDT SHOWN
IGNITION MODULE
PILOT LIGHT, WHITE
PILOT LIGHT, AMBER
DECAL GAS BURNER LIGHTS
TRANSFORMER (DRY)
1500 VA
1500 VA (208 V ONLY)
REMOTE START/STOP PUSHBUTTON STA
TEMPERATURE SENSOR

SHEET 2 OF 2

TITLE: GAS MASTER CONTROL PANEL LAYOUT

Insinger
Philadelphia, PA 19135
(215) 824-4800
FAX (215) 824-6948
FILE: SKETCH/SK-4170

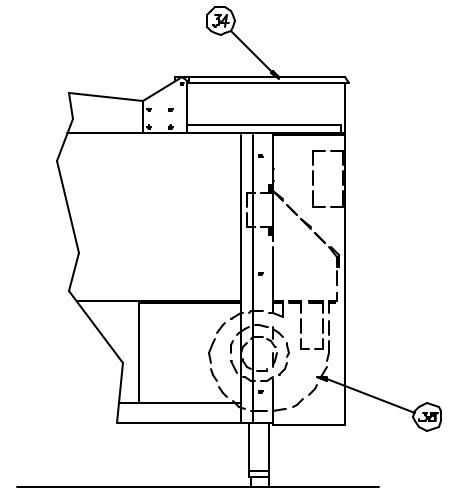
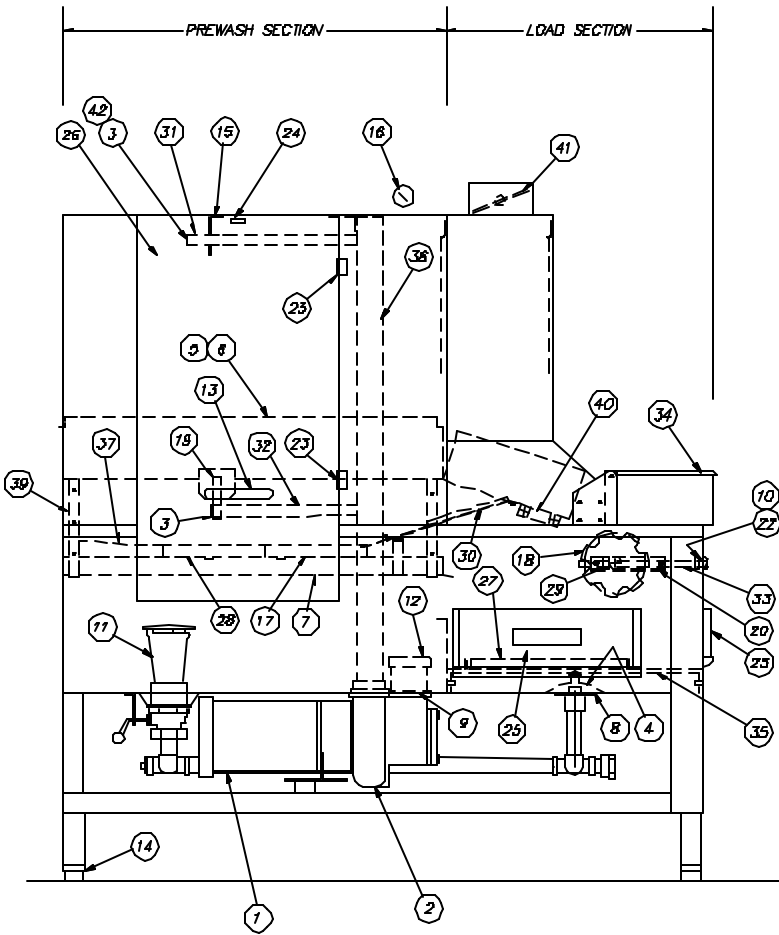
DRWN/DATE: MFL 8.28.07

SCALE: 1/4"

REV: FEJ NO. DATE

RECOMMENDED MASTER/CLIPPER SPARE PARTS LIST


Part Number	Quantity	Description
Mechanical Parts		
D2-554-1	4	End Plug 1/2"
D2-554-2	4	End Plug, 3/4"
D2-541	2	Suction Strainer
D2099	1	Handle, Door
D2349	1	Latch, Spray Pipe
D2-522S	1	Curtain
D2286	3	Spray Nozzle, FR
D2701	3	Spray Nozzle, FR
D2390	2	Temperature Gauge
954-50	1	Drain Assembly
D2-594	1	O-ring, Manifold
RC15-226	6	Section Link, Belt
D582	6	Roller, Belt
D2160	12	Cotter Pin, Belt
SK1115	24	Split Rivet, Belt
D2930RK	1	Solenoid Valve Repair Kit, 1/2"
D2242	1	Vacuum Breaker Repair Kit, 1/2"
Electrical Components		
DE7-28	1	Timer
DE7-35	1	Timer, Level
DE5-60	1	Level Float
DE9-251	1	Temperature Control Board
DE5-37	2	Magnetic Switch
DE5-4	1	MicroSwitch
For Steam Tank Heat Add:		
1 Each Solenoid Valve Repair Kits:		
D2947RK	1	
D2946RK	3/4"	
D2475	1 1/4"	
For Electric Heat Add:		
DE13-Sfy3		Immersion Heater y = Specify Voltage



RIGHT HAND MACHINE SHOWN (STEAM)

ELECTRIC MACHINE ONLY

SHEET 1 OF 2

CLIPPER MASTER 2', 3', 4' LOAD - 3' PW		
 INSINGER MACHINE COMPANY		6245 State Rd. Tel. 215-624-4800 Philadelphia FAX: 215-624-8986 PA 19135-2996
SCALE:	1" = 12"	DWG. NO. SK-2605R
DRAWN:	PG 3.31.99	
APPROVED:	MFJ 3.31.99	


FILE: SKETCH \SK-2605R

 EGN #2007 3.22.04

ITEM	PART NO.						PART NAME	REQ'D
	STANDARD WIDTH			31" WDE				
	STD HEIGHT	3" EX HIGH	6" EX HIGH	STD HEIGHT	3" EX HIGH	6" EX HIGH		
1	-	-	-	-	-	-	MOTOR (AS SPECIFIED)	1
2	D-2471	D-2471	D-2471	D-2471	D-2471	D-2471	PUMP	1
3	D2-554-2	D2-554-2	D2-554-2	D2-554-2	D2-554-2	D2-554-2	END PLUG	6
								7
4	D-108	D-108	D-108	D-108	D-108	D-108	DRAIN STRAINER	1
5	1113-46	1113-46	1113-46	1113-46	1113-46	1113-46	TRACK-UPPER FRONT	1
6	1113-46	1113-46	1113-46	1113-46	1113-46	1113-46	TRACK-UPPER REAR	1
	1113-30	1113-30	1113-30	1113-30	1113-30	1113-30	TRACK-LOWER	2
7	1103-83	1103-83	1103-83	1103-83	1103-83	1103-83	TRACK-LOWER	2
	1113-29	1113-29	1113-29	1113-29	1113-29	1113-29	TRACK-LOWER	2
8	D-514	D-514	D-514	D-514	D-514	D-514	GASKET	1
9	D-530	D-530	D-530	D-530	D-530	D-530	GASKET	1
10	D-685	D-685	D-685	D-685	D-685	D-685	"O" RING-ADJ. SCREW	2
11	954-1	954-1	954-1	954-1	954-1	954-1	DRAIN ASSY (SEE PARTS LIST)	1
12	DE-341	DE-341	DE-341	DE-341	DE-341	DE-341	SUCTION STRAINER	1
13	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	DOOR HANDLE & ROD	1
14	D-2248	D-2248	D-2248	D-2248	D-2248	D-2248	ADJUSTABLE FOOT	4
15	D-2348	D-2348	D-2348	D-2348	D-2348	D-2348	SPRAY PIPE LATCH	1
16	D-2390	D-2390	D-2390	D-2390	D-2390	D-2390	THERMOMETER	1
17	1105-83	1105-83	1105-83	1426-30	1426-30	1426-30	SCRAP SCREEN	4
18	D2-138	D2-138	D2-138	D2-138	D2-138	D2-138	BELT SPROCKET	2
19	1100-73	1100-73	1100-73	1428-105	1428-105	1428-105	GRABBLE-SPRAY PIPES	1
20	1100-147	1100-147	1100-147	1100-147	1100-147	1100-147	CHANNEL FOR SHAFT	2
21	-	-	-	-	-	-	-	1
22	D2-838	D2-838	D2-838	D2-838	D2-838	D2-838	COLLAR- ADJ. SCREW	2
23	D-2715	D-2715	D-2715	D-2715	D-2715	D-2715	DOOR LATCH	1
24	DE3-37	DE3-37	DE3-37	DE3-37	DE3-37	DE3-37	MAGNET SWITCH	1
25	1100-94	1100-94	1100-94	1100-94	1100-94	1100-94	DOOR-LOAD SECT.	2
								1
26	1100-28	1442-33	1442-33	1100-28	1442-33	1442-33	DOOR-P.W.	1
								2
27	1100-37	1100-37	1100-37	1428-28	1428-28	1428-28	SCRAP SCREEN	3
								4
28	1100-81	1100-81	1100-81	1428-28	1428-28	1428-28	SCRAP SCREEN	4
29	1100-148	1100-148	1100-148	1428-80	1428-80	1428-80	CONVEYER SHAFT	1
30	1100-195	1100-195	1100-195	1403-18R	1403-18R	1403-18R	BAFFLE-LOAD/PW	1
	1105-102	1105-102	1105-102	1428-91	1428-91	1428-91		1
31	1100-357A	1100-357A	1100-357A	1100-357B	1100-357B	1100-357B	MANIFOLD ASSY-UPPER	1
32	1100-71	1100-71	1100-71	1428-48	1428-48	1428-48	MANIFOLD ASSY-LOWER	1
33	1100-148	1100-148	1100-148	1100-148	1100-148	1100-148	ADJUSTABLE SCREW	2
34	1100-134	1100-134	1100-134	1428-85	1428-85	1428-85	END REST	1
	1373-11	1373-11	1373-11	1428-78	1428-78	1428-78		1
35	1100-38	1100-38	1100-38	1100-38	1100-38	1100-38	SCRAP SCREEN SUPPORT	1
36	1113-43	1113-43	1113-43	1113-43	1113-43	1113-43	DISCHARGE TUBE ASSY	1
37	1100-108	1100-108	1100-108	1428-28	1428-28	1428-28	TRAY SPACER	7
	1105-95	1105-95	1105-95	1428-82	1428-82	1428-82		1
38	50508	50508	50508	50508	50508	50508	BLOWER, 120 VAC	2
39	1100-30	1100-30	1100-30	1428-22	1428-22	1428-22	TRACK SUPPORT	2
40	1100-65	1100-65	1100-65	1428-21	1428-21	1428-21	TRACK SUPPORT	1
41	D2-728	D2-728	D2-728	D2-728	D2-728	D2-728	DAMPEN BLADE	1
42	D3-308	D3-308	D3-308	D3-308	D3-308	D3-308	END PLUG RETAINER	6

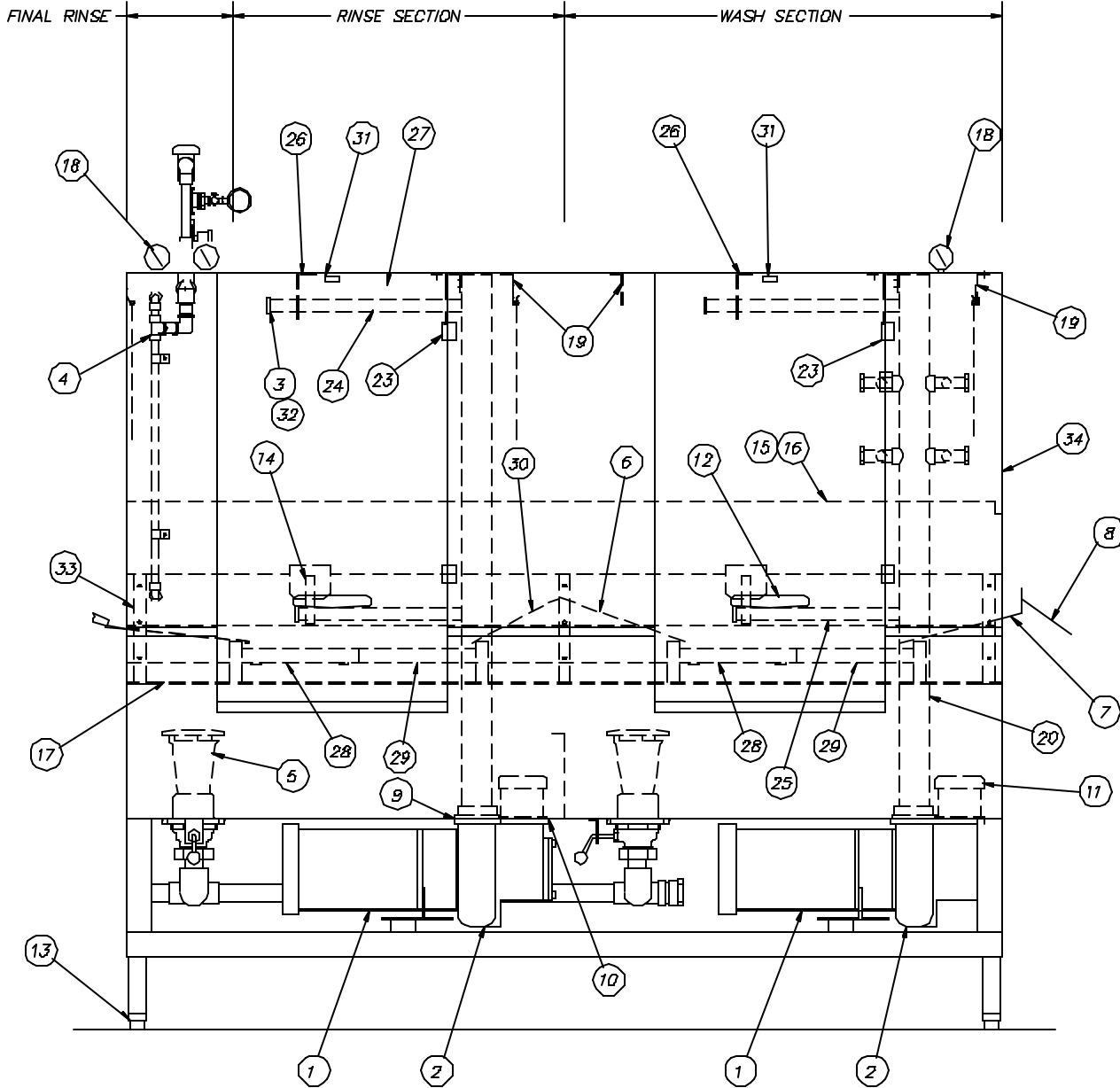
* ITEM 17 QUANTITY 1 R.H. MACHINE - 0 L.H. MACHINE
 ITEM 28 QUANTITY 1 R.H. MACHINE - 2 L.H. MACHINE

SHEET 2 OF 2

CLIPPER MASTER 2',3',4' LOAD-3' PW	
 INSINGER MACHINE COMPANY	8245 State Rd. Tel. 215-624-4800 Philadelphia FAX: 215-624-8866 PA 19135-2985
SCALE: 1"=12' DRAWN: PC 3.31.88 APPROVED: MFJ 3.31.89	DWG. NO. SK-2605R


 EEN #2007 3.22.04

5: SKETCH/5K-2605R



RIGHT HAND MACHINE SHOWN

SHEET 1 OF 2

△ EGN #2007 3.22.04

FILE: SKETCH\SK-2610R


<p>CLIPPER WASH & RINSE SECTION</p>	
 <p>INSINGER MACHINE COMPANY</p>	<p>6245 State Rd. Tel. 215-624-4800 Philadelphia FAX: 215-624-6966 PA 19135-2996</p>
<p>SCALE: 1"=12</p>	<p>DWG. NO. SK-2610R</p>
<p>DRAWN: PG 4.16.99</p>	
<p>APPROVED: MFJ 4.16.99</p>	

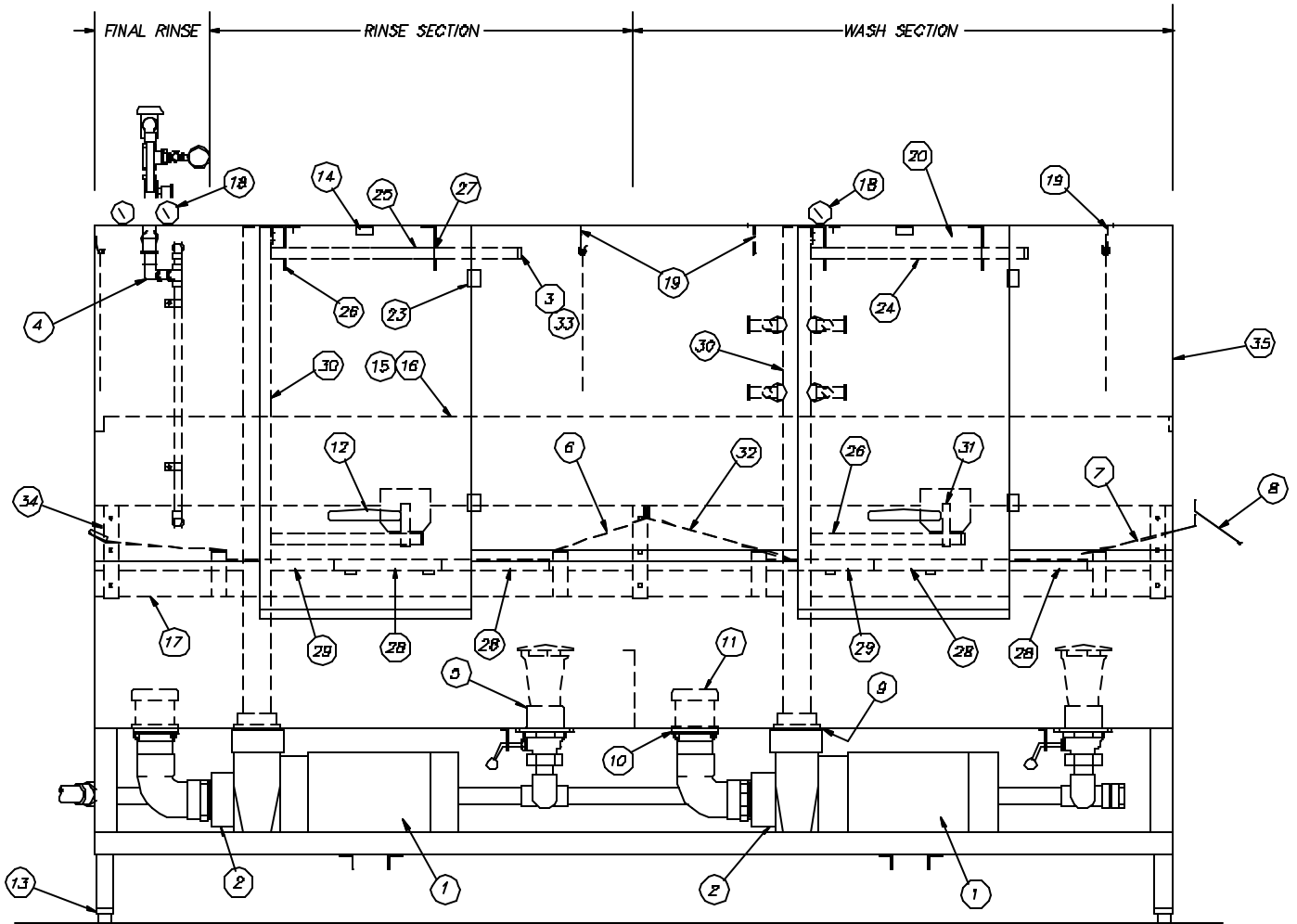
ITEM	PART NO.						PART NAME	QTY	
	STANDARD WIDTH			3" WIDE					
	STD HEIGHT	3" EX HIGH	6" EX HIGH	STD HEIGHT	3" EX HIGH	6" EX HIGH			
1	-	-	-	-	-	-	MOTOR (AS SPECIFIED)	2	
2	D-2471	D-2471	D-2471	D-2471	D-2471	D-2471	PUMP	2	
3	D2-864-2	D2-864-2	D2-864-2	D2-864-2	D2-864-2	D2-864-2	END PLUG	12	
4	1100-330	1100-330	1100-330	1486-20	1485-20	1486-20	FINAL RINSE ASSY (SEE PARTS LIST)	1	
5	954-1	954-1	954-1	954-1	954-1	954-1	DRAIN ASSY (SEE PARTS LIST)	2	
6	1100-187	1100-183	1100-193	1483-18R	1483-18R	1483-18R	BAFFLE-CENTER	1	R.H. MACH
	1113-33	1113-33	1113-33	1480-22	1480-22	1480-22			L.H. MACH.
7	1100-194	1100-194	1100-194	1485-18R	1485-18R	1485-18R	BAFFLE-WASH	1	R.H. MACH
	1113-34	1113-34	1113-34	1485-24	1485-24	1485-24			L.H. MACH.
8	1100-185	1100-185	1100-185	1426-34	1426-34	1426-34	BAFFLE-AT SPLIT	1	R.H. MACH
	1103-106	1103-106	1103-106	1426-80	1426-80	1426-80			L.H. MACH.
9	D-814	D-814	D-814	D-814	D-814	D-814	GASKET	2	
10	D-530	D-530	D-530	D-530	D-530	D-530	GASKET	2	
11	D2-541	D2-541	D2-541	D2-541	D2-541	D2-541	SUCTION STRAINER	2	
12	RC18-20 RC18-21	RC18-20 RC18-21	RC18-20 RC18-21	RC18-20 RC18-21	RC18-20 RC18-21	RC18-20 RC18-21	DOOR HANDLE & ROD	2	
13	D-2248	D-2248	D-2248	D-2248	D-2248	D-2248	ADJUSTABLE FOOT	4	
14	1100-73	1100-73	1100-73	1426-103	1426-103	1426-103	TRACK-SPRAY PIPES	2	
15	1113-48	1113-48	1113-48	1113-48	1113-48	1113-48	TRACK-UPPER FRONT	1	
16	1113-49	1113-49	1113-49	1113-49	1113-49	1113-49	TRACK-UPPER REAR	1	
17	1100-185	1100-185	1100-185	1100-185	1100-185	1100-185	TRACK-LOWER	2	R.H. MACH
	1113-28	1113-28	1113-28	1113-28	1113-28	1113-28			L.H. MACH.
18	D-2380	D-2380	D-2380	D-2380	D-2380	D-2380	THERMOMETER	3	
19	1100-18R	1100-18R	1100-18R	1486-13R	1485-13R	1486-13R	BAFFLE-TOP	3	
20	1113-41A	1113-41B	1113-41C	1113-41A	1113-41B	1113-41C	DISCHARGE TUBE ASSY	2	
21	-	-	-	-	-	-	-	-	
22	-	-	-	-	-	-	-	-	
23	D-2715	D-2715	D-2715	D-2715	D-2715	D-2715	DOOR LATCH	4	
24	1100-369B	1100-369B	1100-369B	1100-369D	1100-369D	1100-369D	MANIFOLD ASSY UPPER	2	
25	1100-71	1100-71	1100-71	1426-49	1426-49	1426-49	MANIFOLD ASSY-LOWER	2	
26	D-2349	D-2349	D-2349	D-2349	D-2349	D-2349	SPRAY PIPE LATCH	2	
27	1100-28	1442-36	1442-36	1100-28	1442-36	1442-36	DOOR	2	
28	1100-81	1100-81	1100-81	1426-28	1426-28	1426-28	SCRAP SCREEN	2	
29	1104-73	1104-73	1104-73	1426-31	1426-31	1426-31	SCRAP SCREEN W/DR DISCHARGE	2	
30	1100-182	1100-182	1100-182	1483-17R	1483-17R	1483-17R	BAFFLE-CENTER	1	R.H. MACH
	1100-183	1100-183	1100-183	1483-162	1483-162	1483-162			L.H. MACH.
31	DE5-37	DE5-37	DE5-37	DE5-37	DE5-37	DE5-37	MAGNET SWITCH	2	
32	D3-658-2	D3-658-2	D3-658-2	D3-658-2	D3-658-2	D3-658-2	END PLUG RETAINER	12	
33	1100-50	1100-50	1100-50	1426-31	1426-31	1426-31	TRACK SUPPORT	3	
34	1100-15	-	-	1426-41	-	1442-12	GASKET	2	

SHEET 2 OF 2

 EON #007 3.22.04

TCH/SK-2610R

CLIPPER WASH & RINSE SECTION	
 INSINGER MACHINE COMPANY	
8245 State Rd. Tel. 215-624-4800 Philadelphia FAX: 215-824-6868 PA 19135-2996	
SCALE: 1"=12"	DWG. NO.
DRAWN: PG 4.16.99	SK-2610R
APPROVED: MFJ 4.16.99	




RIGHT HAND MACHINE SHOWN

SHEET 1 OF 2

△ EQN #2007 3.22.04

FILE: SKETCH\SK-2846

MASTER WASH & RINSE SECTION	
 INSINGER MACHINE COMPANY	
6245 State Rd. Tel. 215-624-4800 Philadelphia FAX: 215-624-6966 PA 19135-2996	
SCALE: 1"=12	DWG. NO.
DRAWN: PG 4.9.99	SK-2846
APPROVED: MFJ 4.9.99	

ITEM	PART NO.						PART NAME	REQ'D	
	STANDARD WIDTH			31" WIDE					
	STD HEIGHT	3" EX HIGH	6" EX HIGH	STD HEIGHT	3" EX HIGH	6" EX HIGH			
1	-	-	-	-	-	-	MOTOR (AS SPECIFIED)	2	
2	D2-2603	D2-2603	D2-2603	D2-2603	D2-2603	D2-2603	PUMP	2	
3	D2-554-2	D2-554-2	D2-554-2	D2-554-2	D2-554-2	D2-554-2	END PLUG	14	
4	1100-318	1100-318	1100-318	1100-318	1100-318	1100-318	FINAL RINSE ASS'Y (SEE PARTS LIST)	1	
5	954-1	954-1	954-1	954-1	954-1	954-1	DRAIN ASS'Y (SEE PARTS LIST)	2	
6	1104-71	1104-71	1104-71	1426-37	1426-37	1426-37	BAFFLE-CENTER	1	R.H. MACH
	1105-138	1105-138	1105-138	1426-87	1426-87	1426-87			L.H. MACH
7	1104-72	1104-72	1104-72	1426-38	1426-38	1426-38	BAFFLE-WASH	1	R.H. MACH
	1105-140	1105-140	1105-140	1426-88	1426-88	1426-88			L.H. MACH
8	1100-195	1100-195	1100-195	1426-34	1426-34	1426-34	BAFFLE-AT SPLIT	1	R.H. MACH
	1105-106	1105-106	1105-106	1426-80	1426-80	1426-80			L.H. MACH
9	1104-67	1104-67	1104-67	1104-67	1104-67	1104-67	GASKET	2	
10	D-530	D-530	D-530	D-530	D-530	D-530	GASKET	2	
11	D2-541	D2-541	D2-541	D2-541	D2-541	D2-541	SUCTION STRAINER	2	
12	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	RC15-20 RC15-21	DOOR HANDLE & ROD	2	
13	D-2248	D-2248	D-2248	D-2248	D-2248	D-2248	ADJUSTABLE FOOT	4	
14	DE5-37	DE5-37	DE5-37	DE5-37	DE5-37	DE5-37	MAGNET/SWITCH	2	
15	1104-50	1104-50	1104-50	1104-50	1104-50	1104-50	TRACK-UPPER FRONT	1	
16	1104-51	1104-51	1104-51	1104-51	1104-51	1104-51	TRACK-UPPER REAR	1	
17	1104-39	1104-39	1104-39	1104-39	1104-39	1104-39	TRACK-LOWER	2	R.H. MACH
	1105-135	1105-135	1105-135	1105-135	1105-135	1105-135			L.H. MACH
18	D-2390	D-2390	D-2390	D-2390	D-2390	D-2390	THERMOMETER	3	
19	1104-10R	1104-10R	1104-10R	1426-33	1426-33	1426-33	BAFFLE-TOP	3	
20	1100-28	1442-35	1442-35	1100-28	1442-35	1442-35	DOOR	2	
21	-	-	-	-	-	-	-	-	
22	-	-	-	-	-	-	-	-	
23	D-2715	D-2715	D-2715	D-2715	D-2715	D-2715	DOOR LATCH	4	
24	1104-95A	1104-95A	1104-95A	1104-95C	1104-95C	1104-95C	MANIFOLD ASS'Y-UPPER-WASH	1	
25	1104-96A	1104-96A	1104-96A	1104-96C	1104-96C	1104-96C	MANIFOLD ASS'Y-UPPER-RINSE	1	
26	1104-60	1104-60	1104-60	1426-47	1426-47	1426-47	MANIFOLD ASS'Y-LOWER	2	
27	D-2348	D-2348	D-2348	D-2348	D-2348	D-2348	SPRAY PIPE LATCH	2	
28	1100-61	1100-61	1100-61	1426-28	1426-28	1426-28	SCRAP SCREEN	4	
29	1104-73	1104-73	1104-73	1426-31	1426-31	1426-31	SCRAP SCREEN W&R DISCHARGE	2	
30	1104-64A	1104-64B	1104-64C	1104-64A	1104-64B	1104-64C	DISCHARGE TUBE ASS'Y	2	
31	1100-73	1100-73	1100-73	1426-105	1426-105	1426-105	CRADLE-SPRAY PIPES	2	
32	1104-45	1104-45	1104-45	1426-40	1426-40	1426-40	BAFFLE-CENTER	1	R.H. MACH
	1105-139	1105-139	1105-139	1426-88	1426-88	1426-88			L.H. MACH
33	D3-558-2	D3-558-2	D3-558-2	D3-558-2	D3-558-2	D3-558-2	END PLUG RETAINER	14	
34	1100-50	1100-50	1100-50	1426-21	1426-21	1426-21	TRACK SUPPORT	3	
35	1100-15	-	-	1426-41	-	1442-12	GASKET	2	

SHEET 2 OF 2

ECN #2007 3.22.04

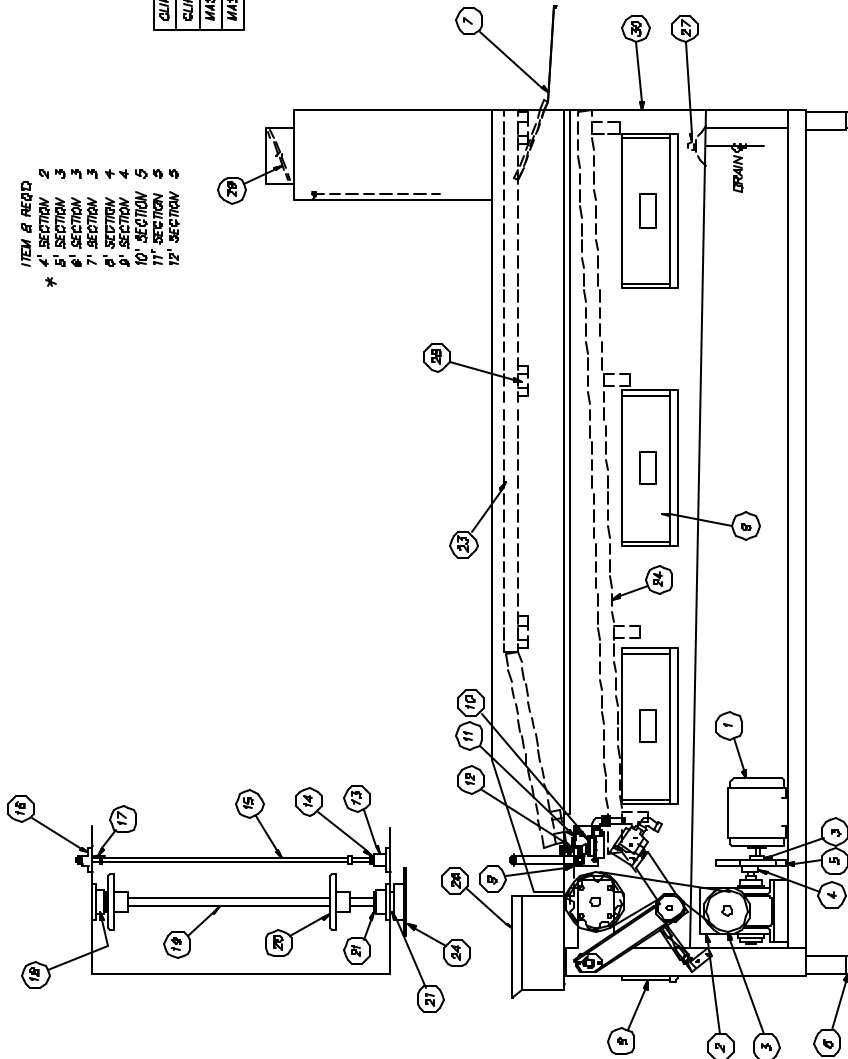
SKETCH\SK-2846

<p>MASTER WASH & RINSE SECTION</p>	
 <p>INSINGER MACHINE COMPANY</p>	<p>6245 State Rd. Tel. 215-624-4800 Philadelphia PA 19135-2996 FAX: 215-624-6966</p>
<p>SCALE: 1"=12"</p> <p>DRAWN: PG 4.9.99</p> <p>APPROVED: MFJ 4.9.99</p>	<p>DWG. NO. SK-2846</p>

ITEM	PART NO.		PART NAME	REQ'D
	STD WIDTH	37" WIDE		
1	-	-	MOTOR (AS SPECIFIED)	7
2	D2344A	D2344A	REDUCER	7
3	818-18	818-18	PULLEY-MOTOR	7
4	D-8337	D-8337	PULLEY-REDUCER	7
5	D2-682	D2-682	DRIVE BELT	7
6	D-3948	D-3948	ADJUSTABLE FOOT	4
7	1100-187	1465-159	BAFFLE	7
8	1100-84	1100-84	BLENDOUT DOOR	*
9	1100-110	1100-730	M18. BRACKET-MICROSWITCH	7
10	D-2216A	D-2216A	MICROSWITCH	7
11	1100-129	1100-738	SPRING-MICROSWITCH	7
12	1100-131	1100-131	ACTUATOR-MICROSWITCH	7
13	D2-741	D2-741	BEARING-STOP BAR-FRONT	7
14	D2-839	D2-839	COLLAR-STOP BAR	2
15	1100-128	1428-84	STOP BAR	7
16	1100-124	1100-724	BEARING-STOP BAR-REAR	7
17	1100-126	1100-726	BRACKET-STOP BAR ADJ.	7
18	1100-119	1100-719	BEARING BKT. DRIVE SHAFT	2
19	1100-118	1428-82	DRIVE SHAFT-CONVEYOR BELT	7
20	D2-738	D2-738	SPROCKET-CONVEYOR BELT	2
21	1100-122	1100-722	SPACER-DRIVE SPROCKET	2
22	D-2333	D-2333	CHAIN SPROCKET-CLIPPER	1
23	D-2388A	D-2388A	CHAIN SPROCKET-MASTER	1
24	1113-47	1113-47	UPPER TRACK-FRONT & REAR	1 EA
25	1100-108	1100-708	LOWER TRACK-FRONT & REAR	1 EA
26	-	-	CHAIN (NOT SHOWN)	7
27	1100-114	1428-83	END REST	7
28	D106	D106	DRAIN COVER	7
29	1100-55	1428-21	TRACK SUPPORT	*
30	D2-728	D2-728	DAMPET BLADE	7
31	1100-115	1428-41	SKATE	7

ITEM 8 REQ'D
 4 SECTION 2
 5 SECTION 3
 6 SECTION 3
 7 SECTION 3
 8 SECTION 4
 9 SECTION 4
 10 SECTION 5
 11 SECTION 5
 12 SECTION 5

CLIPPER R.H.
 CLIPPER L.H.
 MASTER R.H.
 MASTER L.H.



CLIPPER \ MASTER
 4.5, 6, 7, 8, 9, 10, 11, 12' UNLOAD SECTION

INSINGER
 MACHINE COMPANY
 6245 State Rd. Tel. 215-824-4800
 PIMOCHESTER PA 19151-2998
 FAX: 215-824-8965

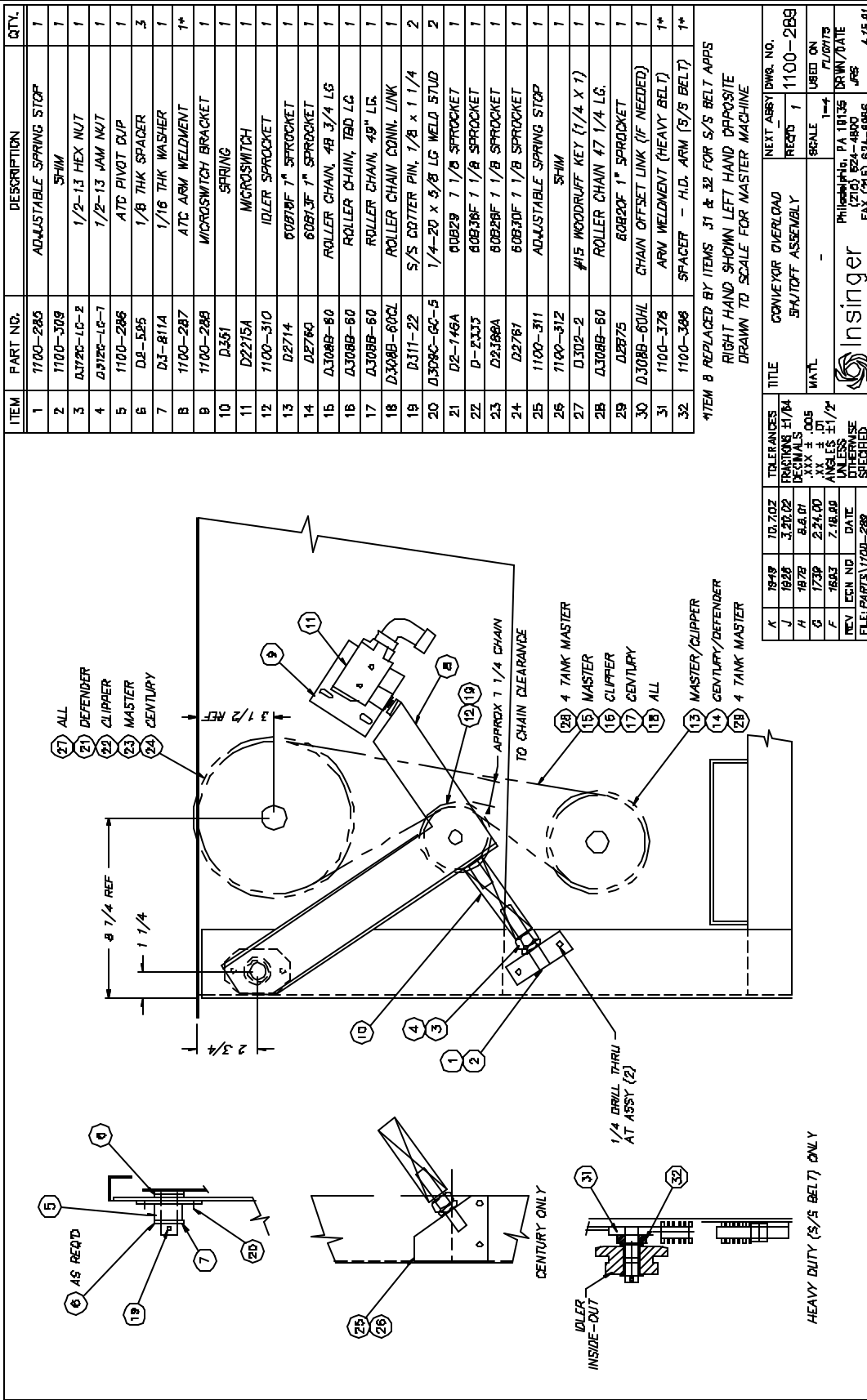
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 DRAWN: PG 4.12.89
 APPROVED: M.F.J. 4.12.89

DWG. NO. SK-2607

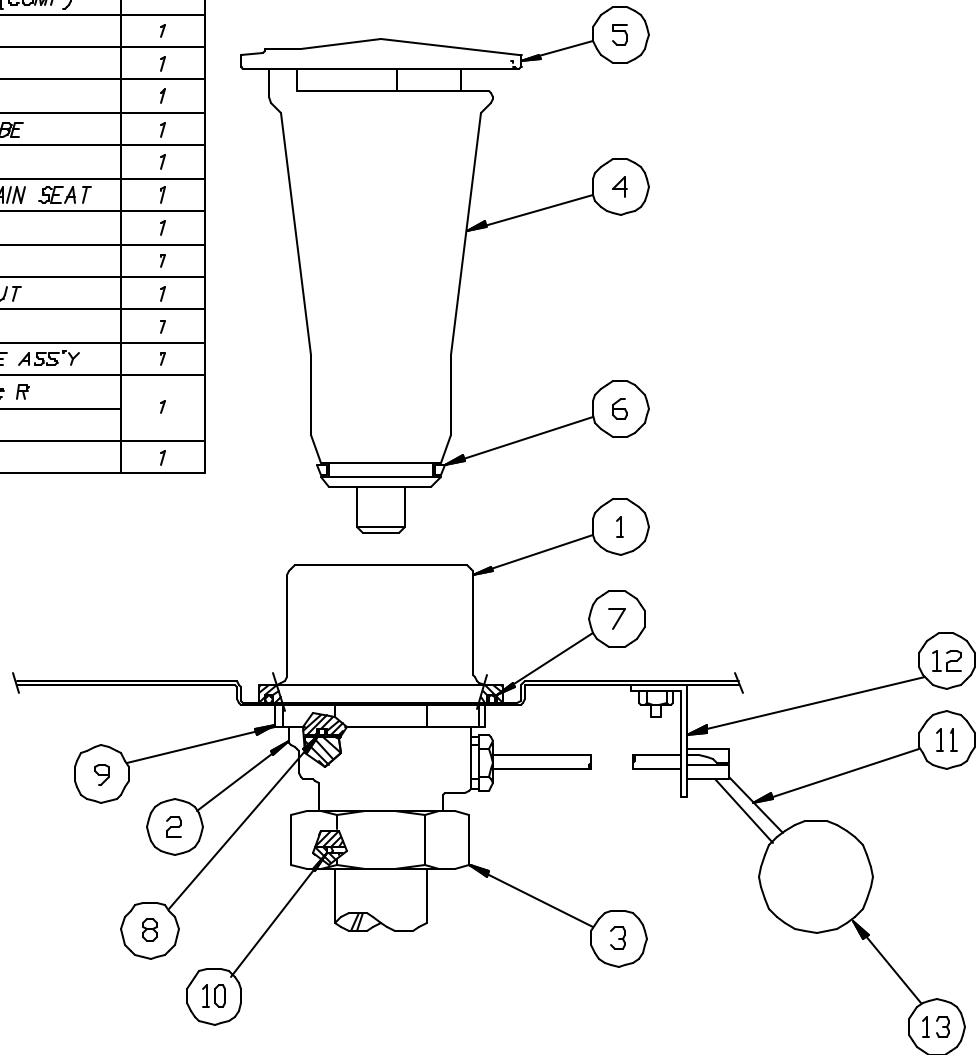
RIGHT HAND MACHINE SHOWN

▲ ECH #2007 3.22.04

FILE: SKETCH\SK-2607




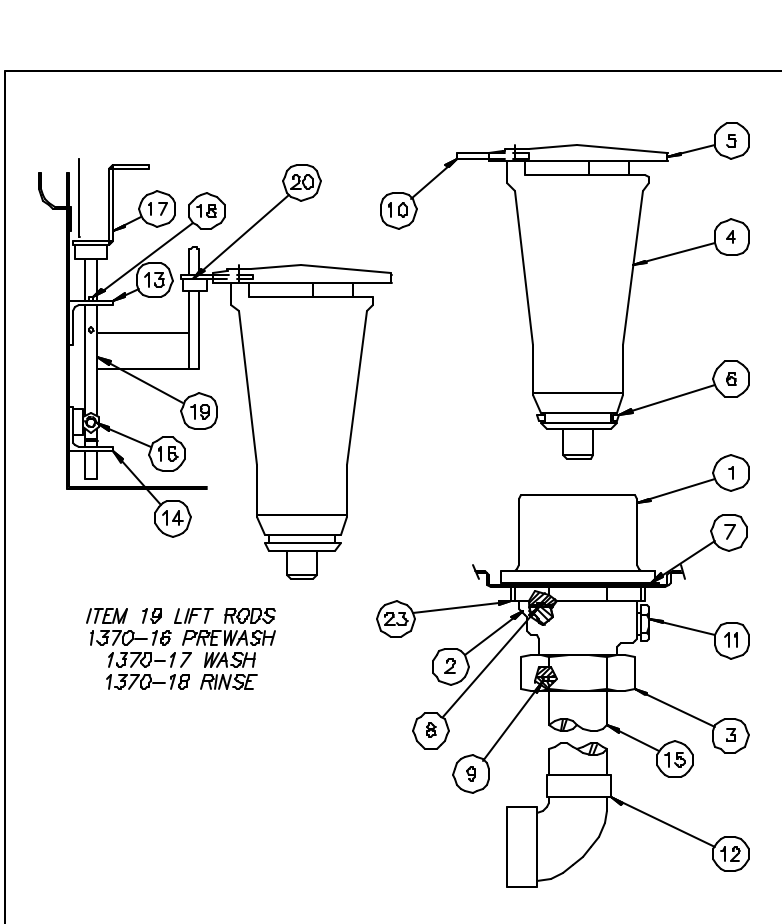
ITEM	PART NO.	NAME OF PART	REQ'D
	954-50	DRAIN ASS'Y (COMP)	-
1	954-50A	UPPER BODY	1
2	954-50B	LOWER BODY	1
3	954-50C	NUT	1
4	954-50D	OVERFLOW TUBE	1
5	D-193	SKIMMER CAP	1
6	D2-557	"V" SEAL-DRAIN SEAT	1
7	954-9	FLAT WASHER	1
8	D2-549	"O" RING	1
9	D-305	DRAIN JAM NUT	1
10	D2-550	"O" RING	1
11	1100-79	DRAIN HANDLE ASS'Y	1
12	954-8	BRACKET W & R	1
	954-8A	BRACKET P.W.	
13	D2-507	BALL	1



△ EGN #2007 3.22.04


FILE: SKETCH\SK-2613

INSINGER DRAIN ASSEMBLY		
 INSINGER MACHINE COMPANY		
6245 State Rd. Tel. 215-624-4800 Philadelphia FAX: 215-624-6966 PA 19135-2996		
SCALE:	1=1	DWG. NO. SK-2613
DRAWN:	FG 4.19.99	
APPROVED:	MFJ 4.19.9	

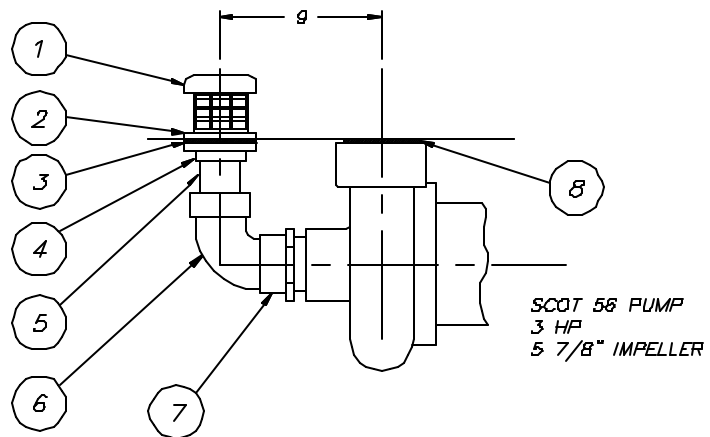
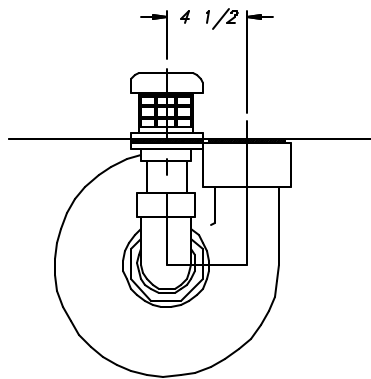



ITEM 19 LIFT RODS
1370-16 PREWASH
1370-17 WASH
1370-18 RINSE

ITEM	PART NO.	DESCRIPTION	QTY.
1	954-50A	UPPER VALVE BODY	1
2	954-50B	LOWER VALVE BODY	1
3	954-50C	O-RING NUT	1
4	954-50D	OVERFLOW TUBE	1
5	1370-3	SKIMMER CAP (MODIFIED)	1
6	D2-557	*V* SEAL	1
7	954-9	SEALING WASHER	1
8	D2-549	O RING	1
9	D2-550	O RING	2
10	1370-5	SKIMMER CAP TAB	1
11	1370-11	PLUG	1
12	D315A-H3-H1	90° ELL 1-1/2 C x 1-1/2 FPT	1
13	1370-6	UPPER BRACKET	1
14	1370-7	LOWER BRACKET	1
15	D-207A-B12-17	CU TUBE, 1-1/2 CTS x 4-1/4 LG	1
16	D2738	SPRING PLUNGER	1
17	1370-30	LIFT HANDLE	1
18	D311-8	ROLL PIN, 1/8 DIA	2
19	SEE TABLE	LIFT ROD	1
20	D2739	CLAMP COLLAR, 1/4 DIA	1
21	SK 3476	DECAL	1
22	1370-19	INSTALLATION NOTES	X
23	D305A	DRAIN JAM NUT	1

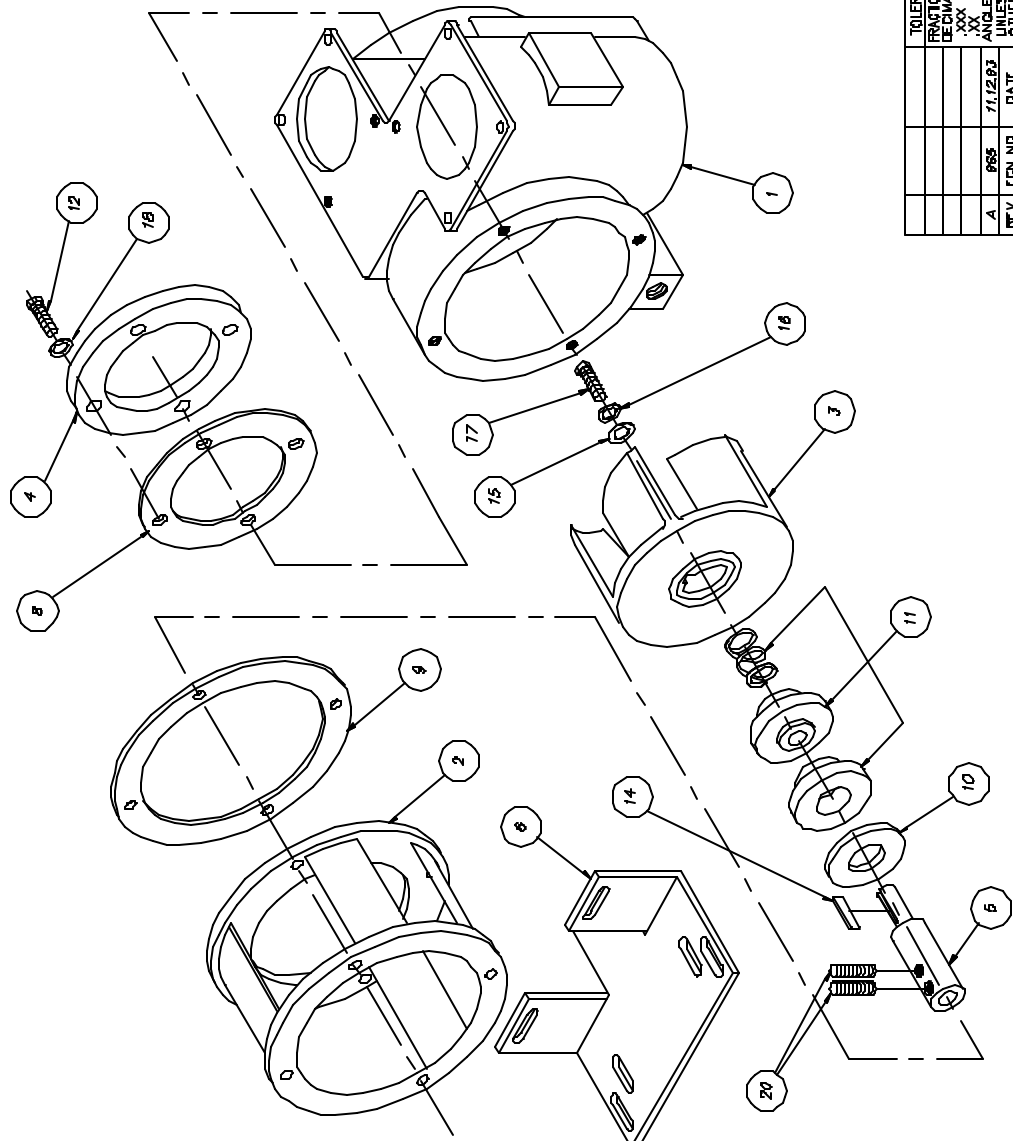
			TOLERANCES	TITLE	DRAIN ASSY - SELF CLOSING	NEXT ASSY	DWG. NO.
			FRACTIONS ±1/64		MASTER STEAM HEAT	REQ'D 3	1370-20
			DECIMALS				
C	1989	7.7.03	.XXX ± .005	MAT'L	NOTED	SCALE	USED ON
B	1268	08.22.95	.XX ± .01			1=4	MASTER
A	1051	8.18.94	ANGLES ±1/2"				DRWN/DATE
REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED	 Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-8986			MFJ
FILE: PARTS\1370-20							10.16.92

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	D2-541	A	SUCTION STRAINER	1
2	D2-135	A	STRAINER FLANGE	1
3	D-530	A	GASKET	1
4	1104-68	A	TANK FLANGE	1
5	D207A-B21-11	-	COPPER TUBING 3" CTS X 2 3/4 LG.	1
6	D316A-L3-L4	-	90° FTG. ELBOW 3" C	1
7	D317A-L2-L3	-	ADAPTER 3" MIPS X 3" C	1
8	1104-67	A	GASKET	1



			TOLERANCES	TITLE	SUCTION LINE ASSEMBLY	NEXT ASSY	DWG. NO.
			FRACTIONS ±1/64			REQ'D	1
			DECIMALS			SCALE	1104-69
			.XXX ± .005			USED ON	MASTER
			.XX ± .01	MAYL		1=B	
			ANGLES ±1/2°	NOTED			
			UNLESS OTHERWISE SPECIFIED			Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6986	DRWN/DATE PHILIP 10.7.87
REV	ECN NO	DATE	FILE: PARTS\1104-69				

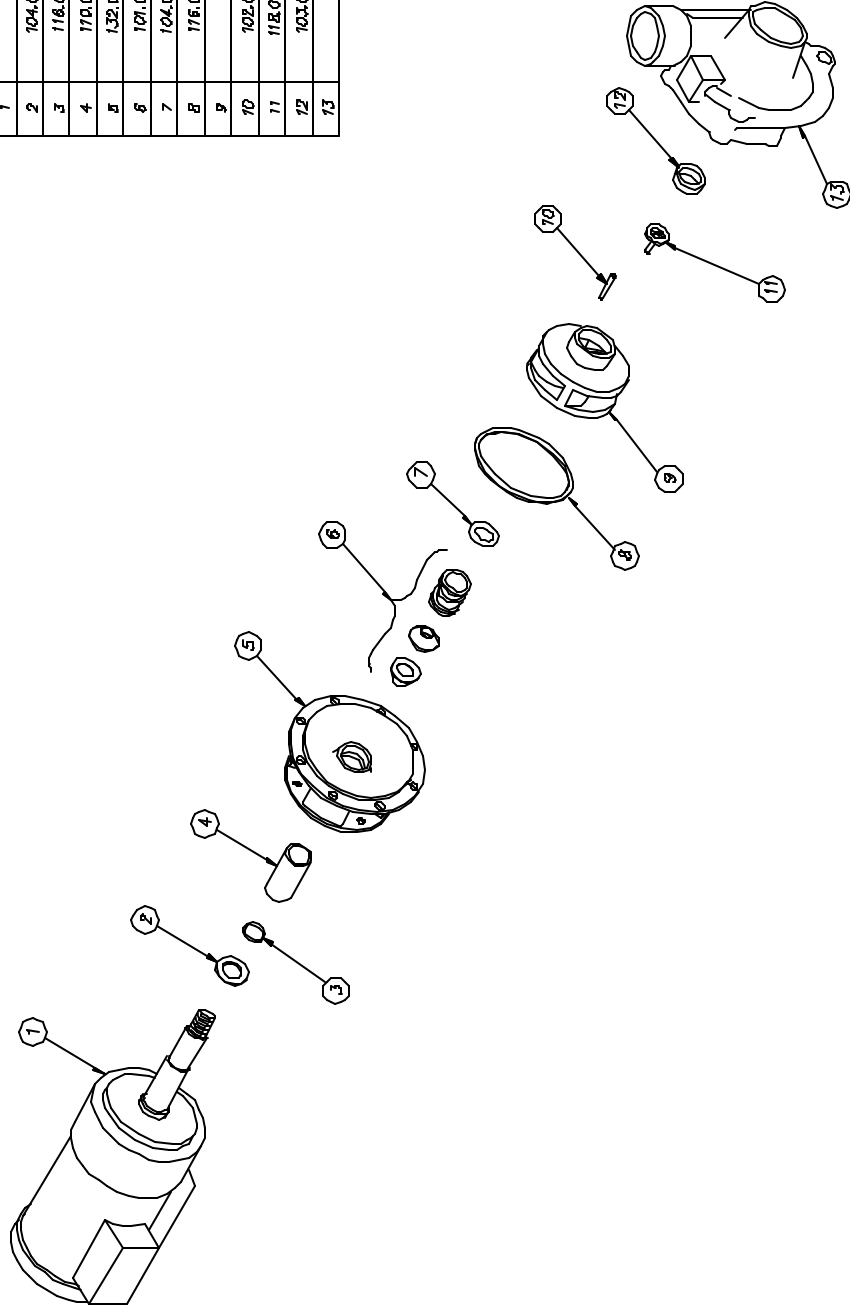
ITEM	PART NO.	DESCRIPTION	QTY.
1	UP-1	PUMP BODY	1
2	D-435	ADAPTER	1
3	NOTED	IMPELLER	1
4	SUP-3	END COVER PLATE	1
5	D3-805	PUMP SHAFT	1
6	D3-816	MOUNTING BRACKET	1
7			
8	UP-8	END COVER GASKET	1
9	UP-9	HOUSING COVER GASKET	1
10	UP-13	FLINGER	1
11	UP-15	CERAMIC SEAL	1
12	D308C-JC-6A	END COVER BOLT	12
13			
14	D302-1	KEY	1
15	D3-824A	WASHER	1
16	D313C-U2	LOCKWASHER	1
17	D308C-JD-5A	IMPELLER BOLT	1
18	D313A-U1	WASHER	12
19			
20	D308C-GC-2H	SET SCREW	2



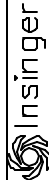
NOTE:
 FOR COMPLETE ASSEMBLY USE PART NO. D2471A
 IMPELLER PART NO. & SIZE:
 SUP-2A 4 1/2" (MODULAR, SPEEDER, SUPER W & P)
 SUP-8A 6" (ADMIRAL WASH, CLIPPER/MASTER/CENTURY PW)

TOLERANCES FRACTIONS ±1/64 DECIMALS XXX ±.003 XXX ±.01 UNLESS OTHERWISE SPECIFIED	REV A ECN NO DATE FILE SKETCH\BK-2456A	7/12/83	DATE
TITLE PUMP ASSEMBLY MODEL 2 1/2 SVF		NEXT ASSY DWG. NO. SK-2456A	
MATERIAL		SCALE	USED ON
INSINGER, PA 19138		FLAT	
INSINGER		(315) 624-4800	PC
FAX (216) 624-8866		REV. DATE	

ITEM	PART NO.	DESCRIPTION	QTY.
1	-	MOTOR	1
2	104.000.165	FLUNGER	1
3	116.000.117	Ø-RING, SHAFT	1
4	110.000.178	SHAFT SLEEVE, BRONZE	1
5	132.000.202	ADAPTER IRON - JM140/180	1
6	101.000.168	SEAL, 1 1/2"	1
7	104.000.174	SEAL RETAINER	1
8	116.000.157	GASKET, CASE	1
9	-	IMPELLER, 6 7/8"	1
10	103.000.102	KEY	1
11	116.000.163B	IMPELLER RETAINER	1
12	103.000.152	WEAR RING	1
13	-	CASE	1



TOLERANCES	TITLE	NEXT ASSY DWG. NO.
FRACTIONS ±1/64	PARTS LIST	SK-4702
DECIMALS	3 HP SCDT 50 FC/MP	REV 0 -
XXX ± .005	WATL	SCALE -
XX ± .01		USED ON
XX ± 1/2°		VARIOUS
ANGLES ±1/2°		DRWN/DATE
HIDDEN LINES		DOC
OTHERWISE		
SPECIFIED		
REV / EGN NO	DATE	
FILE: SKETCH15K-4702		



ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	D328F-D1	-	LOCKWUT 1/2 IPS	2
2	D314F-DL-62	-	NIPPLE 1/2 IPS X 6 1/2 L.O.L.E.	2
3	D318F-D1-D2	-	90° STREET ELL 1/2 IPS	4
4	D-2241	-	VACUUM BREAKER 1/2 IPS	2
5	D314F-DQ-00	-	CLOSE NIPPLE 1/2 IPS	2
6	D2830	-	SOLENOID VALVE 1/2 IPS 24V	2
7	D320F-E1E7D1	-	TEE 3/4 FIPS X 3/4 FIPS X 1/2 FIPS	1
8	D317A-E3-E2	-	ADAPTER 3/4MIPS X 3/4 C	2
9	D320F-E1D7D1	-	TEE 3/4 FIPS X 1/2 FIPS X 1/2 FIPS	1
10	D328F-D2-A	-	PIPE FLUG 1/2 IPS	1
11	D2017A-B6-94	-	COPPER TUBING 3/4 CTS X 23 1/2	1
12	D315A-D3-D1	-	45° ELBOW 1/2 FIPS X 1/2 C	2
13	D314F-D4-12	-	NIPPLE 1/2 IPS X 1 1/2 ALL THREAD	2
14	851-78	1	BRACKET, PIPE SUPPORT	2

REV	LEGN NO	DATE	TOLERANCES	TITLE	REQD	NEXT ASSY DWG. NO.
3	1007	3/22/04	FRACTIONS ±1/64	WASH RINSE	1	1100-281
2	1006	10/10/03	DECIMALS .005	ASSEMBLY	1	1100-281
1	1005	8/10/01	XXX ± .01	NOTED	1-4	CLIPPER/MASTER
			XX ± .01			
			UNLESS OTHERWISE SPECIFIED			
REV LEGN NO DATE			PHILADELPHIA, PA 19135 (215) 824-4800 FAX (215) 824-6666 5/10/00			

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	SEE TABULATION	B	FINAL RINSE INSIDE SPRING	1
2	970-100	A	BRACKET	2
3	D3109C-EF-30	-	WELDING TUB 10-30 X 3/8	2
4	D3120C-EF-5	-	LOCKWALUT 10-20	2
5	D314F-EL-12	-	NIPPLE 3/4 IPS X 1 1/2 L.A.E.	1
6	D320F-ET	-	LOCKWALUT 3/4 IPS	1
7	D320F-ET-50N	-	TEE 3/4 IPS X 3/4C X 1/2 IPS	1
8	D320F-D2-A	-	PIPE PLUG 1/2 IPS	1
9	SEE TABULATION	B	SPRAY PIPE	1
10	SEE TABULATION	B	SPRAY PIPE	1
11	D2-304-2	A	PLUG 3/4-10 UNO-24	2
12	D2474-8R-28	-	COP. TUBE 3/4 ETS X 5 1/2	1
13	D2819	-	VACUUM BREAKER 3/4 IPS	1
14	D314F-E5-18	-	NIPPLE 3/4 IPS X 2	1
15	D316F-E3-E1	-	90° EL. 3/4 C X 3/4 FRS	1
16	D2300SP-1	-	BRASS UNION	1
17	D2300SP	-	SPLIT WASH NUT	1
18	D310A-E3-E2	-	COPPER UNION 3/4 C X 3/4 MIP	1
19	D-2307	-	SOL. WOOD (WALUT) 3/4 IPS	1
20	D314F-E3-00	-	CLOSE NIPPLE 3/4 IPS	2
21	D320F-E1E1E1	-	TEE 3/4 IPS	1
22	D320F-E2-E1	-	HEX RED 3/4 MIP X 1/4 FRS	1
23	D-2407	-	PETCOCK 1/4 IPS	1
24	SK-1433	A	PRESSURE GAUGE 1/4 IPS	1
25	1100-388	A	SUPPORT BRACKET 2" LG	1
26	D2838	-	SPRAY NOZZLE, STD WIDE	B
		-	SPRAY NOZZLE, 31 WIDE	9

MACHINE	ITEM # 1	ITEM # 2	ITEM # 10	ITEM # 10	QTY
STANDARD	1100-348A	1100-328A	1100-328A	1100-318	2" DIA
STD WIDE, 3" EX HIGH	1100-348B	1100-328B	1100-328B	1100-318A	14 1/2
STD WIDE, 6" EX HIGH	1100-348C	1100-328C	1100-328C	1100-318A	17 1/2
31 WIDE, STD HIGH	1100-348D	1100-328D	1100-328D	1100-318C	20 1/2
31 WIDE, 3" EX HIGH	1100-348E	1100-328E	1100-328E	1100-318C	14 1/2
31 WIDE, 6" EX HIGH	1100-348F	1100-328F	1100-328F	1100-318C	17 1/2
					20 1/2

TOLERANCES	FRACTIONS 31/84	DECIMALS	XXX ± .015	XXX ± .01	XXX ± .01/2	UNLESS OTHERWISE SPECIFIED
C	1253	3.12/87	2.5/90	2.5/90	2.5/90	
F	1253	2.5/90	2.5/90	2.5/90	2.5/90	
E	1053	6.25/90	6.25/90	6.25/90	6.25/90	
D	1517	12.16/96	12.16/96	12.16/96	12.16/96	
REV	ECN NO	DATE				
FILE	PARTS 1100-318					

R.H. SHOWN L.H. OPPOSITE

TITLE: FINAL RINSE ASSEMBLY

NEXT ASSY DWG. NO.: 1100-318

REV: 1

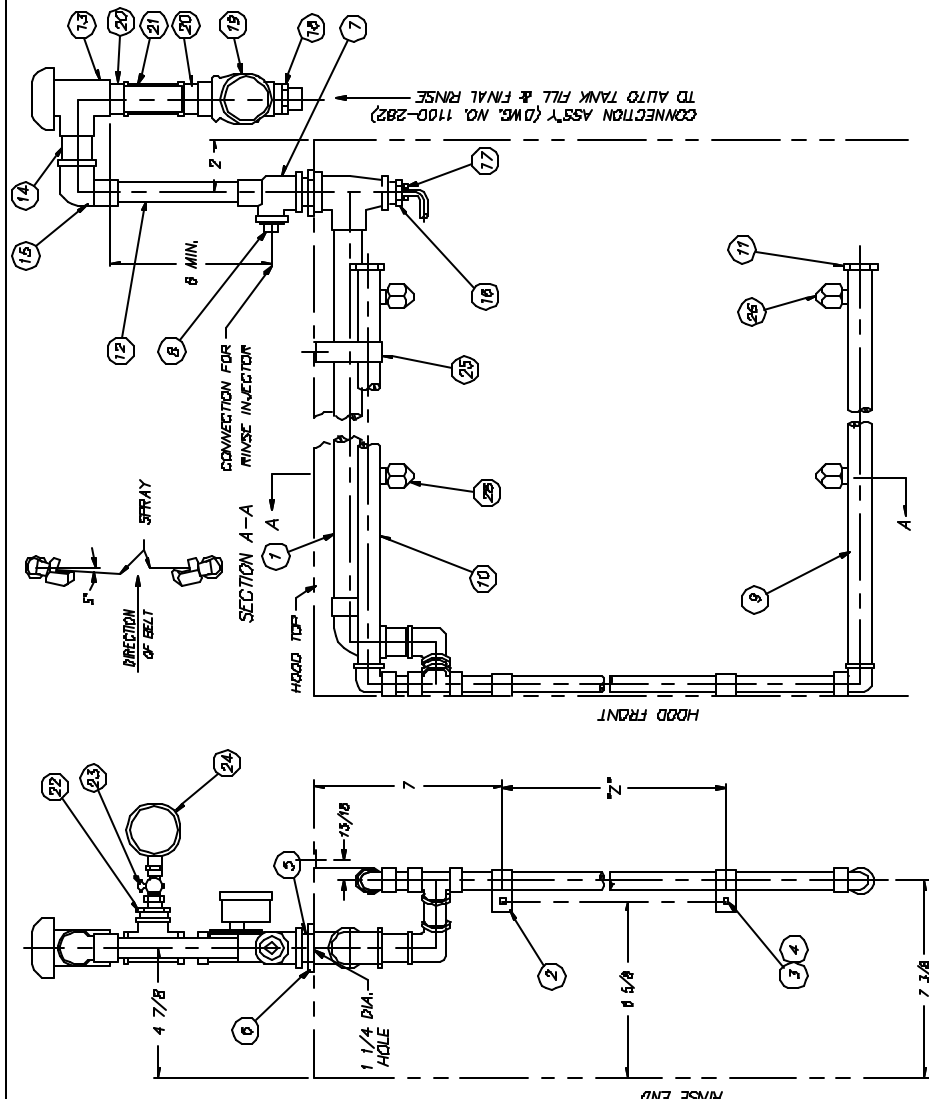
SCALE: USED ON

MATL: 7-4

MADE IN: PA 18135

DRW/DATE: [blank]

INSINGER (215) 824-4800 FAX (215) 824-8248



NOTES:
1, * - DENOTES NICKEL PLATED.

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	SEE TABULATION	A	FINAL RINSE INSIDE PRING	1
2	875-700	A	BRACKET	2
3	D3095-EF-39	-	WELD STUD 10-32 X 3/8	2
4	D3120-EF-5	-	LOCKNUT 10-32	2
5	D314F-L-12	-	NIPPLE 3/4 FS X 1 1/2 L.A.E.	1
6	D328F-E1	-	LOCKNUT 3/4 IPS	1
7	D328F-E1E801	-	TEE 3/4 IPS X 3/4 AC X 1/2 IPS	1
8	D328F-02-A	-	PIPE PLUG 1/2 IPS	1
9	SEE TABULATION	B	SPRAY PATE, LOWER	1
10	D328P	-	SPRAY NOZZLE (3310)	1
11	DR-554-E	A	FLANG 3/4-78 UNC-2A	2
12	1100-329	B	SPRAY PATE, UPPER	1
13	D407A-B6-24	-	COP. TUBE 3/4 CTS X 5 1/2	1
14	D381S	-	VALVULIN BREAKER 3/4 IPS	1
15	D314F-E8-16	-	NIPPLE 3/4 FS X 2	1
16	D318F-E5-E1	-	90° ELL 3/4 C X 3/4 FIPS	1
17	D317A-E3-E2	-	ADAPTER 3/4 C X 3/4 MIPPS	1
18	D-2897	-	SOLENOID (WATER) 3/4 FS	1
19	D314F-E0-Q0	-	CLOSE NIPPLE 3/4 IPS	2
20	D328F-E1E1E1	-	TEE 3/4 IPS	1
21	D328F-E2-B1	-	HEX RED 3/4 MIPPS X 1/4 FIPS	1
22	D-2497	-	PETCOCK 1/4 IPS	1
23	BK-1453	A	PRESSURE GAUGE 1/4 IPS	1
24	SEE TABULATION	B	SPRAY PATE, UPPER	1
25	D300SP-1	-	BRASS UNION	1
26	D3180SP	-	SPLIT JAM NUT	1
27	1100-368	A	SUPPORT BRACKET 2" LG	1

MACHINE	ITEM # 1	ITEM # 24	ITEM # 3	"2" DIM.
STANDARD	1100-378	1100-3284	1100-328	14 1/2
378 WIDE, 3" EX HIGH	1100-3784	1100-3284	1100-328	17 1/2
378 WIDE, 6" EX HIGH	1100-3882	1100-3284	1100-328	20 1/2
378 WIDE, 8" EX HIGH	1100-3980	1100-3284	1100-328	24 1/2
378 WIDE, 10" EX HIGH	1100-3882	1100-3284	1100-328	28 1/2
378 WIDE, 12" EX HIGH	1100-3980	1100-3284	1100-328	32 1/2
378 WIDE, 14" EX HIGH	1100-3882	1100-3284	1100-328	36 1/2
378 WIDE, 16" EX HIGH	1100-3980	1100-3284	1100-328	40 1/2

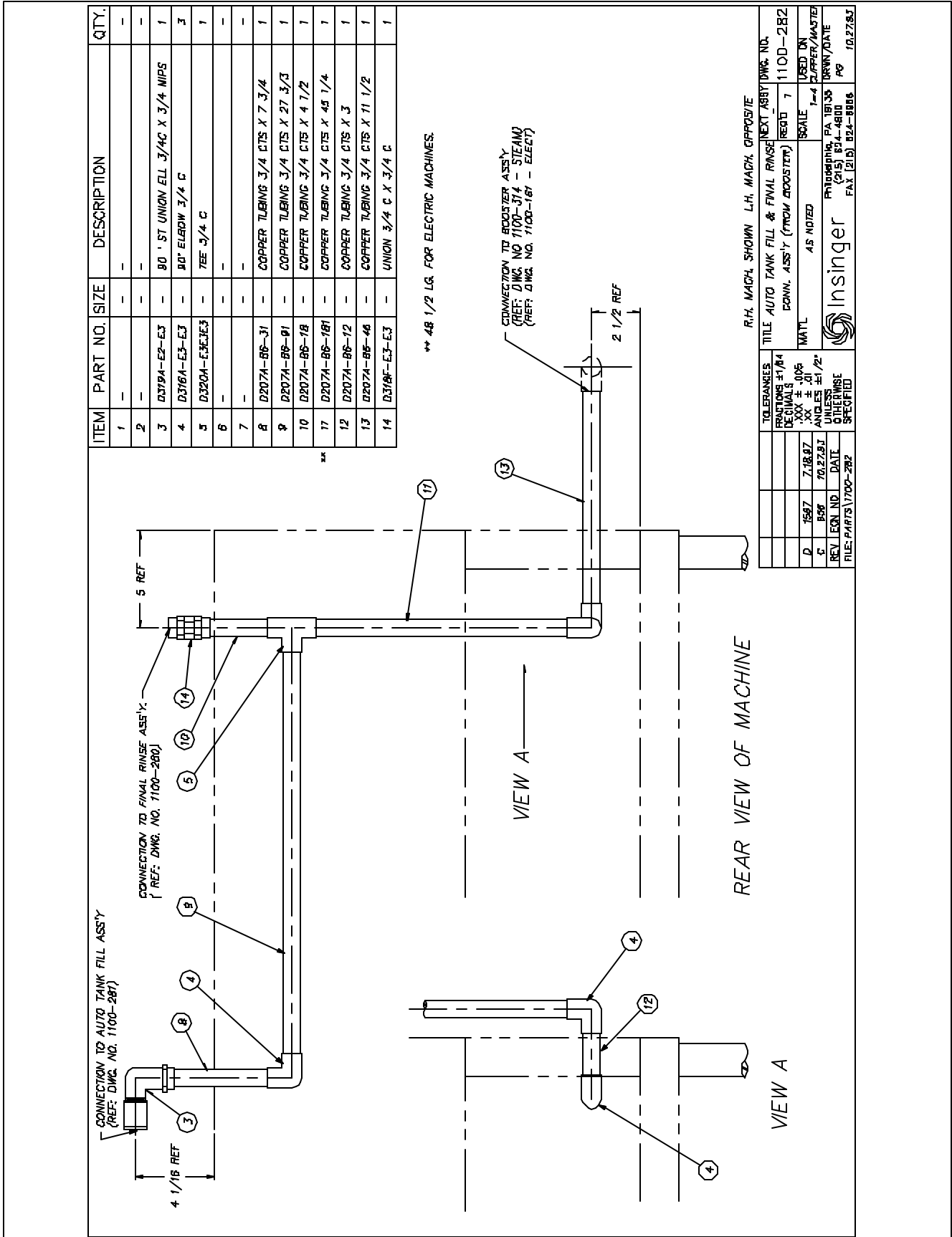
TOLERANCES	FRACCTIONS ±1/64	DECIMALS ±.005	XX ±.01	XX ±.01	ANGLES ±1/2°	OTHERWISE DIMENSIONED
F	±.01	±.001				
E	±.005	±.001				
D	±.005	±.001				
C	±.005	±.001				
B	±.005	±.001				
A	±.005	±.001				

REV	LEGN NO	DATE	FILE: PARTS\1100-330
F	1883	8-20-01	
E	1733	2-8-00	
D	1643	6-24-99	
C	1597	10-15-97	

TITLE	FINAL RINSE ASSEMBLY	RECD	1100-330
MATL	NOTED	SCALE	UNLESS OTHERWISE SPECIFIED
R.H. SHOWN L.H. OPPOSITE		UNITS ON DRAWING	UNITS ON DRAWING
NEXT ASSY DIMS. IND.		1	1100-330

* DEVOTES NICKEL PLATED

PHILADELPHIA, PA 19135
(215) 854-4800
FAX (215) 854-8868



ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	-	-	-	-
2	-	-	-	-
3	D379A-E2-E3	-	90° ST UNION ELL 3/4" X 3/4" MIP	1
4	D376A-E3-E3	-	90° ELBOW 3/4" C	3
5	D320A-E3E3E3	-	TEE 3/4" C	1
6	-	-	-	-
7	-	-	-	-
8	D207A-B6-31	-	COPPER TUBING 3/4" CTS X 7 3/4"	1
9	D207A-B6-01	-	COPPER TUBING 3/4" CTS X 27 3/3"	1
10	D207A-B6-7B	-	COPPER TUBING 3/4" CTS X 4 1/2"	1
11	D207A-B6-16F	-	COPPER TUBING 3/4" CTS X 45 1/4"	1
12	D207A-B6-12	-	COPPER TUBING 3/4" CTS X 3"	1
13	D207A-B6-46	-	COPPER TUBING 3/4" CTS X 11 1/2"	1
14	D376F-E3-E3	-	UNION 3/4" C X 3/4" C	1

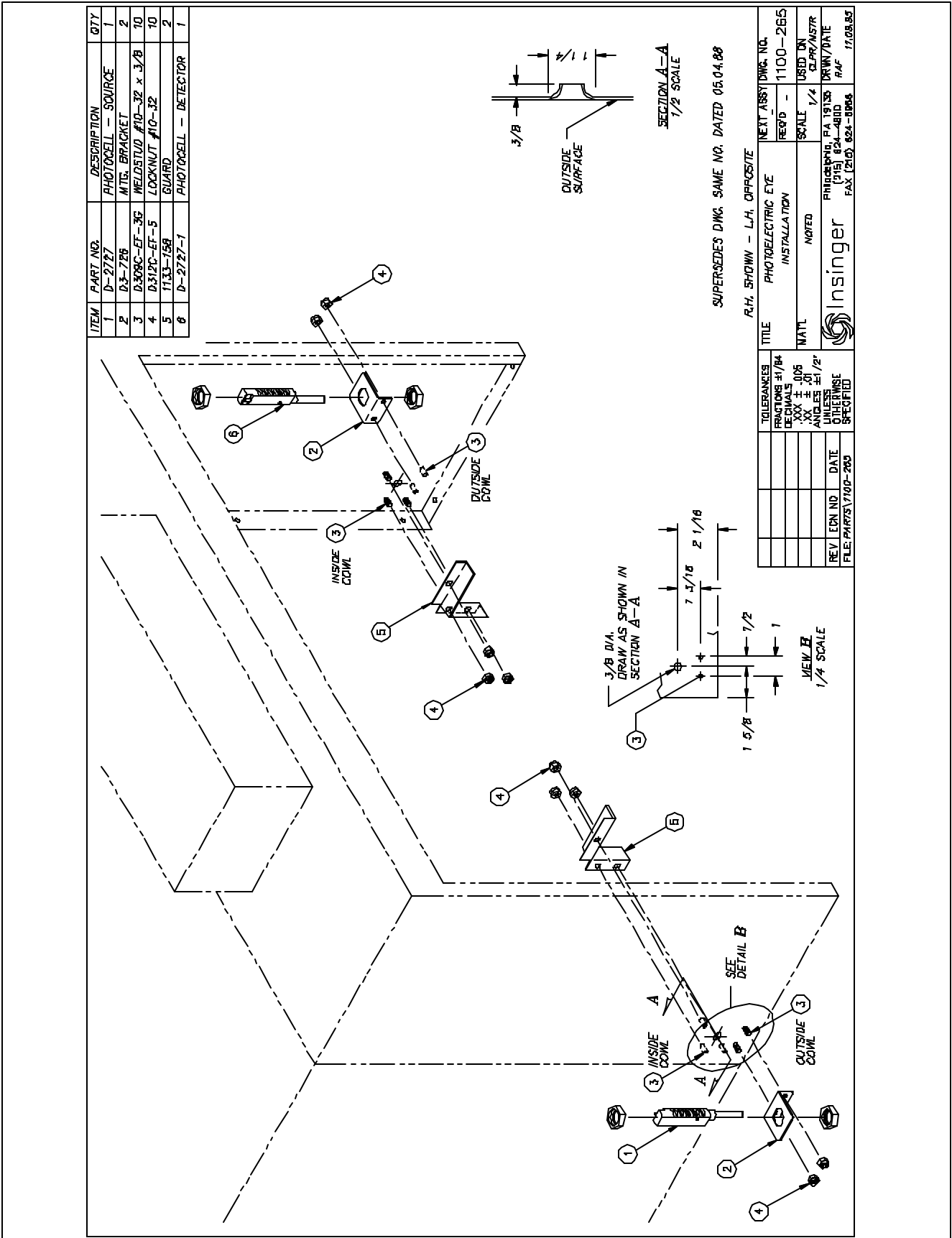
** 48 1/2 LG. FOR ELECTRIC MACHINES.

CONNECTION TO BOOSTER ASS'Y
(REF: DWG NO. 1100-37A - STEAM)
(REF: DWG NO. 1100-167 - ELECT)

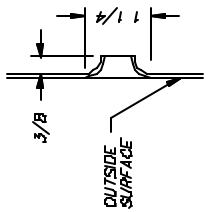
REAR VIEW OF MACHINE

VIEW A

TOLERANCES	R.H. MACH. SHOWN L.H. MACH. OPPOSITE	
FRACTIONS ±1/64	TITLE AUTO TANK FILL & FINAL RINSE	NEXT ASSY/DWG. NO. 1100-282
DECIMALS	DOWN. ASS'Y (FROM BOOSTER)	REQ'D 7
.XX ± .01	MATL	SCALE 1-4
.XX ± .01	USED ON	CLIPPER/MASTER
ANGLES ±1/2°	AS NOTED	PA 18135
OTHERWISE	FRAMING PA 18135	TRWY/DATE
SPECIFIED	(CIS) PA 4-4810	PG
FILE: PARTS\100-282	Insinger	
	FAX (210) 824-8888	



ITEM	PART NO.	DESCRIPTION	QTY
1	D-2727	PHOTOCELL - SOURCE	1
2	D-3-728	MIS. BRACKET	2
3	D-308C-EF-36	WELDSTUD #10-32 x 3/8	10
4	D-312C-EF-5	LOCKNUT #10-32	10
5	1133-168	GUARD	2
6	D-2727-1	PHOTOCELL - DETECTOR	1



SECTION A-A
1/2 SCALE

SUPERSEDES DWG. SAME NO. DATED 05.04.88

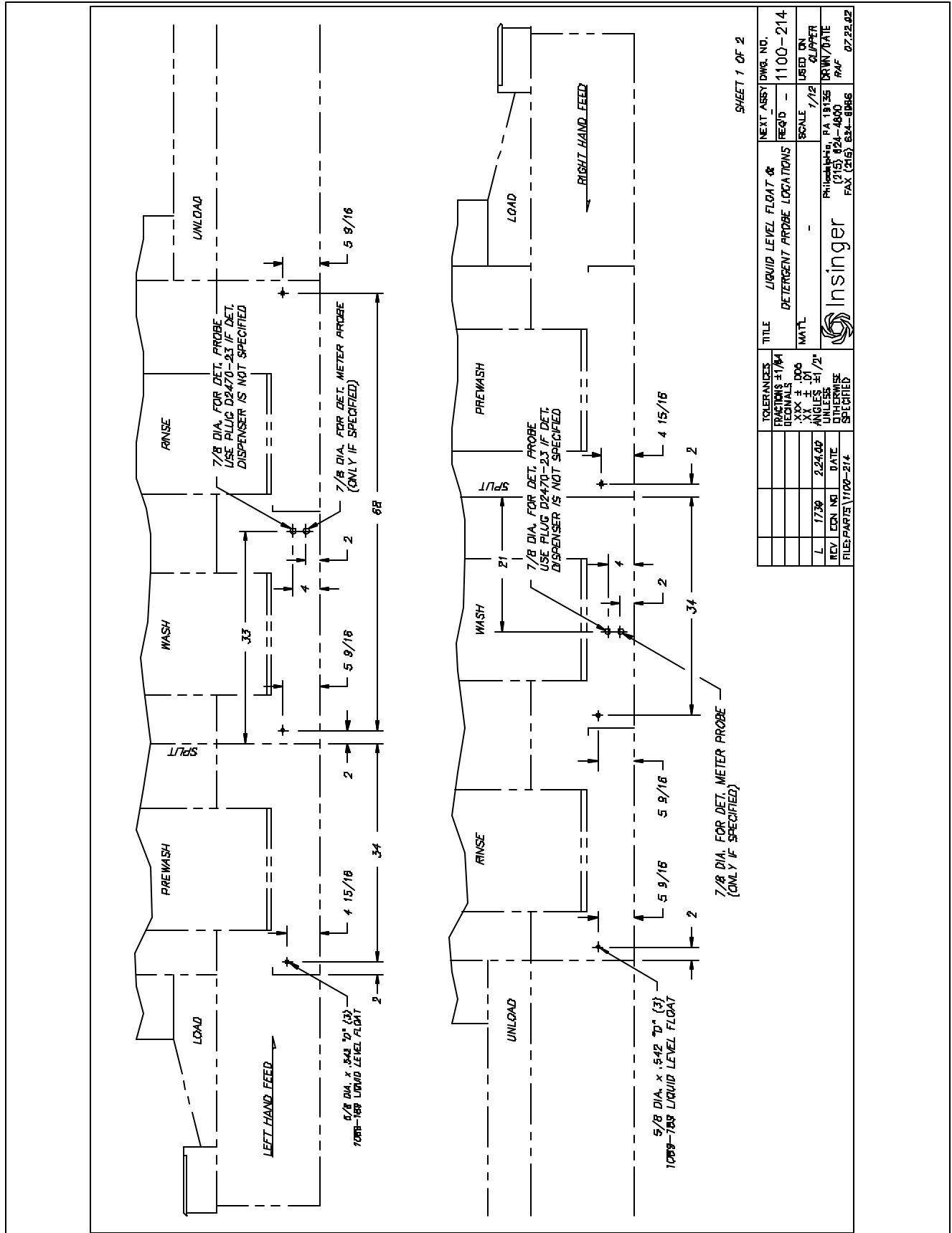
R.H. SHOWN - L.H. OPPOSITE

TOLERANCES	REV	LEAD NO	DATE
FRACTIONS ±1/64			
DIMENSIONS ±.005			
ANGLES ±1/2°			
UNLESS OTHERWISE SPECIFIED			

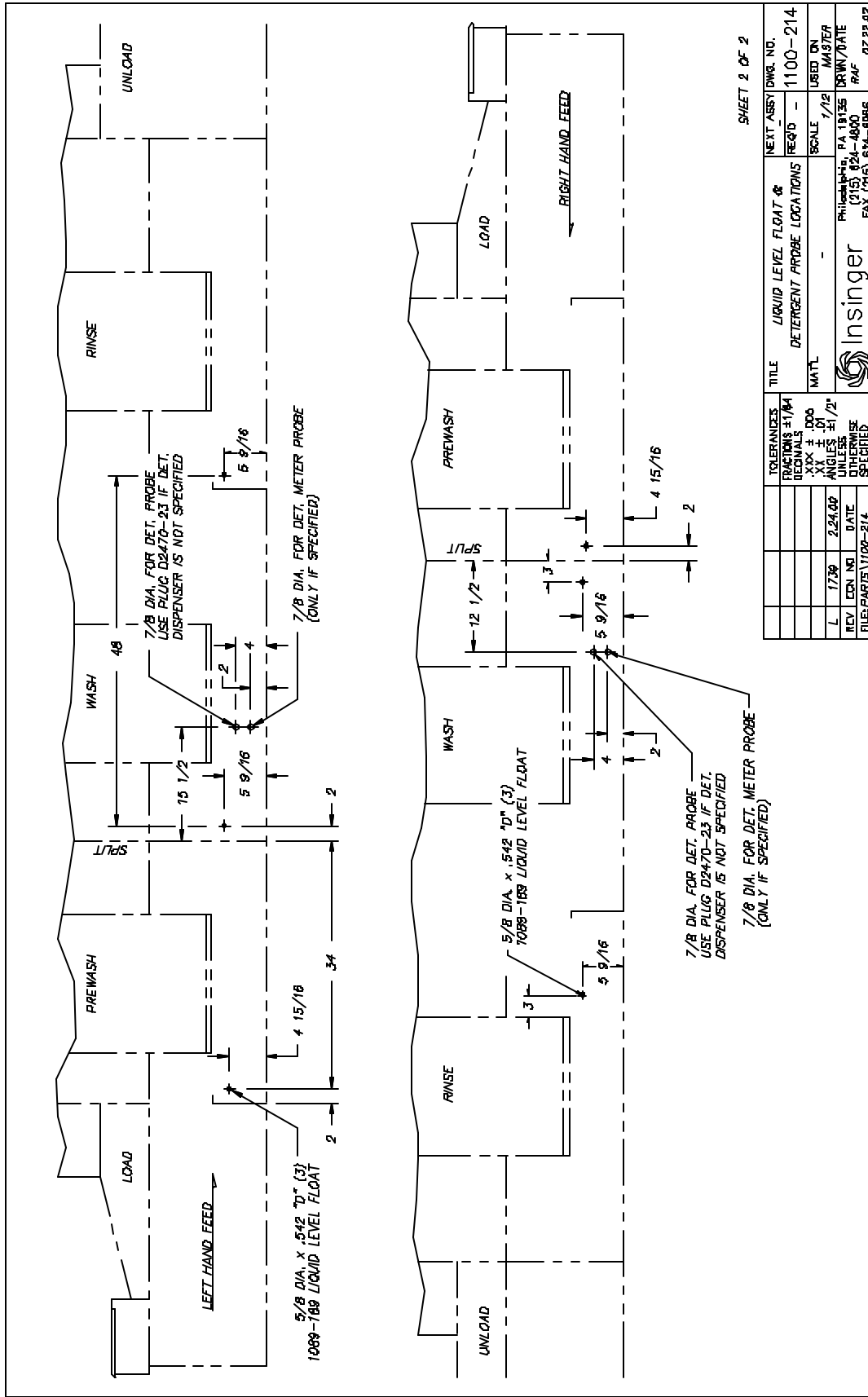
TITLE	REV'S	SCALE	USED ON
PHOTOELECTRIC EYE INSTALLATION	1100-2665	1/4	CLP/MSTR
MATL	NOTED		RAF

FILE	DATE	DATE
PH07S1710D-2665		

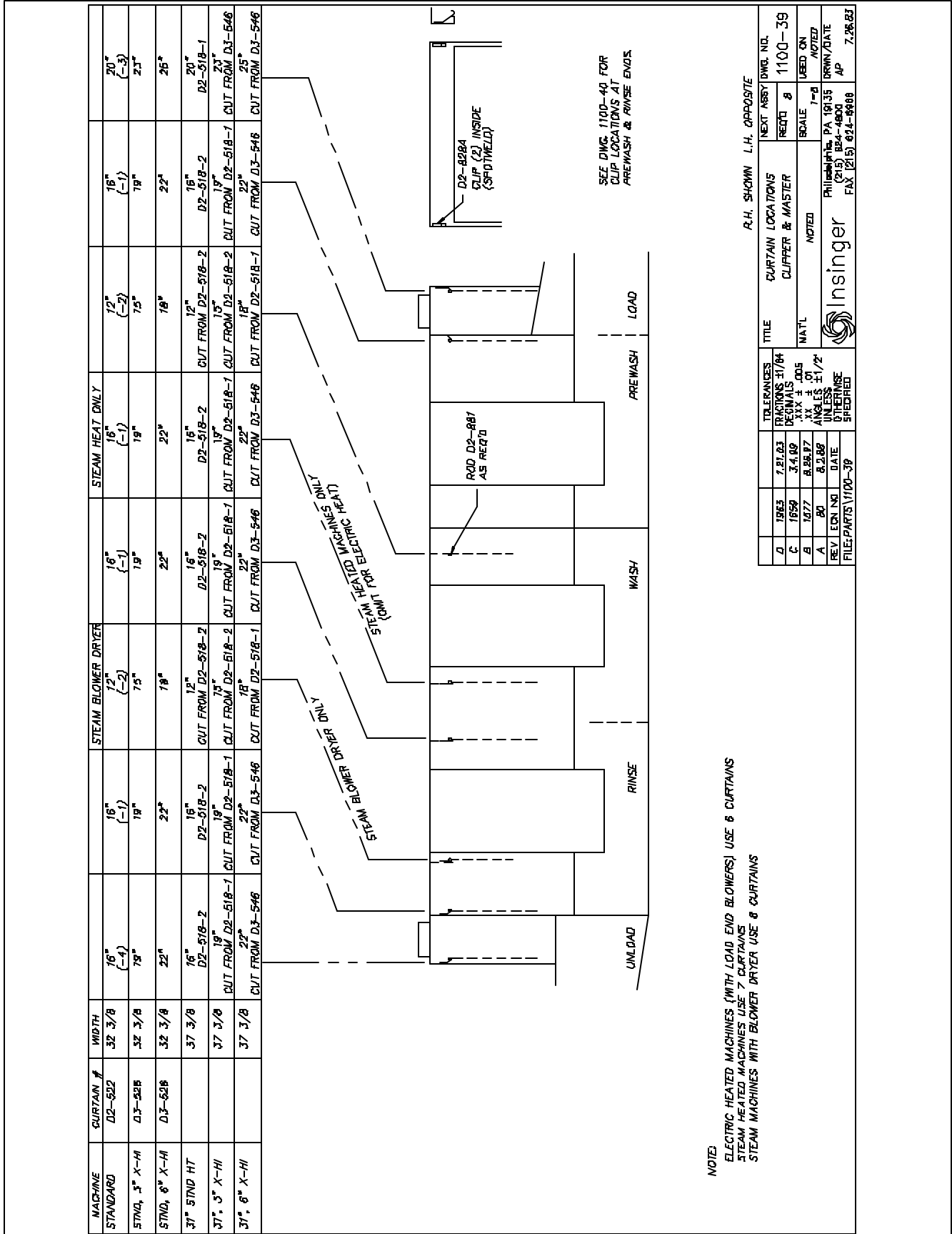
FINLAND, PA 19136
 (315) 824-4800
 FAX (315) 824-8965
 DRAWN/DATE 17.05.85



SHEET 2 OF 2



TOLERANCES		TITLE	Liquid Level Float & Detergent Probe Locations	Next Assy DWG. NO.
FRACTIONS	±1/64			1100-214
DECIMALS	±.005			
ANGLES	±.01°			
UNLESS OTHERWISE SPECIFIED				
REV	LCN	NO	DATE	BY
	L	1739	2-24-00	DRWN/MATE
FILE PARTS	1100-214			
Insinger		Philadelphia, PA 19135 (215) 624-4800 FAX (215) 634-8886		
		USED ON MASTER 1/12 DRWN/DATE RAF 07.22.02		



NOTE:
 ELECTRIC HEATED MACHINES (WITH LOAD END BLOWERS) USE 6 CURTAINS
 STEAM HEATED MACHINES USE 7 CURTAINS
 STEAM MACHINES WITH BLOWER DRYER USE 8 CURTAINS

REV	LEAD NO	DATE	BY	DATE	FILE: PARTS 1100-39
D	1963	7.21.63			
C	1659	3.4.69			
B	1277	8.28.67			
A	80	8.3.66			

TOLERANCES	FRACTIONS	DECIMALS
	3/16	0.0625
	1/8	0.125
	3/32	0.09375
	1/16	0.0625
	1/32	0.03125
	1/64	0.015625
	ANGLES	±1/2°
	UNLESS OTHERWISE SPECIFIED	

TITLE	CURTAIN LOCATIONS	CLIPPER & MASTER	SCALE	1-B	NOTED

R.H. SHOWN L.H. OPPOSITE

Philadelph. PA 19135
 (215) 884-4800
 FAX (215) 824-8688

Insinger

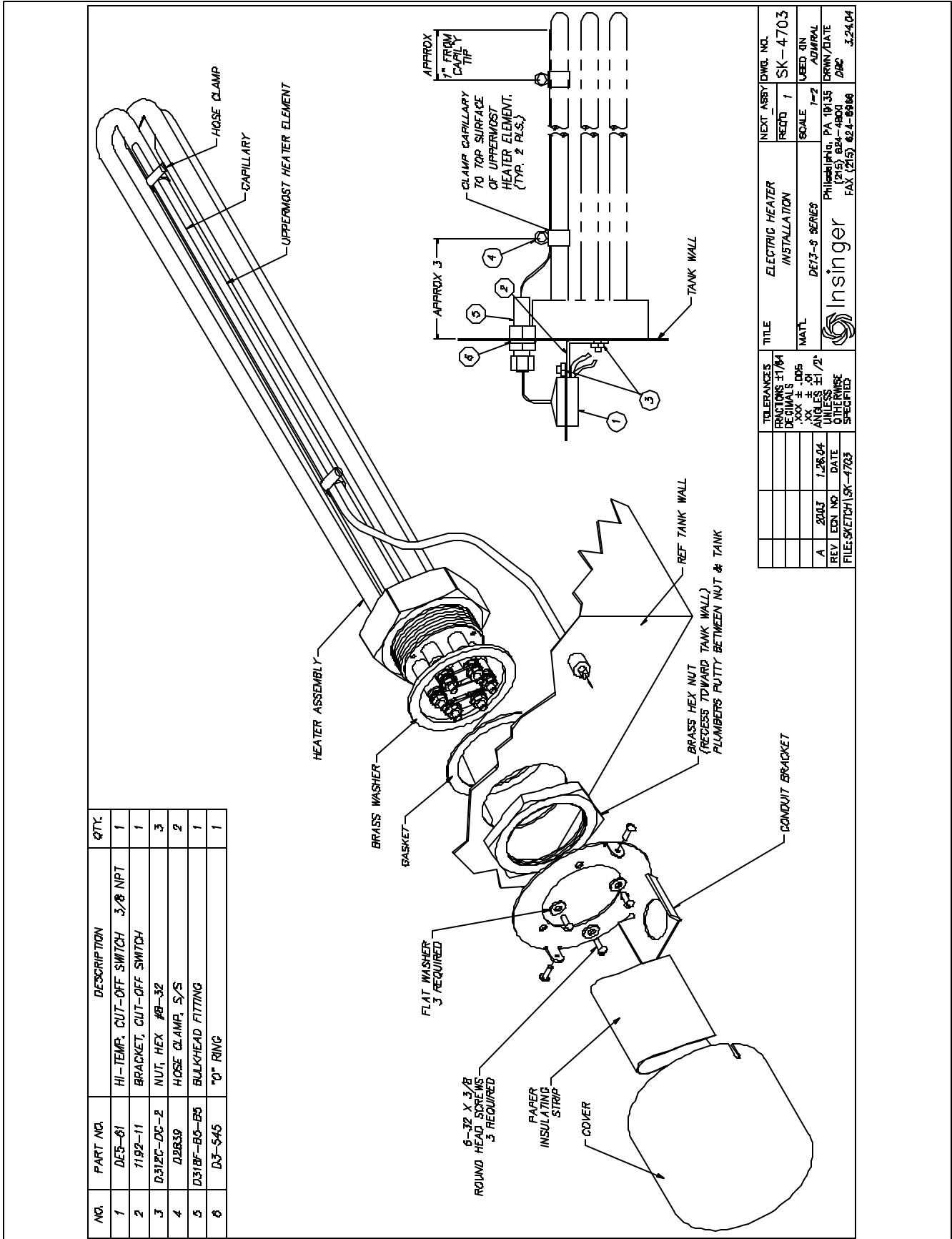
1100-39

USED ON

DRWN/DATE

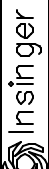
AP

7.26.63

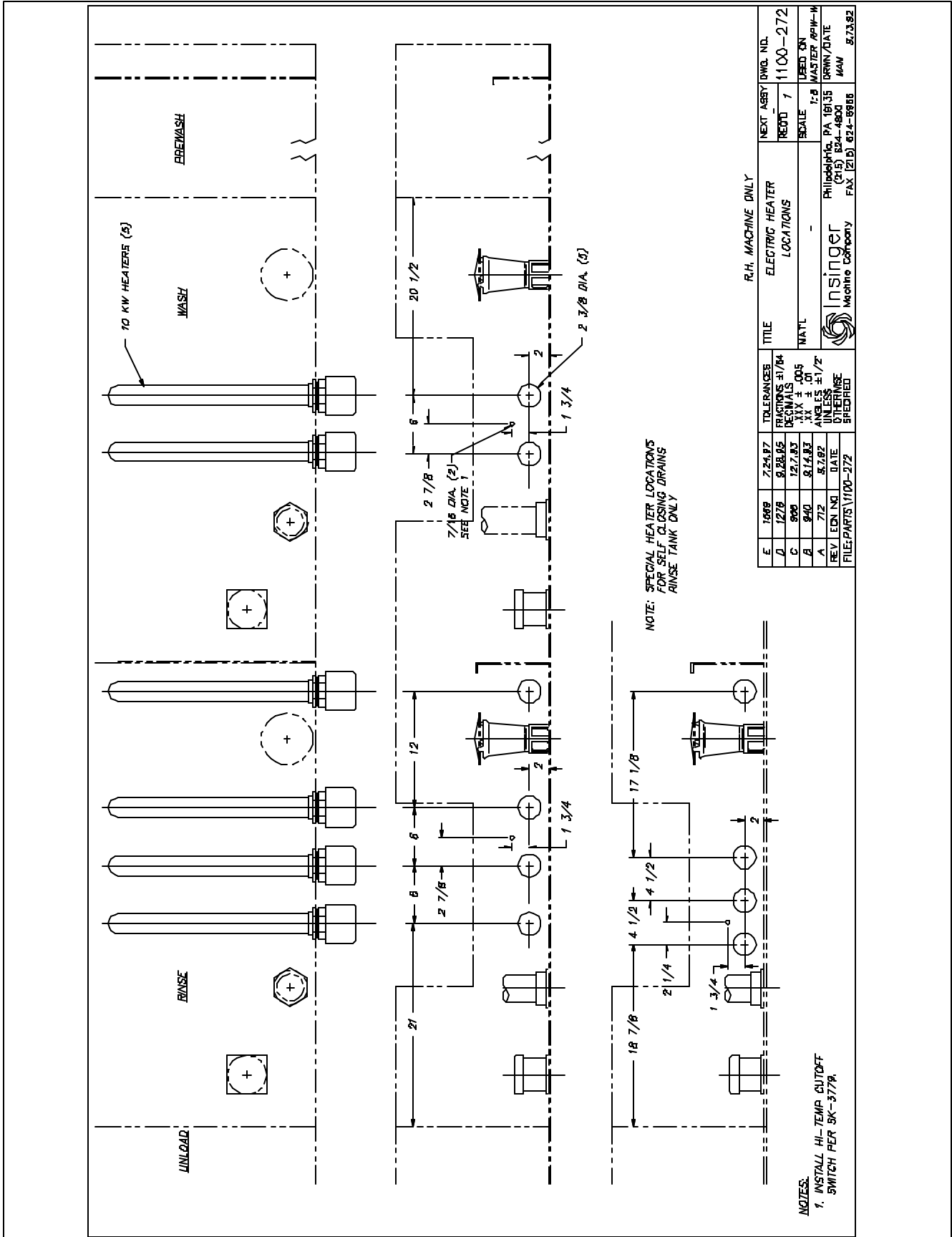


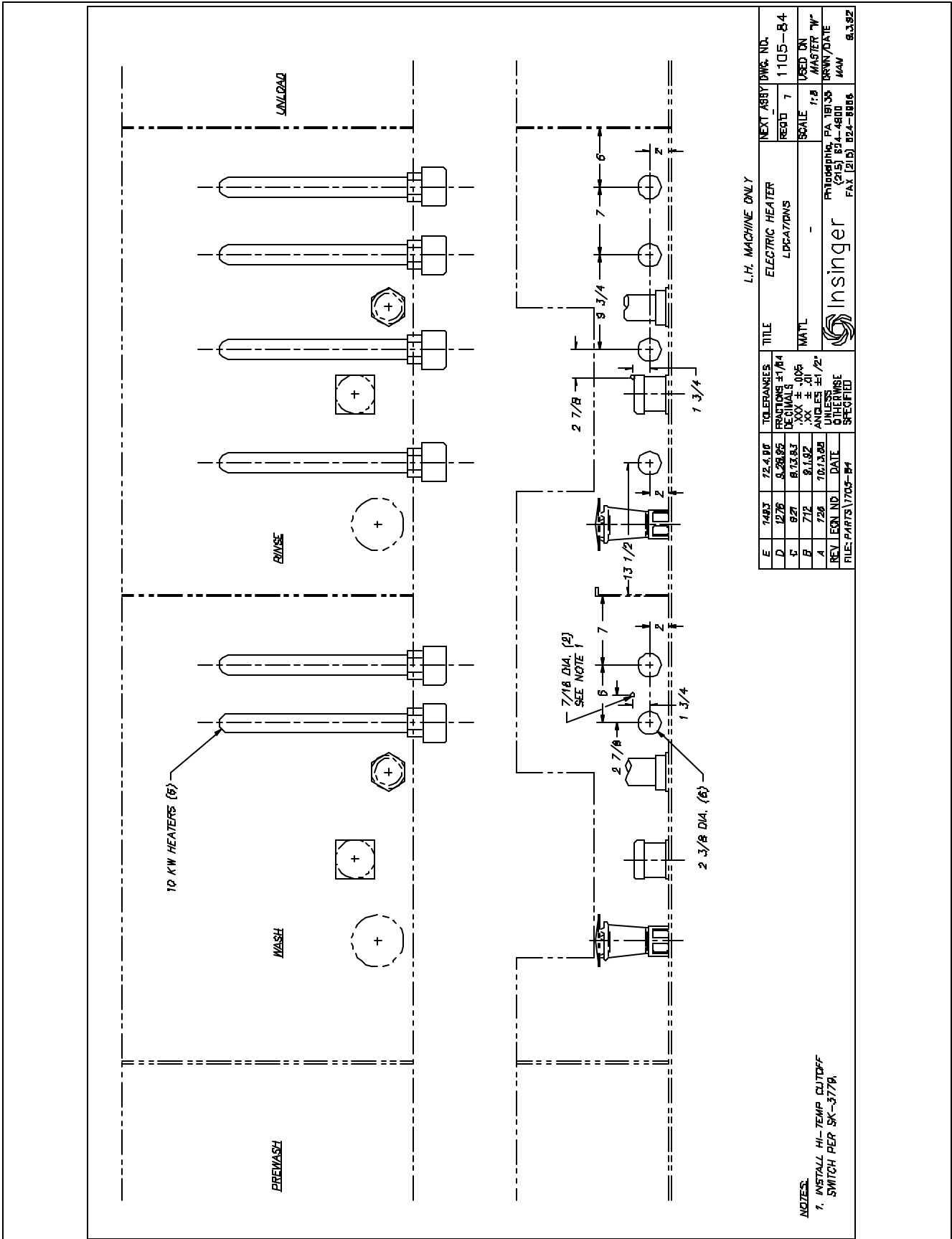
NO.	PART NO.	DESCRIPTION	QTY.
1	DES-61	HI-TEMP. CUT-OFF SWITCH 3/8 NPT	1
2	1192-11	BRACKET, CUT-OFF SWITCH	1
3	D312C-DC-2	NUT, HEX #8-32	3
4	D2839	HOSE CLAMP, S/S	2
5	D318F-B6-B6	BULKHEAD FITTING	1
6	D3-545	10" RING	1

TOLERANCES UNLESS SPECIFIED	TO FRANCES'S DECIMALS	1/16	1/32	1/64	1/128	1/256	1/512
ANGLES UNLESS SPECIFIED	XX ±	XX ±	XX ±	XX ±	XX ±	XX ±	XX ±
REV. EDN NO.	DATE	1.26.04					
FILE:SKETCH:SK-4703							
TITLE	ELECTRIC HEATER INSTALLATION						
MATL	DEF-3 SERIES						
SCALE	1=2						
REC'D	1						
NEXT ASSEMBLY NO.	SK-4703						
USED ON	ADMIRAL						
ERRN/DATE	PA 10.35						
DRG	3.24.04						

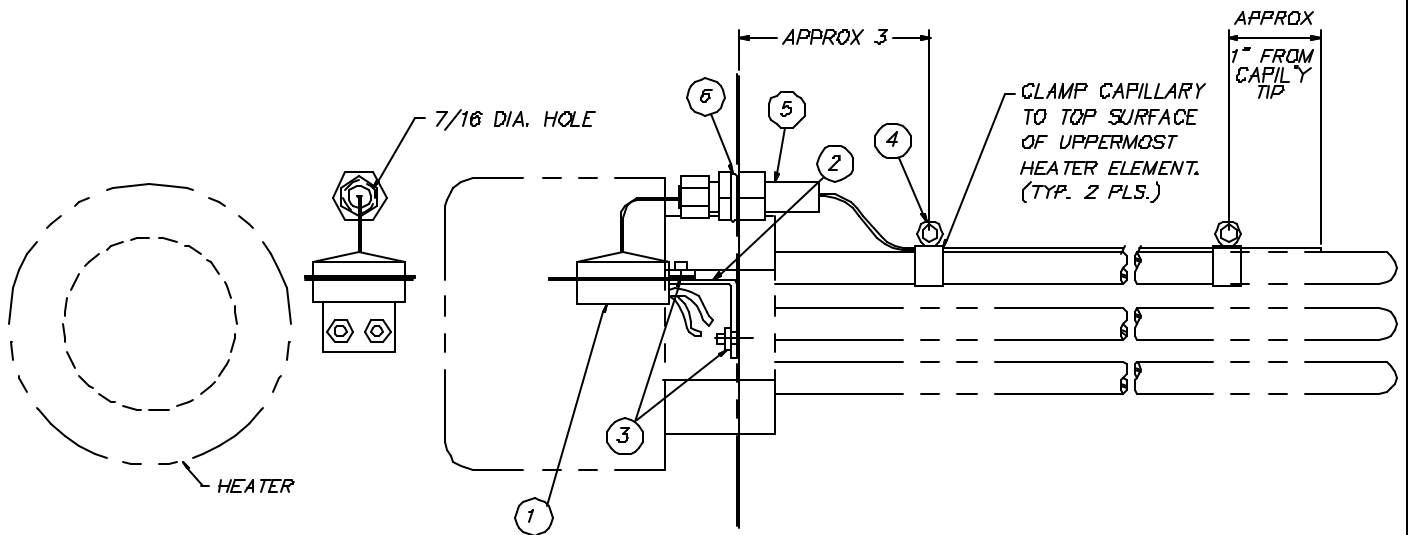


Philadelphia, PA 19135
 (215) 834-4800
 FAX (215) 824-8986

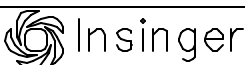


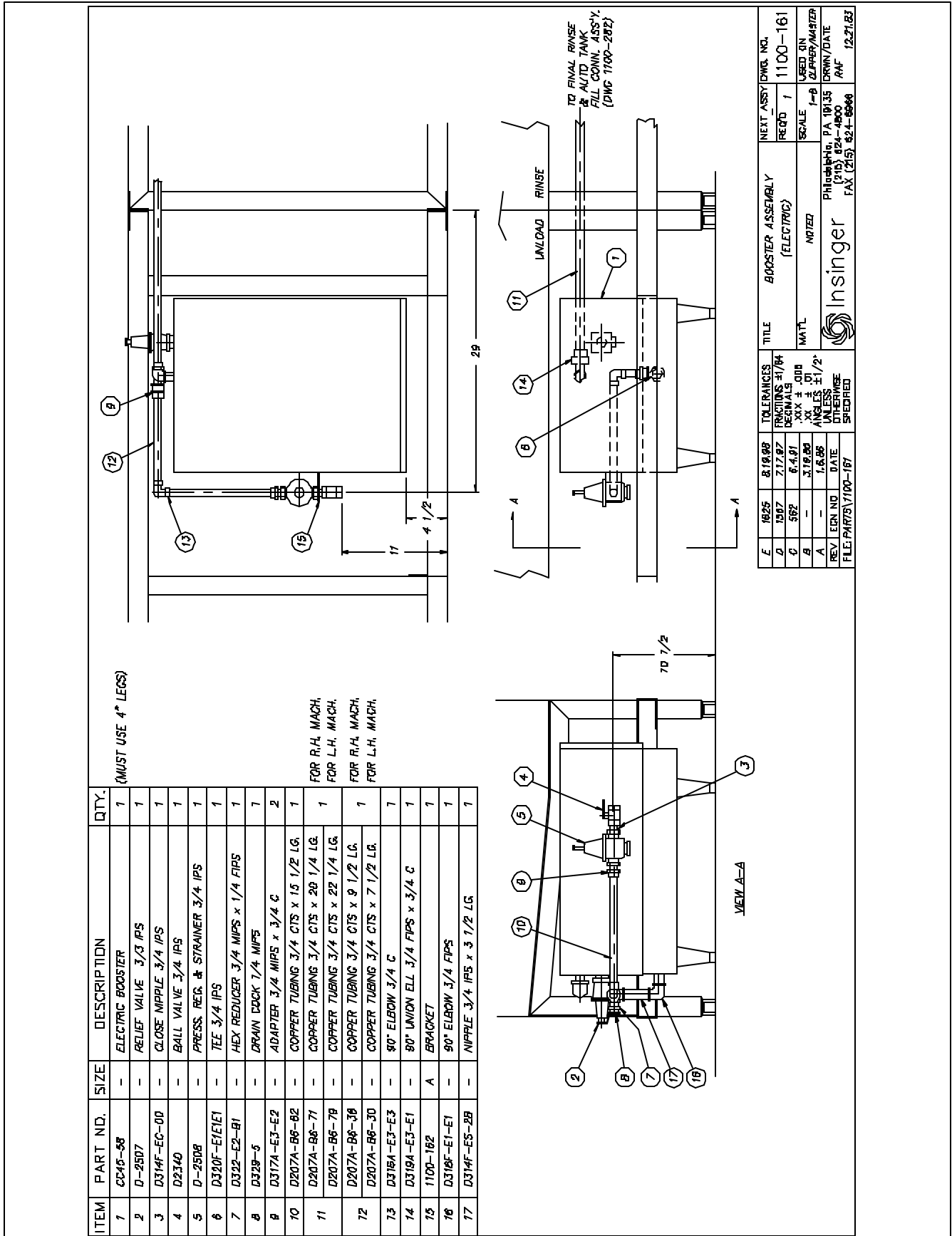


NO.	PART NO.	DESCRIPTION	QTY.
1	DE5-61	HI-TEMP. CUT-OFF SWITCH 3/8 NPT	1
2	1192-11	BRACKET, CUT-OFF SWITCH	1
3	D312G-DC-2	NUT, HEX #8-32	3
4	D2839	HOSE CLAMP, S/S	2
5	D318F-B5-B5	BULKHEAD FITTING	1
6	D3-545	"O" RING	1



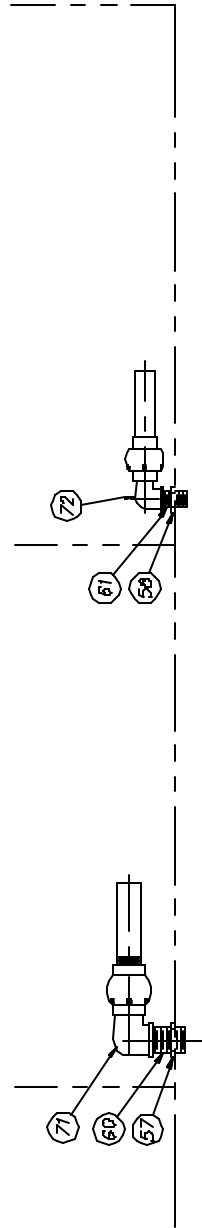
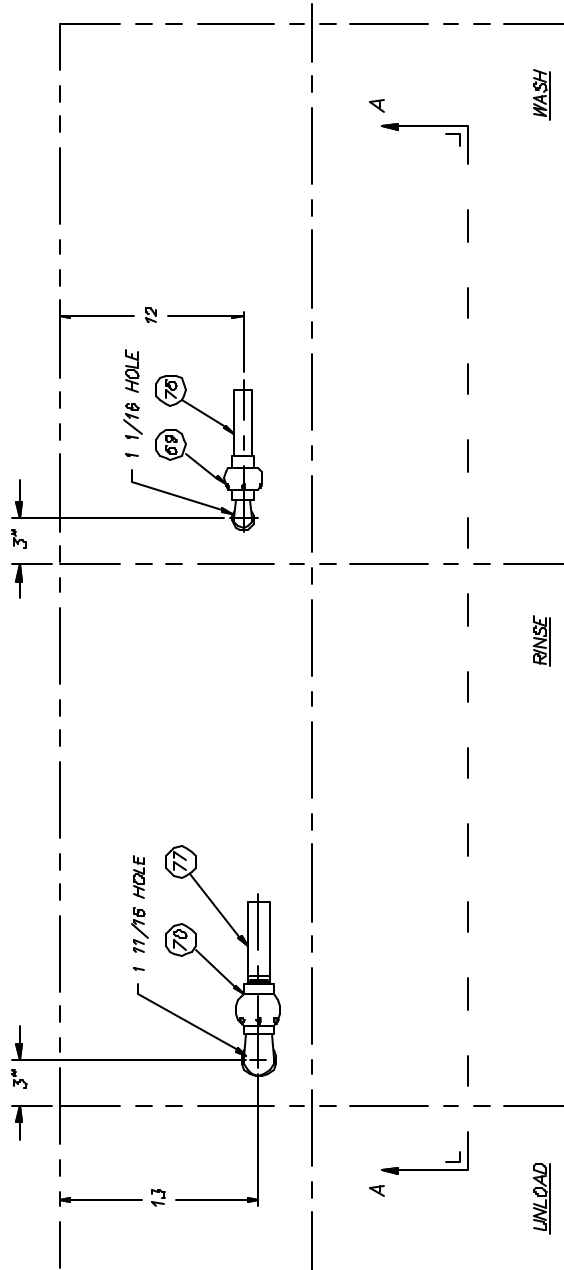
NOTE: ARRANGEMENT SHOWN IS TYPICAL; HOWEVER, IN SOME MODELS (e.g. MASTER L.H. RINSE TANK), ARRANGEMENT IS OPPOSITE.

			TOLERANCES	TITLE	HI-TEMP CUTOFF SWITCH INSTALLATION	NEXT ASSY	DWG. NO.	
			FRACTIONS ±1/84			REQ'D	SK-3779	
			DECIMALS			1		
			.XXX ± .005	MAT'L	-	SCALE	USED ON FLITE	
			.XX ± .01			1:2		
A	1764	6.1.00	ANGLES ±1/2°	 Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966		DRWN/DATE		
REV	ECN NO.	DATE	UNLESS OTHERWISE SPECIFIED			MAM		9.27.95
FILE: SKETCHA\SK-3779								



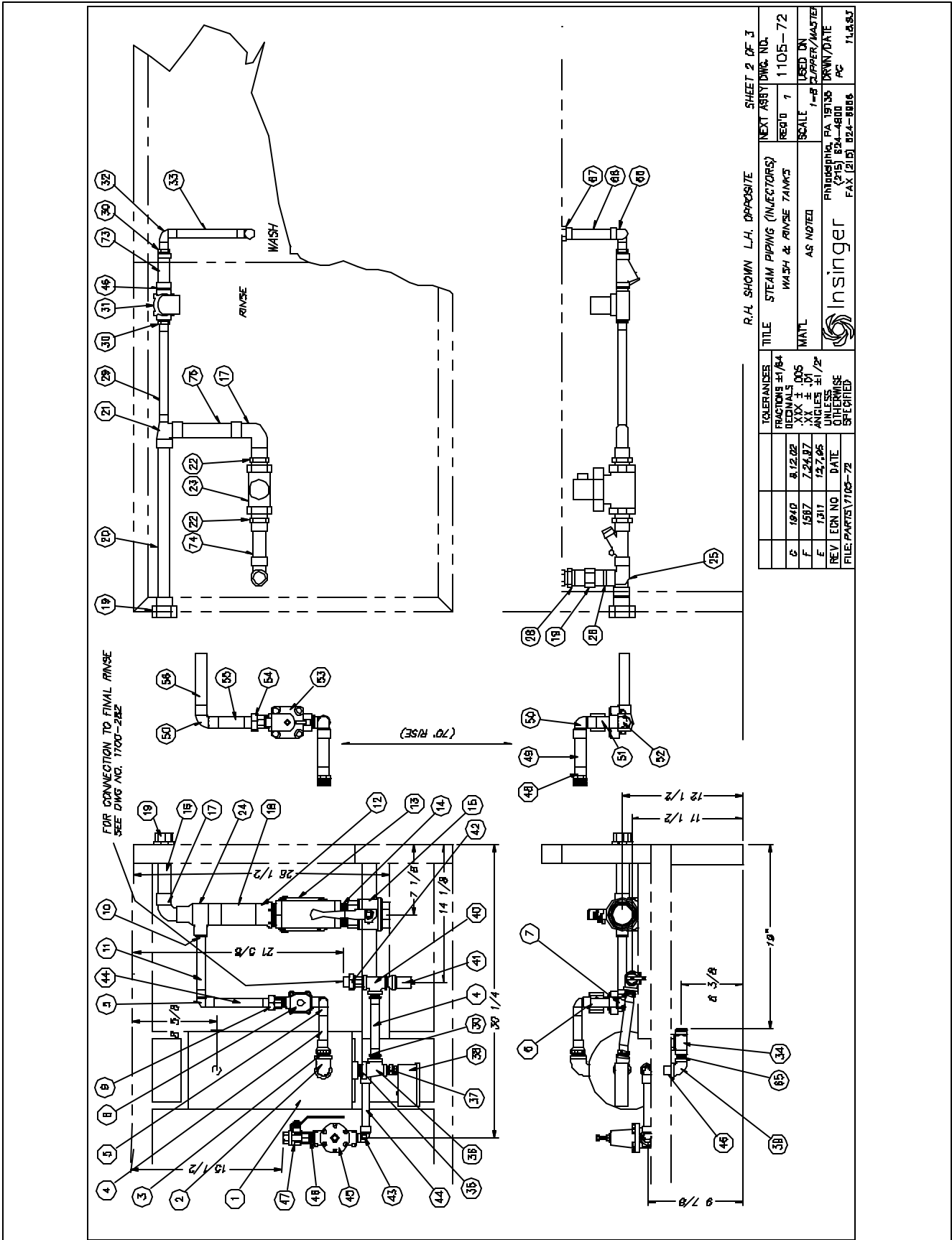
E	1925	8/18/88	TOLERANCES	FRACCTIONS ±1/64	DECIMALS	XXX ±.000	ANGLES ±1/2°	UNLESS OTHERWISE SPECIFIED	FILE: PARTS/1100-167
Q	1987	7/17/87	DECIMALS	±.000	±.000	±.000	±.000		
Q	592	6/4/81	±.000						
A	-	3/18/88							
A	-	1/8/88							
REV	EGR NO	DATE	OTHERWISE						

TITLE	BOOSTER ASSEMBLY (ELECTRIC)	NEXT ASSY/DWG. NO.	1100-161
MATL	NOTED	SCALE	1-8
DRWN/DATD	RAJ	CHKD	RAJ
DATE	12/21/83		
Philadelphia, PA 19135 (215) 824-4800 FAX (215) 624-8866			



VIEW A - A

R.H. SHOWN - L.H. OPPOSITE		SHEET 1 OF 3	
TOLERANCES	±1/64	TITLE	STEAM PIPING (INJECTORS)
FRACTIONS	±1/64	WASH & RINSE TANKS	
DIMENSIONS	DOES	NAT'L	AS NOTED
XX	± .05	Philadelph, PA 19135	USED ON
YY	± .05	(215) 824-4800	CLIPPER/MASTER
ANGLES	±1/2°	INSINGER	RC
UNLESS	OTHERWISE	Philadelphia, PA 19135	1105-72
OTHERWISE	SPECIFIED	FAX (215) 824-8968	1105-72
REV	CON NO	DATE	1105-72
FILE:PARTS	1105-72		



R.H. SHOWN L.H. OPPOSITE

TOLERANCES

DECIMALS	±.005
FRACTIONS	±.005
ANGLES	±.01
CYLINDRICAL	±.005
SPLINES	±.005

FILE: PARTS/1105-72

DATE: 12.7.95

REV: 1.817

REV LEAD NO: 724.87

SCALE: AS NOTED

WASH & RINSE TANKS

REG'D: 1

NEXT ASSY DWG. NO.: 1105-72

USED IN: CLIPPER/MASTER

PHILADELPHIA, PA 19106

INSINGER

PC

11.8.83

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
62	-	-	-	31	D2895	SOLENOID VALVE 3/4 IPS	1	1	D2100	STEAM BOOSTER (1-2) (SEE NOTE #1)	1
63	-	-	-	32	D316A-E3-E4	90° ELBOW 3/4 FTS X 3/4 C	1	2	D316F-F1-F2	90° STREET ELL 1" MIPX X 1" CDS	1
64	-	-	-	33	D207A-B8-B9	COPPER TUBING 3/4 CTS X 3/4	1	3	D317A-E2-D1	ADAPTER 3/4 X 1" MIPX	1
65	D314F-DC-00	NIPPLE CLOSE 1/2 IPS	2	34	D2702A	STEAM TRAP 1/2 IPS	1	4	D207A-B8-B9-10	COPPER TUBING 3/4 CTS X 4" LG	2
66	D316A-E3-E3	90° ELBOW 3/4 C	1	35	D314F-FC-00	NIPPLE CLOSE 1" IPS	1	5	D316A-E3-E3	90° ELL 3/4 C	2
67	D317A-E7-E3	ADAPTER 3/4 FTS X 3/4 C	1	36	D320F-F1-D1E1	TEE 1" FTS X 1/2 FTS X 3/4 FTS	1	6	D207A-B8-B9-14	COPPER TUBING 3/4 CTS X 3 1/2 LG	1
68	D207A-B8-B9-20	COPPER TUBING 3/4 CTS X 5" LG	1	37	D328F-DE-C1	HEX RED 1/2 MIPX X 3/8 FTS	1	7	D316A-E3-E2	UNION 3/4 C X 3/4 MIPX	1
69	D-942A	STEAM INJECTOR 3/4 IPS	1	38	D2396	THERMOSTAT (SEE NOTE 2)	1	8	D2899	SOLENOID VALVE 3/4 MIPX	1
70	D-245B	STEAM INJECTOR 1 1/4 IPS	1	39	D316F-E2-D2	90° RED ELL 3/4 FTS X 7/8 FTS	1	9	D316A-E3-E2	UNION 3/4 C X 3/4 MIPX	1
71	D316A-E7-E2	90° STREET ELL 1 1/4 IPS	1	40	D320F-E1E1E1	TEE 3/4 IPS	1	10	D320A-F4-E3	FLUSH BRUSHING T770 X 3/40	1
72	D316A-E7-E2	90° STREET ELL 3/4 IPS	1	41	D2807	PRESSURE RELIEF VALVE 3/4 FTS	1	11	D207A-B8-B9	COPPER USING 3/4 CTS X 7" LG	1
73	D245A	BALL CHECK 3/4 IPS	1	42	D316A-E3-E2	UNION 3/4 C X 3/4 MIPX	1	12	D317A-E3-E2	ADAPTER 2" C X 2" MIPX	1
74	D221B	HORIZ. CHECK VALVE 1 1/4 C	1	43	D316A-E3-E2	90° ELBOW 3/4 C X 3/4 MIPX	2	13	D275A	1" STRAINER 2" IPS	1
75	D207A-B10-B4	COPPER TUBING 1 1/4 CTS X 6	1	44	D207A-B8-B4	COPPER TUBING 3/4 CTS X 6	1	14	D314F-FC-00	NIPPLE CLOSE 2" IPS	1
76	D314F-FS-48	NIPPLE 1 FTS X 6	1	45	D2808	PRESS REG & STRAINER 3/4 FTS	1	15	D2757	BALL VALVE 2" IPS	1
77	D314F-HS-48	NIPPLE 1 1/2 IPS X 6	1	46	D314F-EC-00	NIPPLE CLOSE 3/4 IPS	2	16	D207A-B10-B7	90° ELBOW 1 1/4 CTS X 6 1/4 LG	1
				47	D2340	BALL VALVE 3/4 IPS	1	17	D316A-E3-E3	90° ELBOW 1 1/4 C X 1 1/4 C	2
				48	D317A-F3-F3	ADAPTER 1" C X 1" MIPX	1	18	D207A-B18-B4	COPPER TUBING 2" CTS X 6" LG	1
				49	D207A-B8-B18	COPPER TUBING 1" CTS X 4 3/4	1	19	D316A-E3-E3	UNION 1 1/4 C X 1 1/4 C	2
				50	D316A-F3-F3	90° ELBOW 1" C X 1" C	2	20	D207A-B70-B6	COPPER TUBING 1 1/4 CTS X 18 1/2	1
				51	D207A-B8-B19	COPPER TUBING 1" CTS X 3 3/4	1	21	D320A-D3E2E3	TEE 1 1/4 C X 3/4 C X 1 1/4 C	1
				52	D316A-F3-F2	90° ELBOW 1" C X 1" MIPX	1	22	D317A-E4-E2	ADAPTER 1 1/4 FTS X 1 1/4 MIPX	2
				53	D2772	SOLENOID VALVE 1" IPS	1	23	D2475	SOLENOID VALVE 1 1/4 IPS	1
				54	D316A-F3-F2	UNION 1" C X 1" MIPX	1	24	D320A-L3E3E3	TEE 2" X 1 1/4 X 1" C	1
				55	D207A-B8-B18	COPPER TUBING 1" CTS X 4 1/2 LG	1	25	D316A-E3-E4	90° ELBOW 1 1/4 C X 1 1/4 FTS	1
				56	D207A-B8-B4	COPPER TUBING 1" CTS X 6" LG	1	26	D207A-B10-12	COPPER TUBING 1 1/4 CTS X 3	1
				57	D328A-G1	LOCKWUT 1 1/4 IPS	1	27	-	-	-
				58	D328F-E7	LOCKWUT 3/4 IPS	1	28	D317A-E4-E1	ADAPTER 1 1/4 FTS X 1 1/4 FTS	1
				59	-	-	-	29	D207A-B-38	COPPER TUBING 3/4 CTS X 9 1/2	1*
				60	D314F-BA-16	NIPPLE 1 1/4 IPS X 2" ALL THD	1	30	D207A-B8-B0	COPPER TUBING 3/4 CTS X 28 1/2	1**
				61	D314F-EA-18	NIPPLE 3/4 IPS X 2" ALL THD	1		D317A-E3-E2	ADAPTER 3/4 C X 3/4 MIPX	4

FOR 40" RISE

FOR 70" RISE

NOTE :
 1. (ITEM #1) ADD SUFFIX "NM" FOR NON-MAGNETIC MACHINES.
 2. (ITEM #64) USE PART NO. D2308 AS STANDARD AND PART NO. D2301 WHEN LOW TEMP. CUT-OFF IS SPECIFIED.

* FOR CLIPPER ONLY
 ** FOR MASTER ONLY

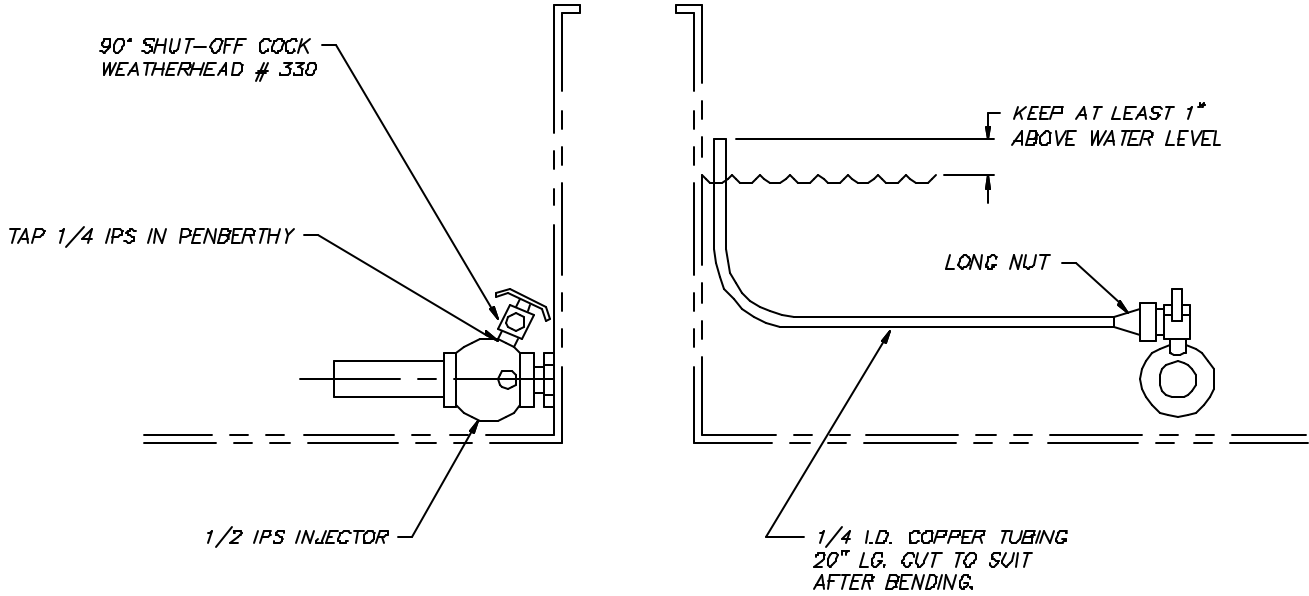
TOLERANCES		FRACTIONS ±1/64	
C	1040	6.1202	XXX ± .000
E	1567	7.2437	XXX ± .001
F	1317	72.60	XXX ± .010
REV. CON NO.	DATE	FILE:PARTS\1106-72	OTHERWISE SPECIFIED


TITLE	STEAM FIRING (INJECTORS)	WASH & RINSE TANKS	SCALE	1" = 6"
MATL	AS NOTED	AS NOTED	USED ON	CLIPPER/MASTER
PHILADELPHIA, PA 19135	TEL (215) 824-4800	FAX (215) 824-6866	DATE	11.8.03

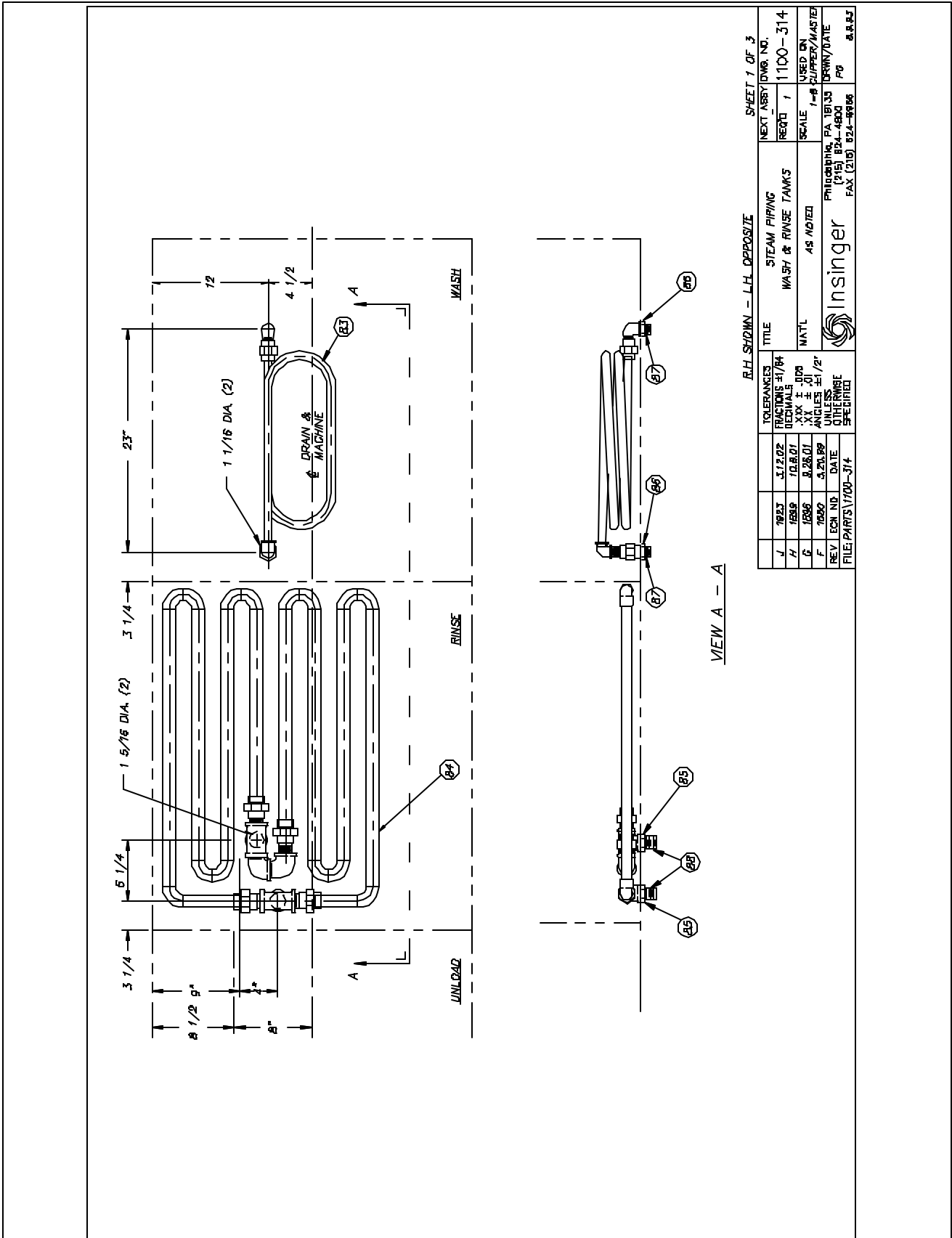
Insinger
 11.8.03

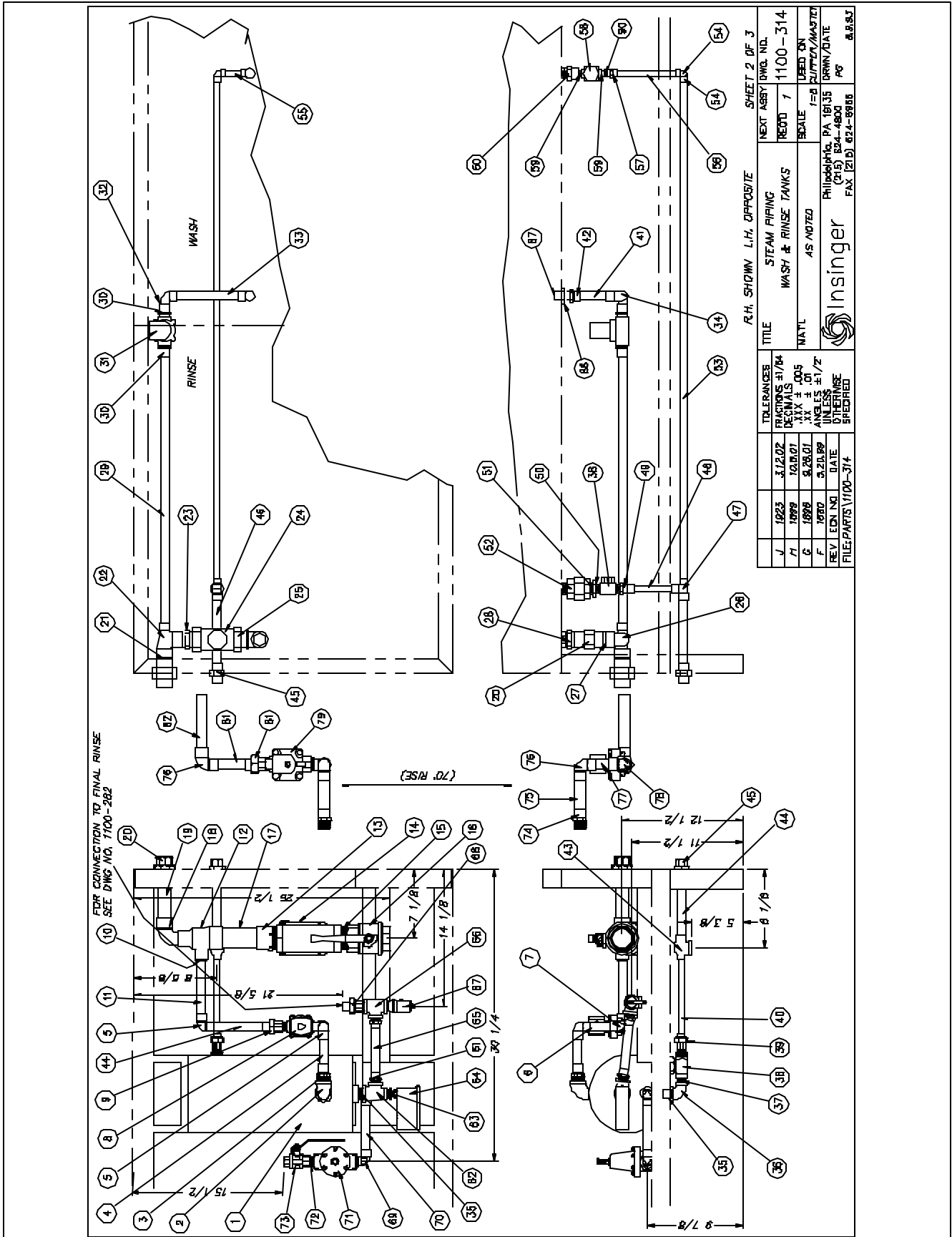
SHEET 3 OF 3

NEXT ASSY DWG. NO. 1105-72



			TOLERANCES	TITLE	STEAM SILENCER ASSEMBLY	NEXT ASSY	DWG. NO.
			FRACTIONS $\pm 1/64$			REQ'D	1
			DECIMALS				199-76
			.XXX $\pm .005$	MATL		SCALE	USED ON
			.XX $\pm .01$			FULL	ENSGN 40-2
			ANGLES $\pm 1/2^\circ$				DRWN/DATE
			UNLESS OTHERWISE SPECIFIED				AP
REV	ECN NO	DATE			Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966		4.7E.87
FILE: PARTS \ 199-76							





ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
61	D317A-E3-E2	ADAPTER 3/4" X 3/4" MIP	2	31	D2585	SOLENOID VALVE 3/4" IPS	1	1	D2100	STEAM BOOSTER (1-2) (SEE NOTE #1)	1
62	D320F-F1-D1E1	TEE 1" FIPS X 1/2" FIPS X 3/4" FIPS	1	32	D316A-E3-E4	90° ELBOW 3/4" C X 3/4" FTS	1	2	D314F-F1-F2	90° STREET EL 1" FIPS X 7" MIP	1
63	D320F-F2-C1	HEX RED 1/2" MIP X 3/8" FIPS	1	33	D207A-B6-B2	COPPER TUBING 3/4" CTS X Ø	1	3	D317A-E3-F2	ADAPTER 3/4" C X 1" MIP	1
64	D250B	THERMOSTAT (SEE NOTE 2)	1	34	D316A-E3-E3	90° EL 3/4" C X 3/4" C	1	4	D207A-B6-B1	COPPER TUBING 3/4" CTS X 4"	1
65	D207A-B6-B1	COPPER TUBING 3/4" CTS X 4" LØ	1	35	D314F-E3-E0	CLOSE MIPPLE 3/4" IPS	1	5	D316A-E3-E3	90° EL 3/4" C	2
66	D320F-F1E1E1	TEE 3/4" IPS	1	36	D316F-E3-E2	90° RED EL 3/4" FIPS X 1/2" FIPS	1	6	D207A-B6-B1	COPPER TUBING 3/4" CTS X 3 1/2"	1
67	D2507	PRESSURE RELIEF VALVE 3/4" IPS	1	37	D314F-D3-E0	CLOSE MIPPLE 1/2" IPS	1	7	D316A-E3-E2	90° ELBOW 3/4" C X 3/4" MIP	1
68	D316A-E3-E2	UNION 3/4" C X 3/4" MIP	1	38	D2102A	STEAM TRAP 1/2" IPS	2	8	D207A-B6-B1	SOLENOID VALVE 3/4" IPS	1
69	D316A-E3-E2	90° ELBOW 3/4" C X 3/4" MIP	2	39	D316A-03-E2	UNION 1/2" C X 1/2" MIP	1	9	D316A-E3-E2	UNION 3/4" C X 3/4" MIP	1
70	D207A-B6-B4	COPPER TUBING 3/4" CTS X 6"	1	40	D207A-B6-B3	COPPER TUBING 1/2" CTS X Ø 1/4"	1	10	D316A-F1-E3	FLUSH ELBOW 1" FTS X 3/4" C	1
71	D250B	PRESS REG & STRAINER 3/4" IPS	1	41	D207A-B6-B1	COPPER TUBING 3/4" CTS X 4" LØ	1	11	D207A-B6-B2	COPPER TUBING 3/4" CTS X 7"	1
72	D314F-E3-E0	MIPPLE CLOSE 3/4" IPS	1	42	D317A-E3-E1	ADAPTER 3/4" C X 3/4" FIPS	1	12	D320A-03E3E3	TEE 2" C X 1 1/4" C X 1" C	1
73	D2340	BALL VALVE 3/4" IPS	1	43	D320A-E3D3E1	TEE 3/4" C X 1 1/2" C X 3/4" FIPS	1	13	D317A-E3-E2	ADAPTER 2" C X 2" MIP	1
74	D317A-F3-F2	ADAPTER 1" C X 1" MIP	1	44	D207A-B6-B2	COPPER TUBING 3/4" CTS X 7"	1	14	D2706	1" STRAINER 2" IPS	1
75	D207A-B6-B3	COPPER TUBING 1" CTS X 3 1/4"	1	45	D316A-E3-E3	UNION 3/4" C	1	15	D314F-JC-00	MIPPLE CLOSE 2" IPS	1
76	D316A-F3-F3	90° ELBOW 1" C X 1" C	1	46	D207A-B6-B2	COPPER TUBING 3/4" CTS X 7" LØ	1	16	D2757	BALL VALVE 2" IPS	1
77	D207A-B6-B5	COPPER TUBING 1" CTS X 3 3/4"	1	47	D320A-E3D3E3	TEE 3/4" C X 1 1/2" C X 3/4" C	1	17	D207A-B16-24	COPPER TUBING 2" CTS X Ø"	1
78	D316A-F3-F2	90° ELBOW 1" C X 1" MIP	1	48	D207A-B6-B1	COPPER TUBING 3/4" CTS X 5 1/4"	1	18	D316A-E3-E4	90° STREET EL 1 1/4" X 1 1/4" FTS	1
79	D2772	SOLENOID VALVE 1" FIP	1	49	D317A-E3-E2	ADAPTER 3/4" C X 1/2" MIP	1	19	D207A-B16-23	COPPER TUBING 1 1/4" CTS X 5 1/4"	1
80	D316A-F3-F2	UNION 1" C X 1" MIP	1	50	D314F-D3-E0	MIPPLE CLOSE 1/2" IPS	1	20	D316A-E3-E3	UNION 1 1/4" C X 1 1/4" C	2
81	D207A-B6-B1	COPPER TUBING 1" CTS X 4 1/2"	1	51	D320F-F2-D1	HEX RED 1" MIP X 1/2" FIPS	1	21	D207A-B16-10	COPPER TUBING 1 1/4" CTS X 2 1/2"	1
82	D207A-B6-B4	COPPER TUBING 3/4" CTS X 6" LØ	1	52	D308F-F1-F1	UNION 1" IPS	1	22	D320A-03E3E3	TEE 1 1/4" C X 3/4" C X 1 1/4" C	1
83	1700-B4	STEAM COIL - WASH	1	53	D207A-B4-213	COPPER TUBING 1/2" CTS X 63 1/4"	1*	23	D317A-E4-E2	ADAPTER 1 1/4" FTS X 1 1/4" MIP	1
84	9019-02	STEAM COIL - RINSE	1**	54	D207A-B4-253	COPPER TUBING 1/2" CTS X 65 1/4"	1**	24	D2470	SOLENOID VALVE 1 1/4" IPS	1
85	D320F-F1	LOCKNUT 1" IPS	2	55	D316A-03-E3	90° ELBOW 1/2" C	2	25	D314F-D3-10	MIPPLE 1 1/4" IPS X 2	1
86	D320F-F1	LOCKNUT 3/4" IPS	2	56	D207A-B4-B	COPPER TUBING 1/2" CTS X 2 1/4"	1	26	D316A-03-01	90° ELBOW 1 1/4" C X 1 1/4" FIPS	1
87	D314F-EA-14	MIPPLE 3/4" IPS X 1 3/4" ALL THD.	2	57	D207A-B4-B2	COPPER TUBING 1/2" CTS X Ø	1	27	D207A-B10-12	COPPER TUBING 1 1/4" CTS X 3"	1
88	D314F-FA-16	MIPPLE 1" IPS X 2" ALL THD.	1	58	D316A-03-01	UNION 1/2" C X 1/2" FIPS	1	28	D317A-E3-F1	ADAPTER 1 1/4" C X 1" FIPS	1
89	D314F-EL-52	MIPPLE 3/4" IPS X 6 1/2" LØ	1	59	D2102	STEAM TRAP 3/8" FIP	1	29	D207A-B6-B1	COPPER TUBING 3/4" CTS X 24"	1**
90	D320F-F2-C1	RED RUBER 1/2" MIP X 3/8" FIPS	1	60	D320F-E1-C1	RED COUPLING 3/4" FIPS X 3/8" FIPS	2	30	D316A-E3-E2	COPPER UNION 3/4" C X 3/4" MIP	2
91	1100-375	PIPE SUPPORT	1								

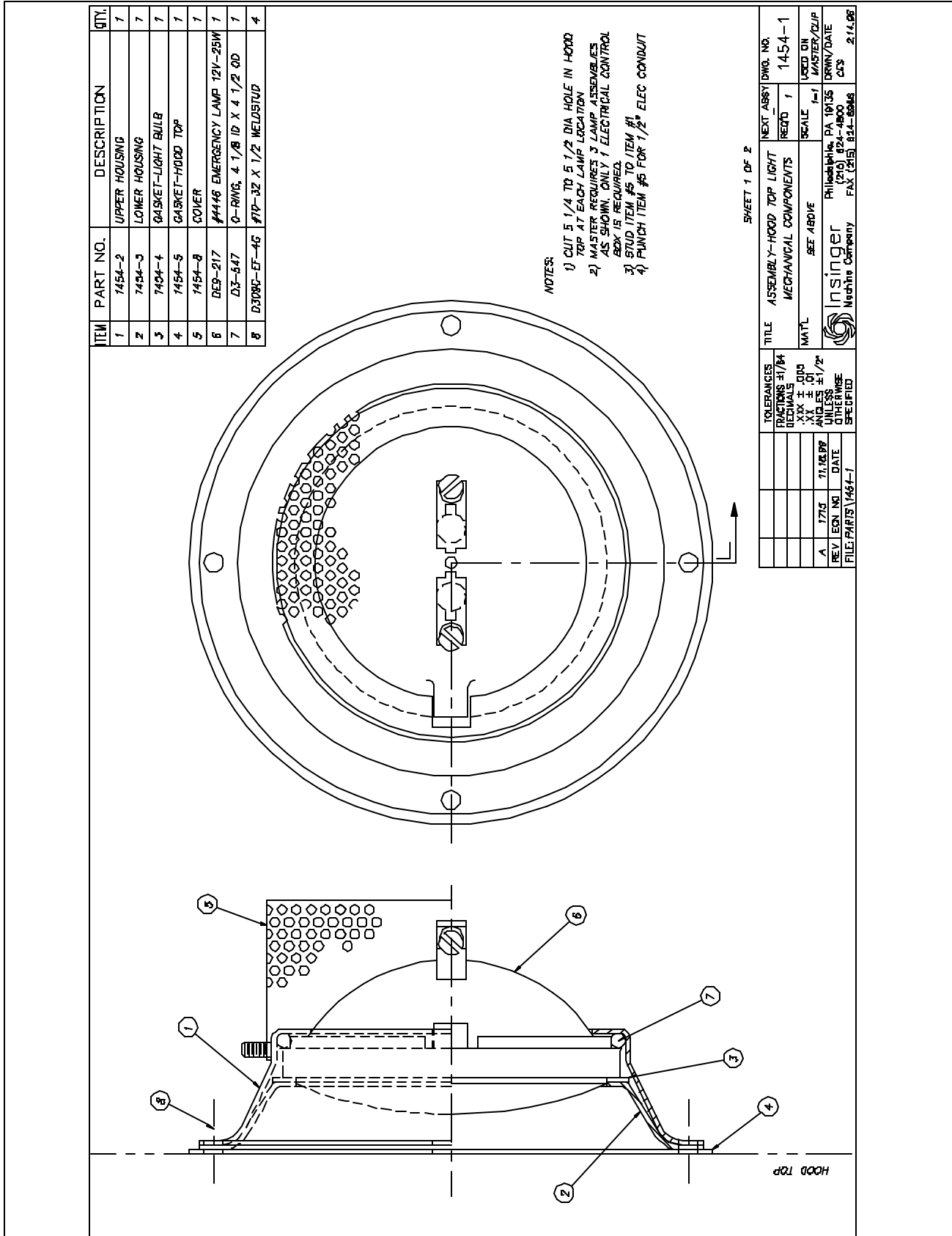
NOTE:
 1. (ITEM #1), ADD SUFFIX "MM" FOR NON-MAGNETIC MACHINES.
 2. (ITEM #64) USE PART NO. D250B AS STANDARD AND PART NO. D2301 WHEN LOW TEMP. CUT-OFF IS SPECIFIED.

* FOR CLIPPER ONLY
 ** FOR MASTER ONLY

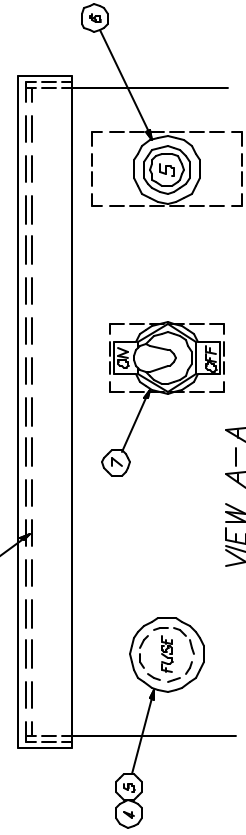
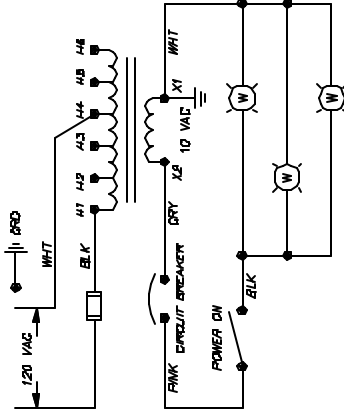
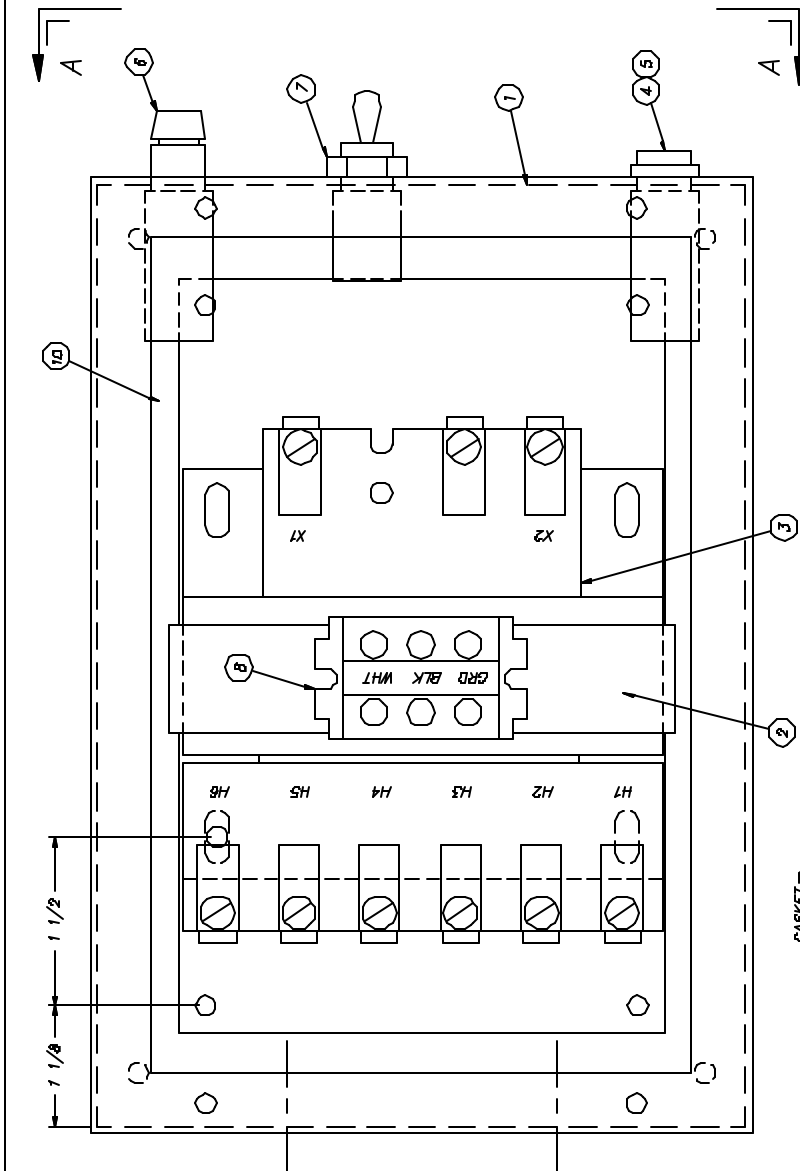
TOLERANCES	FRACIONS 31/64	DECIMALS .005	ANGLES 31/2°	OTHERWISE SPECIFIED
J	1023	3.12.02		
H	1060	20.8.01		
G	1085	3.25.01		
F	1680	3.20.09		
REV	ECN NO	DATE	FILE: PAK751700-314	

TITLE	STEAM PIPING	WASH & RINSE TANKS	AS NOTED
MATL	1-8	CLIPPER/MASTER	
REV'D	1	1100-314	
SCALE	1-8	CLIPPER/MASTER	
USED ON			
DRWN/DATE			
INSINGER	PAK751700-314	(215) 824-4800	PAK
		FAX (215) 824-8945	

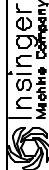
SHEET 3 OF 3

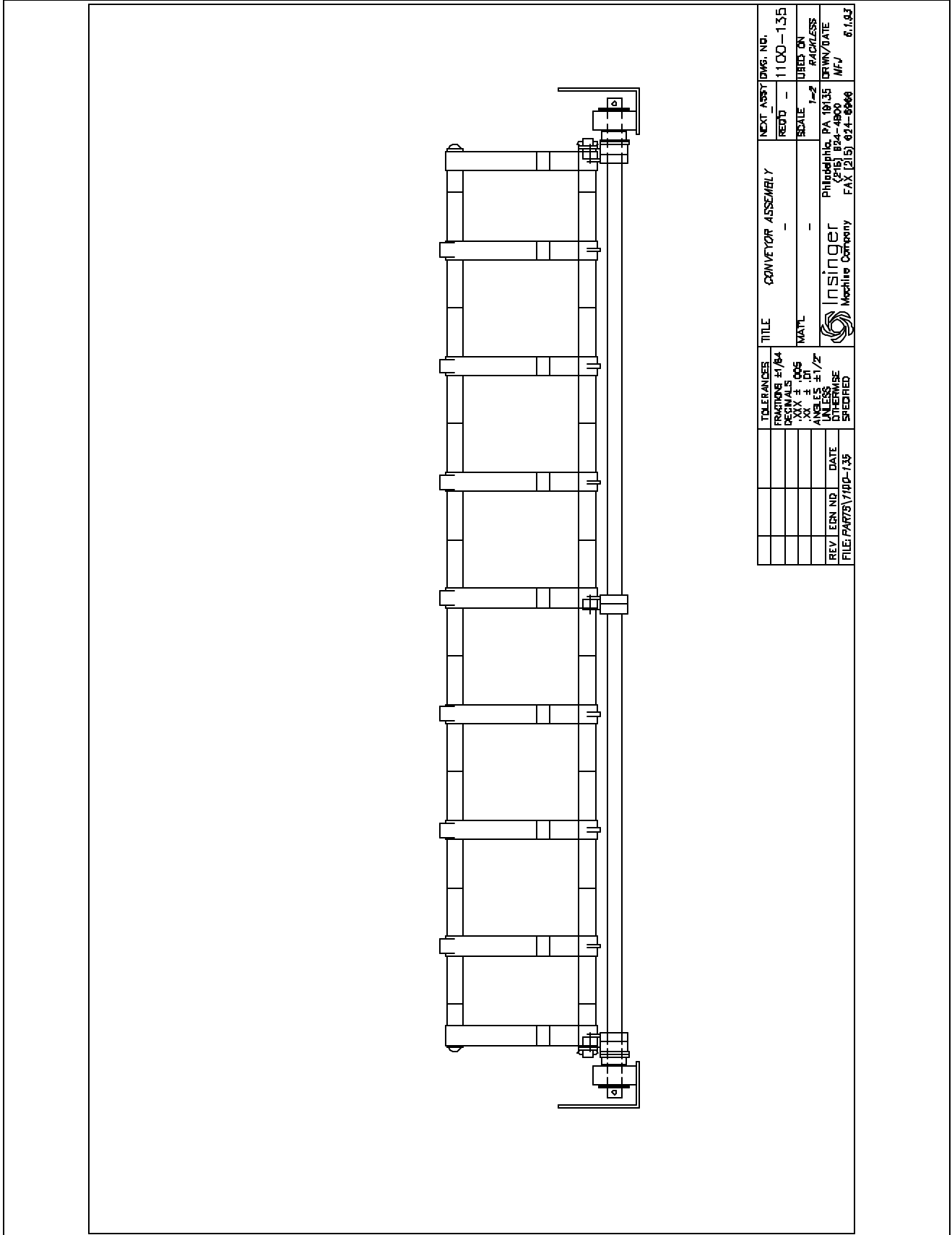


ITEM	PART NO.	DESCRIPTION	QTY.
1	1454-6	ELEC. ENCLOSURE W/LID	7
2	1454-7	MOUNTING STRAP	7
3	DE9-9	TRANSFORMER (150VIA, 24VAC)	7
4	DE9-219	FUSEHOLDER HKP-HH	7
5	DE9-218	FUSE MDL-3.2	7
6	DE9-43	CIRCUIT BREAKER, 5A	7
7	DE9-8	TOGGLE SWITCH (4X846)	7
8	DE9-9	TERMINAL BLK ASSY	7
10	1454-10	PANEL-ELEC. ENCL.	7




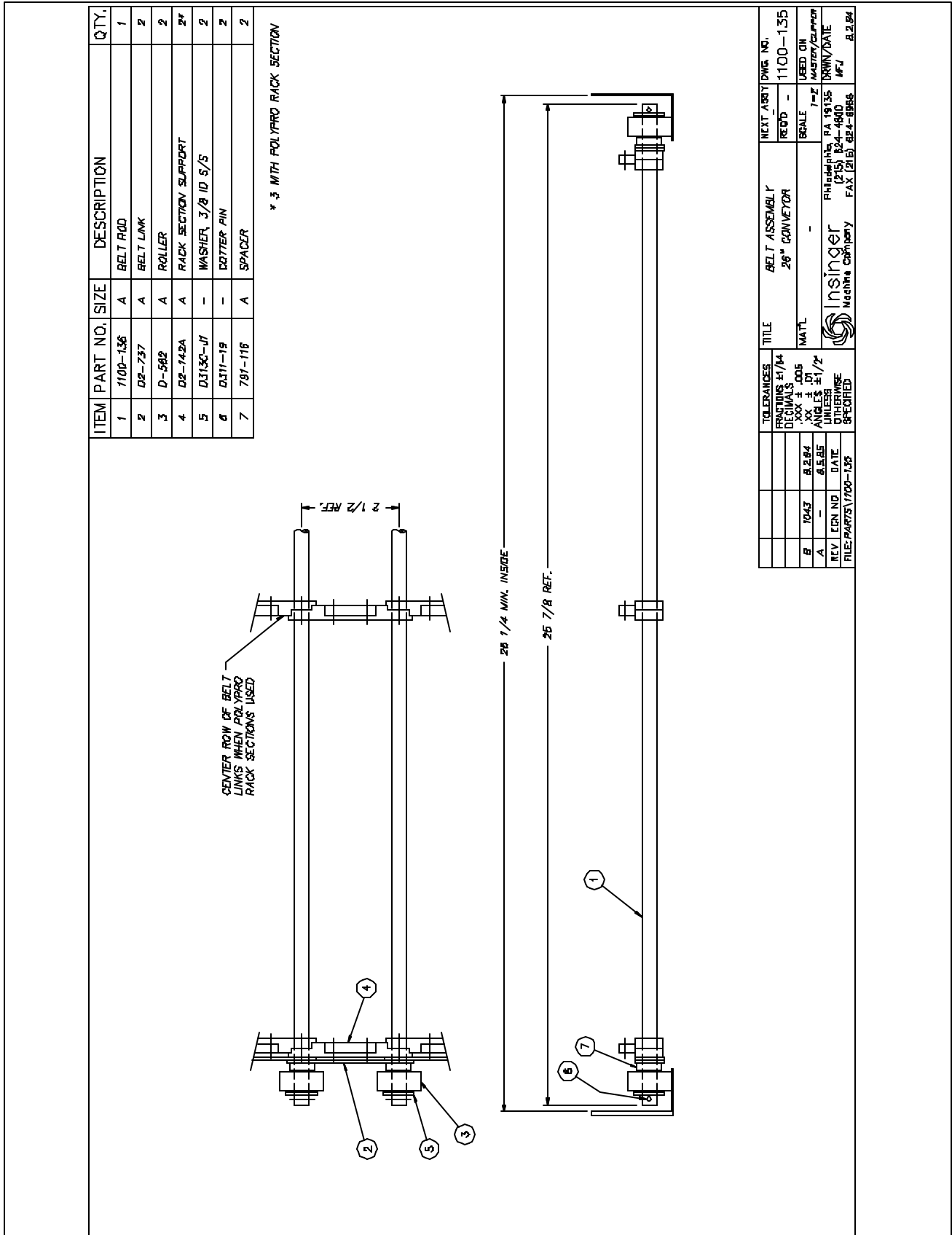
TITLE		ASSEMBLY-HOOD TOP LIGHT		NEXT ASSY DWG. NO.	
MATERIAL		SEE ABOVE		1454-1	
TOLERANCES		FRACTIONS 31/64		SCALE	
		DECIMALS .XXX ± .005		1-1	
		ANGLES ± .01		UNSTD UN	
		OTHERWISE OTHERWISE SPECIFIED		MASTER/DUP	
REV		LEGN NO		DATE	
A		1716		7/18/89	
FILE: PARTS/1454-1		DATE		DRAWN/DATE	
				GCS 2/14/89	



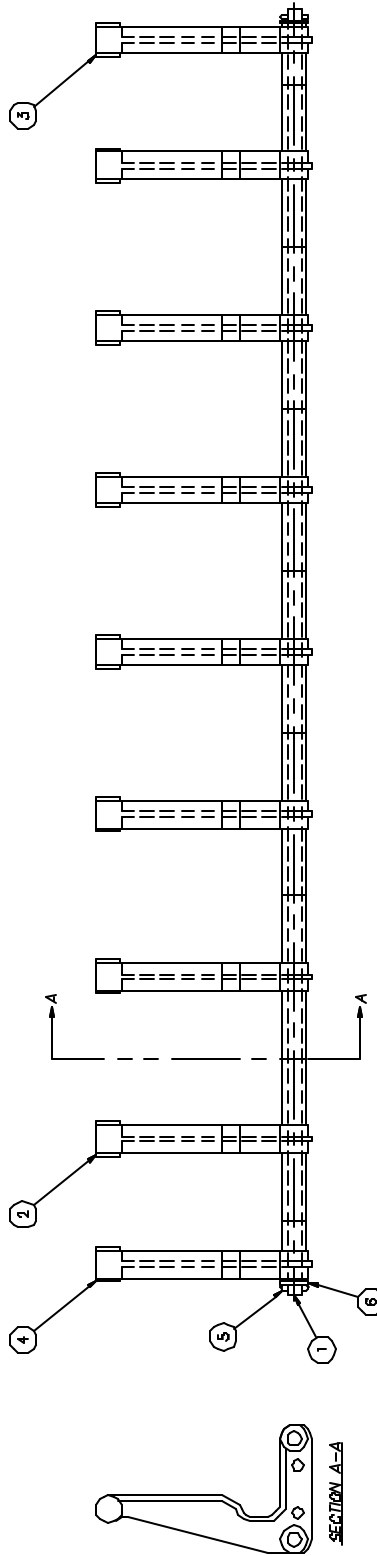


TOLERANCES	TITLE	CONVEYOR ASSEMBLY	NEXT ASSY DWG. NO.
FRACTIONS ±1/8"	REVD	-	1100-135
DECIMALS ±.005	SCALE	1=2	USED ON
XX ±.01	MAT'L		#ACKLESS
ANGLES ±1/2"			DRWN/DATE
UNLESS OTHERWISE SPECIFIED			M/J 6.1.93
REV	LEGN. NO.	DATE	
FILE: P4R7S17100-135			

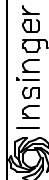

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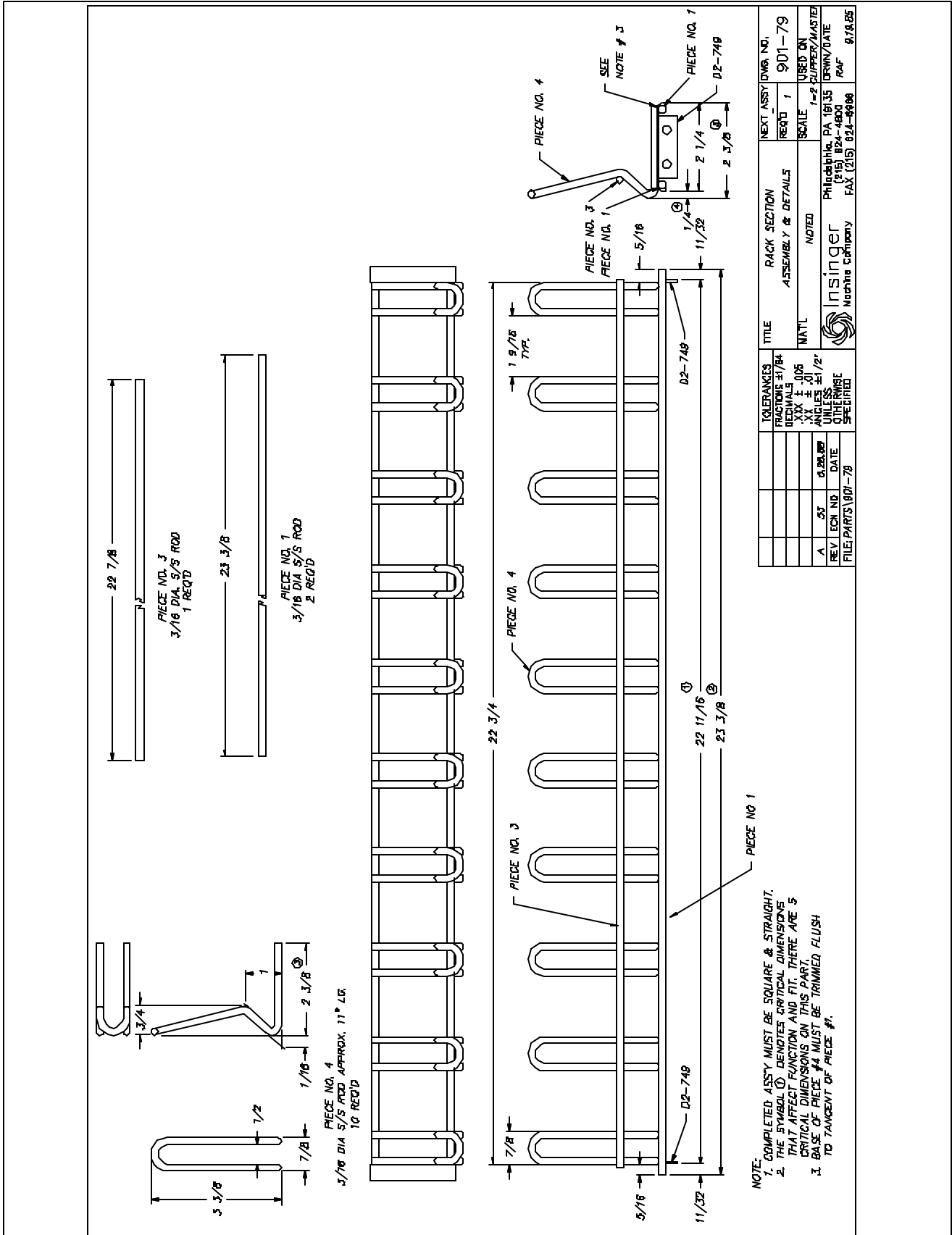
ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1100-138	A	RACK SECTION ROD, LOWER	2
2	D2-5388	A	REG	7
3	D2-538J	A	END REG	1
4	D2-536K	A	END REG	1
5	D2-852	A	ROD FIN	2
6	D2-738	A	RACK SECTION PLATE	2



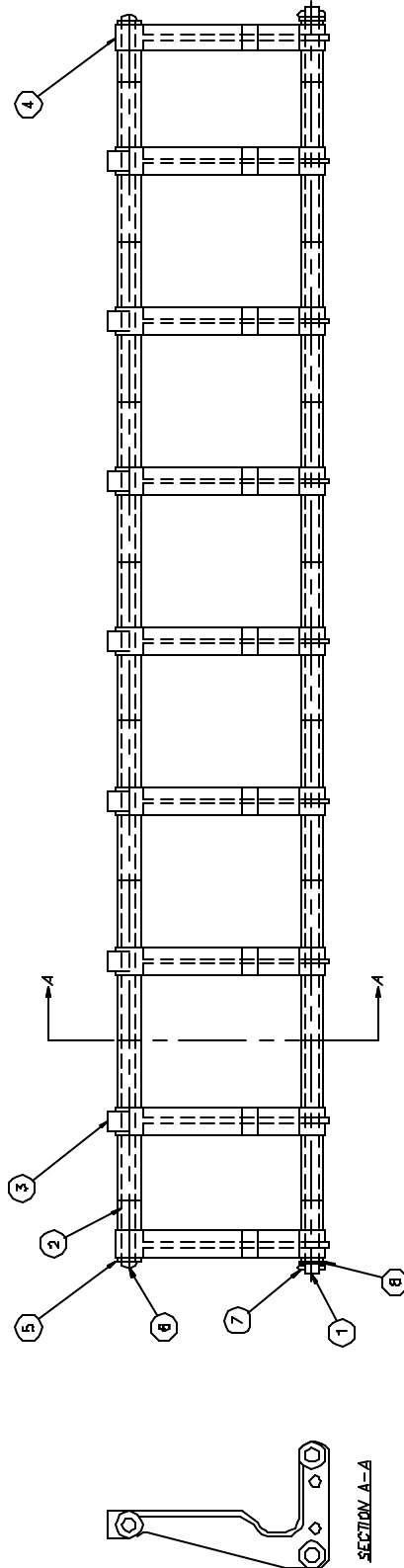
TOLERANCES:	TITLE	NEXT ASSEMBLY	DRWG. NO.
FRACTIONS ±1/64	REQ. Y REG	REQD 1	1100-139
DECIMALS .XXX ±.005	RACK SECTION	SCALE 1=2	USED ON
.XX ±.01			MASTERY/CLAMPER
ANGLES ±1/2°			DRWN/DATE
UNLESS OTHERWISE SPECIFIED			1/2/84
REV	ECN NO	DATE	FILE:PARTS\1100-139
A		17.8.84	
B		1/2/84	
C	Ø79	8.8.85	



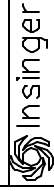
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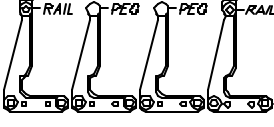
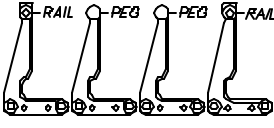
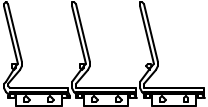
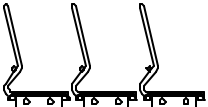
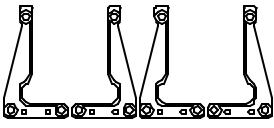
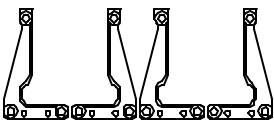
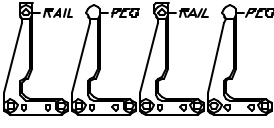
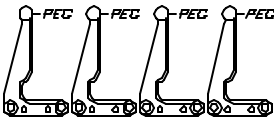
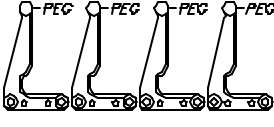
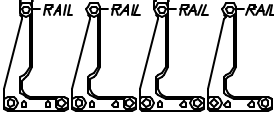
ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1100-138	A	RACK SECTION ROD LOWER	2
2	D3-810	A	RACK SECTION ROD UPPER	1
3	D2-538	A	PEG	7
4	D2-538C	A	END PEG	1
5	D2-539D	A	END PEG	1
6	D310-7	-	DRIVE SCREW #8-32 x 3/8	2
7	D2-662	A	ROD PIN	2
8	D2-736	A	RACK SECTION PLATE	2



E	878	1.4.04	TOLERANCES	TITLE	POLY RAIL	NEXT ASSY DWG. NO.
D	872	6.6.87	FRACTIONS ±1/4"	RAILY SECTION		1100-137
C	819	2.4.83	DECIMALS			REG'D 7
B	-	1.10.85	XXX ± .005	MATL		SCALE
A	-	1.2.04	.XX ± .01			1-2
REV	ECN NO.	DATE	ANGLES ±1/2°			USED ON
			TOLERANCE			MAKES/DRAWER
			UNLESS			DRWN/DATE
			SPECIFIED			1/75 824-8008
						MPJ
						6.1.83



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FULL ASSY	DESCRIPTION	BELT ASSY (LESS RACK SECTIONS)	RACK SECTION(S)	TITLE		TOLERANCES		NEXT ASSY DWG. NO.		FLIGHT CONVEYOR ASSEMBLIES		DRAWN/DATE	
				REGD	MATL	FRACTIONS #1/64	DECIMALS #100	REGD	SCALE	LIBED	QIN	DATE	DATE
A	STND 26" WIDE POLYPRO RACK SECTIONS	1100-135	(1) 1100-137 RAIL (2) 1100-138 PEG 					1100-360					
B	STND 31" WIDE POLYPRO RACK SECTIONS	1426-10	(1) 1426-11 RAIL (2) 1426-12 PEG 										
C	STND 26" WIDE S/S RACK SECTIONS	1100-135	901-79 										
D	STND 31" WIDE S/S RACK SECTIONS	1426-10	1426-74 										
E	SPECIAL 26" WIDE POLYPRO RACK SECTIONS "BACK TO BACK" DMN & TIVOLI TRAYS	1100-135	ALL 1100-137 RAILS 										
F	SPECIAL 31" WIDE POLYPRO RACK SECTIONS "BACK TO BACK" DMN & TIVOLI TRAYS	1426-10	ALL 1426-11 RAILS 										
G	SPECIAL 26" WIDE POLYPRO RACK SECTIONS	1100-135	(1) 1100-737 RAIL (1) 1100-739 PEG 										
H	SPECIAL 26" WIDE POLYPRO RACK SECTIONS	1100-135	ALL 1100-139 PEG 										
J	SPECIAL 31" WIDE POLYPRO RACK SECTIONS	1426-10	ALL 1426-12 PEG 										
K	SPECIAL 26" WIDE POLYPRO RACK SECTIONS (TEHACHAPI CO)	1100-135	ALL 1100-137 RAIL 										

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Insinger

11.29.02

REV LEGR NO. DATE

B 1990 8/18/03

A 1984 7/16/01

FILE: PARTS/1100-360



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