



TECHNICAL MANUAL

Installation, Operation and Maintenance Instructions

RACK CONVEYOR DISHWASHERS

Speeder 64

Speeder 86

Super 106

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 site	www.insingermachine.com

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RACK CONVEYOR SERIES
TECH MANUAL INTRODUCTION
Part 1, Section A

1.A INTRODUCTION

1.A.1 Purpose

The purpose of this Tech Manual is to provide installation, operation, cleaning and maintenance directions. A section is provided for replacement parts.

1.A.2 Scope

This manual contains all pertinent information to assist in the proper installation, operation, cleaning, maintenance, and parts ordering for Insinger Rack Conveyor Dishwasher Series including the Admiral, Speeder and Super models.

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. For the name of your local Insinger Authorized Service Agency please reference the Service Network Listing in Section 1 of this manual. You can also 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.

1.A.3 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 correctly. Please call the factory or your local Insinger Sales Representative to schedule this service.

1.A.4 Definitions

Throughout this guide you will find the following terms: WARNING, CAUTION, & NOTE. When used, these terms will be outlined in a box to draw attention:

WARNING indicates potential physical danger.

CAUTION indicates potential equipment damage.

NOTE indicates helpful operating hints or tips.



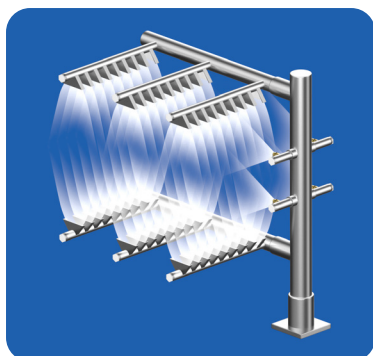
ESSENTIAL SERIES

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

SPEEDER⁶⁴

Double Tank Rack Conveyor Dishwasher

- Automatic conveyor, rack type, double tank dishwasher with recirculating wash and rinse and fresh water final rinse.
- 0.52 gallons/rack final rinse consumption
- Capacity is 277 (20" x 20") racks per hour or 6,925 dishes per hour
- CrossFire® Wash System provides superior cleaning
- Error proof replacement with color-coded curtains



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

STANDARD FEATURES

- Patented CrossFire® Wash System
- Tank heat: 22.5 kW electric immersion heaters or steam injectors
- Capillary thermometers for wash and rinse
- In-line thermometer for final rinse
- Vacuum breaker on all incoming water lines
- Manifold clean-out brush
- SureFire® Start-Up & Check-Out Service
- Inspection door
- Ventilation fan connection provision
- S/S frame, legs and feet
- S/S front enclosure panel
- Automatic tank fill
- Low water protection
- Detergent connection provision
- Elevated top mounted NEMA 12 control panel
- Easily-cleaned crowned hood top
- Simplified scrap screen design
- Door safety switch
- Standard frame drip proof motors
- Energy saver
- Override switch for deliming
- End caps/pipe plugs secured to prevent loss
- Color-coded curtains
- Timing belt conveyor drive

OPTIONS

- | | |
|---|--|
| ☐ Stainless steel steam coil tank heat | |
| ☐ Steam booster | |
| ☐ Electric booster | |
| ☐ Infrared tank heat (90,000 BTU, natural gas or propane) | |
| ☐ Single point electrical connection: motors, controls and tank heat. (Booster requires a separate connection) | |
| ☐ End cowls with vent and adjustable damper controls | |
| ☐ S/S splash guards | |
| ☐ Security package | ☐ Power Unloader |
| ☐ Totally enclosed motors | ☐ Door activated drain closers |
| ☐ Rack limit switch | ☐ Insulated hood and door |
| ☐ Power Loader | ☐ Plastic 20" x 20" racks (plate or silver) |





SPEEDER⁶⁴

Double Tank Rack Conveyor Dishwasher SPECIFICATIONS

Capacity Per Hour	277 racks 6925 dishes 300-600 meals
Tank Capacity	12 gals. (wash) 13 gals. (rinse) 25.5 gals. (gas wash) 26 gals. (gas rinse)
Motor Size	1 hp (wash) 1 hp (rinse) 1/15 hp (conveyor)
Electric Usage	7.5 kW wash tank 15 kW rinse tank 15 kW booster 40° rise 27 kW booster 70° rise
Gas Consumption	90,000 BTUH 88 CFH nat. gas 36 CFH propane
Steam Consumption at 20 psi min.	81 lbs./hour tank 51 lbs./hour booster 40° rise 90 lbs./hour booster 70° rise
Final Rinse Peak Flow at 20 psi min.	2.4 gallons/minute
Final Rinse Consumption at 20 psi min.	144 gallons/hour 0.52 gallons/rack
Exhaust Hood Requirement	350 CFM Load 350 CFM unload
Peak Rate Drain Flow	14 gallons/minute
Installation distance from vertical combustible service	2"
Shipping Weight	800 lbs.

Machine Electrical			
Motors, Controls, Tank Heat	Steam	Gas	Electric
240/1/60	9.7	20.2	112.8
208/3/60	10.7	11.9	73.1
240/3/60	9.8	10.9	63.9
480/3/60	4.9	5.4	31.9
380/3/50	5.9	6.6	40.0

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.

CONSTRUCTION- Hood and tank constructed of 16 gauge type 304 S/S. Hood unit of all welded seamless construction. S/S frame, legs and feet. All internal castings are non-corrosive lead free nickel alloy, bronze or S/S.

DOORS- Extra large die formed 18-8 type 304 S/S front inspection door 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 door.

CONVEYORS- One S/S roller chain conveyor, with rack driving lugs every sixth link, running along the front of the machine. Eleven free spinning rollers placed along the back wall of the machine. Conveyor accommodates all standard 20" racks. Conveyor drive system includes direct drive gear motor with frictionless, trouble-free clutch system, spring-loaded and automatically re-engaging. Racks conveyed automatically through washing and rinsing systems, powered by an independent 1/15 hp drive motor.

PUMP- 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. 1 hp motor for each wash and rinse pump: standard horizontal C-face frame, drip proof, internally cooled with ball-bearing construction.

CONTROLS- Top mounted NEMA 12 control enclosure, with 3.5 inch air gap between hood and enclosure, housing motor overload protection, contactors, transformers and all other dishwasher controls. All controls safe low voltage 24 VAC.

ENERGY SAVER- Rack actuated lever automatically operates the final rinse solenoid only when a rack passes, saving water and energy. The lever 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.

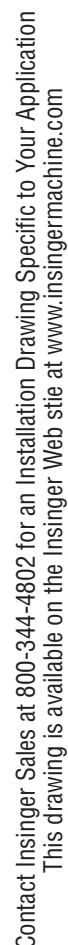
WASH- Upper and lower manifolds with the patented CrossFire® Wash System. One manifold above with 3 power wash arms, each with 9 high pressure cleaning slots and one manifold below with 3 power wash arms, each with 9 high pressure cleaning slots. The slots are precision milled for water control producing a fan spray. Wash arms are fillet welded to the S/S manifold. The CrossFire® Wash System provides 4 horizontally spraying high pressure nozzles.

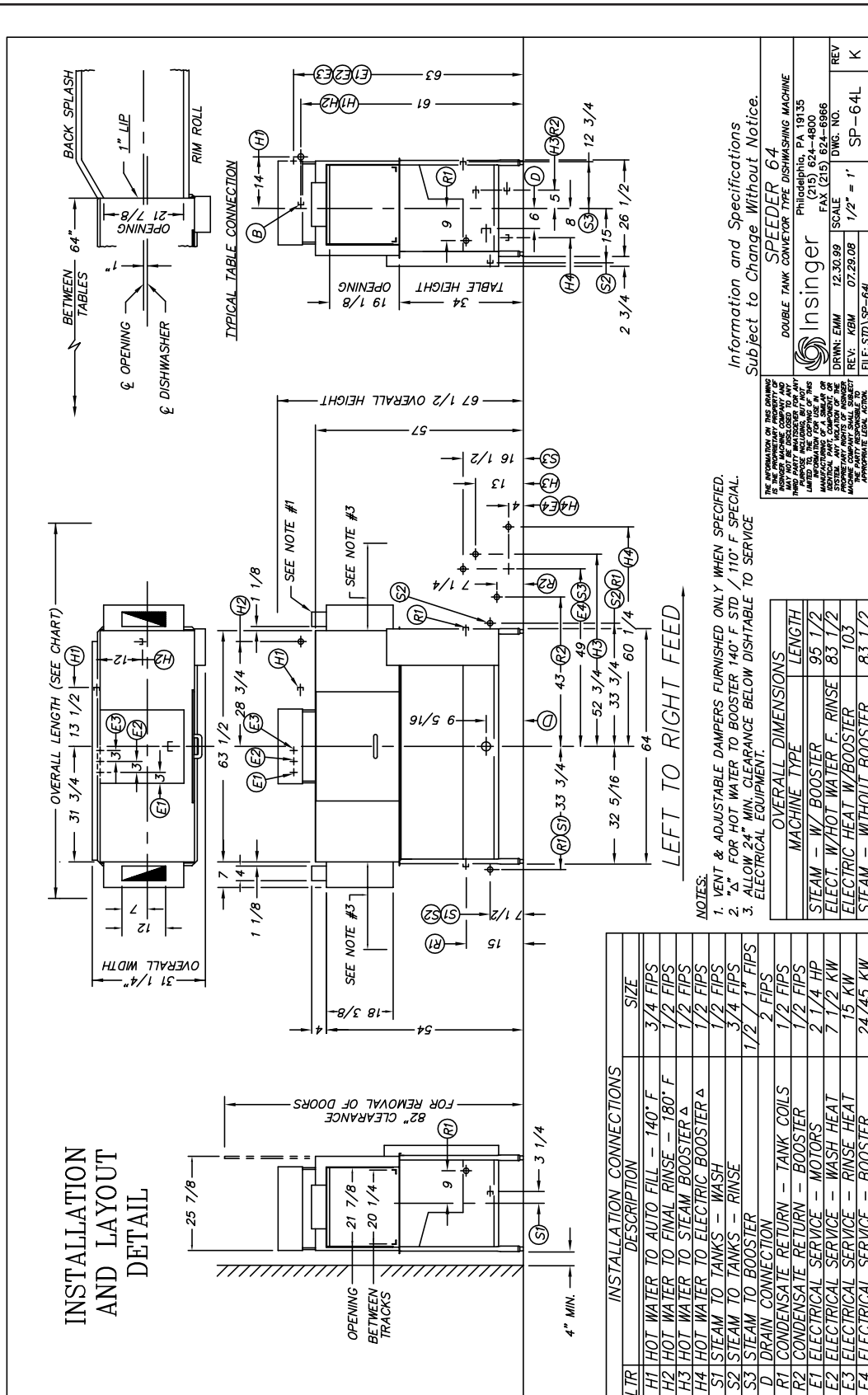
RINSE- Upper and lower manifolds. One manifold above with 3 power rinse arms, each with 9 high pressure rinsing slots and one manifold below with 3 power rinse arms, each with 9 high pressure rinsing slots. The slots are precision milled for water control producing a fan spray. Rinse arms are fillet welded to the S/S manifold.

FINAL RINSE- Six nozzles above and three 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.

Note: Exhaust requirements are for pant leg connections only. For hood type, CFM requirements vary, consult hood manufacturer for specific sizing.





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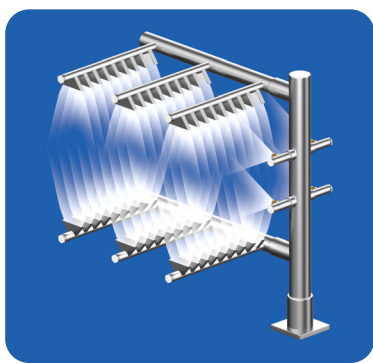
ESSENTIAL SERIES

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

SPEEDER⁸⁶

Double Tank Rack Conveyor Dishwasher with Pre-Wash

- Automatic conveyor, rack type, double tank dishwasher with recirculating pre-wash, wash, rinse and fresh water final rinse.
- 0.52 gallons/rack final rinse consumption
- Capacity is 277 (20" x 20") racks per hour or 6,925 dishes per hour
- CrossFire® Wash System provides superior cleaning
- Error proof replacement with color-coded curtains



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

STANDARD FEATURES

- Patented CrossFire® Wash System
- Tank heat: 22.5 kW electric immersion heaters or steam injectors
- Capillary thermometers for wash and rinse
- In-line thermometer for final rinse
- Vacuum breaker on all incoming water lines
- Manifold clean-out brush
- SureFire® Start-Up & Check-Out Service
- Inspection door
- Ventilation fan connection provision
- S/S frame, legs and feet
- S/S front enclosure panel
- Automatic tank fill
- Low water protection
- Detergent connection provision
- Elevated top mounted NEMA 12 control panel
- Easily-cleaned crowned hood top
- Simplified scrap screen design
- Door safety switch
- Standard frame drip proof motors
- Energy saver
- Override switch for de-liming
- End caps/pipe plugs secured to prevent loss
- Color-coded curtains
- Timing belt conveyor drive

OPTIONS

- | | |
|--|--|
| ☐ Stainless steel steam coil tank heat | |
| ☐ Steam booster | |
| ☐ Electric booster | |
| ☐ Pressure reduction valve and line strainer | |
| ☐ Single point electrical connection: motors, controls and tank heat. (Booster requires a separate connection). | |
| ☐ End cowl with vent and adjustable damper controls | |
| ☐ S/S splash guards | |
| ☐ Security package | ☐ Power Unloader |
| ☐ Totally enclosed motors | ☐ Door activated drain closers |
| ☐ Rack limit switch | ☐ Insulated hood and door |
| ☐ Power Loader | ☐ Plastic 20" x 20" racks (plate or silver) |





SPEEDER⁸⁶

Double Tank Rack Conveyor Dishwasher with Pre-Wash

SPECIFICATIONS

Capacity Per Hour	277 racks 6925 dishes 300-600 meals
Tank Capacity	12 gals. (wash) 13 gals. (rinse) 25.5 gals. (gas wash) 26 gals. (gas rinse)
Motor Size	1 hp (wash) 1 hp (rinse) 1/15 hp (conveyor)
Electric Usage	7.5 kW wash tank 15 kW rinse tank 15 kW booster 40° rise 27 kW booster 70° rise
Gas Consumption	90,000 BTUH 88 CFH nat. gas 36 CFH propane
Steam Consumption at 20 psi min.	81 lbs./hour tank 51 lbs./hour booster 40° rise 90 lbs./hour booster 70° rise
Final Rinse Peak Flow at 20 psi min.	2.4 gallons/minute
Final Rinse Consumption at 20 psi min.	144 gallons/hour 0.52 gallons/rack
Exhaust Hood Requirement	350 CFM Load 350 CFM unload
Peak Rate Drain Flow	14 gallons/minute
Installation distance from vertical combustible service	2"
Shipping Weight	1200 lbs.

Machine Electrical			
Motors, Controls, Tank Heat	Steam	Gas	Electric
240/1/60	9.7	20.2	112.8
208/3/60	10.7	11.9	73.1
240/3/60	9.8	10.9	63.9
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380/3/50	5.9	6.6	40.0

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CONSTRUCTION- Hood and tank constructed of 16 gauge type 304 S/S. Hood unit of all welded seamless construction. S/S frame, legs and feet. All internal castings are non-corrosive lead free nickel alloy, bronze or S/S.

DOORS- Extra large die formed 18-8 type 304 S/S front inspection door 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 door.

CONVEYORS- One S/S roller chain conveyor, with rack driving lugs every sixth link, running along the front of the machine. Eleven free spinning rollers placed along the back wall of the machine. Conveyor accommodates all standard 20" racks. Conveyor drive system includes direct drive gear motor with frictionless, trouble-free clutch system, spring-loaded and automatically re-engaging. Racks conveyed automatically through washing and rinsing systems, powered by an independent 1/15 hp drive motor.

PUMP- 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. 1 hp motor for each wash and rinse pump: standard horizontal C-face frame, drip proof, internally cooled with ball-bearing construction.

CONTROLS- Top mounted NEMA 12 control enclosure, with 3.5 inch air gap between hood and enclosure, housing motor overload protection, contactors, transformers and all other dishwasher controls. All controls safe low voltage 24 VAC.

ENERGY SAVER- Rack actuated lever automatically operates the final rinse solenoid only when a rack passes, saving water and energy. The lever 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.

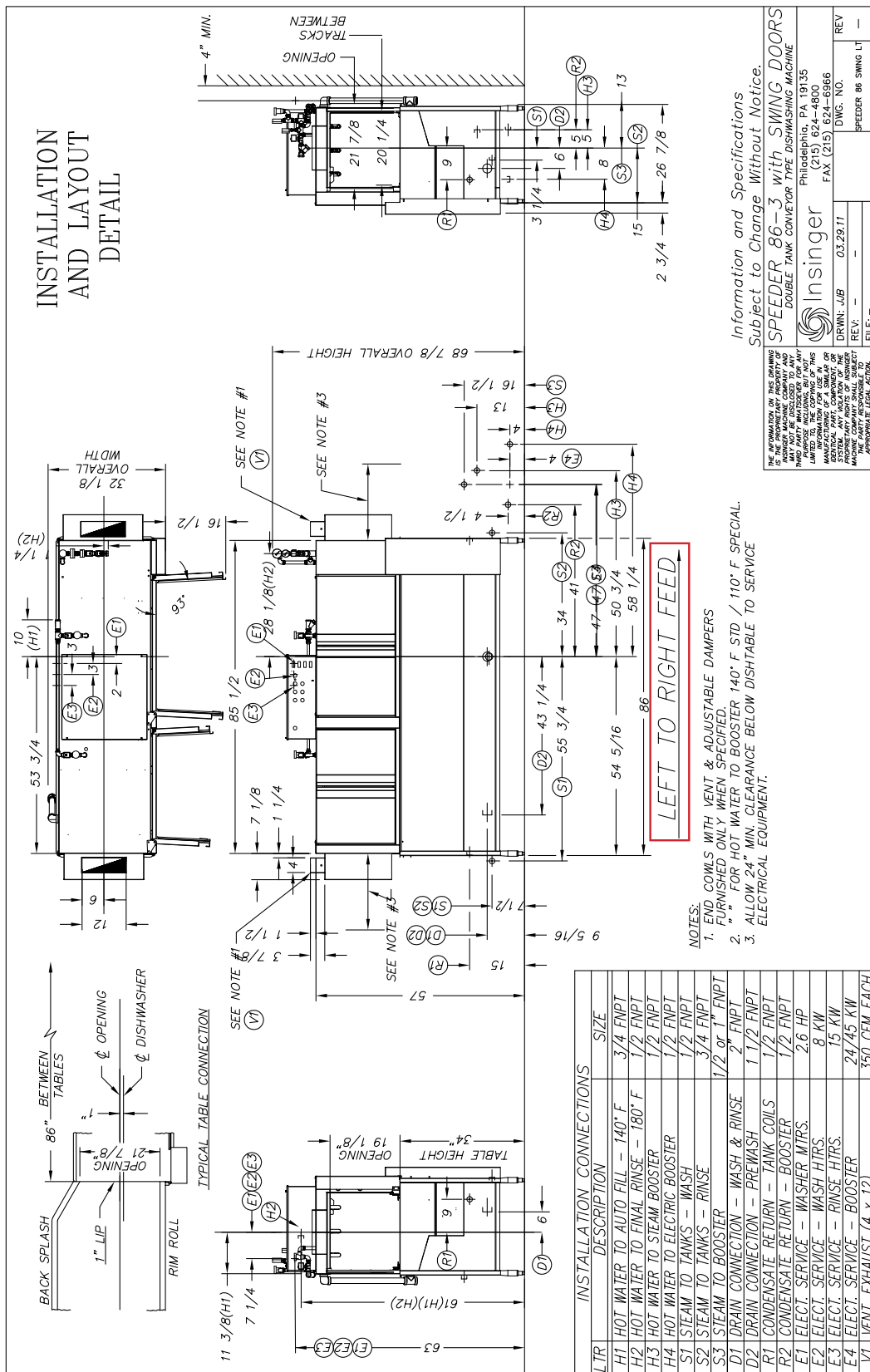
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RINSE- Upper and lower manifolds. One manifold above with 3 power rinse arms, each with 9 high pressure rinsing slots and one manifold below with 3 power rinse arms, each with 9 high pressure rinsing slots. The slots are precision milled for water control producing a fan spray. Rinse arms are fillet welded to the S/S manifold.

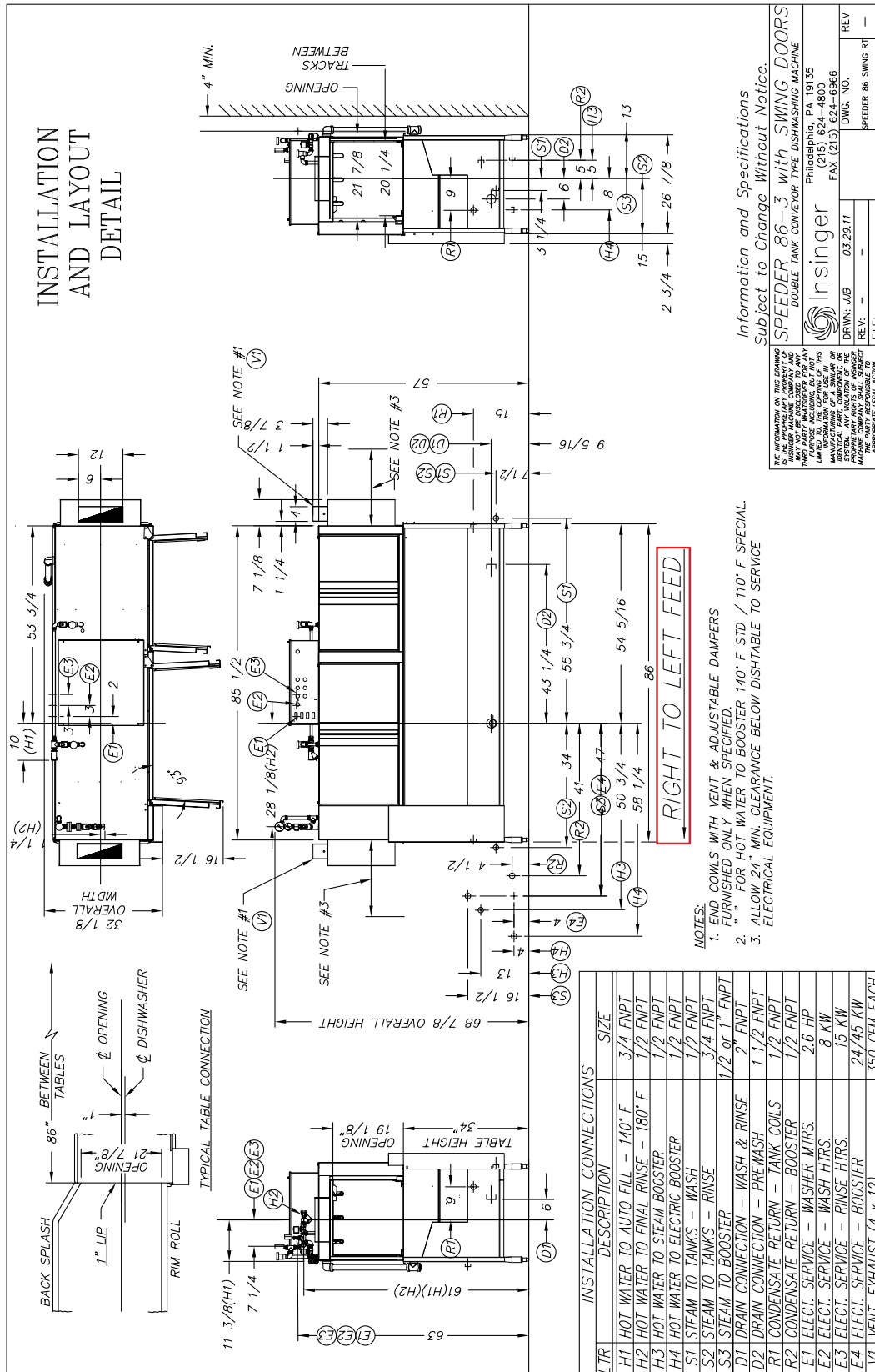
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Note: Exhaust requirements are for pant leg connections only. For hood type, CFM requirements vary, consult hood manufacturer for specific sizing.



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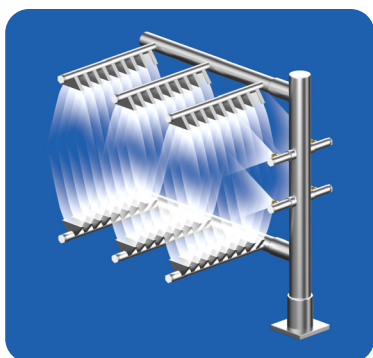
ESSENTIAL SERIES

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

SUPER¹⁰⁶⁻²

Three Tank Rack Conveyor Dishwasher

- Automatic conveyor, rack type, three tank dishwasher with recirculating pre-wash, wash, rinse and fresh water final rinse.
- 0.72 gallons/rack final rinse consumption
- Capacity is 330 (20" x 20") racks per hour or 8,250 dishes per hour
- CrossFire® Wash System provides superior cleaning
- Error proof replacement with 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.

STANDARD FEATURES

- Patented CrossFire® Wash System
- Tank heat: 30 kW electric immersion heaters or steam injectors
- Capillary thermometers for wash and rinse
- In-line thermometer for final rinse
- Vacuum breaker on all incoming water lines
- Manifold clean-out brush
- SureFire® Start-Up & Check-Out Service
- Inspection door
- Ventilation fan connection provision
- S/S frame, legs and feet
- S/S front enclosure panel
- Automatic tank fill
- Low water protection
- Detergent connection provision
- Elevated top mounted NEMReA 12 control panel
- Easily-cleaned crowned hood top
- Simplified scrap screen design
- Door safety switch
- Wide insulated swing-out doors
- Standard frame drip proof motors
- Energy saver
- Override switch for de-liming
- End caps/pipe plugs secured to prevent loss
- Color-coded curtains
- Timing belt conveyor drive

OPTIONS

- | | |
|---|--|
| ☐ Stainless steel steam coil tank heat | |
| ☐ Steam booster | |
| ☐ Electric booster | |
| ☐ Infrared tank heat (90,000 BTU, natural gas or propane | |
| ☐ Single point electrical connection: motors, controls and tank heat. (Booster requires a separate connection) | |
| ☐ End cowls with vent and adjustable damper controls | |
| ☐ S/S splash guards | |
| ☐ Security package | ☐ Power Unloader |
| ☐ Totally enclosed motors | ☐ Door activated drain closers |
| ☐ Rack limit switch | ☐ Insulated hood and door |
| ☐ Power Loader | ☐ Plastic 20" x 20" racks (plate or silver) |





SUPER¹⁰⁶⁻²

Three Tank Rack Conveyor Dishwasher SPECIFICATIONS

Capacity Per Hour	330 racks 8250 dishes 300-600 meals
Tank Capacity	14 gals. (pre-wash) 25 gals. (wash) 25 gals. (rinse)
Motor Size	1/2 hp (pre-wash) 1 1/2 hp (wash) 1 1/2 hp (rinse) 1/6 hp (conveyor)
Electric Usage	7.5 kW wash tank 22.5 kW rinse tank 27 kW booster 40° rise 45 kW booster 70° rise
Steam Consumption at 20 psi min.	108 lbs./hour tank 84 lbs./hour booster 40° rise 147 lbs./hour booster 70° rise
Final Rinse Peak Flow at 20 psi min.	3.98 gallons/minute
Final Rinse Consumption at 20 psi min.	239 gallons/hour 0.72 gallons/rack
Exhaust Hood Requirement	350 CFM Load 350 CFM unload
Peak Rate Drain Flow	23 gallons/minute
Shipping Weight	1400 lbs.

Machine Electrical		
Motors, Controls, Tank Heat	Steam	Electric
240/1/60	28.6	N/A
208/3/60	18.5	101.8
240/3/60	16.8	88.9
480/3/60	8.4	44.5
380/3/50	10.1	55.7

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DOORS- Extra large die formed 18-8 type 304 S/S front inspection door 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 door.

CONVEYORS- One S/S roller chain conveyor, with rack driving lugs every sixth link, running along the front of the machine. Eleven free spinning rollers placed along the back wall of the machine. Conveyor accommodates all standard 20" racks. Conveyor drive system includes direct drive gear motor with frictionless, trouble-free clutch system, spring-loaded and automatically re-engaging. Racks conveyed automatically through washing and rinsing systems, powered by an independent 1/15 hp drive motor.

PUMP- 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. 1 hp motor for each wash and rinse pump: standard horizontal C-face frame, drip proof, internally cooled with ball-bearing construction.

CONTROLS- Top mounted NEMA 12 control enclosure, with 3.5 inch air gap between hood and enclosure, housing motor overload protection, contactors, transformers and all other dishwasher controls. All controls safe low voltage 24 VAC.

ENERGY SAVER- Rack actuated lever automatically operates the final rinse solenoid only when a rack passes, saving water and energy. The lever 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.

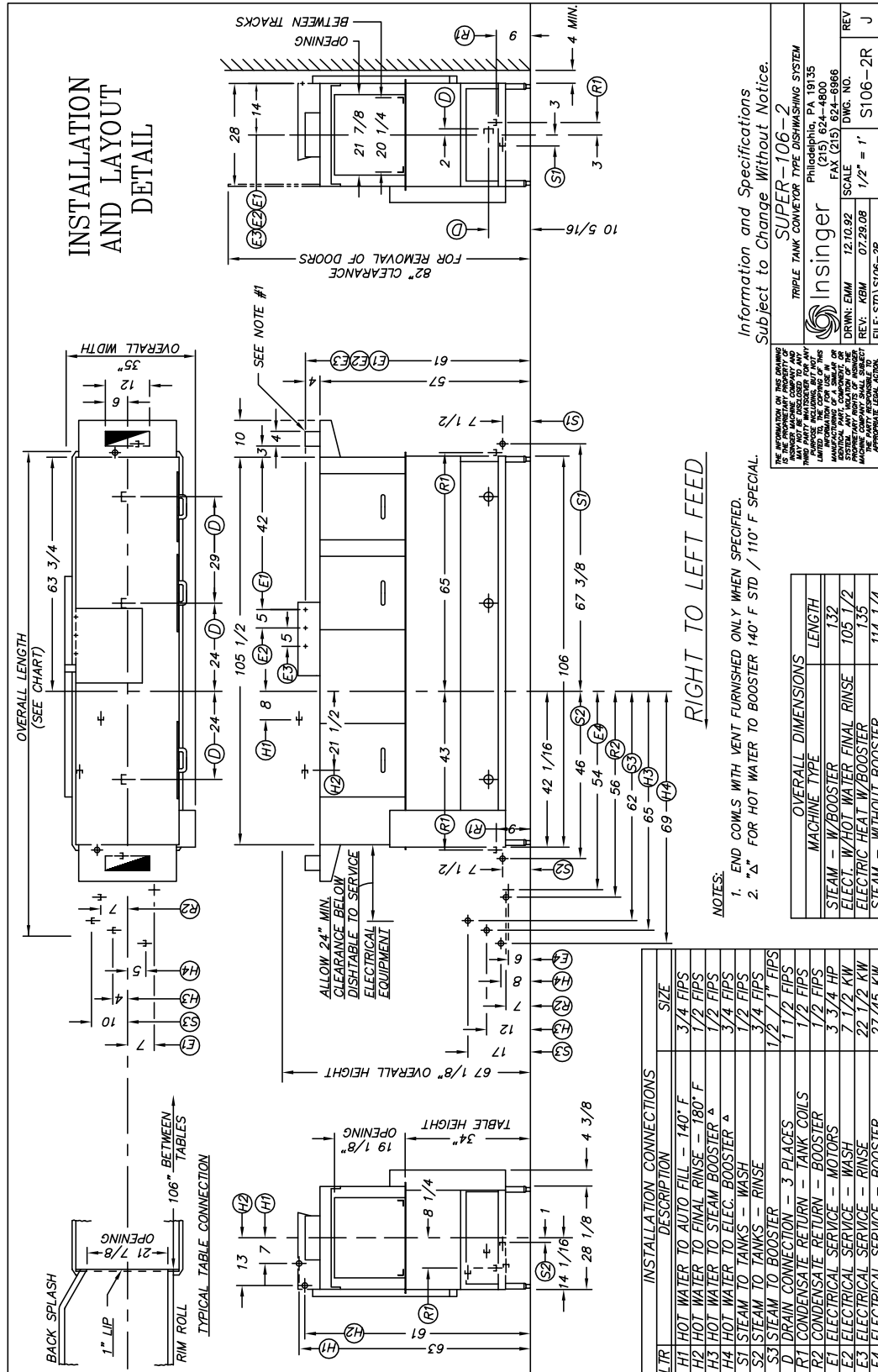
WASH- Upper and lower manifolds with the patented CrossFire® Wash System. One manifold above with 3 power wash arms, each with 9 high pressure cleaning slots and one manifold below with 3 power wash arms, each with 9 high pressure cleaning slots. The slots are precision milled for water control producing a fan spray. Wash arms are fillet welded to the S/S manifold. The CrossFire® Wash System provides 4 horizontally spraying high pressure nozzles.

RINSE- Upper and lower manifolds. One manifold above with 3 power rinse arms, each with 9 high pressure rinsing slots and one manifold below with 3 power rinse arms, each with 9 high pressure rinsing slots. The slots are precision milled for water control producing a fan spray. Rinse arms are fillet welded to the S/S manifold.

FINAL RINSE- Six nozzles above and three 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.

Note: Exhaust requirements are for pant leg connections only. For hood type, CFM requirements vary, consult hood manufacturer for specific sizing.



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PART 1 TECHNICAL INFORMATION

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 or start-up that said Insinger product shall be free from defects in material and workmanship. Whichever one of the two aforesaid limited warranty time periods is the shortest 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. An RMA# must be obtained from the Insinger Warranty Department before returning any material. Return may be done through an Authorized Service Agency. Furnish serial number of machine and RMA # 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.



PART 2
INSTALLATION and OPERATION
INSTRUCTIONS

RACK CONVEYOR DISH MACHINES
INSTALLATION INSTRUCTIONS
Part 2, Section A

A.1 PLACEMENT

- A.1.1 Carefully uncrate machine. Take caution to not damage components which may be mounted on the top or sides of the machine.
- A.1.2 Set unit in place and adjust the feet to level the machine.
- A.1.3 Fasten the tables to the load and unload side of the machine. Most installations require fastening the turn-down lip of the dish tables to the side of the machine with flathead counter-sunk screws. The table design should provide horizontal clearance of 30" for servicing.

A.2 ELECTRICAL CONNECTIONS

- A.2.1 Connect electrical lines sized for the correct voltage, current and phase of the machine. These should agree with machine requirements indicated on the nameplate and labels in control panel.
- A.2.2 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 heater(s) and, 3. Rinse tank heaters (if provided).
- A.2.3 If an electric booster is provided, connect power directly to 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 laminated inside the control panel.

IMPORTANT

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.

A.3 MECHANICAL CONNECTIONS

- A.3.1 Connect 140° water lines for tank fills and booster as tagged and noted on the installation drawings.
- A.3.2 If machine is provided with steam heat connect the steam lines and steam condensate lines as tagged and noted on installation drawings.
If machine is provided with gas heat, connect the gas lines for each tank.

**RACK CONVEYOR DISHMACHINES
INSTALLATION INSTRUCTIONS
Part 2, Section A**

A.3 MECHANICAL CONNECTIONS, cont'd

A.3.3 Connect the drain lines.

A.3.4 If an electric booster is provided a 140° water connection is necessary. If a steam booster a 140° water connection is necessary as well as a condensate line.

NOTE

Drain lines must be as specified on installation drawings. Drain line must be properly vented and have fall of not less than $\frac{1}{4}$ " to the foot of proper flow. Local plumbing codes may 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 must be flushed prior to use to remove debris.

IMPORTANT

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

A.4 HVAC

A.4.1 Ventilation system should be sized to provide adequate ventilation per machine specs. Refer to spec sheet.

A.4.2 Stainless steel, watertight ducting should be connected to the vent cowls (optional) on each end of the machine.

A.5 Chemicals

A.5.1 Upon completed installation of the dishwasher contact a local detergent/chemical supplier for the correct chemicals for your area.

A.5.2 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. Dispensers may be connected on either the primary voltage side of the machine or the 24VAC control voltage side.

RACK CONVEYOR DISHMACHINES
INSTALLATION INSTRUCTIONS
Part 2, Section A

A.5 Chemicals, cont'd

CAUTION
When connecting on the 24VAC control
voltage side of the transformer, total load
must not exceed 50VA.

- A.5.3 The detergent density probe should be located in a convenient place in the wash tank.

A.6 Tabling

- A.6.1 Load and unload tables should be pitched towards the machine to return excess water into the machine.

NOTE
Machines with short unload tables should
utilize a rack limit switch to shut the
machine down if clean racks pile-up. This
will extend the life of the drive system.

A.7 Initial Start-up Adjustments

A.7.1 Tank Overfill Adjustment

- A.7.1.1 Locate tank overfill timer in the control panel. See the control panel layout drawing located in Section 3, Electrical Schematic and Replacement Parts.
- A.7.1.2 The overfill timer starts timing when the upper level float is actuated. Adjust the overfill timer pot. to turn the tank fill solenoid off when the water level is 1/2" below the lip of the overflow tube.

A.7.2 Conveyor Jam Adjustment

- A.7.2.1 Remove the mechanism guard to gain access to the conveyor drive.
- A.7.2.2. Locate the compression spring (refer to Dwg. #1397-1, Drive Mechanism Assembly). Factory set compression dimension is a nominal 3 13/16". Installations washing heavier ware may need to adjust this for more compression to keep the machine from shutting down prematurely.
- A.7.2.3 Should the drive mechanism switch be activated by a conveyor jam, the "Check Conveyor" light on the control panel will illuminate and the machine will shut down.
- A.7.2.4 To restart the machine, clear the jam and press the green "Start" button.

A.8.2 Final Rinse Pressure Adjustment

- A.8.2.1 The final rinse pressure must be adjusted to 20PSI. This is done by adjusting the pressure regulator.

RACK CONVEYOR DISHMACHINES
OPERATION and CLEANING INSTRUCTIONS
Part 2, Section B

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

By following these easy operating and general cleaning procedures your Insinger dishwasher will give you years of trouble free service.

B.1 Operation Instructions

- B.1.1 Ensure drain overflow tube is in place. Close all tank drain valves. One drain is provided for each tank of the dishmachine.
- B.1.2 Check for proper installation and cleanliness of all internal, removable components such as suction strainers, scrap screens, and spray manifolds.
- B.1.3 Ensure all water, steam, and gas lines are open. Ensure electrical circuits are on.
- B.1.4 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.

- B.1.5 Move the power toggle switch to the "ON" position.
- B.1.6 The machine will begin to fill.
- B.1.7 When the tanks are full the tank heat will operate automatically.

CAUTION

To ensure proper operation of the auto tank fill feature and the tank heaters the level float located in each tank **MUST** be cleaned daily.

- B.1.8 Depress the Green button to start the conveyor.
- B.1.9 The system is now ready for operation. All ware should be properly scrapped. Do not overload racks.

IMPORTANT

Overloading racks will impede the proper cleaning of ware and also put extra strain on the conveyor system.

RACK CONVEYOR DISHMACHINES
OPERATION and CLEANING INSTRUCTIONS
Part 2, SECTION B

B.1 Operation Instructions, cont'd

- B.1.10 Slide the rack into the dishmachine, the conveyor will pass the rack through the various machine cycles. Upon entering the final rinse section of the machine the rack will engage the final rinse actuator allowing the 180° (140° for chemical sanitizing) water to sanitize the dishes.
- B.1.11 Should a conveyor jam occur, the "Check Conveyor" light will illuminate and the machine will shutdown. To re-start the machine, clear the conveyor jam and press the green "Start" button. If the "Check Conveyor" light comes back on, contact a qualified service technician.
- B.1.12 Upon completion of ware cleaning depress the Red button to stop the conveyor system.
- B.1.13 Move the Power toggle switch to the "OFF" position.
- B.1.14 Refer to the cleaning procedures for proper clean-up of the dishmachine.
- B.1.15 Report any unusual occurrences to qualified service personnel.

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

B.2 Cleaning Procedures, Daily

- B.2.1 Remove all internal removable parts including spray manifolds, scrap screens, drain overflow tubes, suction strainers and curtains.
- B.2.2 Remove the end caps from the spray manifolds and clean with the brush provided. Flush the manifolds.
- B.2.3 Flush scrap screens.
- B.2.4 Clean drain overflow tube.

IMPORTANT

V-cup seal on the drain overflow tube may become gummed not allowing a proper seat 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.

- B.2.5 Clean suction strainers of build-up.

IMPORTANT

Improper cleaning of suction strainers will cause the pumps to cavitate. This will cause poor washing results.

- B.2.6 Clean tank level float with Scotch-Brite or equivalent.

RACK CONVEYOR DISHMACHINES
OPERATION and CLEANING INSTRUCTIONS
Part 2, Section B

B.2 Cleaning Procedures, Daily cont'd

IMPORTANT

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

- B.2.7 Clean curtains. When curtains are beyond cleaning or torn they should be replaced.
- B.2.8 Final rinse nozzles should be cleaned of matter clogging the jet spray.
- B.2.9 Doors should be left open to allow drying of interior surfaces.

B.3 Cleaning Procedures, Weekly

- B.3.1 An *Energy Saver, Normal/De-lime* switch is provided on the control panel. When running the machine with de-liming solution, place this switch in the *De-lime* position to allow the machine to run continuously. When not de-liming, the switch should be in *Normal*. Consult your detergent supplier for de-liming solution concentration and frequency of use.



PART 3
MAINTENANCE and REPAIR
PROCEDURES

**RACK CONVEYOR DISHMACHINES
MAINTENANCE and REPAIR PROCEDURES
Part 3, Section A**

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

A.1 MAINTENANCE

A.1.1 Daily - Refer to the operation and cleaning instructions provided in this manual for daily cleaning procedures.

A.1.2 Weekly

A.1.2.1 The entire machine should be wiped down using an industrial grade stainless steel cleaner.

A.1.2.2 Under the supervision of your detergent supplier the machine interior must be properly de-limed.

A.1.2.2.1 A switch is provided on the control panel to run the machine continuously. For De-liming, move the selector switch to the "De-lime" position, then operate the machine normally. When De-liming is completed, return the selector switch to "normal".

NOTE

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

A.1.3 Quarterly

A.1.3.1 Remove and clean the strainer screens on water and steam lines. If the screens cannot be cleaned, replace.

A.1.3.2 Inspect condition of solenoid valve seats and diaphragms. Replace where necessary.

A.1.3.3 Inspect drain O-Rings for leakage. Replace where necessary.

A.1.3.4 Grease drive chain and sprockets.

A.1.3.5 Adjust conveyor chain tension using adjustment bolts located on exit end of machine.

A.2 MAINTENANCE PROCEDURES

A.2.1 Solenoid Valve Disassembly

A.2.1.1 Disconnect power supply to machine. Turn off Water supply.

A.2.1.2 Remove cap on top of coil. Remove coil.

A.2.1.3 Remove 4 hex bolts and lift bonnet from valve body. Note positioning of spring and plunger.

A.2.1.4 Remove main piston.

A.2.1.5 Inspect for dirt, wear or lime build-up. Clean or replace as required.

A.2.1.6 Reassemble in reverse of disassembly.

RACK CONVEYOR DISHMACHINES
MAINTENANCE and REPAIR PROCEDURES
Part 3, Section A

A.2.2 Line Strainer Disassembly

- A.2.2.1 Shut off water or steam supply.
- A.2.2.2 Remove large hex nut on bottom of strainer body.
- A.2.2.3 Remove strainer screen. Inspect and clean or replace as necessary.
- A.2.2.4 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.

A.2.3 Pump Disassembly

- A.2.3.1 Before disassembling pump ensure there are no obstructions in the pump intake. Remove and clean the suction strainer (inside tank).

NOTE

It is not necessary to remove the pump housing from the machine to disassemble the pump

- A.2.3.2 Remove the pump motor and impeller adap or by removing the 4 hex bolts attaching them to the pump housing.
- A.2.3.3 Repair or replace the pump parts as required.
- A.2.3.4 Reassemble in reverse of disassembly.

A.2.4 Immersion Heater Replacement

- A.2.4.1 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.
- A.2.4.2 Remove the housing covering the wiring terminations. Disconnect the immersion heater wires.
- A.2.4.3 Remove the immersion heater by loosening and removing the large hex nut.
- A.2.4.4 Install in reverse of removal.

NOTE

Use plumbers putty as gasketing around the immersion heater to minimize leaks

RACK CONVEYOR DISHMACHINES
MAINTENANCE and REPAIR PROCEDURES
Part 3, Section A

A.2.5 Tank Heat Temperature Adjustment

- A.2.5.1 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.
- A.2.5.2 Locate the temperature control board (P/N DE9-96). Use the control panel layout drawing located in Section 3, Electrical Schematic and Replacement Parts.
- A.2.5.3 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.
- A.2.5.4 If the temperature does not change refer to section A.2.6, Troubleshooting Tank Temperatures.

A.2.6 Troubleshooting Tank Temperatures

A.2.6.1 Electric Heat

- A.2.6.1.1 If temperature cannot be adjusted per section A.2.5 check the temperature control board (P/N DE9-96) proper operation. If the temperature control board is faulty, replace.
- A.2.6.1.2 Verify tank heat contactor is working correctly. If not, replace.
- A.2.6.1.3 Verify all immersion heaters are working properly and not limed. If not, replace.

A.2.6.2 Steam Heat

- A.2.6.2.1 See Section A.2.6.1.1.
- A.2.6.2.2 Verify steam pressure per machine specifications.
- A.2.6.2.3 Verify steam trap is not clogged. IF so, replace.

A.2.6.3 Gas Heat - Infra-red Gas Burner Sequence of Operation

- A.2.6.3.1 See Section A.2.6.1.1.
- A.2.6.3.2 Verify gas supply.
- A.2.6.3.3 Temperature control board calls for heat, a relay is energized and the draft blower starts.
- A.2.6.3.4 When the blower comes up to speed, a centrifugal switch integral with the motor illuminates the gas burner-airflow light and energizes the Hot Surface Ignition (HSI) module.

RACK CONVEYOR DISHMACHINES
MAINTENANCE and REPAIR PROCEDURES
Part 3, Section A

- A.2.6.3.4.1 The HSI institutes a purge period followed by a trial for ignition during which the ignitor element heats up. The gas valve is opened.
- A.2.6.3.4.2 After ignition, the element becomes a flame sensor. The system continues to monitor flame presence.
- A.2.6.3.4.3 If the flame fails during operation, the gas valve will close. The HSI module will purge the gas line then try to re-light the burner. The gas burner-flame light will be out. If the re-trial fails, the gas valve will close and the system will lock-out until the dishmachine main power toggle switch is cycled off then on.
- A.2.6.3.5 When the temperature control board reached the high limit the system will shut-down as normal. The gas system lights will be off. If the temperature drops the system will re-start.
- A.2.6.3.6 Burner Flame Adjustment
 - A.2.6.3.6.1 After a short warm-up period, the infra-red burner will glow with a uniform orange/red color. There are no individual flames. There is an air inlet shutter to adjust the flame for maximum efficiency.
 - A.2.6.3.6.2.1 A soft blue flame indicates excess air, bright orange indicate lack of air. A view port is provided on the burner and a window on the burner assmebly cover to view the flame. A combustion analyzer is required for correct adjustment.

A.2.7 Motor Overloads

- A.2.7.1 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.
- A.2.7.2 Using the Control Panel Component Layout Dwg. located in Section 3 to identify the overload adjust by turning the dial to the appropriate AMP draw.

RACK CONVEYOR DISHMACHINES
MAINTENANCE and REPAIR PROCEDURES
Part 3, Section A

A.2.8 Level System

- A.2.8.1 The level control system consists of one overflow timer (P/N DE7-33) and one level float (P/N DE5-60) per tank (two level floats for electrically heated machines).
- A.2.8.2 When the system is powered-up, the tank(s) will begin to fill (assuming no water is in the tanks).
- A.2.8.3 Once the upper level float (for electrically heated machines) or the level float (for other tank heat) is actuated, the overflow timer begins to time-out and continues the filling process until the tank(s) is full.

NOTE

The overflow timer **MUST** be adjusted during initial machine start-up. Adjustment depends on water fill pressure. The water level **MUST** be 1/2" below the lip of the overflow tube. Adjust by increasing or decreasing the potentiometer on the level timer.

IMPORTANT

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

A.2.9 Final Rinse Actuator

- A.2.9.1 The final rinse is actuated by a lever located on the rear wall of the dishwasher near the exit end. When a rack depresses it a switch is closed and a solenoid energized.
- A.2.9.2 The activation of the lever also resets the Energy Saver Timer (P/N DE7-28). The timer will then start counting from 0. The timer is adjustable between 0 and 300 seconds (5 minutes).

BASIC SERVICE GUIDE

SYMPTOM	POSSIBLE CAUSE	Solution
1. Machine will not operate	a. No Power b. Blown fuse or tripped breaker c. Motor overloads tripped	a. Check power supply b. Replace fuse; reset breaker c. Reset overload
2. Tank will not hold water	a. Drain not closed b. Drain overflow not seated or installed c. Pump petcock opened	a. Close drain b. Reseat or install drain overflow c. Replace V-seal
3. Tank fills beyond overflow	a. Obstruction in overflow tube or drain line b. Overfill timer not set properly.	a. Remove obstruction b. Set overfill timer. See Part 3, Sec A, Para. A.2.8.
4. Water leaks around door	a. Doors not seating b. Clogged spray pipe	a. Reseat doors b. Clean spray pipe with brush provided
5. Weak or ineffective spray	a. Clogged spray pipe b. Manifolds not installed properly c. Obstruction in pump d. Pump rotation reversed e. Suction strainer clogged	a. Clean spray pipe with brush pipe b. Ensure proper placement of upper and lower pipes c. Clear obstruction through pump inspection plate d. Arrow on pump housing indicates direction, correct electrically e. Clean suction strainer



BASIC SERVICE GUIDE

SYMPTOM	POSSIBLE CAUSE	Solution
6. Weak or ineffective final rinse spray	a. Lime deposits in spray nozzles b. Low water pressure c. Clogged line strainer d. Closed water supply valve	a. Clean or replace nozzles b. Adjust to 20PSI c. Remove line strainer and clean d. Open ball valve
7. Water hammer	a. Excessive water line pressure	a. Install water hammer limiting device
8. Machine vibrates or is noisy	a. Pump rotation reversed b. Pump bearings worn	a. Arrow on pump housing indicates direction, correct electrically b. Replace pump bearings
9. Final rinse will not shut off	a. Final rinse solenoid valve clogged b. Diaphragm worn c. Solenoid valve still powered-up	a. Disassemble valve and clean internal parts of scale or replace b. Replace with solenoid valve repair kit c. Check final rinse actuating circuit for proper operation

BASIC SERVICE GUIDE

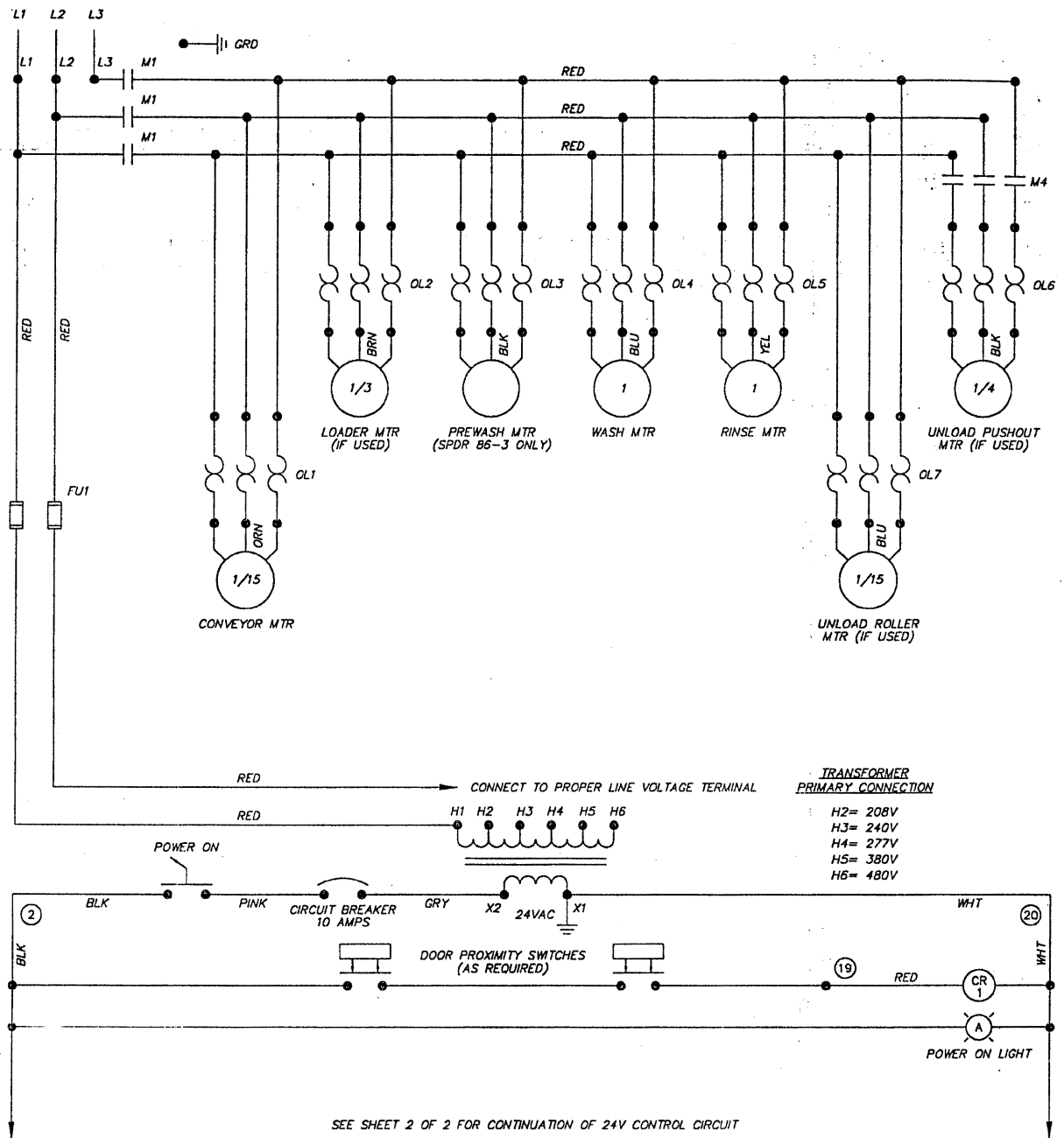
SYMPTOM	POSSIBLE CAUSE	Solution
10. Tank not filling/tank heat coming on with no water in tank	a. Level float dirty b. Level control system not working	a. Clean level float b. Troubleshoot level control circuit
11. Tank temperature too low/high	a. Thermostat not adjusted b. Heat circuitry not working c. Electric heat, power turned off d. Electric heat, immersion heaters limed e. Steam heat, steam turned off f. Steam heat, not enough steam g. Steam heat, condensate traps clogged h. Gas heat, gas turned off i. Gas heat, pilot not lit	a. Adjust thermostat located in control panel b. Troubleshoot circuitry c. Turn power on d. De-lime machine e. Turn steam on f. Adjust steam pressure per machine spec's g. Clean or replace condensate traps h. Turn on gas i. Re-light pilot



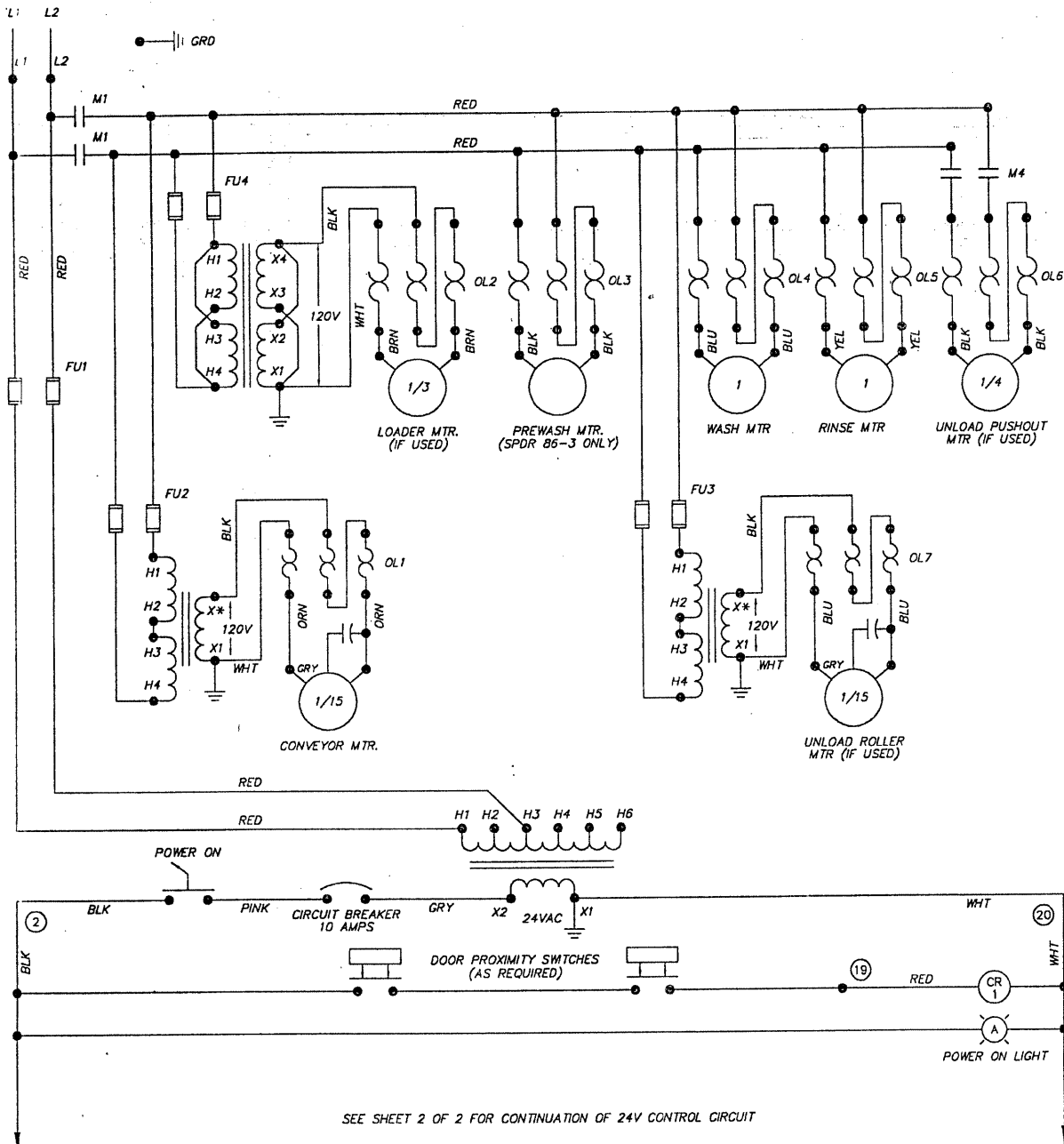
PART 4

ELECTRICAL SCHEMATICS and

ELECTRICAL REPLACEMENT PARTS

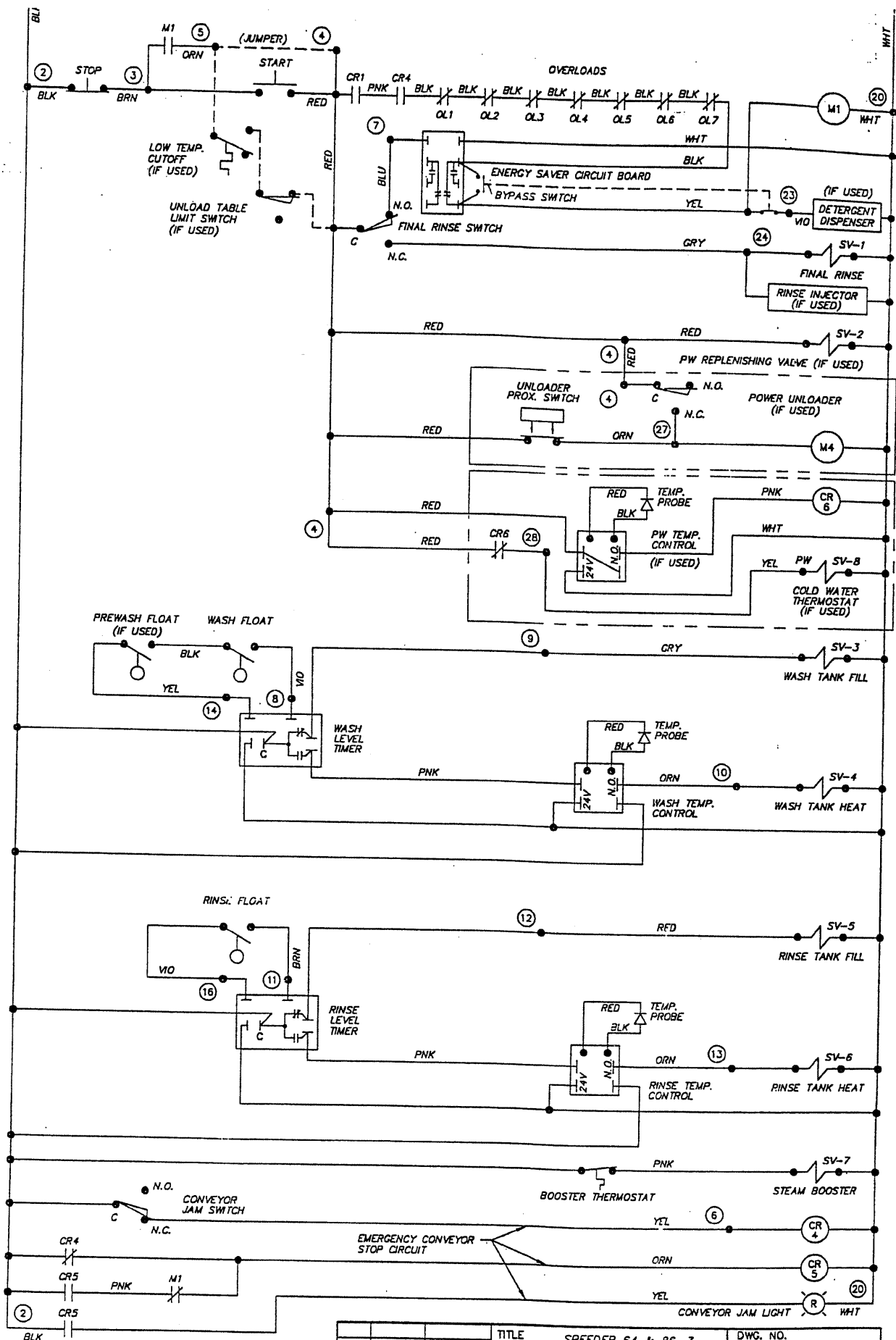


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REV	ECN NO	DATE				(215) 624-4800	RAF
FILE: WIRE\W863010			Insinger			FAX (215) 624-6966	05.18.95

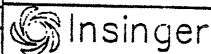


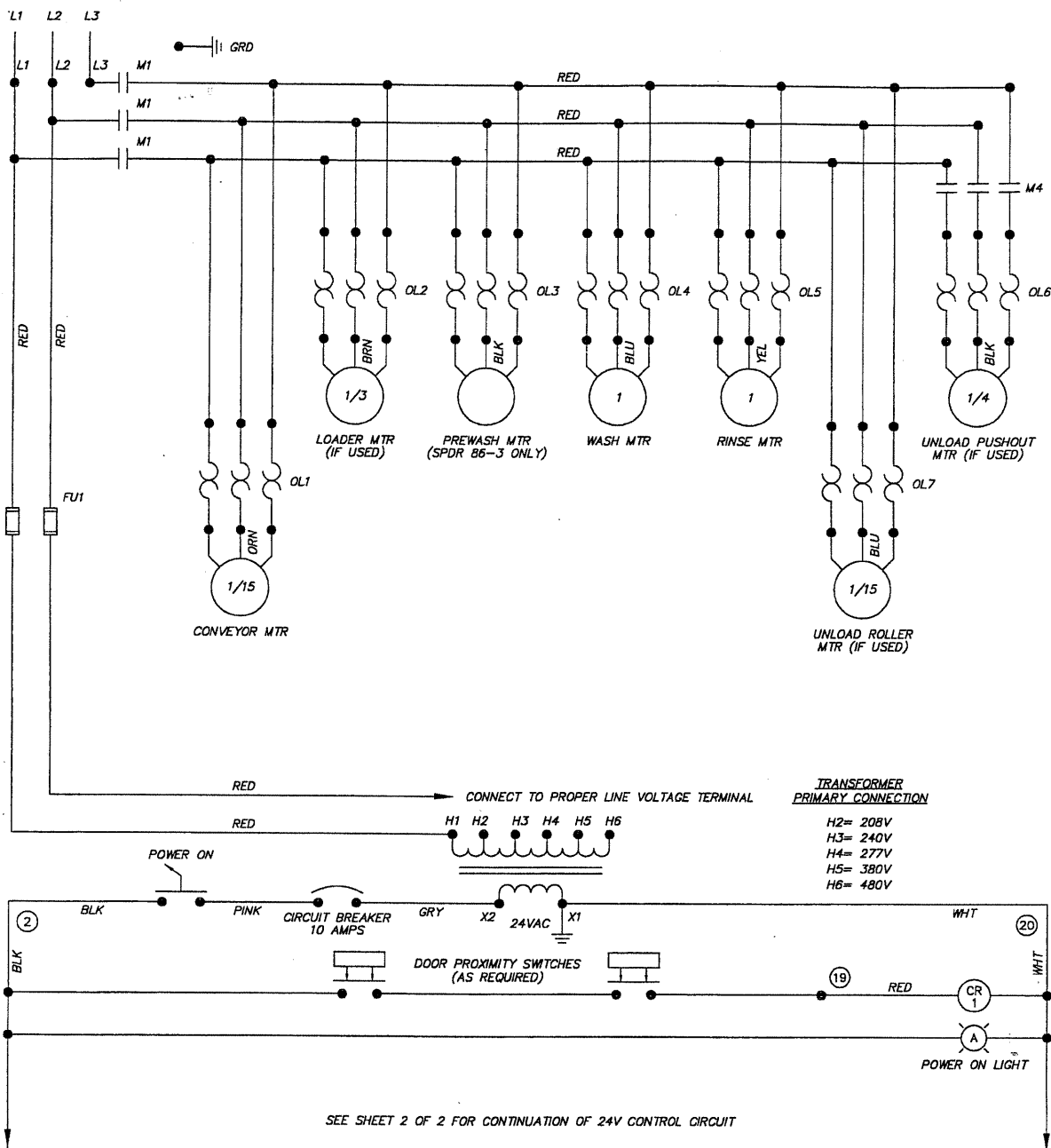
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L1 TO	H1	H1 & H3	H1	H1	
L2 TO	H2	H2 & H4	H4	H4	
	-	-	-	H2 TO H3	
X*	X3	X2	X3	X2	

UNLOADER MOTOR TRANSFORMER CONNECTIONS					
	208 VAC	230 VAC	380 VAC	460 VAC	
L1 TO	H1 & H3	H1 & H3	H1	H1	
L2 TO	H2 & H4	H2 & H4	H4	H4	
	-	-	-	H2 TO H3	
X*	X4	X4	X4	X4	
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	X2 TO X4	X2 TO X4	-	X2 TO X4	

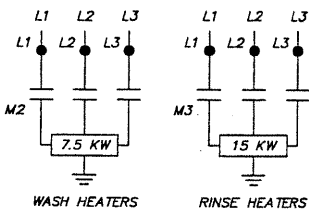


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REV	ECN NO	DATE		Philadelphia, PA 19135	DRAWN/DATE
FILE: WIRE\W863010				(215) 624-4800	RAF
				FAX (215) 624-6966	05.18.95

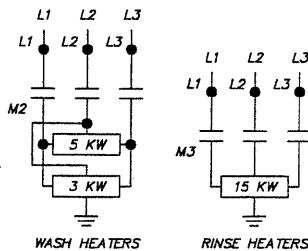




SPEEDER 64



SPEEDER 86-3



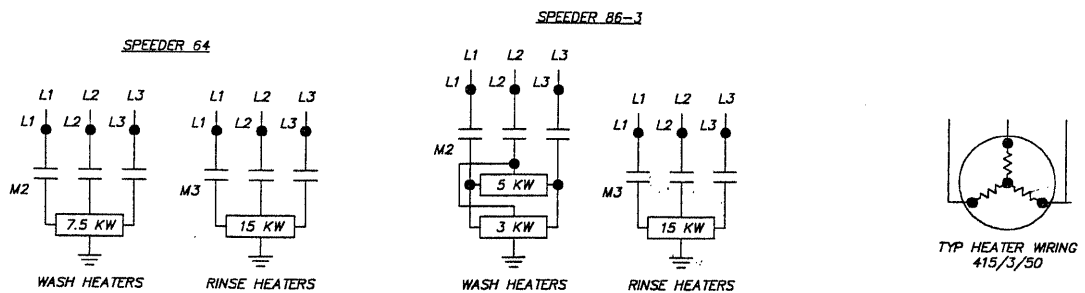
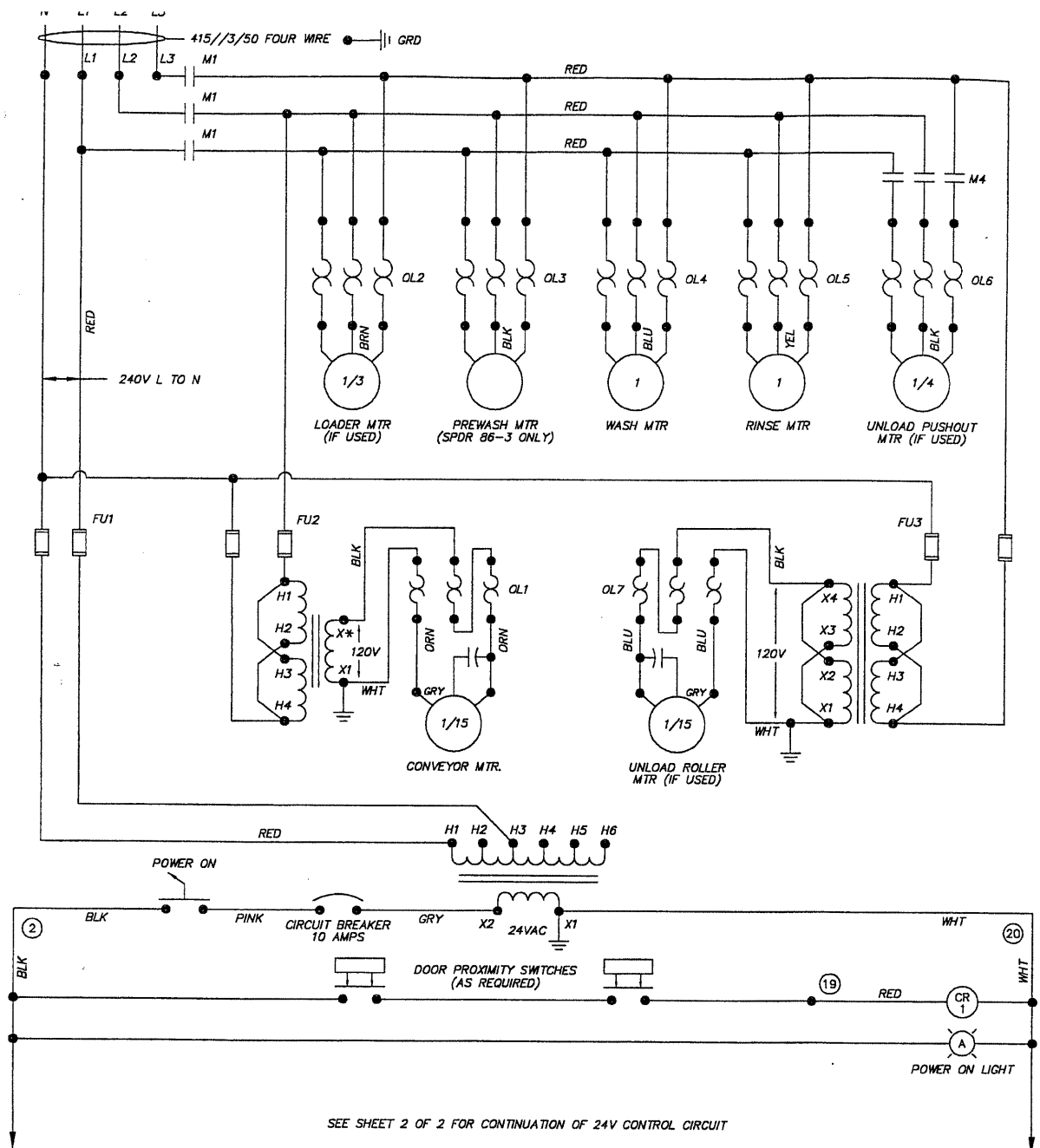
NOTE:

- THREE SEPARATE ELECTRICAL SERVICES ARE NECESSARY:
 - MOTORS/CONTROLS
 - WASH IMMERSION HEATERS
 - RINSE IMMERSION HEATERS

SHEET 1A OF 2

SEE SHT 1B FOR 415/3/50 WIRING

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			ELECTRIC HEAT		
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REV	ECN NO	DATE			
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			(215) 624-4800		RAF
			FAX (215) 624-6966		05.17.95



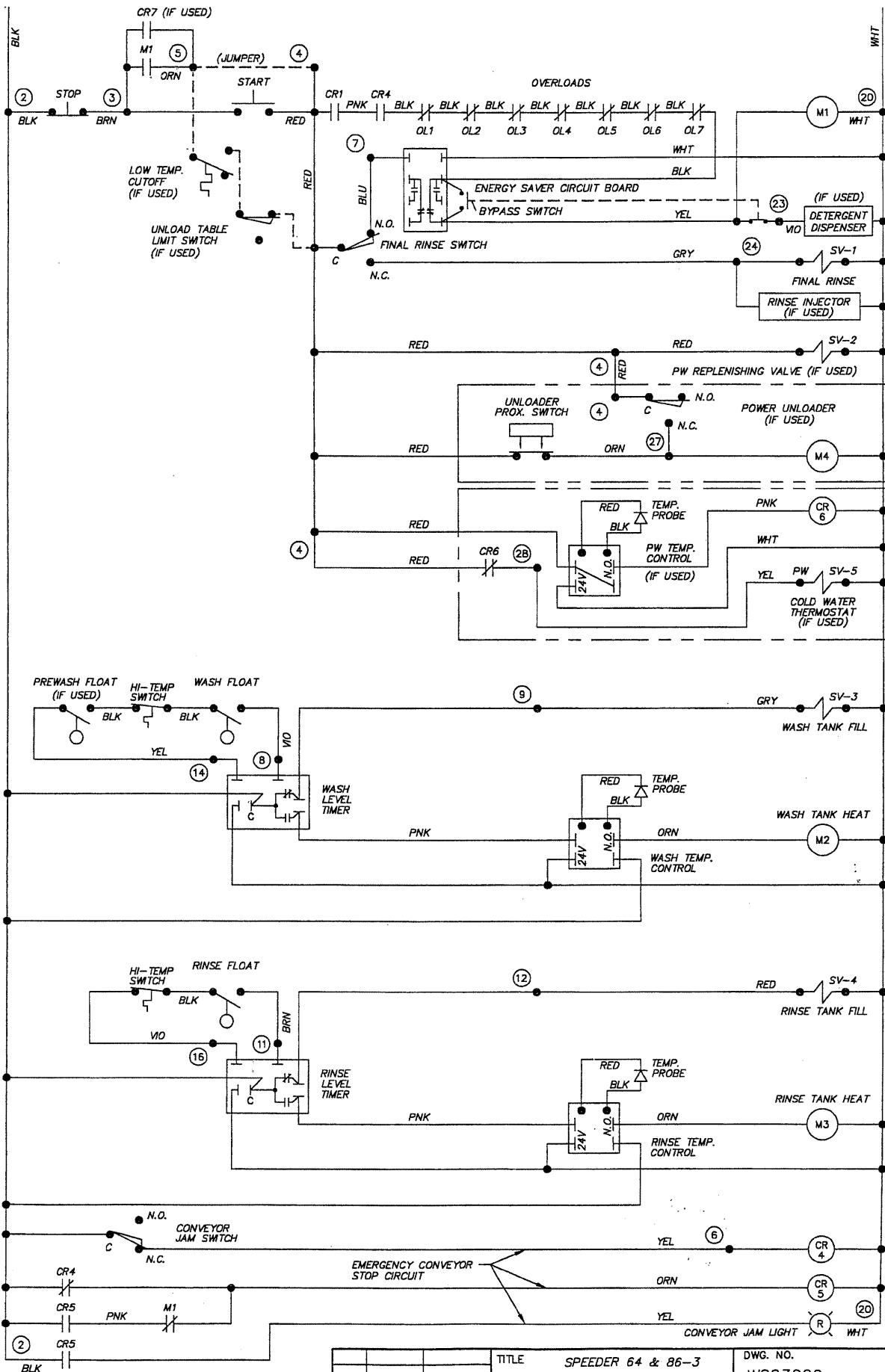
NOTE:

1. THREE SEPARATE ELECTRICAL SERVICES ARE NECESSARY:
 - 1- MOTORS/CONTROLS
 - 2- WASH IMMERSION HEATERS
 - 3- RINSE IMMERSION HEATERS

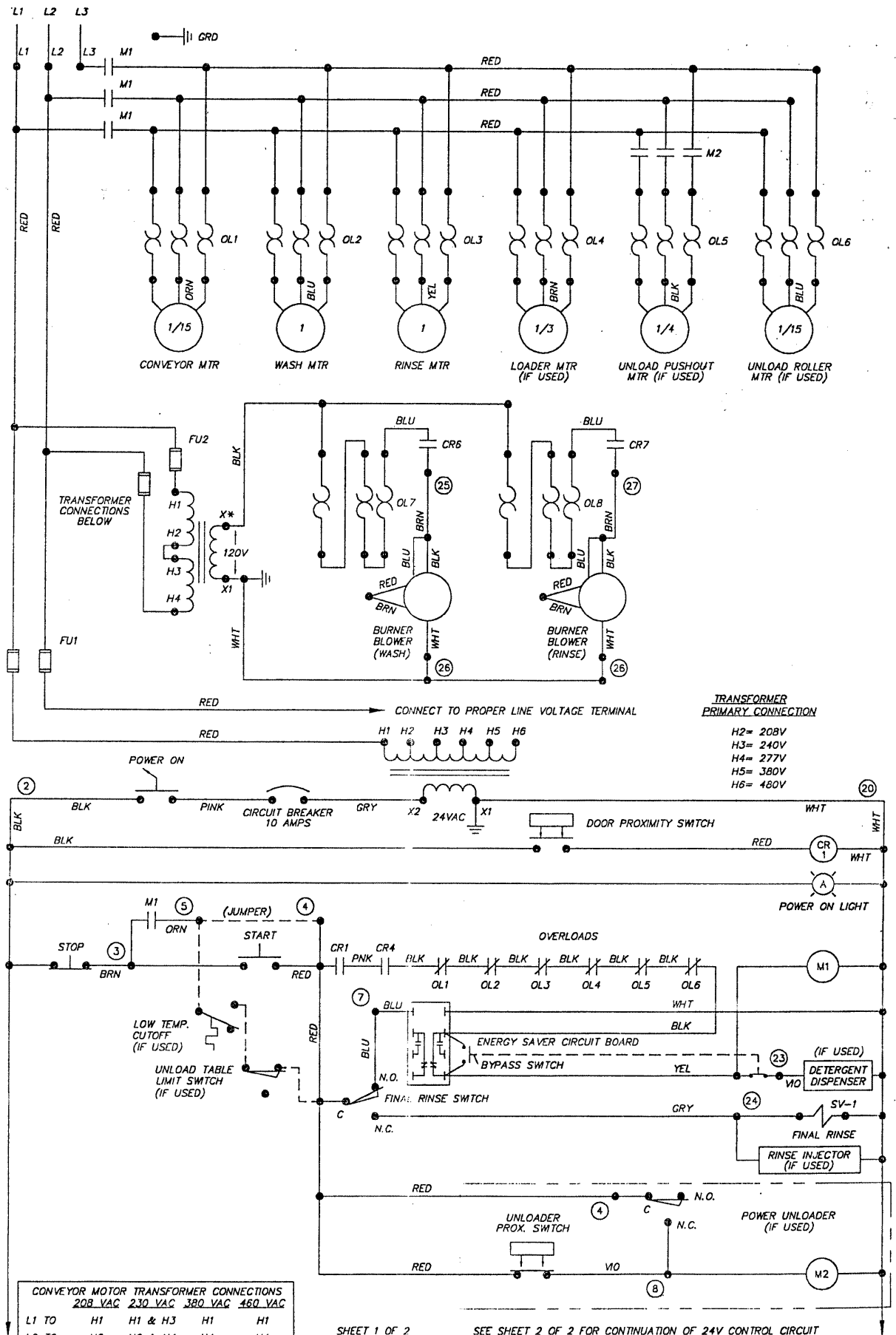
SHEET 1B OF 2

415/3/50 WIRING ONLY

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REV	ECN NO	DATE				
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					FAX (215) 624-6966	05.17.95



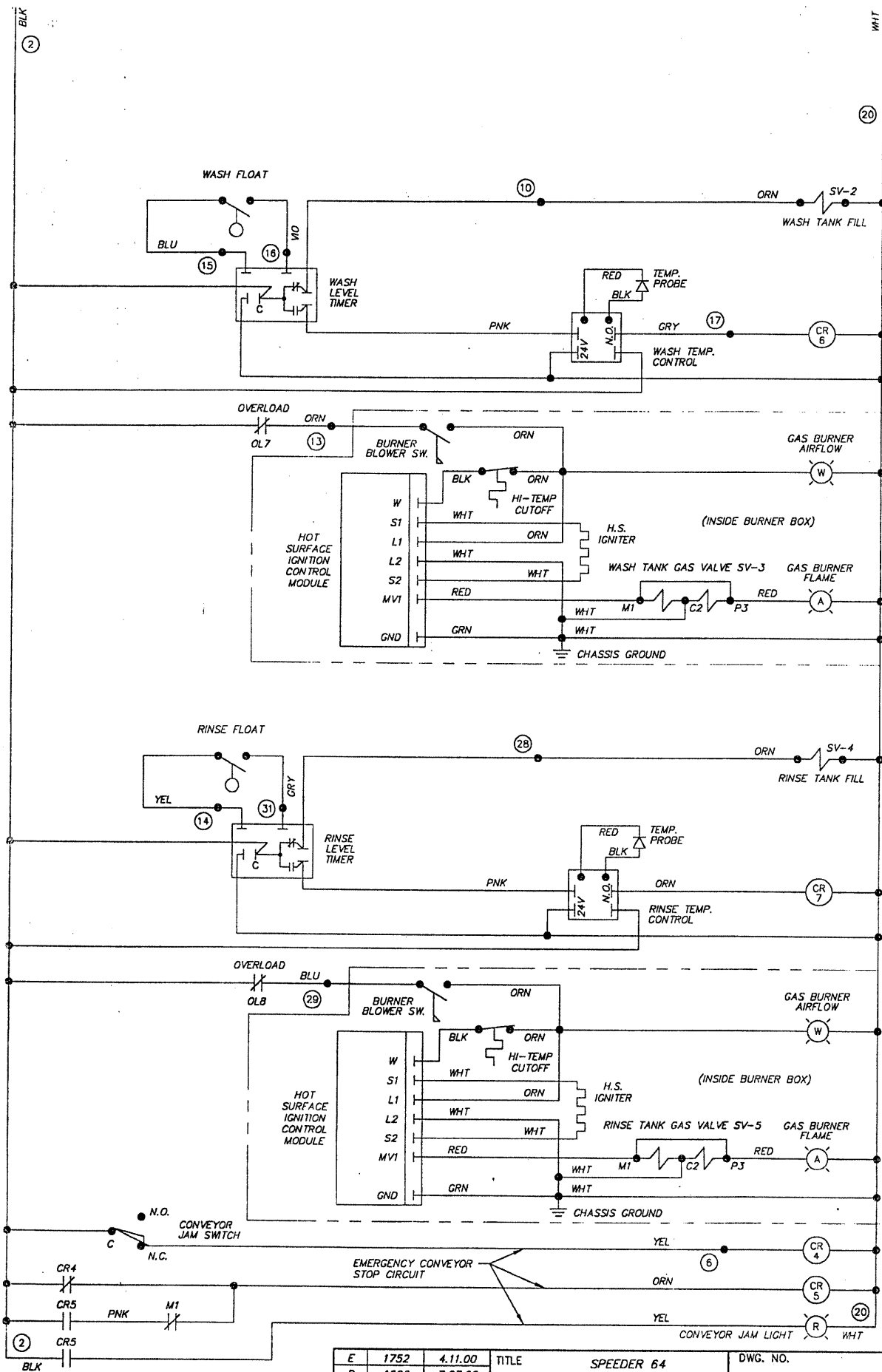
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			ELECTRIC HEAT			
L	1988	7.7.03				
REV	ECN NO	DATE				
FILE: WRE\W863020			Insinger		Philadelphia, PA 19135	
					(215) 624-4800	
					FAX (215) 624-6966	
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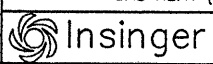
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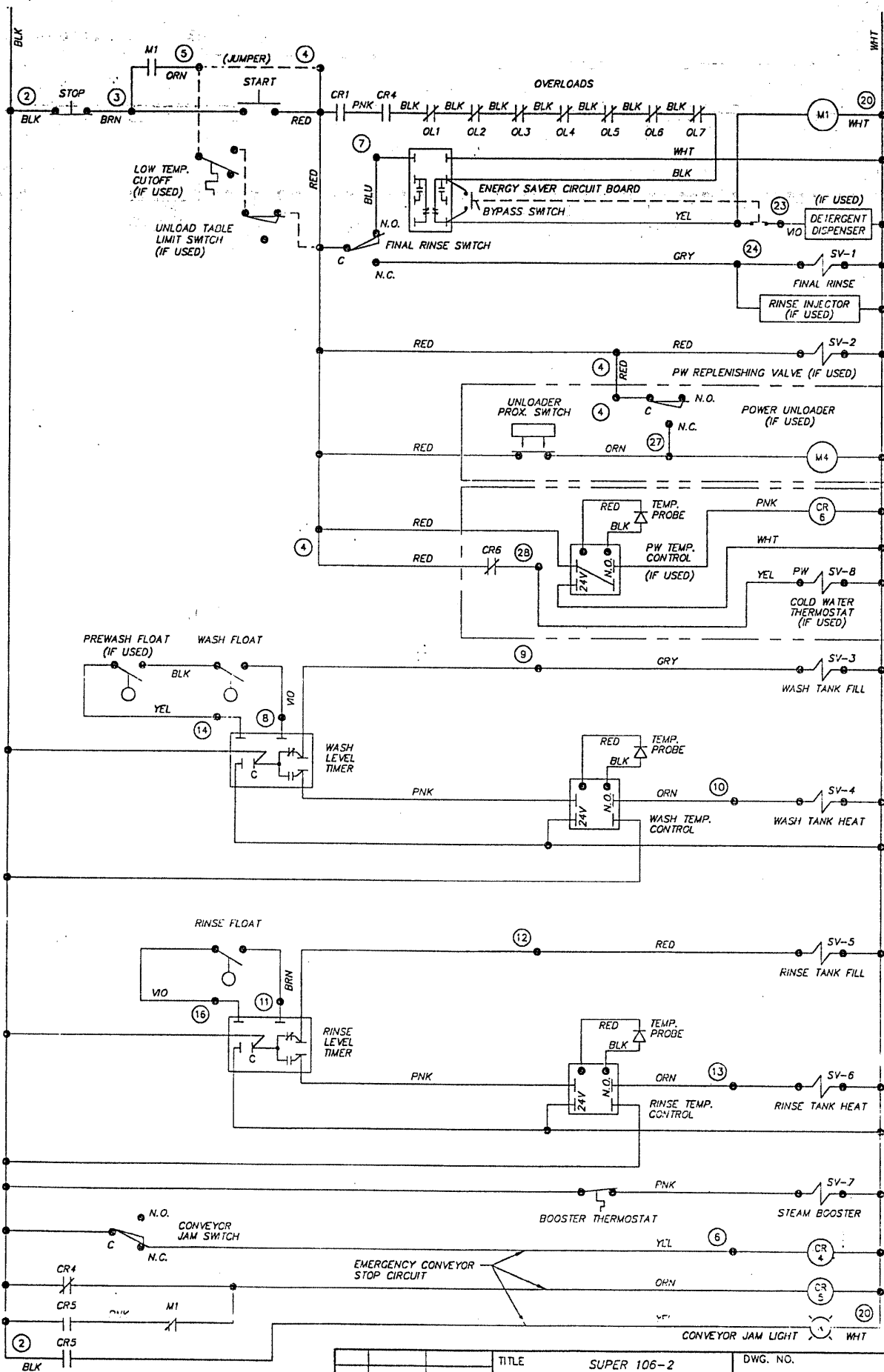
SEE SHEET 2 OF 2 FOR CONTINUATION OF 24V CONTROL CIRCUIT

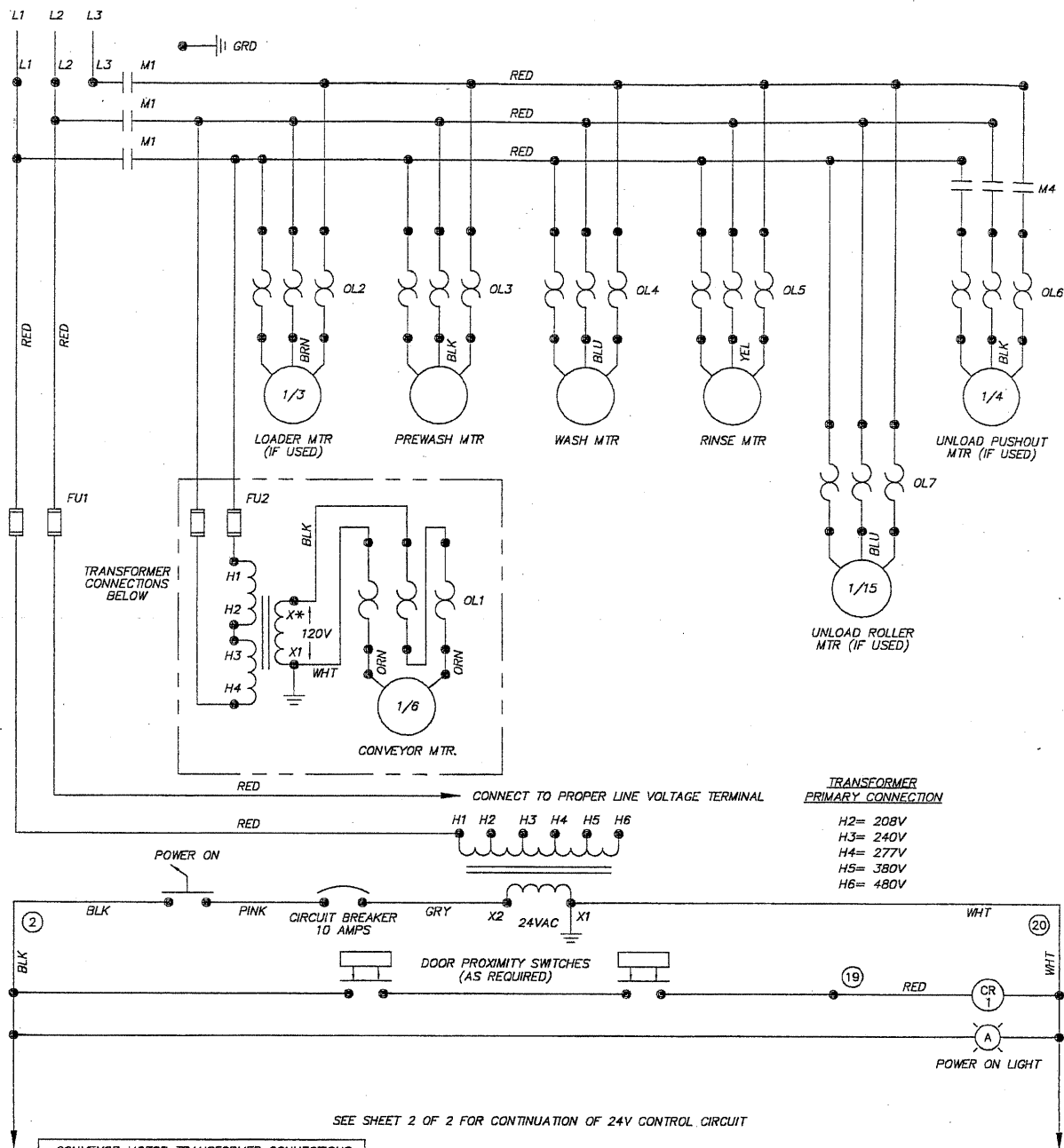
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C	1583	12.1.97				
REV	ECN NO	DATE				
FILE:	W863070		Insinger		Philadelphia, PA 19135	DRWN/DATE
					(215) 624-4800	RAF
					FAX (215) 624-6986	05.19.95



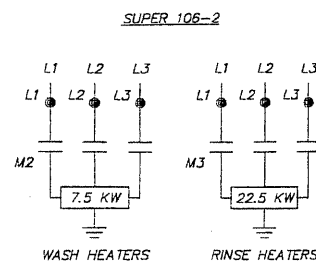
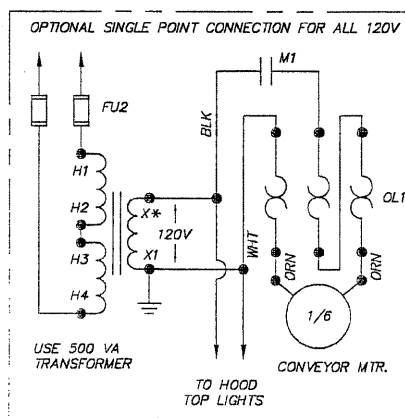
E	1752	4.11.00	TITLE	SPEEDER 64	DWG. NO.	W863070
D	1696	7.27.99		GAS HEAT (H.S.I.)		
C	1583	12.1.97				
REV	ECN	NO	DATE	Philadelphia, PA 19135	DRWN/DATE	RAF
				(215) 624-4800		05.19.95
				FAX (215) 624-6966		







CONVEYOR MOTOR TRANSFORMER CONNECTIONS				
	208 VAC	230 VAC	380 VAC	480 VAC
L1 TO	H1	H1 & H3	H1	H1
L2 TO	H2	H2 & H4	H4	H4
X*	X3	X2	X3	X2



NOTE:

- THREE SEPARATE ELECTRICAL SERVICES ARE NECESSARY UNLESS SINGLE POINT CONNECTION.
- MOTORS/CONTROLS
- WASH IMMERSION HEATERS
- RINSE IMMERSION HEATERS

SHEET 1A OF 2

SEE SHT 1B FOR 415/3/50 WIRING

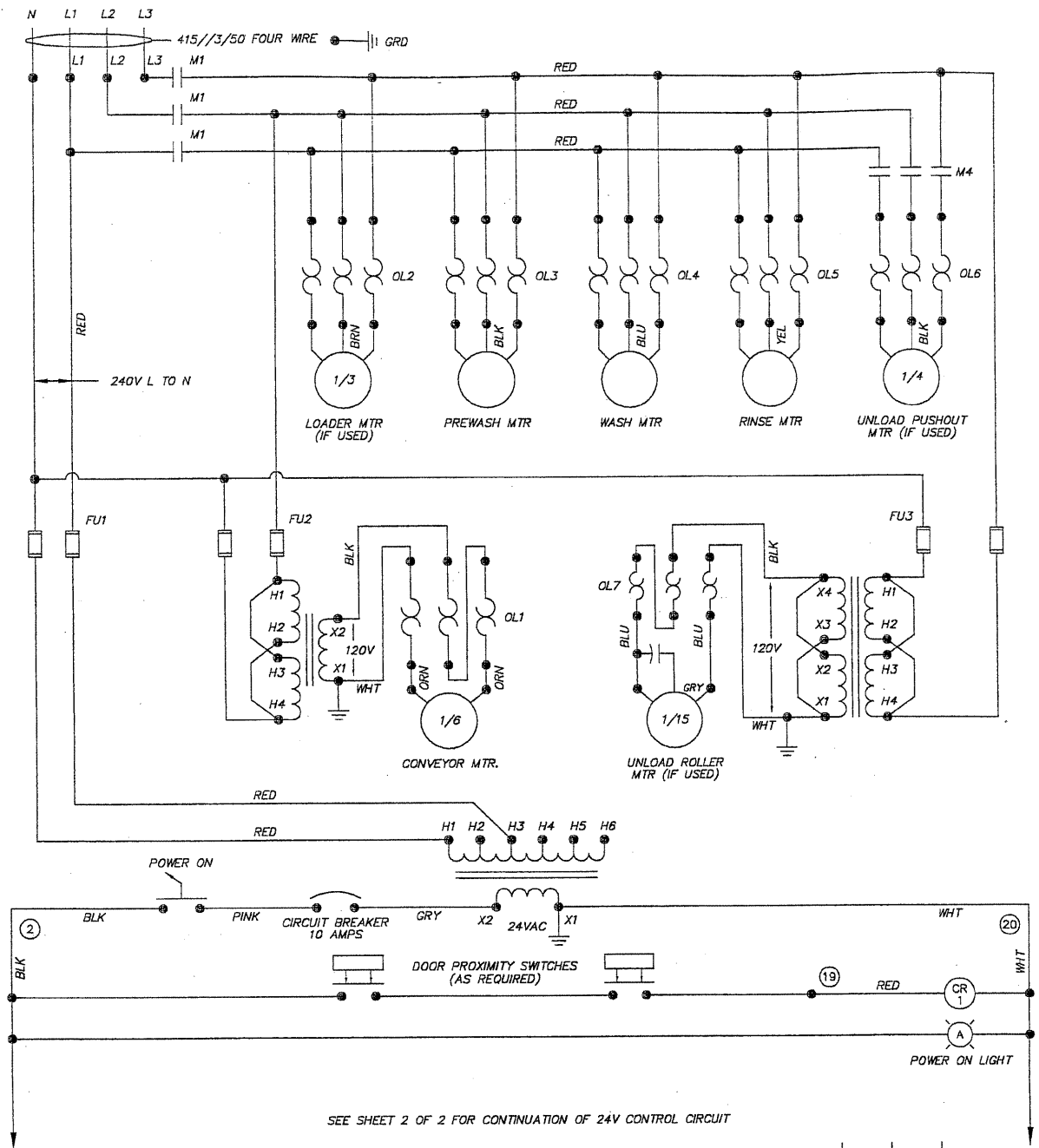
TITLE			DWG. NO.	
SUPER 106-2			WSUP020	
ELECTRIC HEAT				
B	1995	9.30.03		
A	1988	7.7.03		
REV	ECN NO	DATE		
FILE: WIRE\WSUP020				



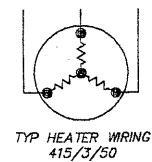
Insinger

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

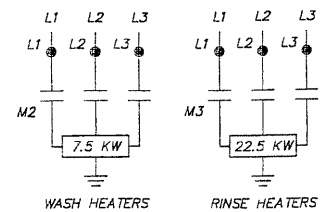
DRWN/DATE
MFJ 4.6.00



SEE SHEET 2 OF 2 FOR CONTINUATION OF 24V CONTROL CIRCUIT



SUPER 106-2



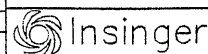
NOTE:

1. THREE SEPARATE ELECTRICAL SERVICES ARE NECESSARY:
- 1- MOTORS/CONTROLS
- 2- WASH IMMERSION HEATERS
- 3- RINSE IMMERSION HEATERS

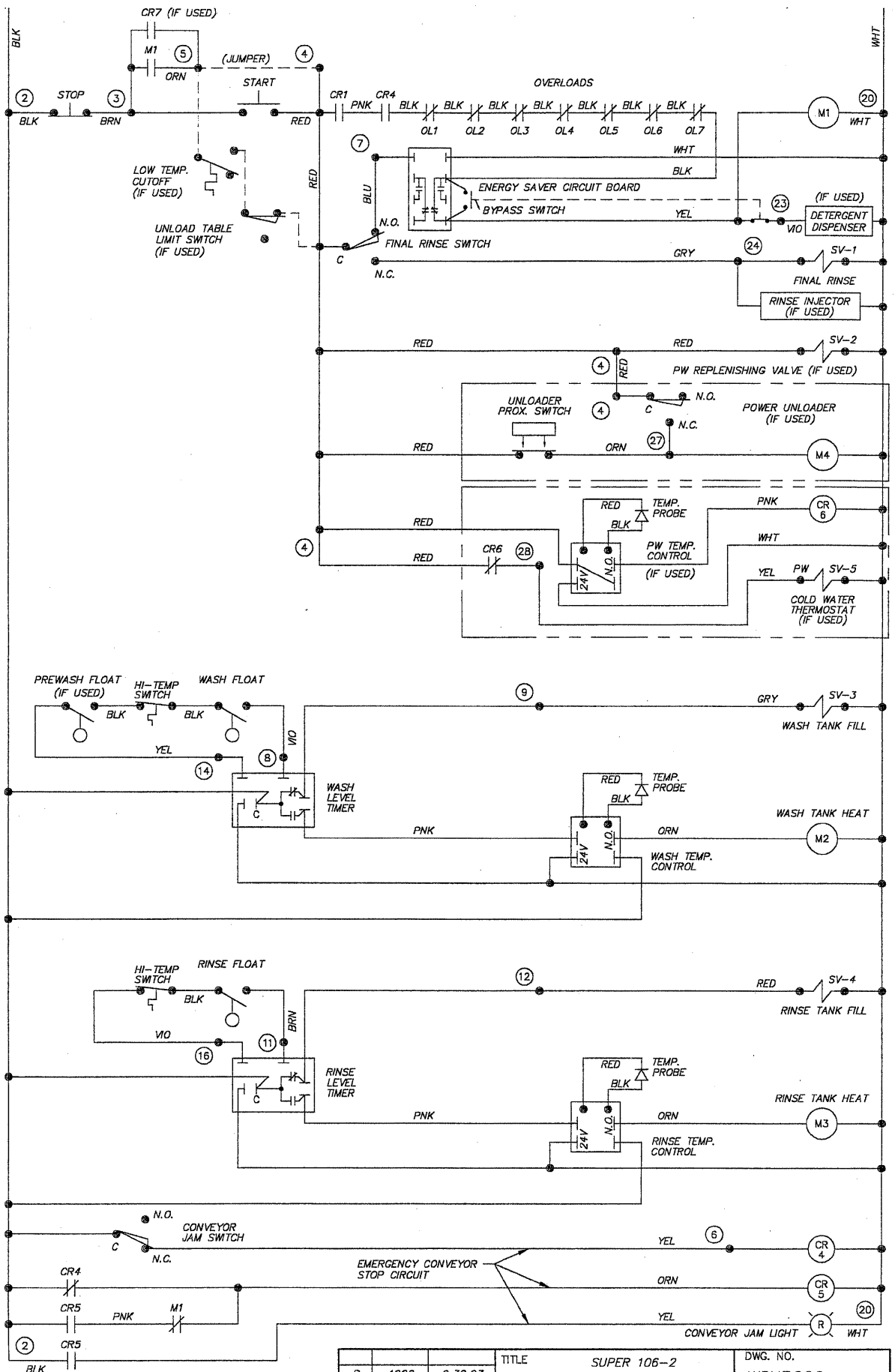
SHEET 1B OF 2

415/3/50 WIRING ONLY

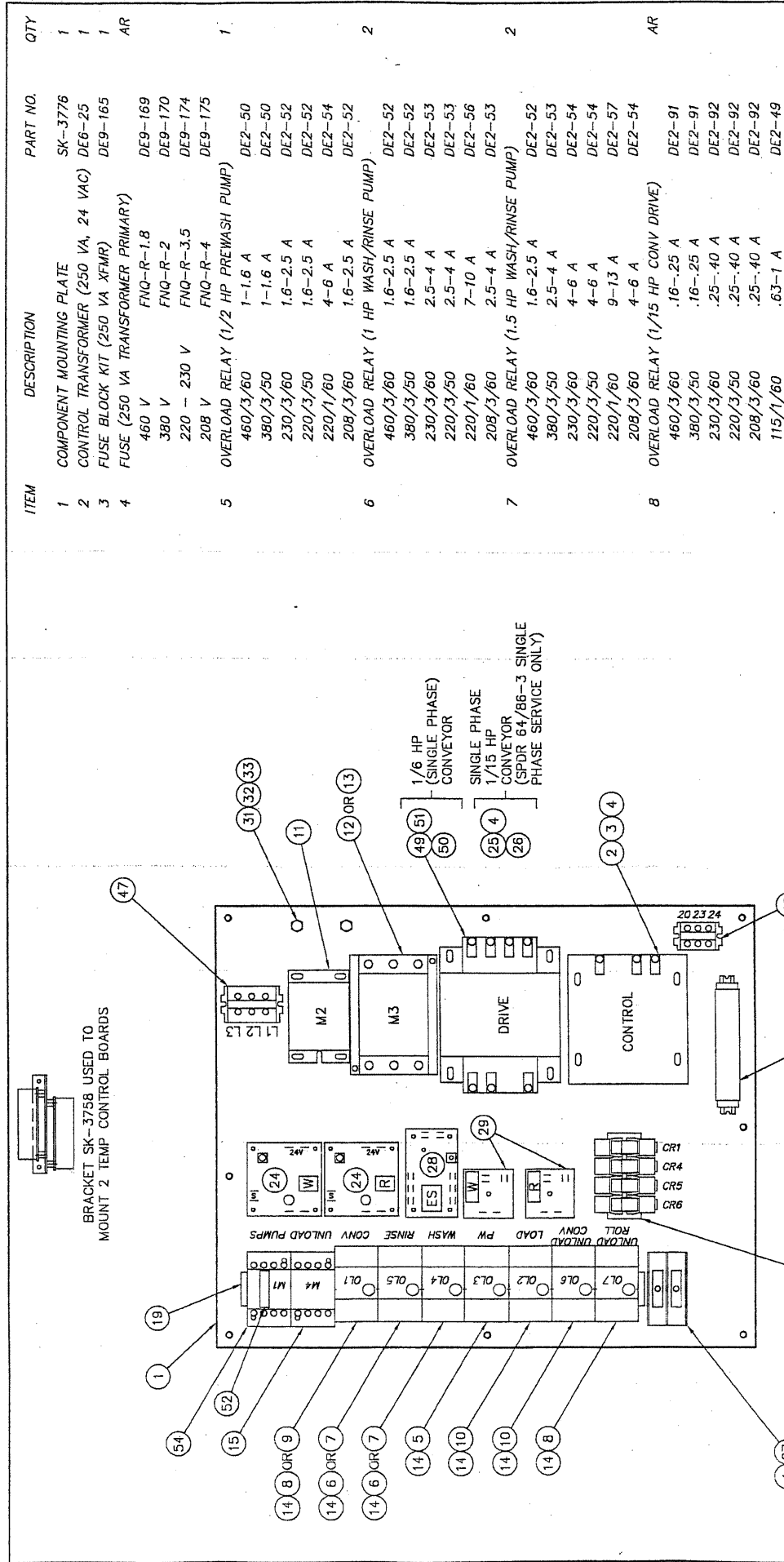
TITLE			DWG. NO.	
SUPER 106-2			WSUP020	
ELECTRIC HEAT				
REV	ECN NO	DATE	DRWN/DATE	
B	1996	9.30.03		
A	1988	7.7.03		
FILE: WIRE\WSUP020			MFW 4.6.00	



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



			TITLE		SUPER 106-2		DWG. NO.	
					ELECTRIC HEAT		WSUP020	
			REV		ECN NO		DATE	
			B		1996		9.30.03	
			A		1988		7.7.03	
			REV		ECN NO		DATE	
			FILE:		WIRE\WSUP020			
			Insinger		Philadelphia, PA 19135		DRWN/DATE	
					(215) 624-4800		MFJ	
					FAX (215) 624-6966		4.6.00	



ITEM	DESCRIPTION	PART NO.	QTY
1	COMPONENT MOUNTING PLATE	SK-3776	1
2	CONTROL TRANSFORMER (250 VA, 24 VAC)	DE6-25	1
3	FUSE BLOCK KIT (250 VA XFMR)	DE9-165	1
4	FUSE (250 VA TRANSFORMER PRIMARY)		AR
	460 V FNO-R-1.8	DE9-169	
	380 V FNO-R-2	DE9-170	
	220 - 230 V FNO-R-3.5	DE9-174	
	208 V FNO-R-4	DE9-175	
5	OVERLOAD RELAY (1/2 HP PREWASH PUMP)		1
	460/3/60 1-1.6 A	DE2-50	
	380/3/50 1-1.6 A	DE2-50	
	230/3/60 1.6-2.5 A	DE2-52	
	220/3/50 1.6-2.5 A	DE2-52	
	220/1/60 4-6 A	DE2-54	
	208/3/60 1.6-2.5 A	DE2-52	
6	OVERLOAD RELAY (1 HP WASH/RINSE PUMP)		2
	460/3/60 1.6-2.5 A	DE2-52	
	380/3/50 1.6-2.5 A	DE2-52	
	230/3/60 2.5-4 A	DE2-53	
	220/3/50 2.5-4 A	DE2-53	
	220/1/60 7-10 A	DE2-56	
	208/3/60 2.5-4 A	DE2-53	
7	OVERLOAD RELAY (1.5 HP WASH/RINSE PUMP)		2
	460/3/60 1.6-2.5 A	DE2-52	
	380/3/50 2.5-4 A	DE2-53	
	230/3/60 4-6 A	DE2-54	
	220/3/50 4-6 A	DE2-54	
	220/1/60 9-13 A	DE2-57	
	208/3/60 4-6 A	DE2-54	
8	OVERLOAD RELAY (1/15 HP CONV DRIVE)		AR
	460/3/60 .16-.25 A	DE2-91	
	380/3/50 .16-.25 A	DE2-91	
	230/3/60 .25-.40 A	DE2-92	
	220/3/50 .25-.40 A	DE2-92	
	208/3/60 .25-.40 A	DE2-92	
	115/1/60 .63-1 A	DE2-49	

SHEET 1 OF 2

TITLE		CONTROL PANEL LAYOUT	
SPDR 64, 86-3, AND SUPER 106-2			
Philadelphia, PA 19135		DRWN/DATE	
(215) 624-4800		MFJ	
FAX (215) 624-6966		6.1.95	
InSinger			
P	1986	8.1.03	FILE: SKETCH\SK-3142
N	1945	7.17.02	SCALE
M	1957	2.15.01	1=4
REV	ECN NO	DATE	DWG. NO.
			SK-3142

NOT SHOWN

TRANSFORMER FOR UNLOADER (SINGLE PH SERVICE ONLY)

DE6-26

DE6-21

250 VA

250 V (380 V ONLY)

NOTES:

[X] INDICATES USE ON SPDR 64/86-3

WITH 1/6 HP CONVEYOR ON BLOWER DRYER TABLE

AND SUPER 106-2 WITH 1/6 HP CONVEYOR.

ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
9	OVERLOAD RELAY (1/6 HP CONV DRIVE) 115/1/60	DE2-52	1	14	OVERLOAD BASE	DE2-60	AR
10	OVERLOAD RELAY (1/4 HP UNLOADER & 1/3 HP LOADER) 460/3/60 380/3/50 230/3/60 220/3/50 220/1/60 208/3/60	DE2-49 DE2-49 DE2-50 DE2-50 DE2-53 DE2-50	AR	15	CONTRACTOR (UNLDR)	SP4	AR
11	CONTRACTOR (7.5/8.0 KW ELECT WASH TANK HEAT ONLY) ALL 3 PHASE 220/1/60 50 A RES	DE1-109 DE1-109 DE1-110	1	16	RELAY BASE	DE2-37	AR
12	CONTRACTOR (15 KW ELECT RINSE TANK HEAT ONLY) 460/3/60 380/3/50 230/3/60 220/3/50 220/1/60 208/3/60	DE1-109 DE1-109 DE1-110 DE1-110 DE1-94 DE1-110	1	17	RELAY	DE2-38	AR
13	CONTRACTOR (22.5 KW ELECT RINSE TANK HEAT ONLY) 460/3/60 380/3/50 230/3/60 220/3/50 220/1/60 208/3/60	DE1-94 DE1-94 DE1-94 DE1-94 DE1-96 DE1-94	1	18	RELAY HOLD DOWN SPRING	DE3-43	AR
				19	DIN RAIL (35 mm)	DE3-216	1
				20	DIN RAIL (15 mm)	DE3-42	1
				21	TERMINAL SECTION	DE3-39	AR
				22	TERMINAL END COVER PLATE	DE3-40	1
				23	TEMPERATURE CONTROL BOARD	DE3-41	2
				24	DRIVE TRANSFORMER (250 VA, 120 VAC)	DE9-251	AR
				25	230 & 460 V	DE6-10	1
				26	FUSE BLOCK KIT (250 VA XFMR)	DE6-21	1
				27	FUSE BLOCK, 2 POLE (XFMR PRIMARY)	DE9-164	1
				28	TIME DELAY BOARD (ENERGY SAVER)	DE9-185	1
				29	TIMER (LIQUID LEVEL)	DE7-28	1
				30	CAPACITOR (1/15 HP, 120 V CONV MTR)	DE7-35	2
				31	GROUNDING STUD	D2888	AR
				32	LOCKWASHER, 1/4"	D309C-GC-46	2
				33	HEX NUT, 1/4-20	D313C-G5	2
				34	CONTROL BOX	SK-3716	1

ITEM	DESCRIPTION	PART NO.	QTY
35	CONTROL BOX COVER	SK-3717	1
36	GASKET	9007-001	1
37	NUT	D312C-EF-5	4
38	DECAL	SK-3700	1
39	DATA DECAL	SK-3715	1
40	TERMINAL BLK ASSY	DE3-9	1
41	SELECTOR SWITCH ASSY	DE8-58	2
42	PUSHBUTTON ASSY, START	DE8-64	1
43	PUSHBUTTON ASSY, STOP	DE8-65	1
44	PILOT LIGHT ASSY - YELLOW	DE8-62	1
45	PILOT LIGHT ASSY - RED	DE8-61	1
46	CIRCUIT BREAKER (10A)	DE9-106	1
47	TERMINAL BLOCK ASSY	DE3-3	1
48	CONTACT BLOCK, NC	DE8-60	1
49	DRIVE TRANSFORMER (350 VA, 120 VAC)	DE6-38	1
	230 & 460 V	DE6-43	1
50	FUSE BLOCK KIT (350 VA XFMR)	DE9-165	1
	208 & 380 V	DE9-164	1
51	FUSE (350 VA TRANSFORMER PRIMARY)	DE9-171	2
	460 V	DE9-173	1
	380 V	DE9-176	1
	220 - 230 V	DE9-176	1
	208 V	DE1-61AE	1
52	AUXILIARY CONTACT, NC	DE8-59	1
53	CONTACT BLOCK, NO	DE1-93	1
54	CONTRACTOR (PUMPS)	DE1-56AE	1
	ALL 3 PHASE		
	220/1/60	SP17	

NOT SHOWN

ELECTRIC IMMERSION HEATER (3 KW)

440-480 V, 3 PH

380 V, 3 PH

220-240 V, 3 PH

208V, 3PH

NOT SHOWN

ELECTRIC IMMERSION HEATER (5 KW)

440-480 V, 3 PH

380 V, 3 PH

220-240 V, 3 PH

208V, 3PH

ELECTRIC IMMERSION HEATER (7.5 KW)

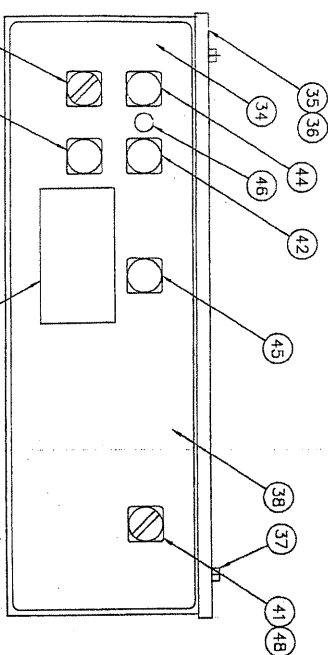
440-480 V, 3 PH

380 V, 3 PH

220-240 V, 3 PH

208V, 3PH

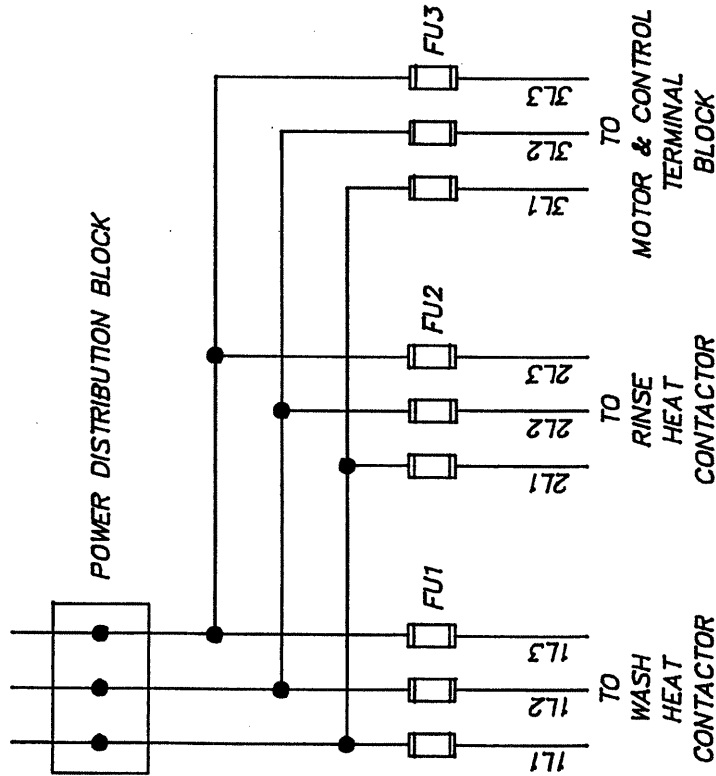
TEMPERATURE PROBE



TITLE				CONTROL PANEL LAYOUT			
SPDR 64, B6-3, AND SUPER 106-2							
Insinger				Philadelphia, PA 19135 DRINK/DATE			
(215) 624-4600				FAX (215) 624-6966			
REV				FILE: SKETCH\SK-3142			
1986				SCALE			
1945				1=4			
1957				DWG. NO.			
ECN NO				DATE			
				SK-3142			

CUSTOMER SERVICE

L1 L2 L3

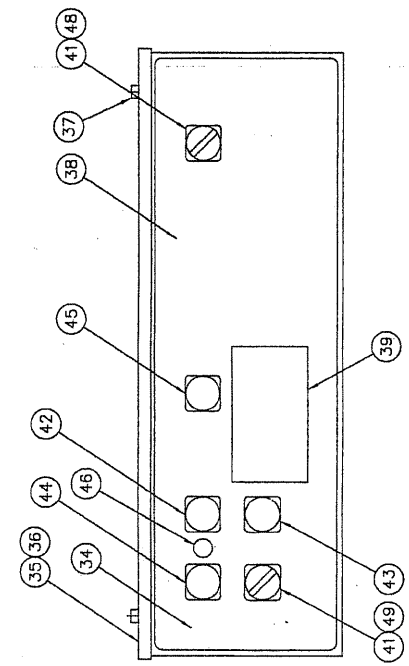


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ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
9	CONTACTOR, MOTORS	SP4	AR	25	OVERLOAD BASE	DE2-60	AR	40	TERMINAL BLK ASSY	DE3-9	1
10	AUXILIARY CONTACT, NC	DE1-61AE	1	26	TEMPERATURE CONTROL BOARD	DE9-251	2	41	SELECTOR SWITCH ASSY	DEB-58	2
11	RELAY	DE3-25	2	27	TIME DELAY BOARD (ENERGY SAVER)	DE7-28	1	42	PUSHBUTTON ASSY, START	DEB-64	1
12	RELAY	DE2-12	2	28	TIMER (LIQUID LEVEL)	DE7-35	2	43	PUSHBUTTON ASSY, STOP	DEB-65	1
13	RELAY	DE2-37	3	29	GROUNDING STUD	D309C-GC-4G	1	44	PILOT LIGHT ASSY - YELLOW	DEB-62	1
14	RELAY	DE2-38	3	30	LOCKWASHER, 1/4"	D313C-G5	1	45	PILOT LIGHT ASSY - RED	DEB-61	1
15	RELAY HOLD DOWN SPRING	DE3-43	3	31	HEX NUT, 1/4-20	D312C-GC-2	1	46	CIRCUIT BREAKER (10A)	DE9-106	1
16	DIN RAIL (35 mm)	DE9-84	1	32	CONTROL BOX	SK-3716	1	47	TERMINAL BLOCK ASSY	DE3-3	1
17	DIN RAIL (15 mm)	DE3-42	1	33	CONTROL BOX COVER	SK-3717	1	48	CONTACT BLOCK, NC	DEB-60	1
18	TERMINAL SECTION	DE3-39	AR	34	GASKET	9007-001	1	49	CONTACT BLOCK, NO	DEB-59	1
19	TERMINAL END COVER PLATE	DE3-40	1	35	NUT	D312C-EF-5	4				
20	TERMINAL END CLAMP	DE3-41	2	36	DECAL	SK-3700	1				
21	TRANSFORMER (250 VA, 120 VAC CONV)	DE6-10	1	37	DATA DECAL	SK-3715	1				
22	230 & 460 V	DE6-10	1								
23	208 & 380 V	DE6-21	1								
24	FUSE BLOCK KIT (250 VA XFMR)	DE9-164	1								

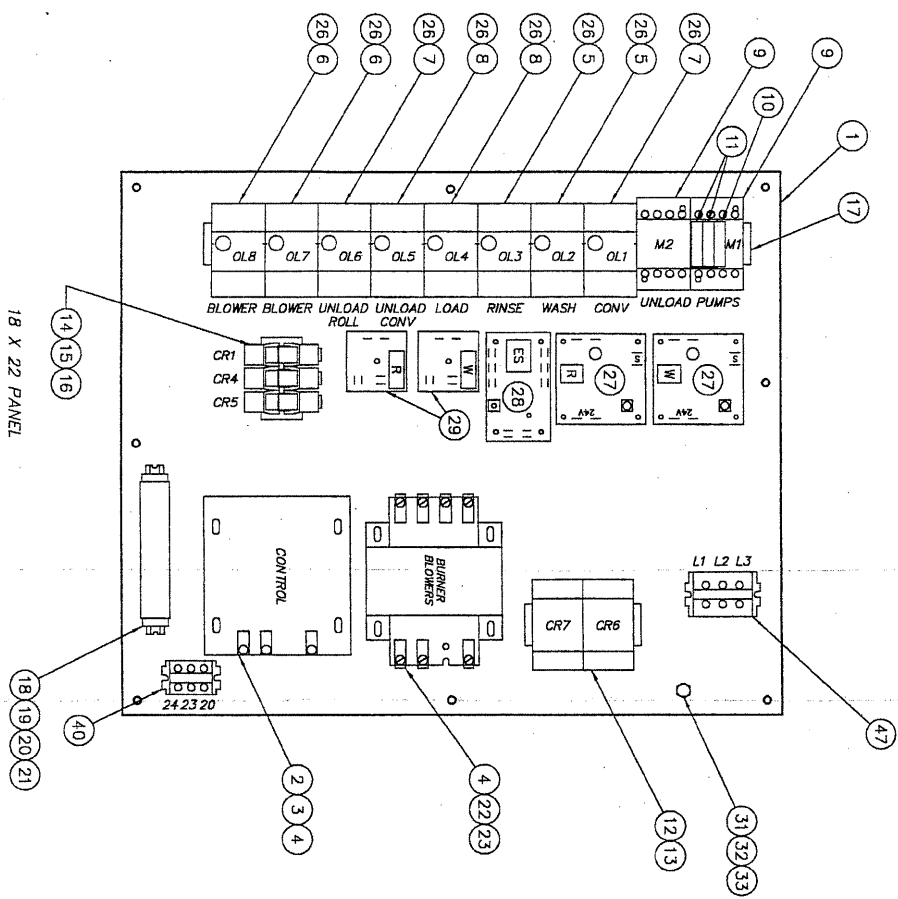
NOT SHOWN

- PILOT LIGHT, WHITE DE9-108 2
- PILOT LIGHT, AMBER DE9-109 2
- DECAL, GAS BURNER LIGHTS 1430-31 2
- TEMPERATURE SENSOR DE9-252 2



SHEET 2 OF 2

TITLE		SPEEDER 64		GAS HEAT CONTROL PANEL LAYOUT	
Insigner		Philadelphia, PA 19135		DRWN/DATE	
		(215) 624-4800		M/F/J	
		FAX (215) 624-6966		6.1.95	
		FILE: SKETCH SK-3670		DWG. NO.	
G	1986	8.1.03	SCALE		1=4
F	1857	2.15.01	DATE		
REV	ECN NO	DATE		SK-3670	



ITEM	DESCRIPTION	PART NO.	QTY
1	COMPONENT MOUNTING PLATE	SK-3776	1
2	CONTROL TRANSFORMER (250 VA, 24 VAC)	DEB-25	1
3	FUSE BLOCK KIT (250 VA XFMR)	DEB-165	1
4	FUSE (250 VA TRANSFORMER PRIMARY)		4
	460 V	FNO-R-1.8	
	380 V	FNO-R-2	
	220 - 230 V	FNO-R-3.5	
	208 V	FNO-R-4	
5	OVERLOAD RELAY (1 HP WASH/RINSE PUMP)		2
	460/3/60	1.6-2.5 A	
	380/3/50	1.6-2.5 A	
	230/3/60	2.5-4 A	
	220/3/50	2.5-4 A	
	220/1/60	7-10 A	
	208/3/60	2.5-4 A	
6	OVERLOAD RELAY (BURNER BLOWER)		2
	115/1/60	.63-1 A	
7	OVERLOAD RELAY (1/15 HP CONV DRIVE)		AR
	460/3/60	.16-.25 A	
	380/3/50	.16-.25 A	
	230/3/60	.25-.40 A	
	220/3/50	.25-.40 A	
	208/3/60	.25-.40 A	
	115/1/60	.63-1 A	
8	OVERLOAD RELAY (1/4 HP UNLOADER & 1/3 HP LOADER)		AR
	460/3/60	.63-1 A	
	380/3/50	.63-1 A	
	230/3/60	1-1.6 A	
	220/3/50	1-1.6 A	
	220/1/60	2.5-4 A	
	208/3/60	1-1.6 A	

Insinger

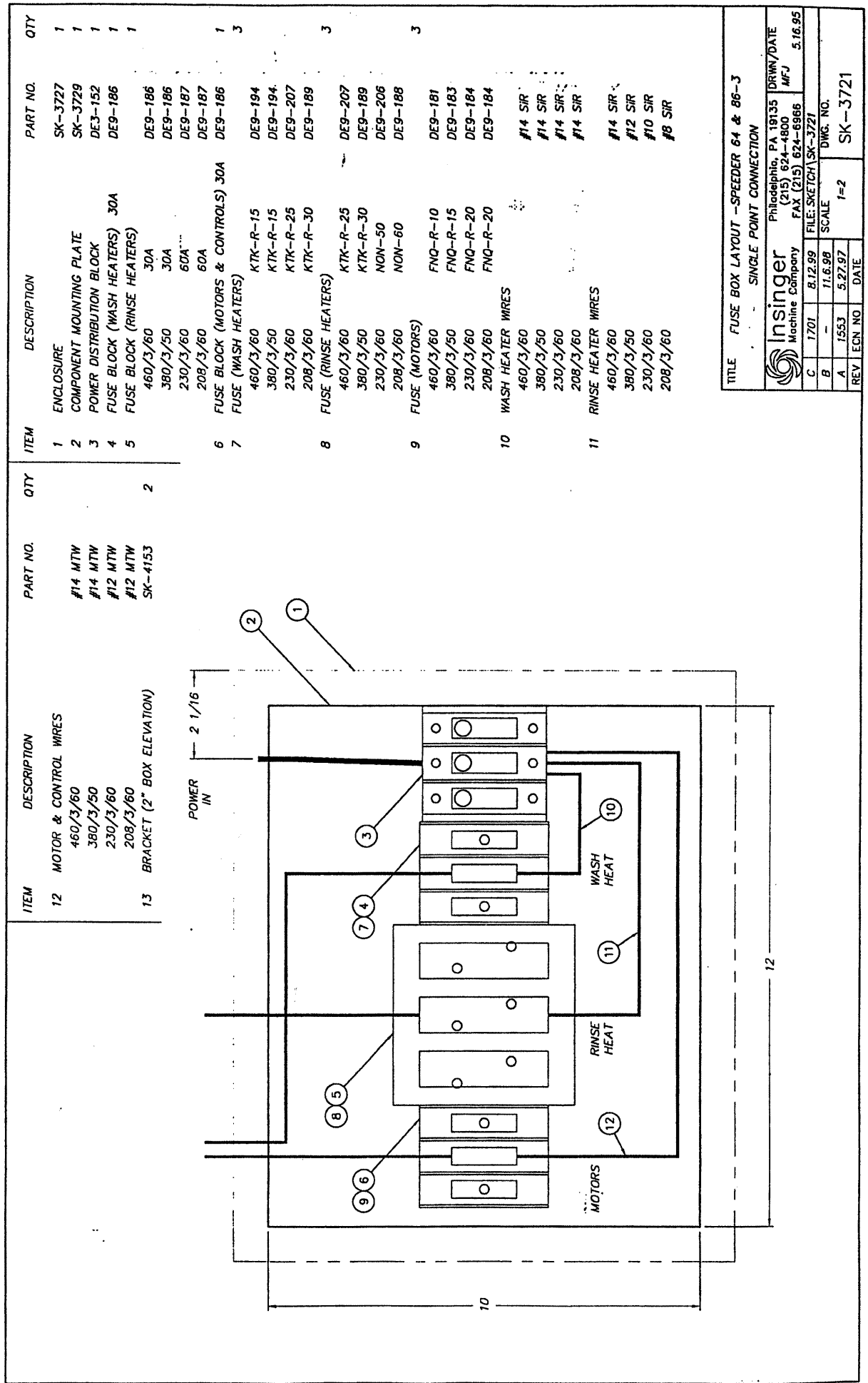
Philadelphia, PA 19135
(215) 624-4800
FAX (215) 624-6966

SPEEDER 64

GAS HEAT CONTROL PANEL LAYOUT

DRWN/DATE
MCJ 6.1.95

G	1986	8.1.03	SCALE	1"=4'	DWG. NO.
F	1857	2.15.01			SK-3670
REV	ECN NO	DATE			



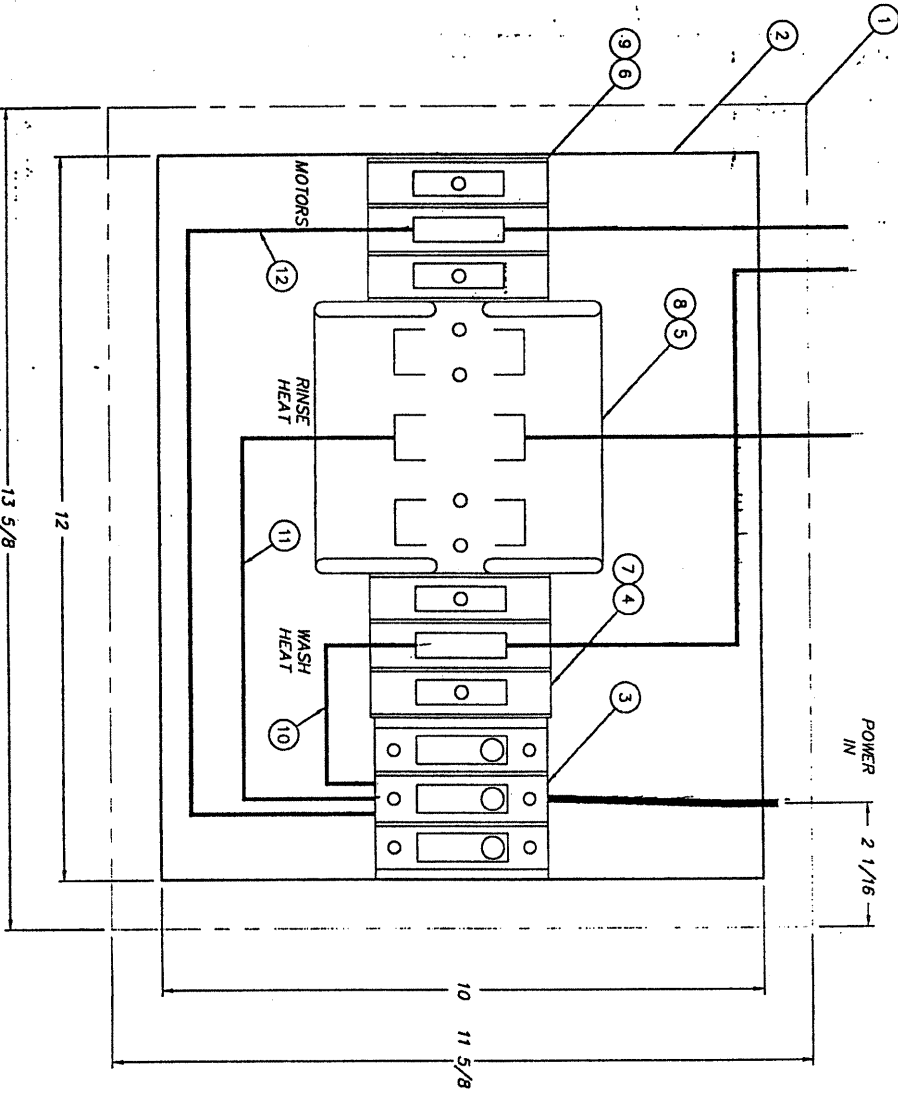
TITLE FUSE BOX LAYOUT -SPEEDER 64 & 86-J

SINGLE POINT CONNECTION

		Philadelphia, PA 19135	DRWN/DATE
Machine Company		(215) 624-4800	MFJ 5.16.95
		FAX (215) 624-6966	
C	1701	8.12.99	FILE: SKETCH\SK-3721
B	-	11.6.98	SCALE
A	1553	5.27.97	1=2
REV	ECN NO	DATE	DWG. NO.
			SK-3721

ITEM	DESCRIPTION	PART NO.	QTY
12	MOTOR & CONTROL WIRES 460/3/60 380/3/50 230/3/60 208/3/60	#14 MTW #14 MTW #10 MTW #10 MTW	2
13	BRACKET (2" BOX ELEVATION)	SK-4153	2

ITEM	DESCRIPTION	PART NO.	QTY
1	ENCLOSURE	SK-3727	1
2	COMPONENT MOUNTING PLATE	SK-3729	1
3	POWER DISTRIBUTION BLOCK	DE3-152	1
4	FUSE BLOCK (WASH HEATERS) 30A	DE9-186	1
5	FUSE BLOCK (RINSE HEATERS)	DE9-212	1
	460/3/60 60A	DE9-212	
	380/3/50 60A	DE9-212	
	230/3/60 100A	DE9-213	
	208/3/60 100A	DE9-213	
6	FUSE BLOCK (MOTORS & CONTROLS) 30A	DE9-186	1
7	FUSE (WASH HEATERS)	DE9-194	3
	460/3/60 KTR-R-15	DE9-194	
	380/3/50 KTR-R-15	DE9-194	
	230/3/60 KTR-R-25	DE9-207	
	208/3/60 KTR-R-30	DE9-189	
8	FUSE (RINSE HEATERS)	DE9-208	3
	460/3/60 JLS-35	DE9-208	
	380/3/50 JLS-45	DE9-243	
	230/3/60 JLN-70	DE9-211	
	208/3/60 JLN-80	DE9-221	
9	FUSE (MOTORS)	DE9-183	3
	460/3/60 FNO-R-15	DE9-183	
	380/3/50 FNO-R-15	DE9-183	
	230/3/60 FNO-R-25	DE9-220	
	208/3/60 FNO-R-25	DE9-220	
10	WASH HEATER WIRES	#14 SIR	
	460/3/60	#12 SIR	
	380/3/50	#12 SIR	
	230/3/60	#12 SIR	
	208/3/60	#12 SIR	
11	RINSE HEATER WIRES	#12 SIR	
	460/3/60	#10 SIR	
	380/3/50	#6 SIR	
	230/3/60	#6 SIR	
	208/3/60	#6 SIR	

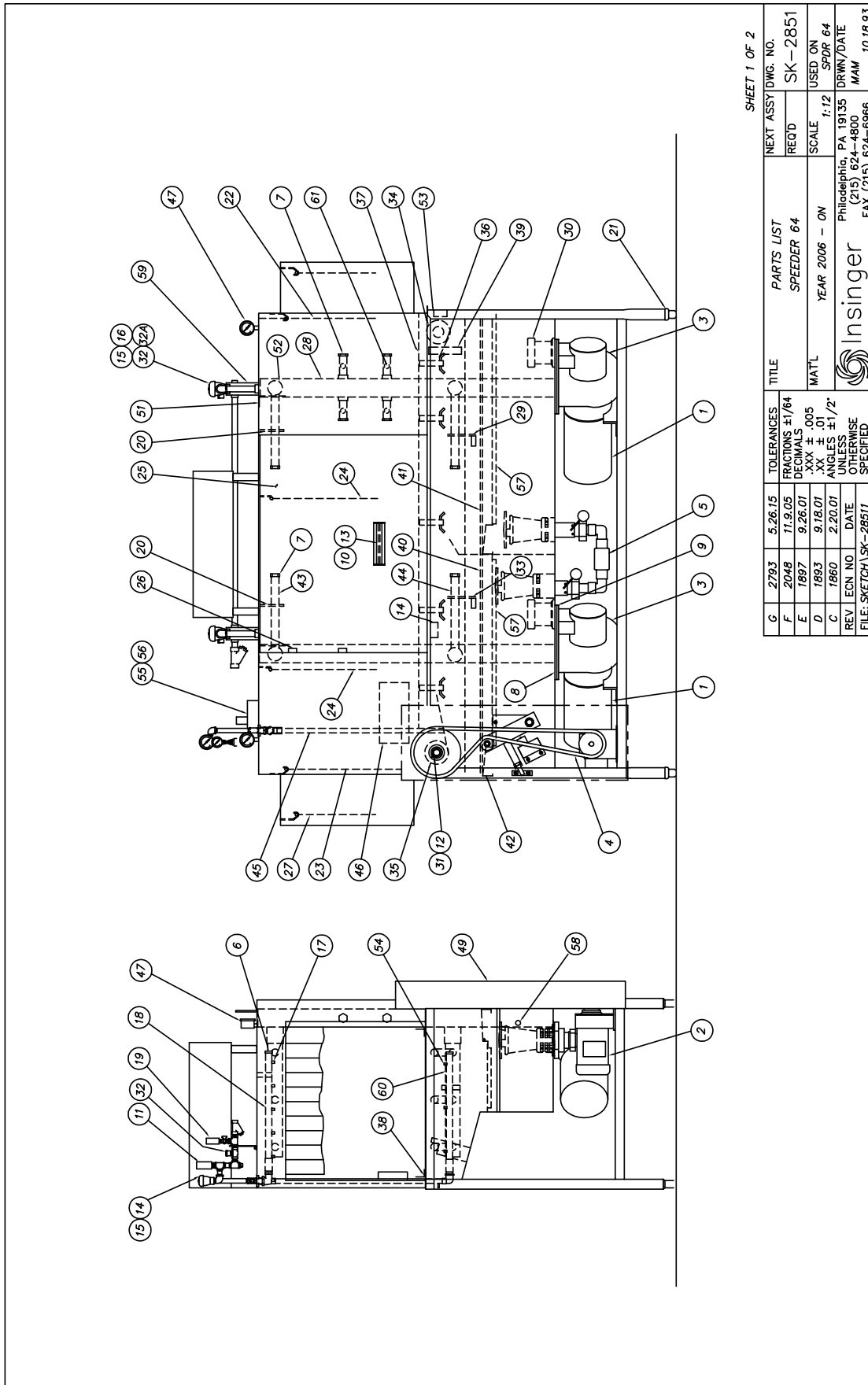


TITLE			
FUSE BOX LAYOUT - SUPER 106-2			
SINGLE POINT CONNECTION			
Insinger Machine Company Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966		DRWN/DATE MFC 2.5.96	
FILE: SKETCH/ SK-3841 SCALE: 1"=2' DWG. NO. SK-3841			
REV	ECN NO	DATE	
A	1553	5.29.97	
B	1701	8.12.99	



Part 5

Replacement Parts



SHEET 1 OF 2

NEXT ASSY DWG. NO.		PARTS LIST		TOLERANCES		TITLE	
G	2793	5.26.15	FRACTIONS ±1/64	F	2048	11.9.05	SK - 2851
	2048	11.9.05	DECIMALS		E	1897	REQ'D
D	1897	9.26.01	.XXX ± .005	D	1893	9.18.01	YEAR 2006 - ON
	1893	9.18.01	.XX ± .01		C	1860	MAT'L
REV	ECN NO	DATE	ANGLES ±1/2°	REV	ECN NO	DATE	USED ON
	FILE: SKETCH\SK-28511		UNLESS OTHERWISE SPECIFIED				SPDR 64
				Insinger			
				Philadelphia, PA 19135			
				(215) 624-4800			
				FAX (215) 624-6966			
				DRWN/DATE			
				10.15.93			



Speeder Super Tech Manual 6 2015 www.insingermachine.com 800-344-4802

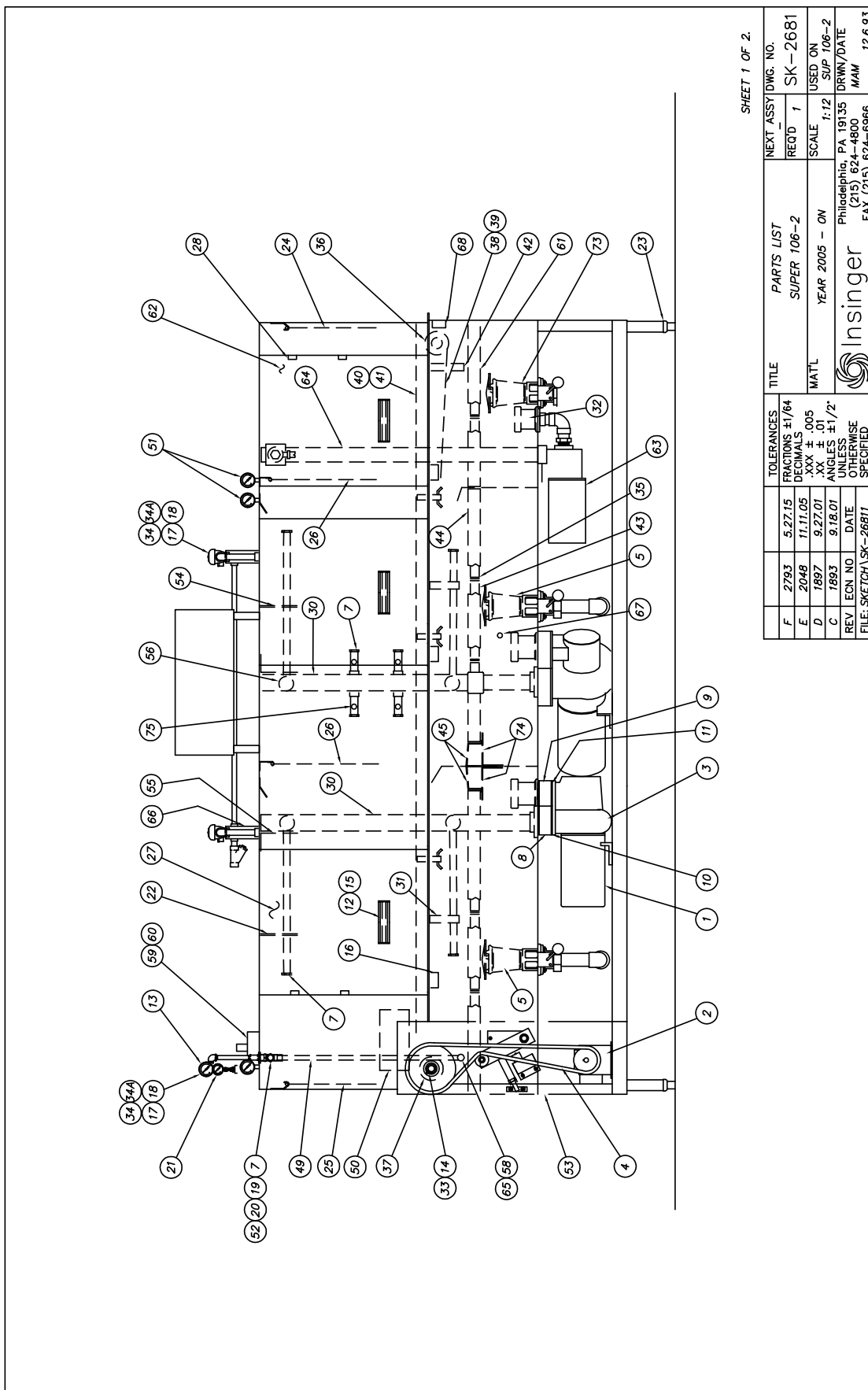


ITEM#	PART#	DESCRIPTION	REQ.	ITEM#	PART#	DESCRIPTION	REQ.
1	**	PUMP & MOTOR, WASH & RINSE	2	40	1162-62	SCRAP SCREEN SPACER - FRONT RINSE	1
2	(SEE ITEM 4)	GEAR MOTOR	1	41	1162-40	SCRAP SCREEN SPACER - FRONT WASH (R or L)	1
3	SK-2456A	PUMP PARTS (SEE SEP DWG)	2	42	1162-41	SCRAP SCREEN SPACER - ENDS	2
4	1530-1	TIMING BELT DRIVE ASSEMBLY (SEE SEP DWG)	1	43	1162-88	MANIFOLD ASSEMBLY - UPPER WASH & RINSE	2
5	1182-39	DRAIN ASSEMBLY - W & R (SEE SEP DWG)	1	44	1162-89	MANIFOLD ASSEMBLY - LOWER WASH & RINSE	2
6	D2-554-2	PIPE PLUG 3/4-10 UNC SOLID	2	45	1169-45	FINAL RINSE - INSIDE PIPING	1
7	D2-554-2A	PIPE PLUG 3/4-10 W/HOLE	16	46	1169-145	FINAL RINSE - LEVER ASSEMBLY	1
8	D514	DISCHARGE GASKET	2	47	D2390	THERMOMETER	3
9	D530	SUCTION GASKET	3	48	-	-	-
10	-	-	-	49	1162-60	MECHANISM GUARD	1
11	D2495	THERMOMETER, FINAL RINSE	1	50	-	-	-
12	1162-16	CONVEYOR DRIVE SHAFT	1	51	D3-849	STOP BRACKET, UPPER MANIFOLD	2
13	-	-	-	52	D580	O-RING, MANIFOLD	4
14	DE5-37	MAGNETIC SWITCH	2	53	1182-72	TANK BAFFLE (PW/WASH DIVIDER)	1
15	D2241	VACUUM BREAKER 1/2	4	54	D2286A	SPRAY NOZZLE FINAL RINSE - LOWER	3
16	D2242A	VACUUM BREAKER REPAIR KIT 1/2	4	55	816-58	SPRING	1
17	D3015	SPRAY NOZZLE, FINAL RINSE, UPPER	6	56	D2215A	MICROSWITCH, FINAL RINSE	1
18	1472-18A	SPRAY PIPE FINAL RINSE - UPPER	1	57	1182-29	SCRAP SCREEN - PW	1
19	SK1433	PRESSURE GAUGE	1	58	1477-27	LATCH ASSEMBLY - RINSE TOP	1
20	D2349	LATCH ASSEMBLY - WASH TOP	1	59	D2441	PUMP (PREWASH)	1
21	D2874	ADJUSTABLE FOOT	4	60	1460-21	DISCHARGE LINE ASSY. - PW (SEE SEP DWG)	1
22	D2-523	CURTAIN - ENTER	1	61	D647	SPRAY PIPE FINAL RINSE - LOWER	1
23	D3-501	CURTAIN - EXIT	1	62	957-80A	BRACKET, PIPING SUPPORT	1
24	D3-508	CURTAIN - CENTER	3	63	DE5-60	FLOAT SWITCH	5
25	D3-550	CURTAIN, ENTER & EXIT VESTIBULE	2	64	1169-159	CHAIN TENSIONER ASSEMBLY (SEE SEP DWG)	1
26	-	-	-	65	1567-1 LT	SWING DOOR - LH - STD	1
27	1162-91	BOTTOM RINSE BRACKET	1	66	1567-2 RT	SWING DOOR - RH - STD	1
28	1162-17	DISCHARGE LINE ASSEMBLY (SEE SEP DWG)	1	67	1567-6 RT W	SWING DOOR - RH - WIDE	1
29	1162-31	BOTTOM WASH BRACKET	1	68	1567-7 LT W	SWING DOOR - LH - WIDE	1
30	D2-541	SUCTION STRAINER	3	69	1567-111	HINGE PLATE - SWING DOOR	4
31	1162-110	SHAFT BEARING, 1/2"	2	70	954-1	DRAIN ASSEMBLY - PW (SEE SEP DWG)	1
32	D2930	SOLENOID VALVE, 1/2"	3	71	D2773	SPRAY NOZZLE - CROSSFIRE	4
32A	D2930RK	SOLENOID VALVE REPAIR KIT	3				
33	1162-63	SCRAP SCREEN - W & R	2				
34	D2857	DRIVEN SPROCKET (WITH KEY)	1				
35	975-55	DRIVE SPROCKET	1				
36	9014-006	CONVEYOR CHAIN	1				
37	1182-24	FRONT TRACK	1				
38	1182-91	REAR TRACK ASSEMBLY (SEE SEP DWG)	1				
39	1440-10	TRACK BRACKET	3				

** CALL FACTORY WITH SERIAL NUMBER OF MACHINE.

SHEET 2 OF 2

TOLERANCES		TITLE		PARTS LIST		NEXT ASSY DWG. NO.	
D	2793	6.3:15	FRACTIONS ±1/64	SPEEDER 86-3	REQ'D/NOTED	SK-2955	
C+	2048	11.9:05	DECIMALS .XXX ±.005				
B	1860	2.20:01	.XX ±.01				
A	970	12.7:93	ANGLES ±1/2°	YEAR 2010 - ON	SCALE	USED ON	
REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED				
FILE: SKETCH\SK-29552		Insinger		Philadelphia, PA 19135		SPDR 86-3	
				(215) 624-4800		MAM	
				FAX: (215) 624-6966		10.15.93	



SHEET 1 OF 2.

TOLERANCES		TITLE		PARTS LIST		NEXT ASSY DWG. NO.	
F	2793	5.27.15	FRACTIONS ±1/64		SUPER 106-2	REQ'D 1	SK-2681
E	2048	11.11.05	DRAWING .XXX ±.005				
D	1897	9.27.01	.XX ±.01				
C	1893	9.18.01	ANGLES ±1/2°		YEAR 2005 - ON	SCALE 1:12	USED ON SUP 106-2
REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED				
FILE: SKETCH\SK-2681			 Insinger Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966				
			MAM 12.6.93				

ITEM#	PART#	DESCRIPTION	REQ.	ITEM#	PART#	DESCRIPTION	REQ.
1	**	PUMP & MOTOR, WASH & RINSE	2	43	D2-721	SCRAP SCREEN – CENTER & PREWASH	4
2	(SEE ITEM 4)	GEAR MOTOR	1	44	962-5	SCRAP SCREEN SPACER – FRONT & REAR (W & R)	4
3	SK-2456A	PUMP PARTS (SEE SEP DWG)	2	45	935-17	SCRAP SCREEN SPACER – CENTER	2
4	1397-1	CHAIN DRIVE MECHANISM ASSY (SEE SEP DWG)	1	46	–	–	–
5	1530-1	TIMING BELT DRIVE ASSEMBLY (SEE SEP DWG)	1	47	–	–	–
6	1437-6	DRAIN ASSEMBLY COMMON DRAIN (SEE SEP DWG)	1	48	–	–	–
7	D2-554-2A	PIPE PLUG 3/4-10 W/HOLE	18	49	1169-45	FINAL RINSE – INSIDE PIPING	1
8	D424A	DISCHARGE SHIM	2	50	951-28A	FINAL RINSE – LEVER ASSEMBLY	1
9	D425B	SUCTION SHIM	2	51	D2390	THERMOMETER	3
10	D514	DISCHARGE GASKET	4	52	–	–	–
11	D530	SUCTION GASKET	4	53	1162-60	MECHANISM GUARD	1
12	RC-15-21	DOOR ROD	5	54	1162-90	LATCH ASSY – SPRAY PIPE WASH	1
13	D2495	THERMOMETER, FINAL RINSE	3	55	D3-849	STOP BRACKET, UPPER MANIFOLD	2
14	951-40A	CONVEYOR DRIVE SHAFT	1	56	D580	O-RING, MANIFOLD	4
15	RC-15-20	DOOR HANDLE	3	57	1450-8	TANK BAFFLE, PW – WASH DIVIDER	1
16	DE5-37	MAGNETIC SWITCH	3	58	D2836	SPRAY NOZZLE FINAL RINSE – LOWER	3
17	D2241	VACUUM BREAKER 1/2	3	59	816-58	SPRING	1
18	D2242A	VACUUM BREAKER REPAIR KIT 1/2	3	60	D2215A	MICROSWITCH, FINAL RINSE	1
19	D2836	SPRAY NOZZLE, FINAL RINSE, UPPER	6	61	959-70	SCRAP SCREEN SPACER – FRONT & REAR (PW)	2
20	951-165	SPRAY PIPE FINAL RINSE – UPPER	1	62	D2-719	DOOR (PREWASH)	1
21	SK-1433	PRESSURE GAUGE	1	63	D2441	PUMP & MOTOR, PREWASH	1
22	D2349	LATCH ASSEMBLY – SPRAY PIPE RINSE	1	64	SK-2397	PUMP PARTS (SEE SEP DWG)	1
23	D2874	ADJUSTABLE FOOT	4	65	959-59	DISCHARGE LINE ASSY. – PW (SEE SEP DWG)	1
24	D2-523	CURTAIN – ENTER	1	66	951-165	SPRAY PIPE FINAL RINSE – LOWER	1
25	D3-501	CURTAIN – EXIT	1	67	957-80A	BRACKET, PIPING SUPPORT	1
26	D2-524A	CURTAIN – CENTER	4	68	DE5-60	FLOAT SWITCH	3
27	D2-715	DOOR (WASH & RINSE)	2	69	951-36	CONVEYOR FOLLOWER SHAFT ASSY (SEE SEP. DWG)	1
28	D2715A	DOOR LATCH	6	70	–	–	–
29	–	–	1	71	–	–	–
30	962-6A	DISCHARGE LINE ASSY W & R (SEE SEP. DWG.)	2	72	–	–	–
31	D2-876A	SPRAY PIPE CRADLE	2	73	954-1	DRAIN ASSEMBLY – INDIVIDUAL DRAIN (SEE SEP DWG)	3
32	D2-541	SUCTION STRAINER	3	74	935-18	BRACKET, SCRAP SCREEN SPACER	2
33	1162-110	SHAFT BEARING – FRONT & REAR	2	75	D2773	SPRAY NOZZLE – CROSSFIRE	4
34	D2930	SOLENOID VALVE, 1/2"	3				
34A	D2930RK	SOLENOID VALVE REPAIR KIT	3				
35	120-6-54	SCRAP SCREEN	4				
36	D2857	CONV. DRIVEN SPROCKET (WHITE)	2				
37	975-55	CONV. DRIVE SPROCKET (WITH KEY)	2				
38	9014-016	CONVEYOR CHAIN – REAR	1				
39	9014-015	CONVEYOR CHAIN – FRONT	1				
40	962-28	FRONT TRACK	1				
41	962-29	REAR TRACK	2				
42	D3-827A	TRACK BRACKET – WASH END	2				

** CALL FACTORY WITH SERIAL NUMBER OF MACHINE

SHEET 2 OF 2

TOLERANCES		TITLE		PARTS LIST		NEXT ASSY DWG. NO.	
F	2793	5.2715	FRACTIONS ±1/64			REQ'D	NOTED
E	2048	11.9.05	DRAWING ±.005			SK	2681
D	1897	9.27.01	.XX ±.01			SCALE	USED ON
C	1893	9.18.01	ANGLES ±1/2°			FULL	SUP 106-2
REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED				DRWN/DATE
FILE: SKETCH\SK-26812			Insinger				
			Philadelphia, PA 19135				
			(215) 624-4800				
			FAX (215) 624-6966				
			MAM				
			12.14.93				

MODEL	"A" DIM.	MODEL	ITEM # 14	ITEM # 15	ITEM # 16	LENGTH	ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
SPEEDER 86-3	-	SPEEDER 86-3	1100-79	954-8 954-8A 954-8B			1	954-50A	A	UPPER VALVE BODY	1
SPEEDER 64	-	SPEEDER 64	1100-79	954-8 954-8B			2	954-50B	A	LOWER VALVE BODY	1
TRAC 321	7 5/16	TRAC 321	970-55	954-8	D207A-B12-16	4"	3	954-50C	A	O RING NUT	1
TRAC 321 RPW	-	TRAC 321 RPW	970-55	954-8A 954-8			4	954-50D	A	OVERFLOW TUBE	1
MASTER	-	MASTER	1100-79 ***	954-8A 954-8 (2 PCS)			**) NOTE				
CLIPPER	-	CLIPPER	1100-79	954-8A 954-8 (2 PCS)			5	D-193	A	SKIMMER CAP	1
CENTURY	-	CENTURY	1100-79	954-8A 954-8 (2 PCS)			6	D2-557	-	"U" CUP SEAL	1
DEFENDER	-	DEFENDER	1100-79 ***	954-8A 954-8			7	954-9	-	SEALING WASHER	1
18-5	6 9/16	18-5	1100-79A	954-8C	D207A-B12-17	4 1/4	8	D2-549	-	"O" RING	1
CA-3	8	CA-3	925-52	954-8	D207A-B12-33	8 1/4	9	D2-550	-	"O" RING	1
DA-3	8	DA-3	925-52	954-8	D207A-B12-33	8 1/4	10	D-305A	-	DRAIN JAM NUT	1
SUPER 106-2	-	SUPER 106-2	954-5	954-8A P.W.	D207A-B12-17	4 1/4	11	D2-507	-	BALL	1
ADMIRAL 44	6 9/16	SUPER 106-2	954-5	954-8 WASH	D207A-B12-20	5	12	-	-	-	-
SPEEDER 64 & 86 ADMIRAL 44 & 66 UNLOADER	SEE 1162-108	SUPER 106-2	954-5	954-8 RINSE	D207A-B12-22	5 1/2	*) NOTE				
		ADM 44	1169-21	954-8 WASH	D207A-B12-17	4 1/4	13	D316A-H3-H1	-	90° ELL 1 1/2 C X 1 1/2 FIPS	0
		ADM 66	1169-21	954-8 WASH	D207A-B12-17	4 1/4	14	SEE TABLE	A	DRAIN HANDLE ASSY	1
		ADM 66	1100-79	954-8A P.W.	D207A-B12-8	2	15	SEE TABLE	A	BRACKET	1
		ADM 66					16	SEE TABLE	-	COPPER TUBING 1 1/2 CTS	1
		ADM 66					17	D3-559	-	SEALANT (1.5 OZ)	1
		ADM 66						D3-560	-	SEALANT (11 OZ)	1

*) NOTE:

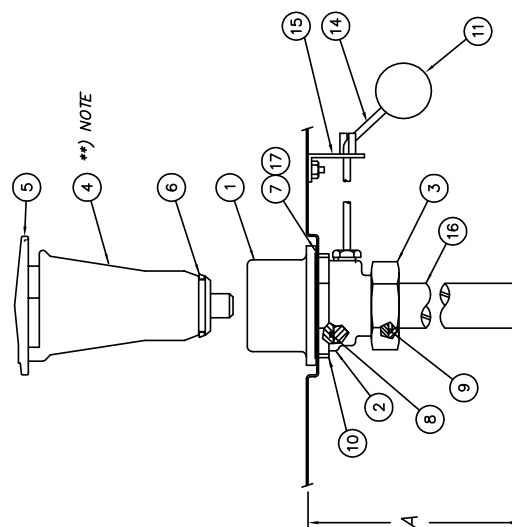
1. NOT REQUIRED WHEN COMMON DRAIN.
2. ITEM #13 IS NOT REQUIRED ON ANY PRODUCT EXCEPT THE MODULAR.
3. FOR MORE DETAILED INFORMATION ON THE MODULAR DRAIN ASSY SEE DRAWING 975-108.

**) NOTE:

FOR MODEL 18-5 USE OVERFLOW TUBE (~1" LONGER) DWG#: 1169-179D
FOR ADM 44 & 66 USE OVERFLOW TUBE (~1" LONGER) DWG#: 1169-179D

***) NOTE:

SEE #1478-35 FOR GAS HEATED MASTER/DEFENDER



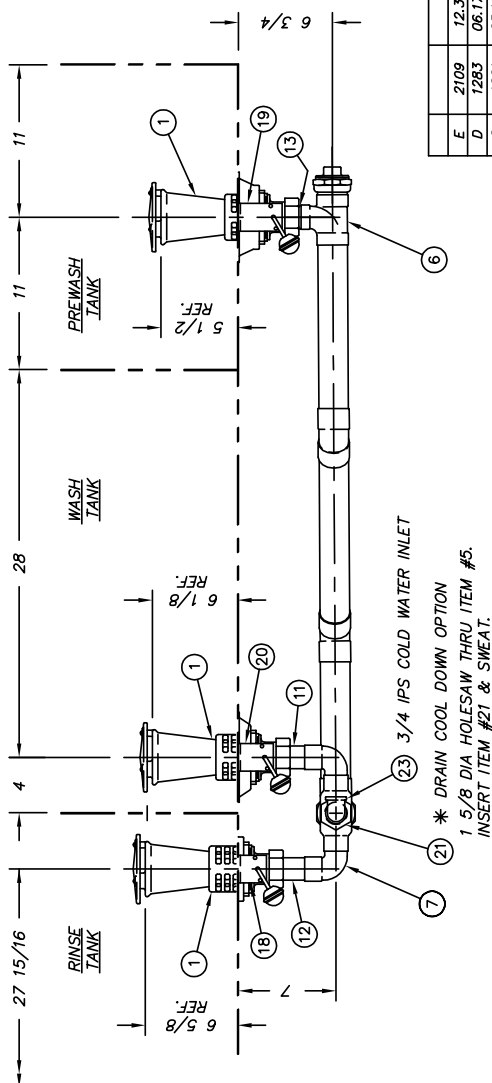
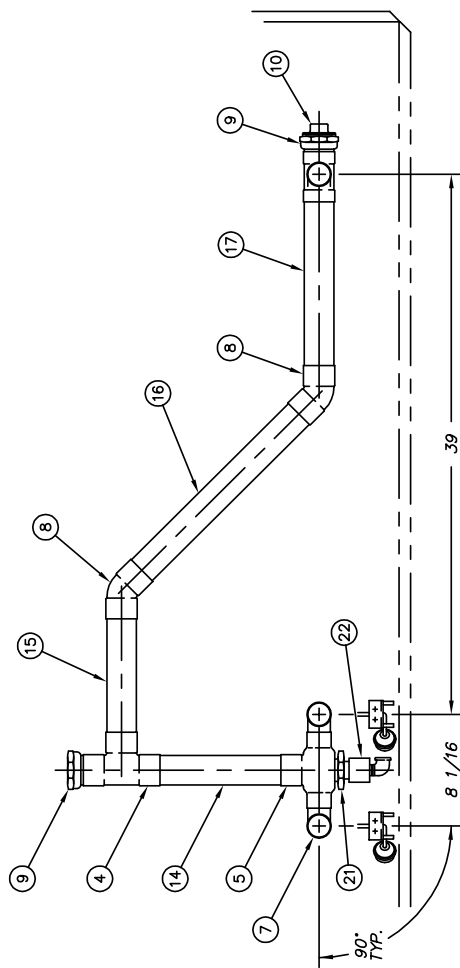
SHEET 1 OF 2									
TOLERANCES				TITLE		DRAIN ASSEMBLY CHART		NEXT ASSY DWG. NO.	
N	2474	05.11.10	FRACTIONS ±1/64	M	2165	07.29.08	XXX ± .005	REQ'D	1
L	2158	06.19.08	DECIMALS ±.01	M	2158	06.19.08	.XX ± .01	SCALE	1=4
K	1989	07.07.03	ANGLES ±1/2°	J	1989	07.07.03	ANGLES ±1/2°	MAT'L	NOTED
REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED	REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED	SCALE	1=4
FILE: PARTS\954-1				Insinger				Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966	
								USED ON DRAWN/DATE 11.27.84 RAF	

SHEET 1 OF 2

ITEM	PART NO.	DESCRIPTION	QTY
1	954-8B	BRACKET - DRAIN HANDLE	1
2	D207A-B12-14	COPPER TUBE - 1 1/2 CTS X 3 1/2" LG.	1
3	D207A-B12-12	COPPER TUBE - 1 1/2 CTS X 3" LG.	1
4	D316A-H3-H4	90° STREET ELBOW - 1 1/2 C	2
5	D320A-H3H3J3	TEE - 1 1/2 C x 2" C	1
6	D317A-J4-J1	ADAPTER - 2" FTG x 2" FIPS	1
7	1100-79	DRAIN HANDLE	2
8	954-1	DRAIN ASSEMBLY	2
9	954-8	BRACKET - DRAIN HANDLE	1

ITEM	PART NO.	DESCRIPTION	QTY
1	954-1	INSINGER DRAIN ASSEMBLY	3
2			
3			
4	D348A-J3J3J3	DRAINAGE TEE - 2" C	1
5	D348A-J3H3J3	DRAINAGE TEE - 1 1/2C x 1 1/2C x 2" C	1
6	D320A-J3J3H3	DRAINAGE TEE - 2" C x 2" C x 1 1/2C	1
7	D347A-J3H3-H4	90° STREET ELBOW - 1 1/2C	2
8	D346A-J3-J3	45° ELBOW - 2" C	2
9	D317A-J1-J4	ADAPTER - 2" FTOG x 2" FIPS	2
10	D328F-J2-A	PIPE PLUG - 2" FIPS	1
11	D207A-B12-11	COPPER TUBING - 1 1/2C x 2 3/4" LG.	1
12	D207A-B12-12	COPPER TUBING - 1 1/2C x 3" LG.	1
13	D207A-B12-13	COPPER TUBING - 1 1/2C x 3 1/4" LG.	1
14	D207A-B15-46	COPPER TUBING - 2" C x 11 1/2" LG.	1
15	D207A-B15-44	COPPER TUBING - 2" C x 11" LG.	1
16	D207A-B15-78	COPPER TUBING - 2" C x 19 1/2" LG.	1
17	D207A-B15-38	COPPER TUBING - 2" C x 9 1/2" LG.	1
18	954-8	BRACKET - RINSE	1
19	954-8A	BRACKET - PREWASH	1
20	954-8B	BRACKET - WASH	1
21	SK-4871	MODIFIED BUSHING 1 1/2 X 1 IPS	1
22	D3033	DRAIN TEMPERING VALVE	1
23	D316F-E1-E2	90° STREET ELBOW 3/4 IPS	1

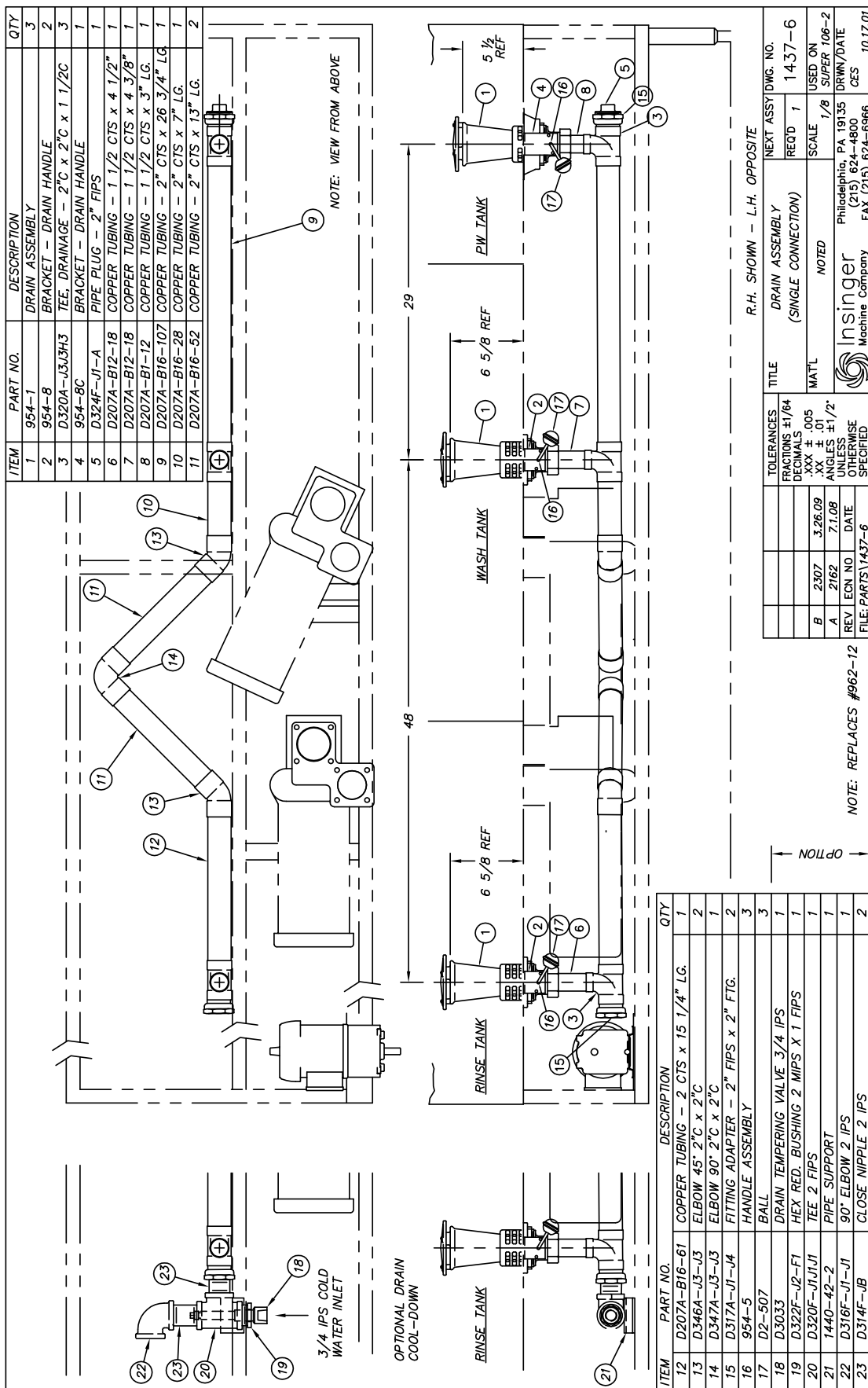
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* OPTIONAL DRAIN COOL DOWN

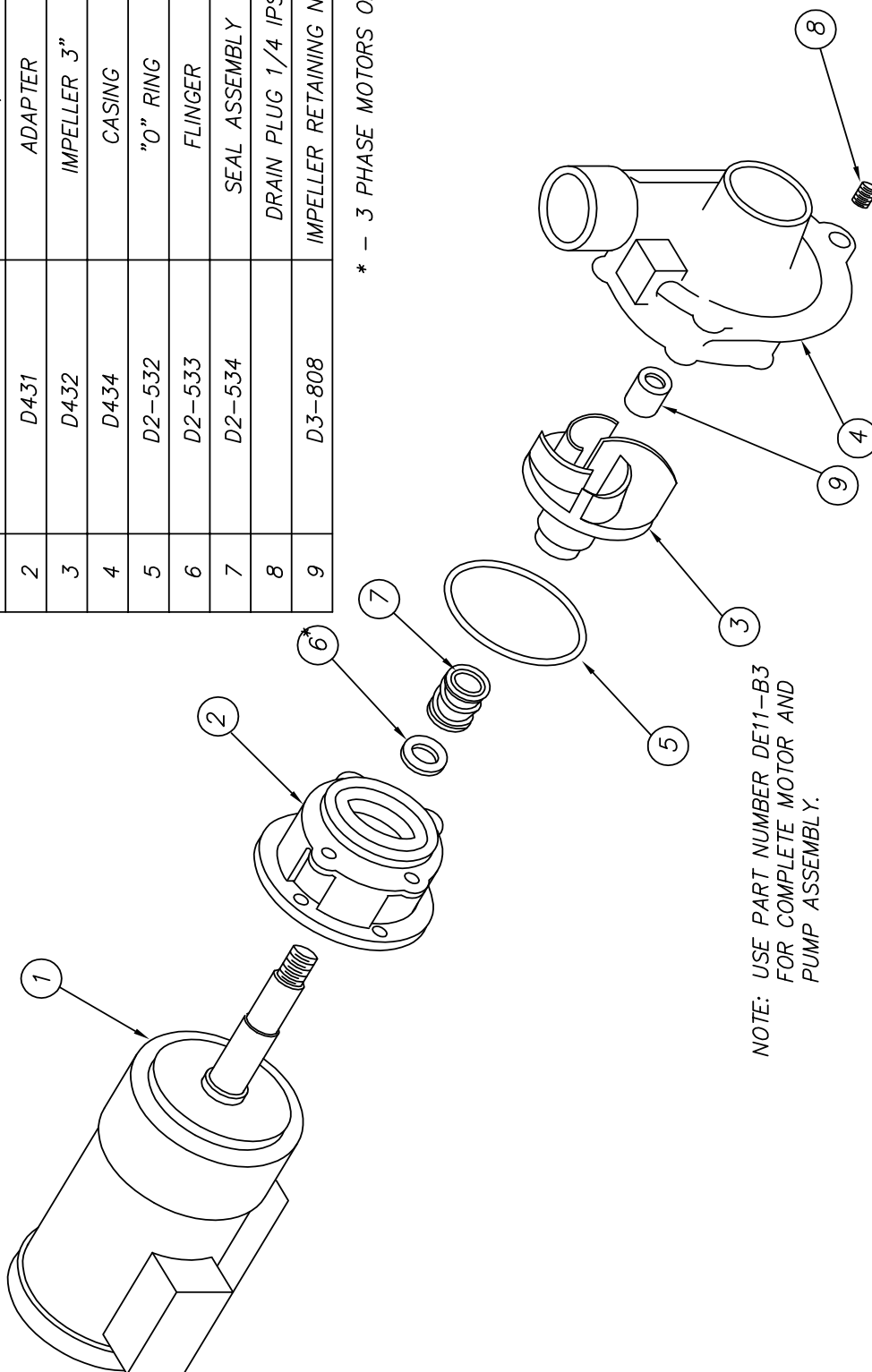
R.H. MACHINE ONLY

	TOLERANCES	TITLE	DRAIN ASSEMBLY (SINGLE CONNECTION)	NEXT ASSY DWG. NO.
F:	± .074		RECORDED	1182 - 39
E	X.XX ± .005		SHEET USED ON	
D	XX ± .01	MAT'L NOTED	SCALE 1/8"	
C	XX ± .01		DRW'N DATE	
B	ANGLES ± .1°			
A	.04-.06			
REV	ECN NO			
DATE				
FILE: PARTS/1182-39	OTHERWISE SPECIFIED	Insigner	Philadelphia PA 19158 (215) 624-4800 FAX (215) 624-6866 <i>RPN 04.23.90</i>	

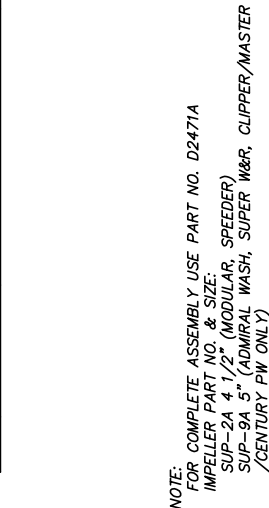


ITEM	PART NO.	DESCRIPTION	QTY.
1		MOTOR 1/2 H.P.	1
2	D431	ADAPTER	1
3	D432	IMPELLER 3"	1
4	D434	CASING	1
5	D2-532	"O" RING	1
6	D2-533	FLINGER	1
7	D2-534	SEAL ASSEMBLY	1
8		DRAIN PLUG 1/4 IPS	1
9	D3-808	IMPELLER RETAINING NUT	1

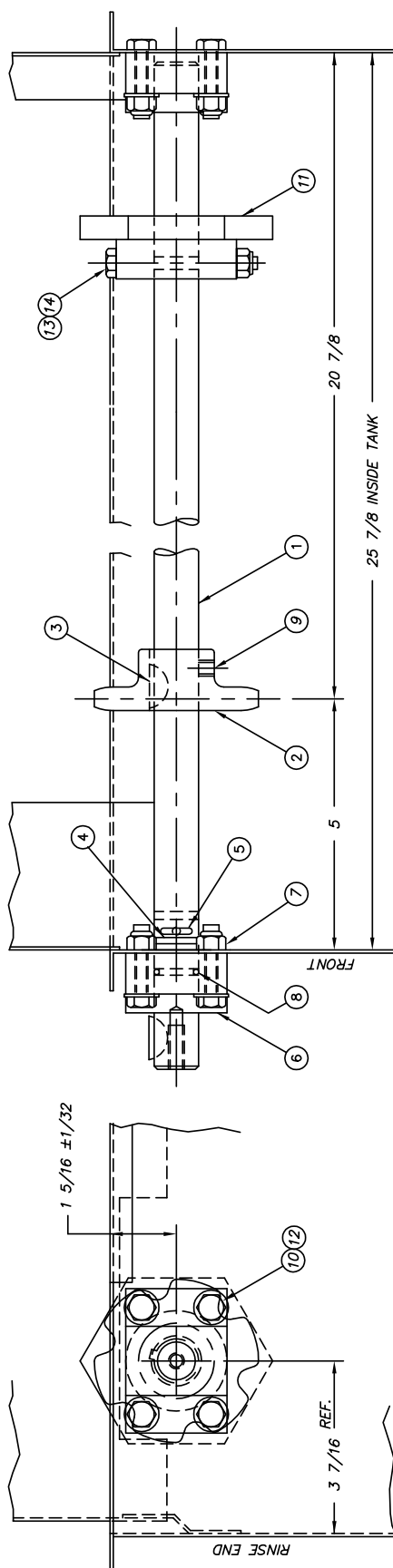
* - 3 PHASE MOTORS ONLY



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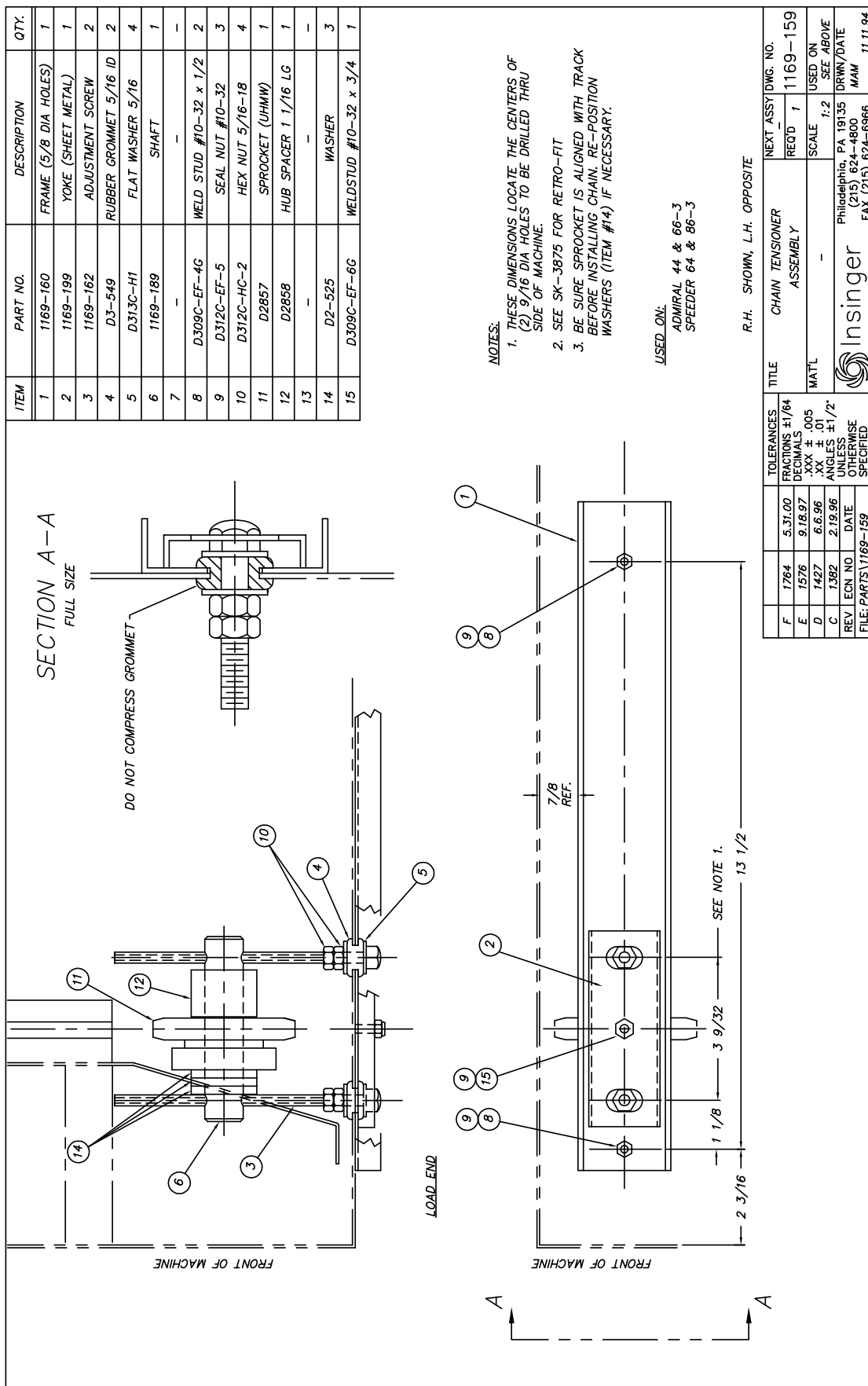


ITEM	PART NO.	DESCRIPTION	QTY
1	1162-16	CONVEYOR DRIVE SHAFT (Rev F)	1
2	975-55	SPROCKET	1
3	D302-4	#11 WOODRUFF KEY S/S	2
4	D2-525	WASHER, NYLON (1 3/8 X 7/8 X 1/8)	2
5	D-371-1	COTTER PIN S/S 1/8 X 1 1/2	1
6	1162-110	BEARING BRACKET	2
7	D312C-HC-5	LOCKNUT 5/16-18	8
8	D2-585	0" RING (01-115)	1
9	D308C-CH-3H	SET SCREW S/S 5/16-18 X 3/8	1
10	D309C-HC-7A	HEX HD SCREW S/S 5/16-18 X 1 3/8	8
11	1528-5	RACK EJECTOR PADDLE	1
12	D313C-HI	WASHER, PLAIN 5/16	8
13	D309C-GC-22A	HEX HD SCREW S/S 1/4-20 X 2 3/4	1
14	D312C-GC-5	LOCKNUT 1/4-20	1

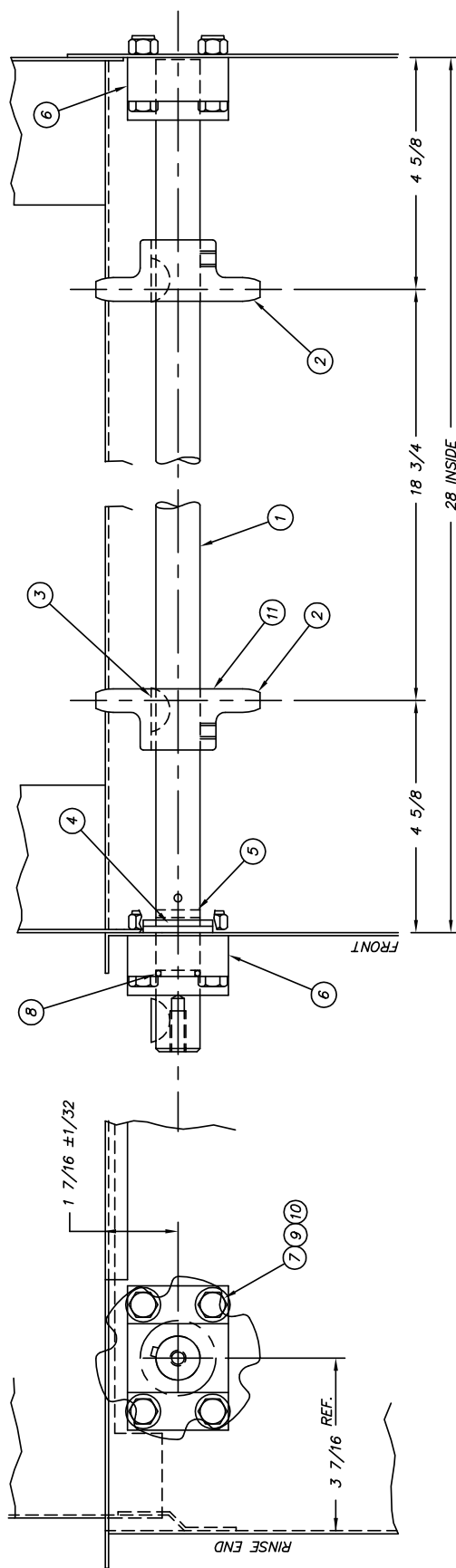


RH SHOWN - LH OPPOSITE

TOLERANCES		TITLE		NEXT ASSY DWG. NO.	
D	1996	9.19.03	FRACTIONS ±1/64	CONVEYOR DRIVE	1162-111
C	1905	11.08.01	DIMAS ±.005	SHAFT ASSEMBLY	REQ'D/NOTED
B	1783	8.3.00	.XX ±.01	MAT'L	SCALE 1/2
A	1591	1.28.98	ANGLES ±1/2°	NOTED	USED ON
REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED	ADM/SPDR	DRWN/DATE
FILE: PARTS\1162-111			Insinger Philadelphia, PA 19135 (215) 624-4800 PG 8.29.97		



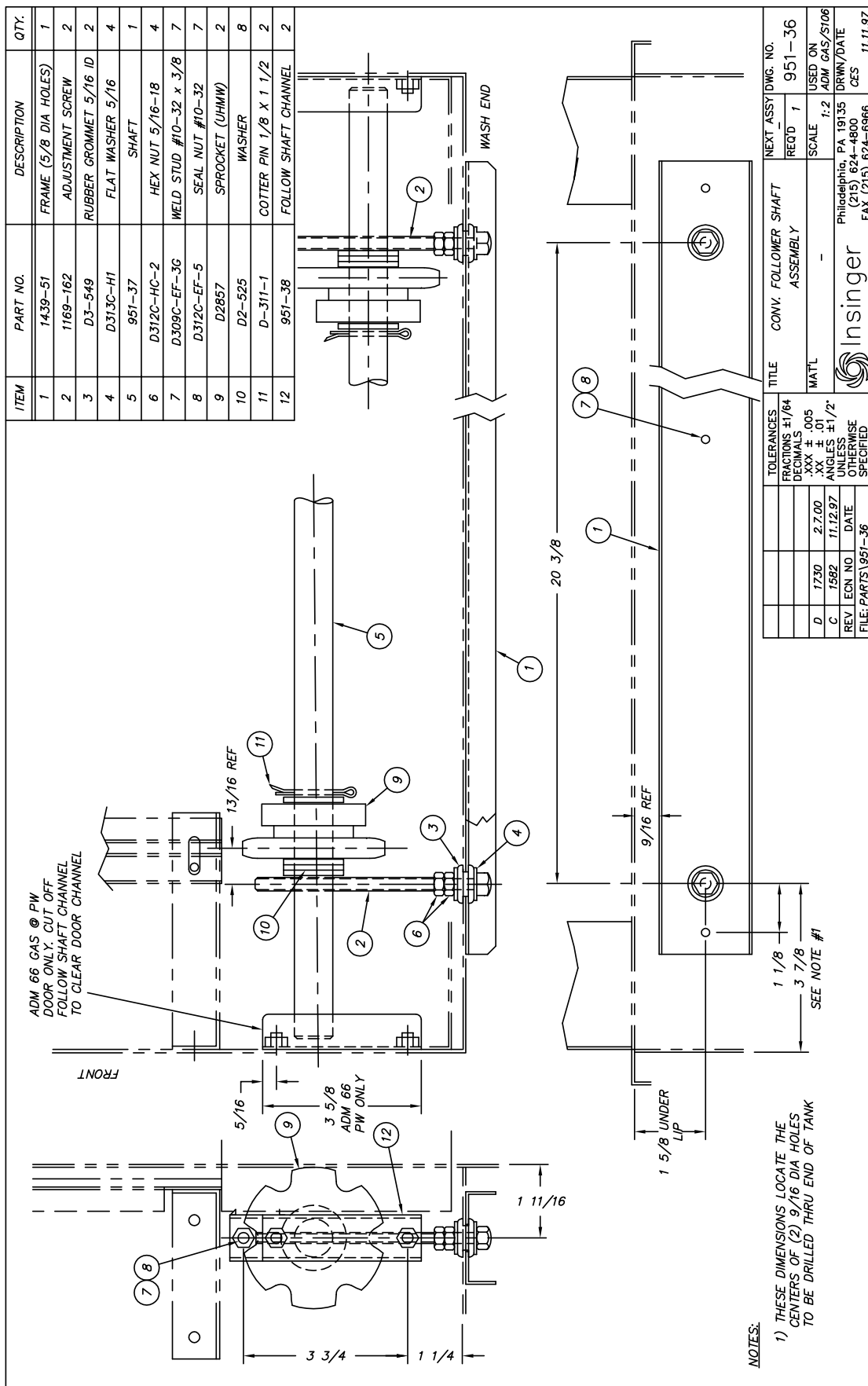
ITEM	PART NO.	DESCRIPTION	QTY.
1	951-40A	CONVEYOR DRIVE SHAFT (REV A)	1
2	975-55	DRIVE SPROCKET	2
3	D302-4	#11 WOODRUFF KEY S/S	3
4	D2-525	WASHER, NYLON, 1 3/8 X 7/8 X 1/8	2
5	D-311-1	COTTER PIN S/S 1/8 X 1 1/2	1
6	1162-110	BEARING BRACKET	2
7	D312C-HC-5	LOCKNUT 5/16-18	8
8	D2-585	O-RING (01-115)	1
9	D313C-H1	FLATWASHER 5/16	8
10	D308C-HC-11A	HHCS 5/16-18 X 1 3/8 S/S	8
11	D309C-HC-3H	SET SCREW S/S 5/16-18 X 3/8	2

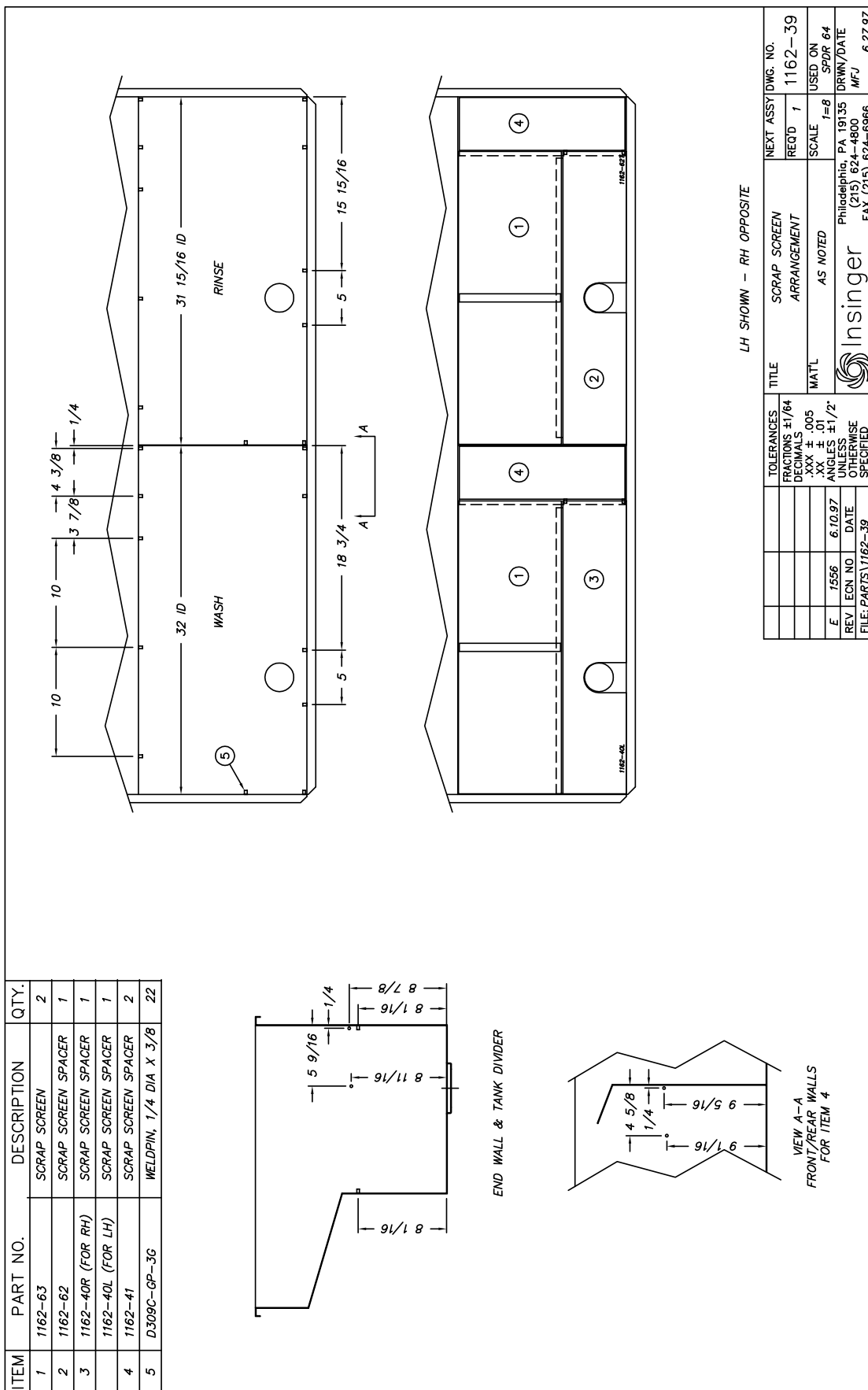


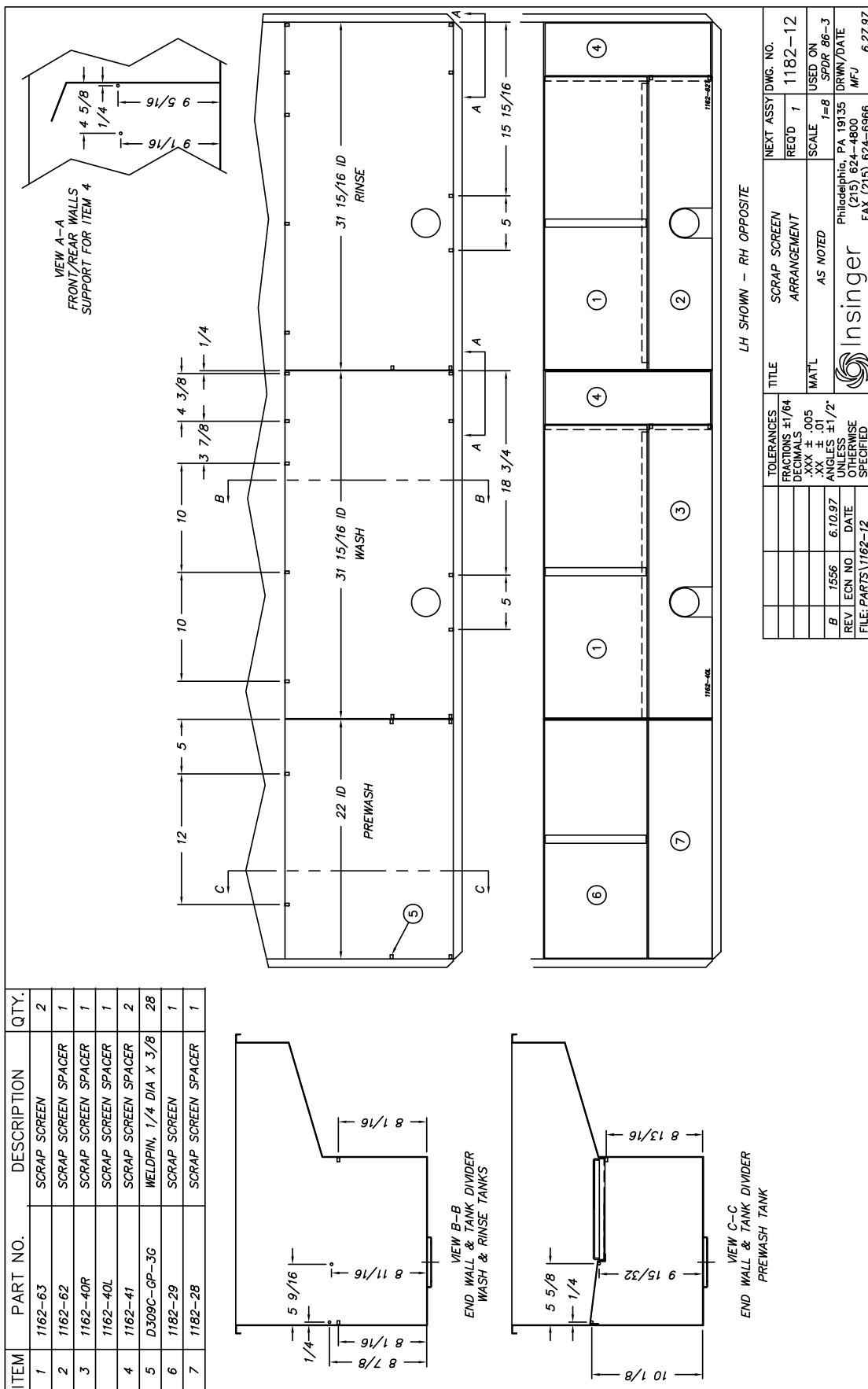
USED ON: ADM GAS
SUPER 106

TOLERANCES		TITLE		NEXT ASSY DWG. NO.	
F	1905	11.08.01	CONVEYOR DRIVE SHAFT ASSEMBLY	REQ'D	1
E	1763	8.3.00		SCALE	1=2
D	1582	11.6.97		USED ON	SEE ABOVE
REV	ECN NO	DATE		DRWN/DATE	AP
FILE: PARTS\951-87		Insinger Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966			
		1/11/83			

NOTE: BEARING HOLES ARE PRE-PUNCHED
IN TANK PER #1439-43



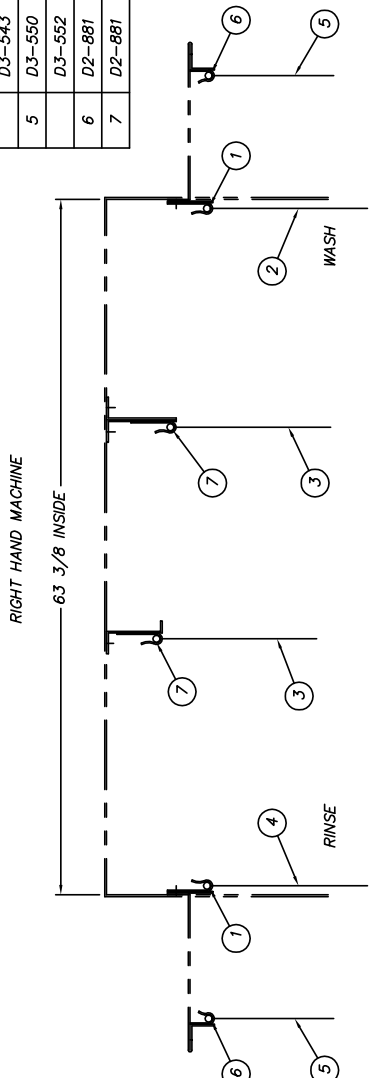




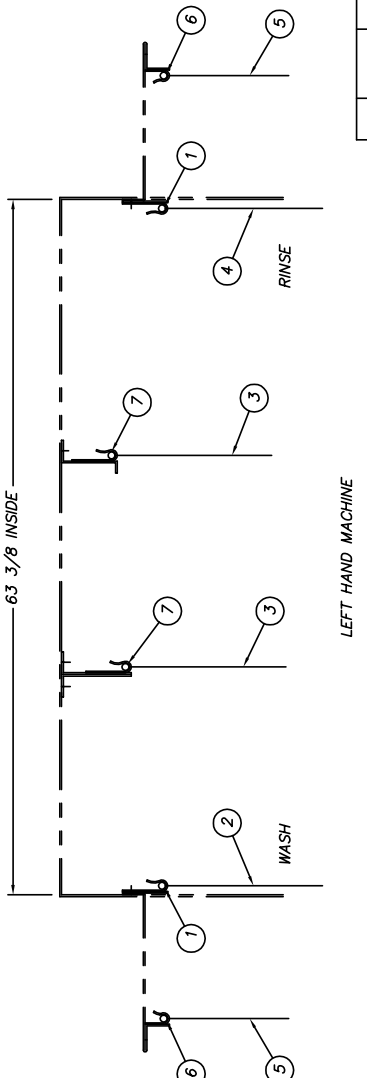


ITEM	PART NO.	SIZE	DESCRIPTION	QTY.	
				STD	6 X-HI
1	D2-881	A	ROD X 25 1/2 LG.	2	2
2	D3-527	A	CURTAIN - ENTER (14 5/8 LG.)	1	
	D3-544	A	CURTAIN - ENTER (20 5/8 LG.)		1
3	D3-508	A	CURTAIN - CENTER (14 3/8 LG.)	2	2
4	D3-528	A	CURTAIN - EXIT (19 LG.)	1	
	D3-543	A	CURTAIN - EXIT (25 LG.)		1
5	D3-550	A	CURTAIN - EXIT & ENTER VESTIBULE (14 3/8 LG.)	2	
	D3-552	A	CURTAIN - EXIT & ENTER VESTIBULE (20 3/8 LG.)		2
6	D2-881	A	ROD X 21 1/2 LG.	2	2
7	D2-881	A	ROD X 24 1/2 LG.	2	2

RIGHT HAND MACHINE



LEFT HAND MACHINE



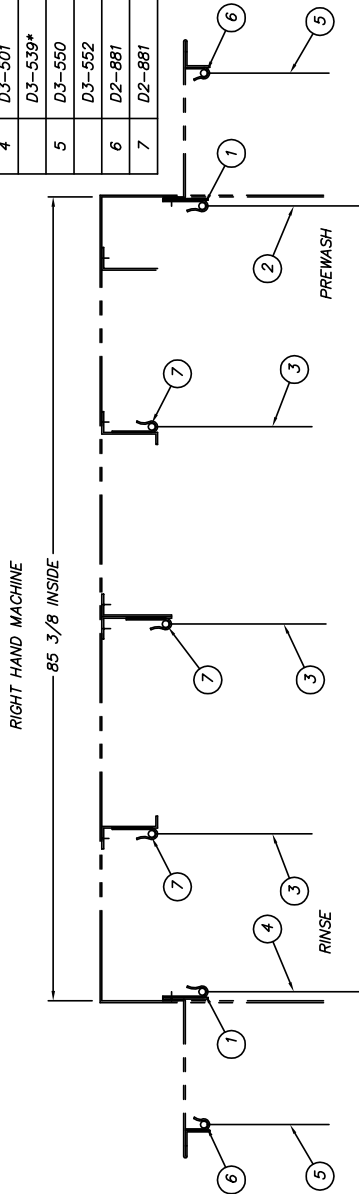
NOTE: SEE #1477-22 FOR TOP BAFFLE LOCATIONS

TOLERANCES		TITLE	CURTAIN LOCATION	NEXT ASSY DWG. NO.
FRACTIONS ±1/64			(SPEEDER W/VESTIBULES)	REQ'D 1 1477-32
DECIMALS		MAT'L	NOTED	SCALE 1=4
.XXX ±.005		USED ON SPEEDER 64		
.XX ±.01		DRWN/DATE		
ANGLES ±1/2°		UNLESS OTHERWISE SPECIFIED		
REV	ECN NO	DATE	Insinger Machine Company Philadelphia, PA 19135 (215) 624-4800 (215) 624-6966 CES 12.21.01	
FILE: PARTS\1477-32				

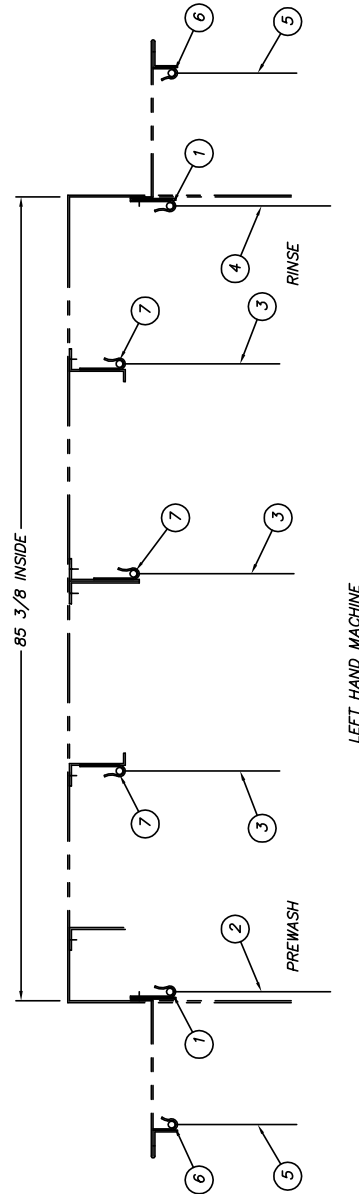
ITEM	PART NO.	SIZE	DESCRIPTION	QTY.	
				STD	6 X-HI
1	D2-881	A	ROD X 25 1/2 LG.	2	2
2	D2-523	A	CURTAIN - ENTER (14 5/8 LG.)	1	
	D3-541	A	CURTAIN - ENTER (20 5/8 LG.)	1	
3	D3-508	A	CURTAIN - CENTER (14 3/8 LG.)	3	
	D3-540	A	CURTAIN - CENTER (20 3/8 LG.)	3	
4	D3-501	A	CURTAIN - EXIT (19 5/8 LG.)	1	
	D3-539*	A	CURTAIN - EXIT (25 LG.)	1	
5	D3-550	A	CURTAIN - EXIT & ENTER VEST. (14 3/8 LG.)	2	
	D3-552	A	CURTAIN - EXIT & ENTER VEST. (20 3/8 LG.)	2	
6	D2-881	A	ROD X 21 1/2 LG.	2	2
7	D2-881	A	ROD X 24 1/2 LG.	3	3

* OPTION USE D3-543

RIGHT HAND MACHINE

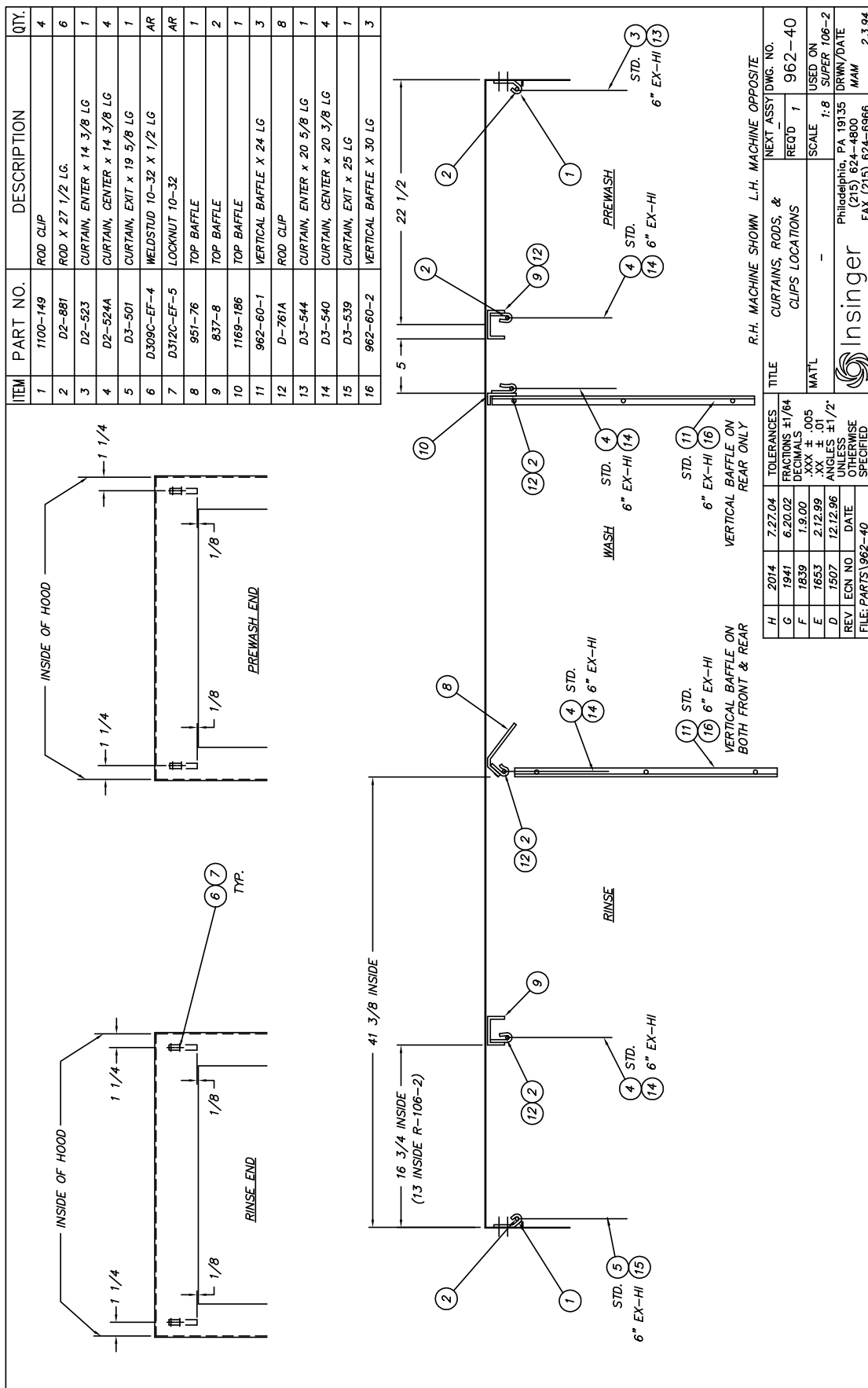


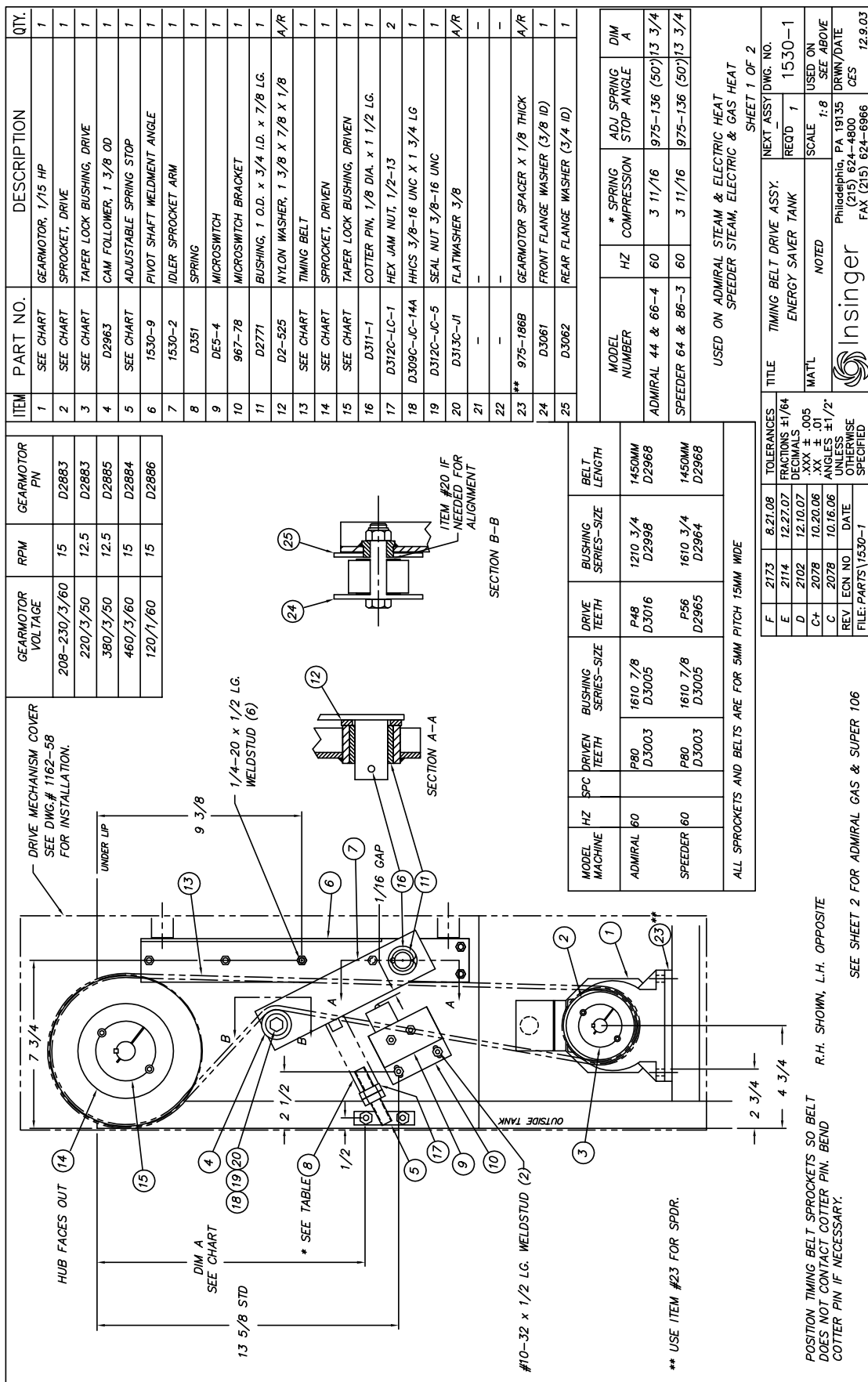
LEFT HAND MACHINE



NOTE: SEE #1182-33 FOR TOP BAFFLE LOCATIONS

E 2793		FRACTIONS ±1/64		TITLE CURTAIN LOCATION		NEXT ASSY DWG. NO.	
D 1577		DECIMALS ±.005		(SPEEDER 86 W/VESTIBLES)		REQD 1 1182-36	
C 998		.XX ±.01		MAT'L NOTED		SCALE 1=4 USED ON SPEEDER 86	
B 981		ANGLES ±1/2°		Insinger Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966		DRWN/DATE MAM 2.3.94	
REV ECN NO DATE		UNLESS OTHERWISE SPECIFIED					
FILE: PARTS\1182-36							





ITEM	PART NO.	DESCRIPTION	QTY.
1	SEE CHART	GEARMOTOR (1/15 or 1/6 HP)	1
2	SEE CHART	SPROCKET, DRIVE	1
3	SEE CHART	TAPER LOCK BUSHING, DRIVE	1
4	D2963	CAM FOLLOWER, 1 3/8 OD	1
5	SEE CHART	ADJUSTABLE SPRING STOP	1
6	1530-7	PIVOT SHAFT WELDMENT ANGLE (SQ TANK)	1
7	1530-2	IDLER SPROCKET ARM	1
8	D351	SPRING	1
9	DE5-4	MICROSWITCH	1
10	-	-	-
11	D2771	BUSHING, 1 O.D. x 3/4 I.D. x 7/8 LG.	1
12	D2-525	NYLON WASHER, 1 3/8 x 7/8 x 1/8	4/R
13	SEE CHART	TIMING BELT	1
14	SEE CHART	SPROCKET, DRIVEN	1
15	SEE CHART	TAPER LOCK BUSHING, DRIVEN	1
16	D311-1	COTTER PIN, 1/8 DIA. x 1 1/2 LG.	1
17	D312C-LG-1	HEX JAM NUT, 1/2-13	2
18	D309C-JC-14A	HHCS 3/8-16 UNC x 1 3/4 LG	1
19	D312C-JC-5	SEAL NUT 3/8-16 UNC	1
20	D313C-J1	FLATWASHER 3/8	4/R
21	975-140	MICROSWITCH MOUNTING PLATE (REV A)	1
22**	1530-6	GEARMOTOR SPACER X 1 1/2 THICK	1
23***	1530-10	GEARMOTOR SPACER X 3/8 THK (1 1/8)	3
24	D3061	FRONT FLANGE WASHER (3/8 ID)	1
25	D3062	REAR FLANGE WASHER (3/4 ID)	1

GEARMOTOR VOLTAGE	USE	RPM	GEARMOTOR PN
208-230/3/60	GAS	15	D2883
220/3/50	GAS	12.5	D2883
380/3/50	GAS	12.5	D2885
460/3/60	GAS	15	D2884
120/1/60	GAS	15	D2886
460/3/60	SUPER	26.6	D3063
208-230/3/60	SUPER	26.6	D3064

MODEL MACHINE	HZ	SPC	DRIVEN TEETH	BUSHING SERIES-SIZE	DRIVE TEETH	BUSHING SERIES-SIZE	BELT LENGTH
ADMIRAL	60	GAS	P112 (D2960)	2012 7/8 (D2961)	P56 (D2965)	1610 3/4 (D2964)	1450MM (D2968)
SUPER	60	P67 (D3124)	2012 7/8 (D2961)	P29 (D3125)	1108 3/4 (D2999)	M8-1440 (D3126)	

ADMIRAL SPROCKETS AND BELTS ARE FOR 5MM PITCH 15MM WIDE
SUPER SPROCKETS AND BELTS ARE FOR 8MM PITCH 12MM WIDE

MODEL	HZ	* SPRING COMPRESSION	ADJ. SPRING STOP ANGLE	DIM A
ADM 44 & 66-4 GAS	60	3 9/16	1397-4 (63°)	12
SUPER 106	60	3 11/16	1397-4 (63°)	12 1/8"

USED ON ADMIRAL GAS HEAT & SUPER 106

SHEET 2 OF 2

TITLE	TIMING BELT DRIVE ASSY.	NEXT ASSY DWG. NO.	1530-1
MAT'L	SQUARE TANK	SCALE	1:8
NOTED	USED ON	DATE	DRWN/DATE

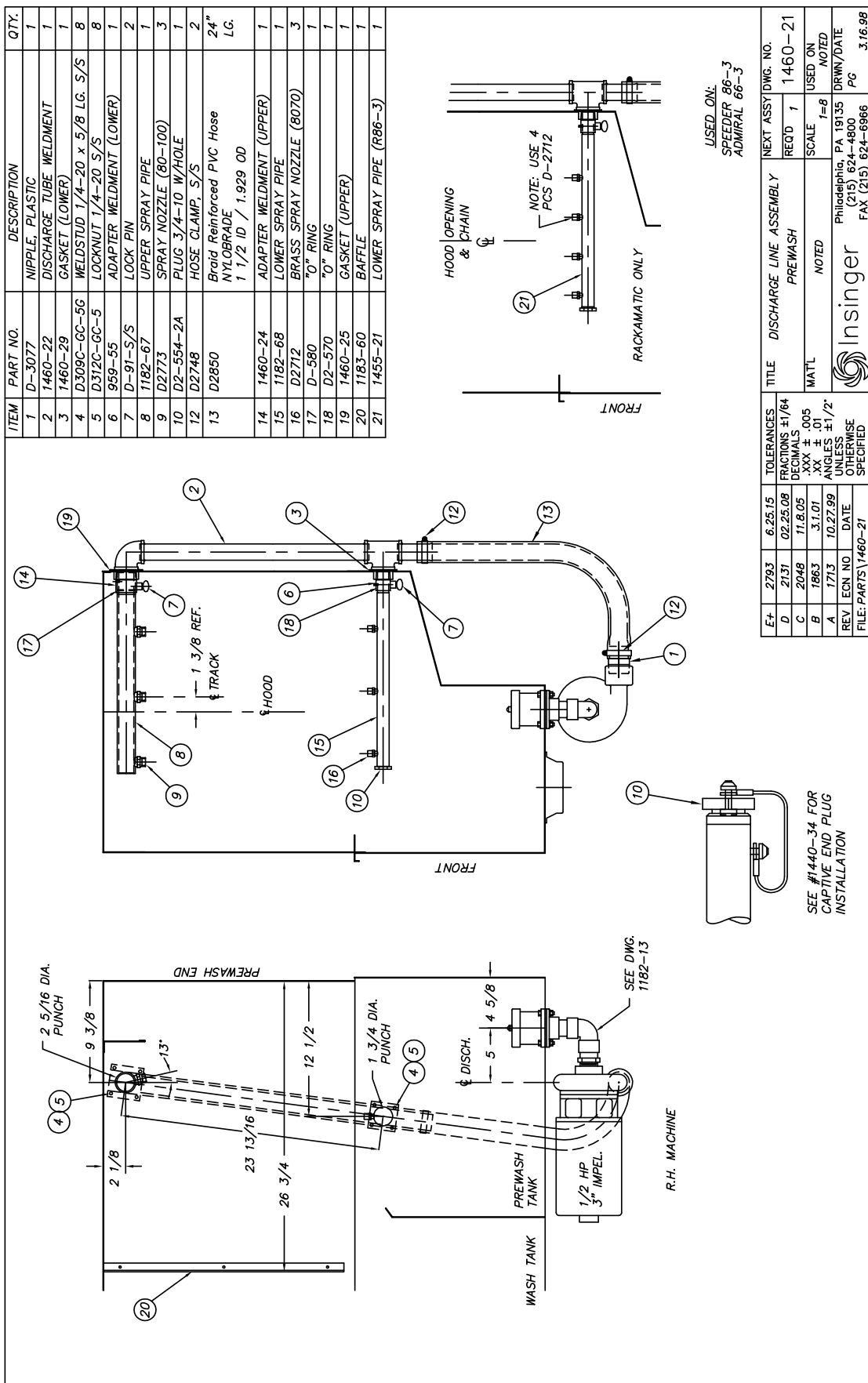
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CNS 12 9 03

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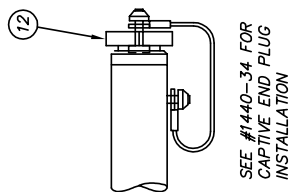
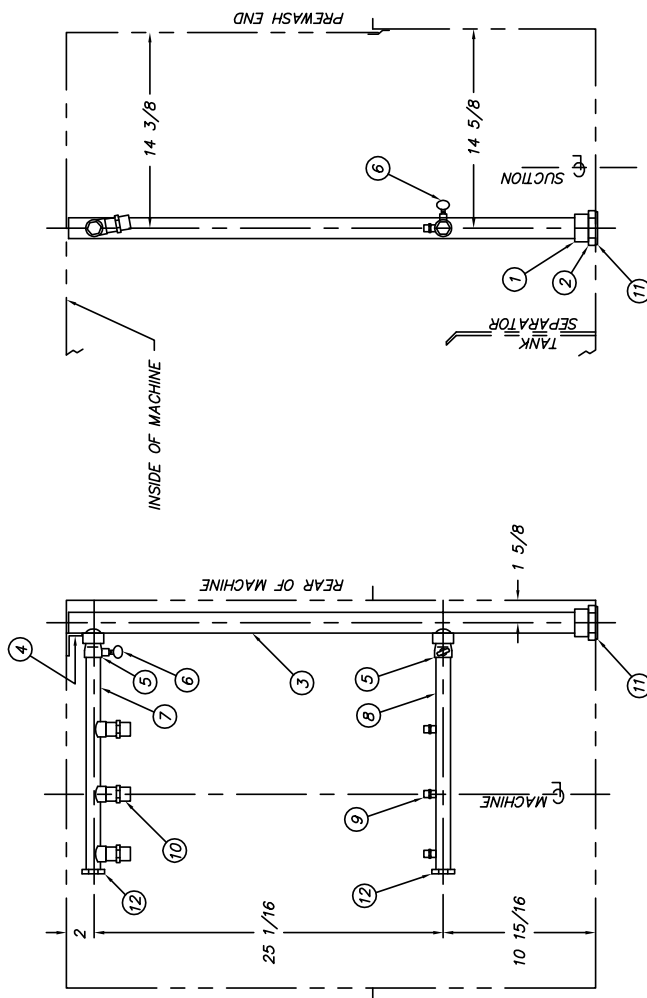
POSITION TIMING BELT SPROCKETS SO BELT DOES NOT CONTACT COTTER PIN. BEND COTTER PIN IF NECESSARY.

SEE SHEET 1 FOR ADMIRAL & SPEEDER

R.H. SHOWN, L.H. OPPOSITE

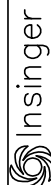


ITEM	DESCRIPTION	PART NO.	QTY.
1	NIPPLE	DWG. 963-11	1
2	LOCKNUT 1 1/2 IPS	D326F-H1	1
3	DISCHARGE TUBE ASS'Y.	DWG. 959-60	1
4	SUPPORT INSTALLATION	DWG. 1169-96	1
5	ADAPTER, ADJ. MANIFOLD	DWG. 959-55	2
6	LOCK PIN	DWG. D-91	2
7	MANIFOLD WELDMENT	DWG. 959-57 (UPPER)	1
8	MANIFOLD ASSEMBLY	DWG. 959-96 (LOWER)	1
9	SPRAY NOZZLE (LOWER)	D-2712 (8070)	3
10	SPRAY NOZZLE (UPPER)	D-2773 (80-100)	3
11	GASKET	DWG. 963-35	1
12	PLUG 3/4-10 W/HOLE	D2-554-2A	2

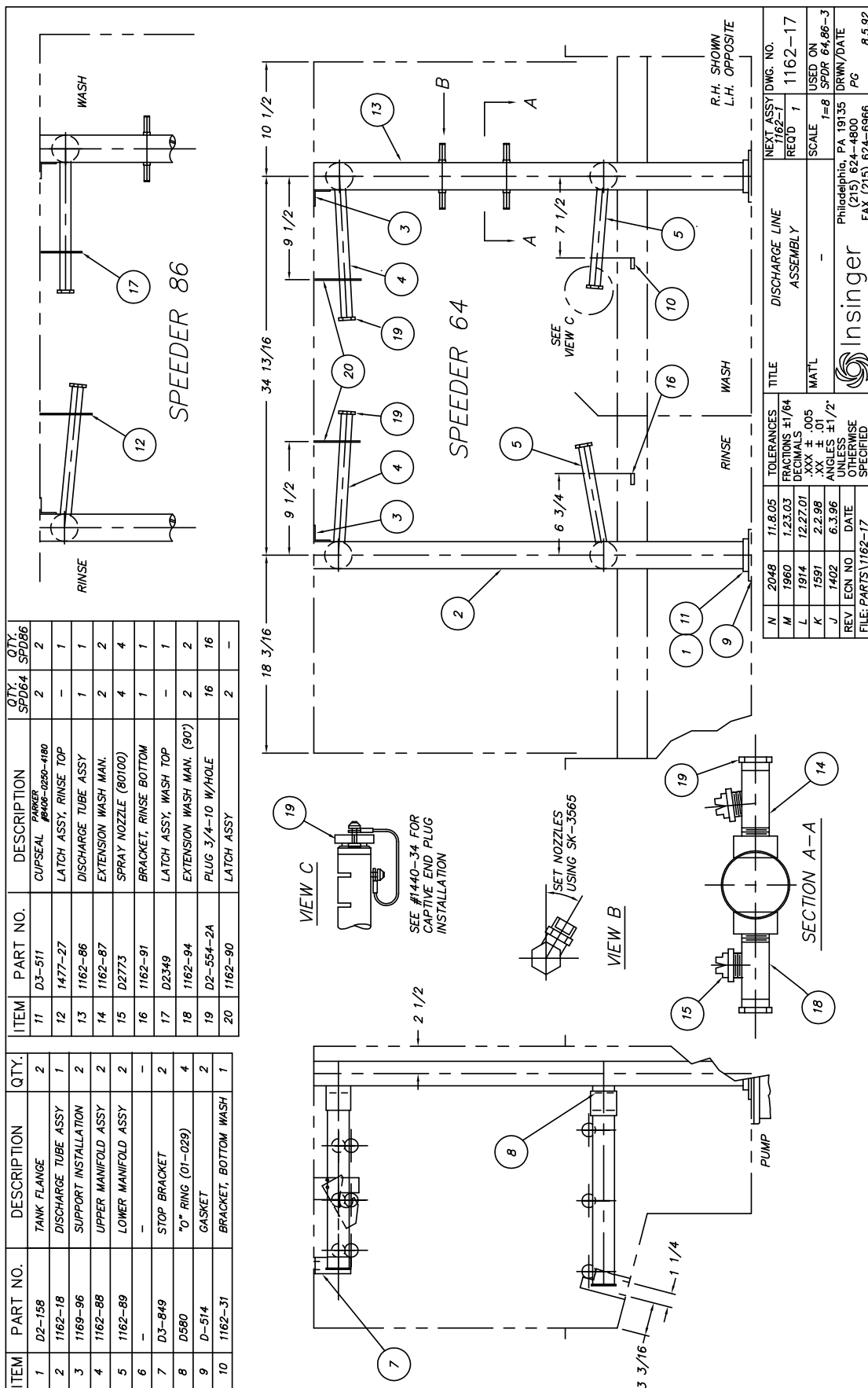


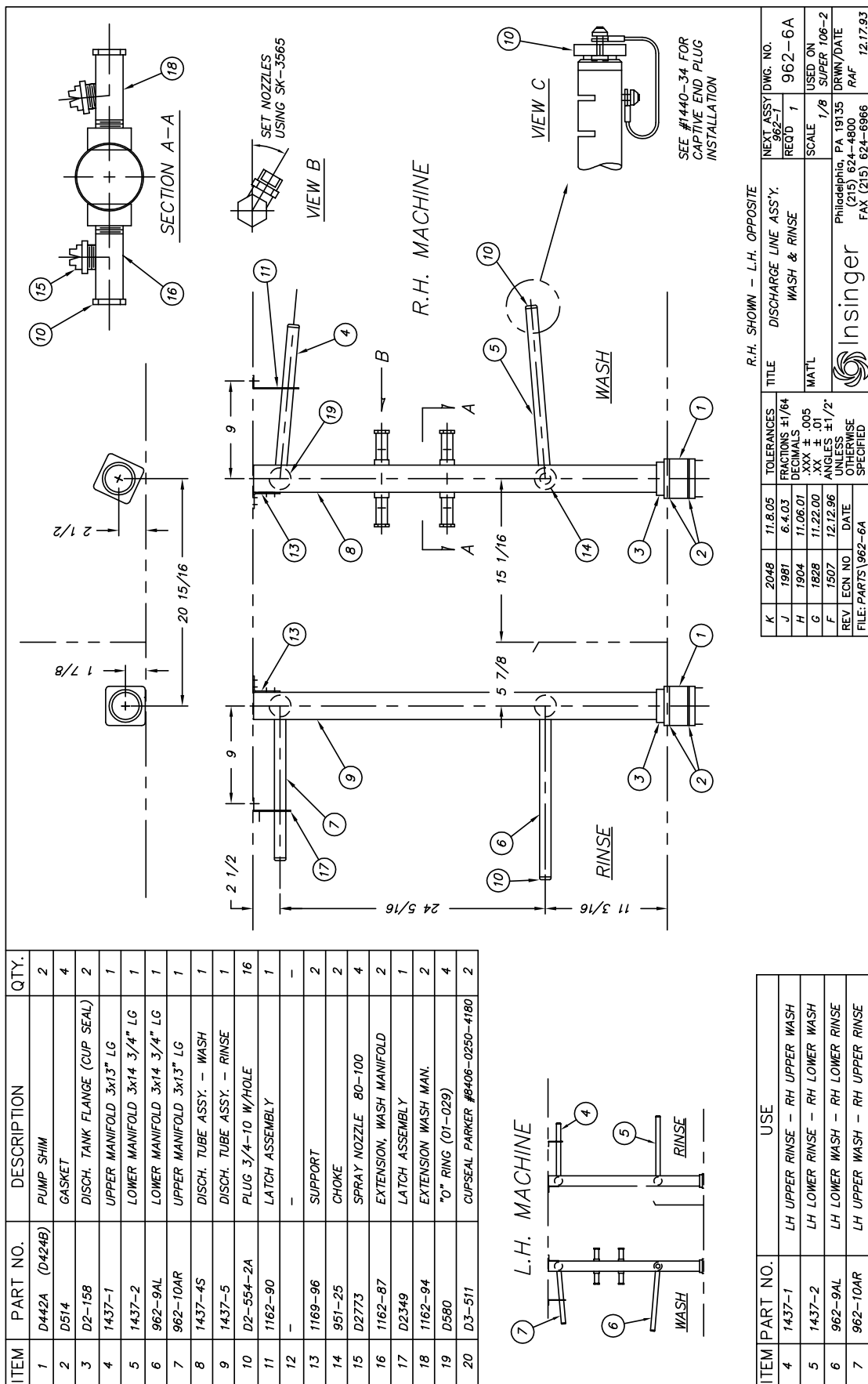
RH MACHINE SHOWN, LH OPPOSITE

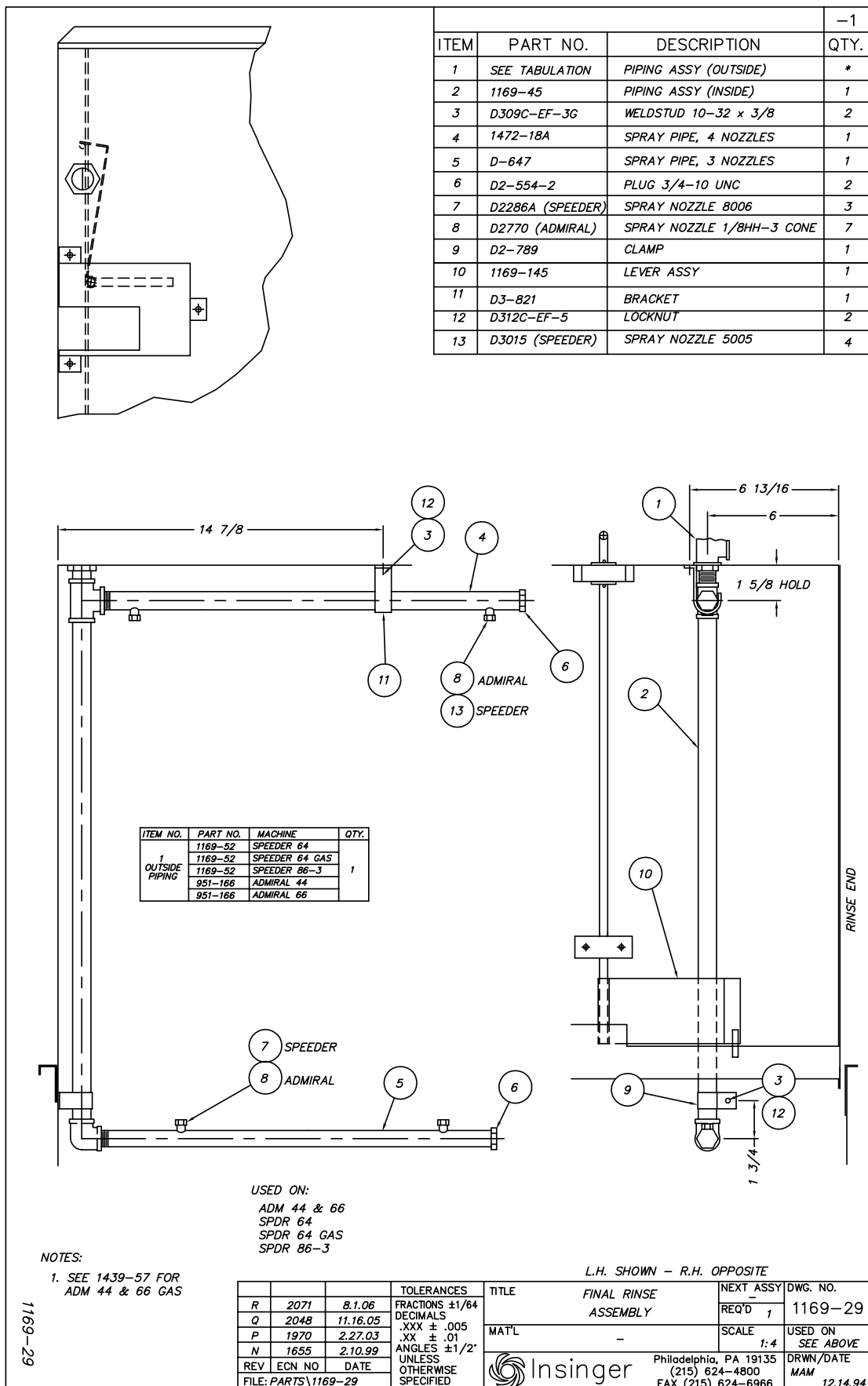
TOLERANCES	TITLE	PREWASH DISCHARGE LINE ASSEMBLY	NEXT ASSY DWG. NO.
FRACTIONS ±1/64	REQ'D	1	959-59
DIMAS .XXX ±.005	MAT'L	NOTED	USED ON SUPER 106-2
.XX ±.01	SCALE	1=8	DRWN/DATE
ANGLES ±1/2°	REV	ECN NO	DATE
UNLESS OTHERWISE SPECIFIED	FILE: PARTS\959-59		

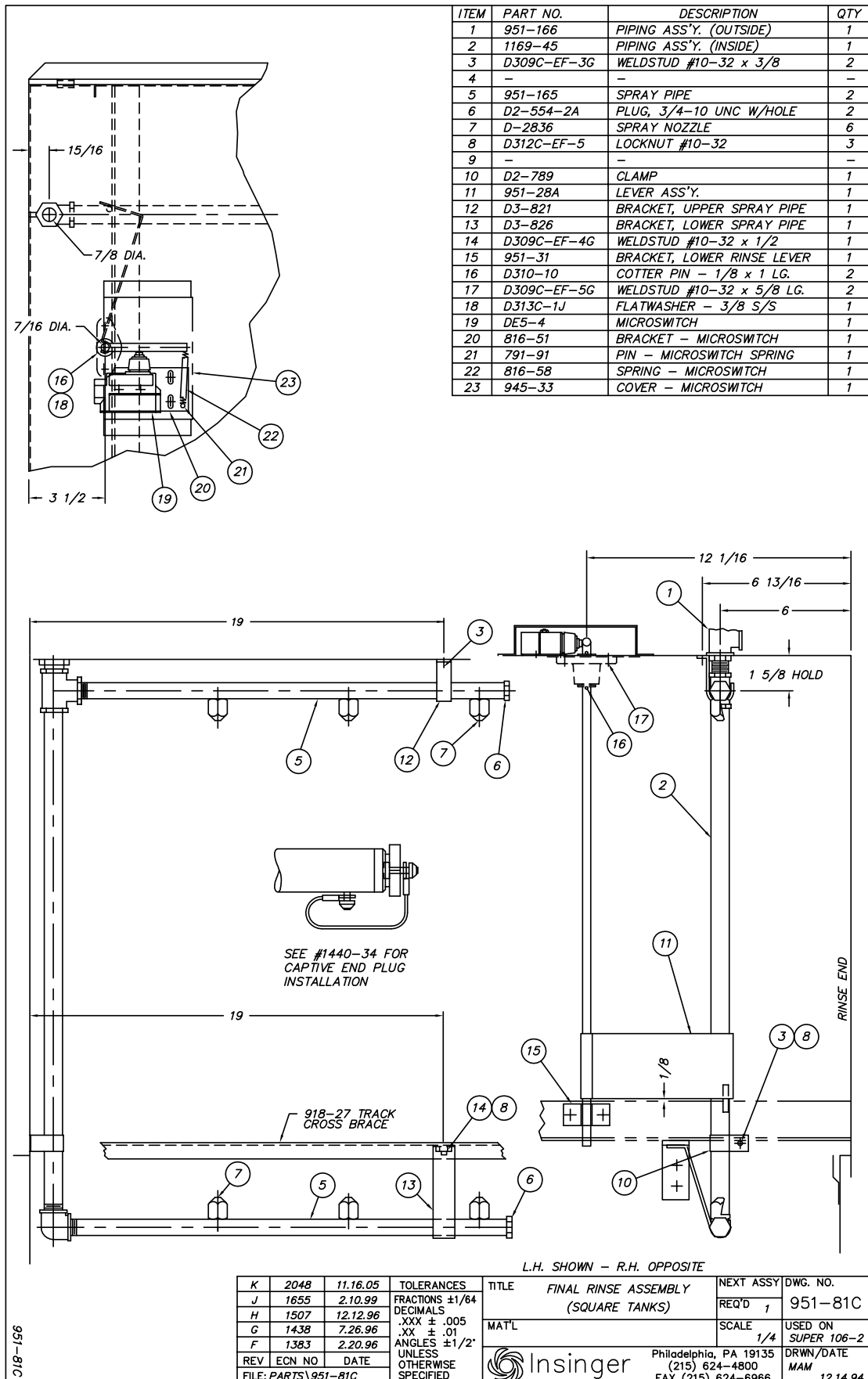


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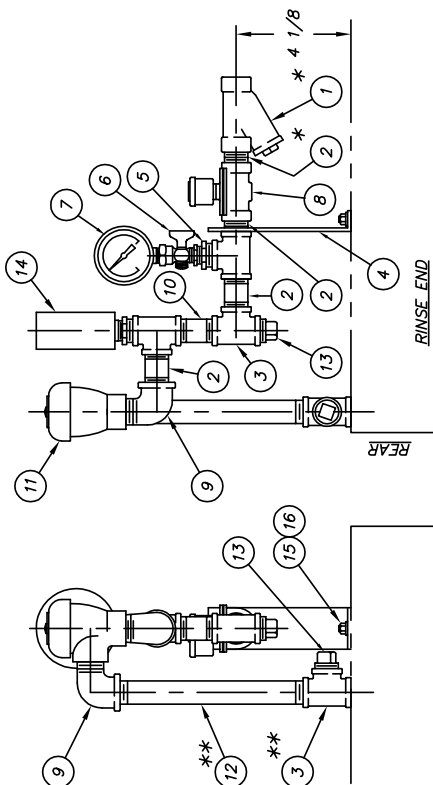








ITEM	PART NO.	DESCRIPTION	QTY.
1	D2483A	"Y" STRAINER 1/2 IPS	1
2	D314F-DC-00	CLOSE NIPPLE 1/2 IPS	4
3	D320F-DIDID1	TEE 1/2 IPS	4
4	951-179	BRACKET - PIPING SUPPORT	1
5	D322F-D2-B1	HEX REDUCER 1/2 MIPS X 1/4 FIPS	2
6	D2497	PETCOCK 1/4 IPS	1
7	SK-1433	PRESSURE GAUGE 1/4 IPS	1
8	D2930	SOLENOID VALVE 1/2 IPS	1
9	D316F-D1-D2	90° STREET ELBOW 1/2 IPS	2
10	D314F-DS-16	NIPPLE 1/2 IPS x 2" LG.	1
11	D2241	VACUUM BREAKER 1/2 IPS	1
12	D314F-DS-56	NIPPLE 1/2 IPS x 7" LG.	1
13	D328F-D2A	PIPE PLUG 1/2 IPS	2
14	D2495	TEMPERATURE GAUGE 1/4 IPS	1
15	D309C-FE-3G	WELDSTUD #10-32 x 3/8" LG.	2
16	D312C-FE-5	LOCKNUT #10-32	2



NOTES:

- * NOT REQUIRED WHEN A BOOSTER IS SPECIFIED.

OMIT SOLENOID WHEN USING LOW PRESSURE BUILT-IN BOOSTER PER #1440-131

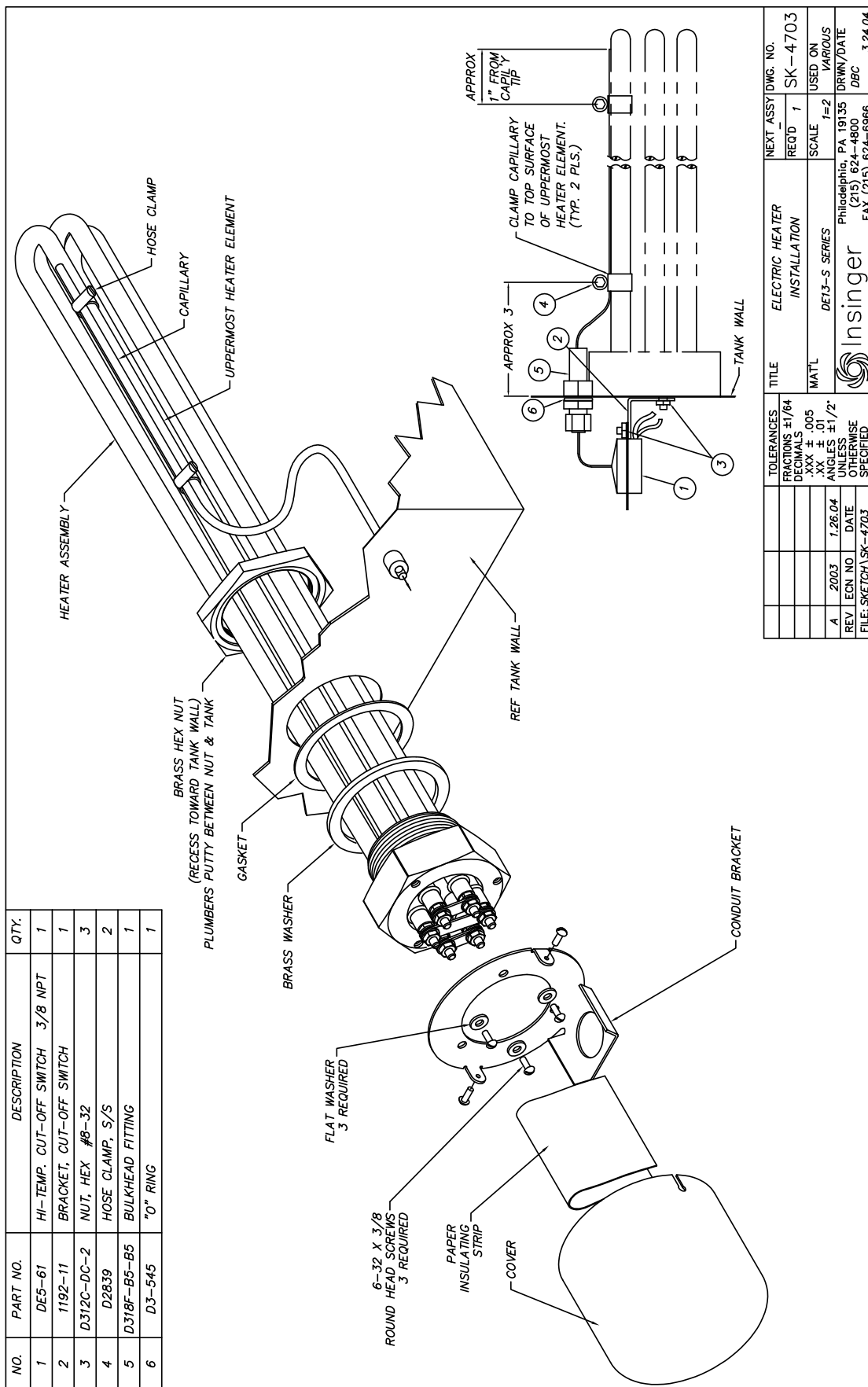
** FOR CHEMICAL SANITIZER, SEE #1169-44 OR REPLACE ITEMS MARKED ** WITH S/S

R.H. SHOWN - L.H. OPPOSITE

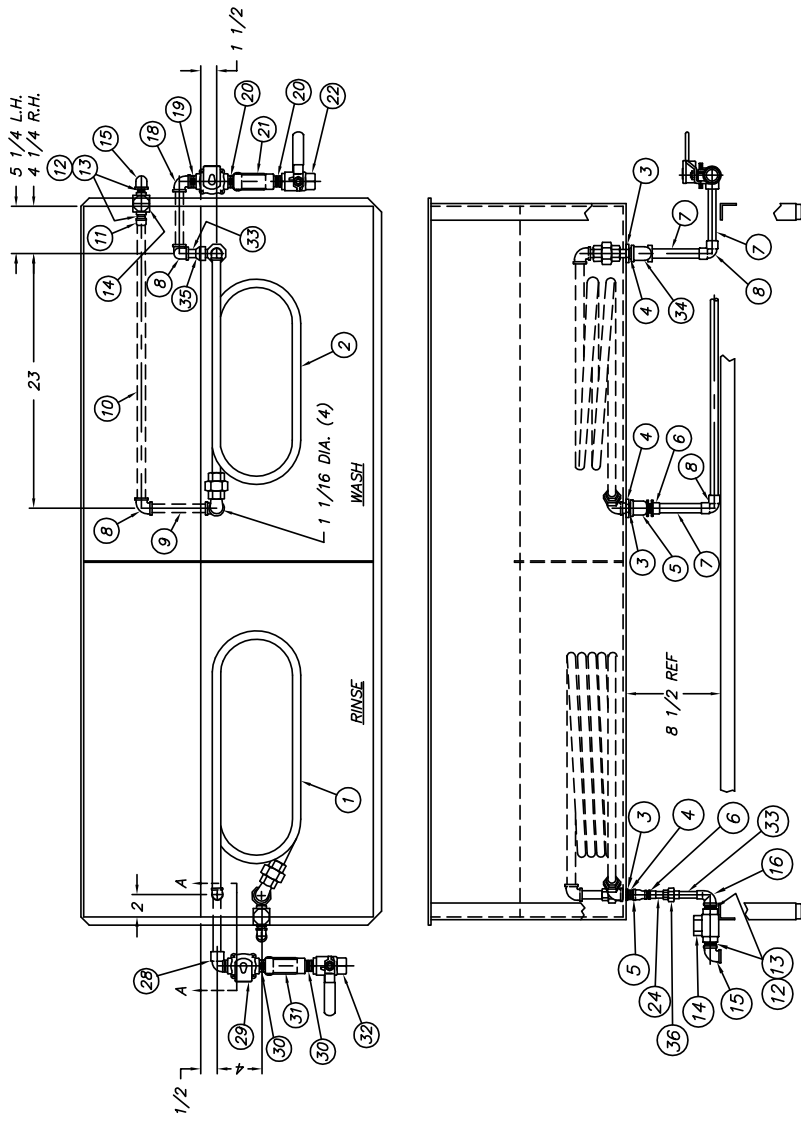
		TOLERANCES		TITLE		NEXT ASSY DWG. NO.	
		FRACTIONS ±1/64		PIPING ASSEMBLY FINAL RINSE (OUTSIDE)		REQ'D 1	951-166
		DECIMALS .005					
		ANGLES ± .01					
		XX ± .03					
		XX ± .03					
		XX ± .03					
		XX ± .03					
		XX ± .03					
		XX ± .03					
		UNLESS SPECIFIED, DATE		MATERIAL		SCALE	
		FILE: PARTS\951-166		NOTED		1=4 ADMIRAL 44/66	
		REV ECN NO. DATE				USED ON	
						DRWN/DATE	
						PG	
						12.13.96	

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NO.	DESCRIPTION	PART NO.	QTY.
1	STEAM COIL - RINSE	1133-99	1
2	STEAM COIL - WASH	1070-2	1
3	LOCKNUT 3/4 IPS	D326F-E1	4
4	NIPPLE 3/4 IPS X 2 LG. ALL THREAD	D314F-EA-16	4
5	BELL REDUCER 3/4 FIPS x 1/2 FIPS	D321F-E1-01	2
6	ADAPTER 1/2 MIPS x 1/2 C	D317A-D2-D3	2
7	COPPER TUBING 1/2 CTS x 5 1/2 LG.	D207A-B4-22	3
8	90° ELBOW 1/2 C	D316A-D3	4
9	COPPER TUBING 1/2 CTS x 6 1/4 LG.	D207A-B4-25	1
10	COPPER TUBING 1/2 CTS x 25 LG.	D207A-B4-100	1
11	ADAPTER 1/2 FIPS x 1/2 C	D317A-D1-D3	1
12	FLUSH REDUCER 1/2 MIPS x 3/8 FIPS	D323F-D2-01	4
13	CLOSE NIPPLE 3/8 IPS	D314F-CC-00	4
14	STEAM TRAP 3/8 IPS	D2102	2
15	90° ELBOW 1/2 IPS	D316F-D1-01	2
16	90° ELBOW 1/2 C x 1/2 FIPS	D316F-D3-01	1
18	90° ELBOW 1/2 C x 1/2 MIPS	D316F-D3-D2	2
19	SOLENOIDS 1/2 IPS STEAM	D2945	1
20	CLOSE NIPPLE 1/2 IPS	D314F-DC-00	2
21	Y STRAINER 1/2 IPS	D2488-A	1
22	BALL VALVE 1/2 IPS	D2339	1
23	ADAPTER 3/4 C X 3/4 FIPS	D317A-E3-E1	1
24	COPPER TUBING 1/2 CTS X 1 1/2 LG.	D207A-B4-6	1
25	COPPER TUBING 3/4 CTS x 5 1/2 LG.	D207A-B6-22	1
26	90° ELBOW 3/4 C	D316A-E3	1
27	COPPER TUBING 3/4 CTS X 4 5/8 LG.	D207A-B6-18	1
28	90° ELBOW 3/4 MIPS x 3/4 C	D316F-E2-E3	1
29	SOLENOID 3/4 IPS STEAM	D2946	1
30	CLOSE NIPPLE 3/4 IPS	D314F-EC-00	2
31	Y STRAINER 3/4 IPS	D2482	1
32	BALL VALVE 3/4 IPS	D2340	1
33	COPPER TUBING 1/2 CTS x 2 1/2 LG.	D207A-B4-10	2
34	90° ELBOW 3/4 FIPS	D316F-E1-E1	1
35	ADAPTER 3/4 MIPS x 1/2 C	D317A-E2-D3	1
36	UNION 1/2 C X 1/2 C	D318A-D3-D3	1



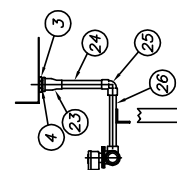
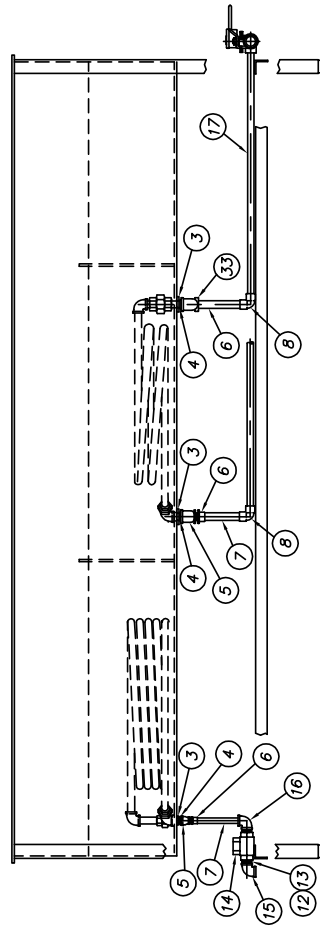
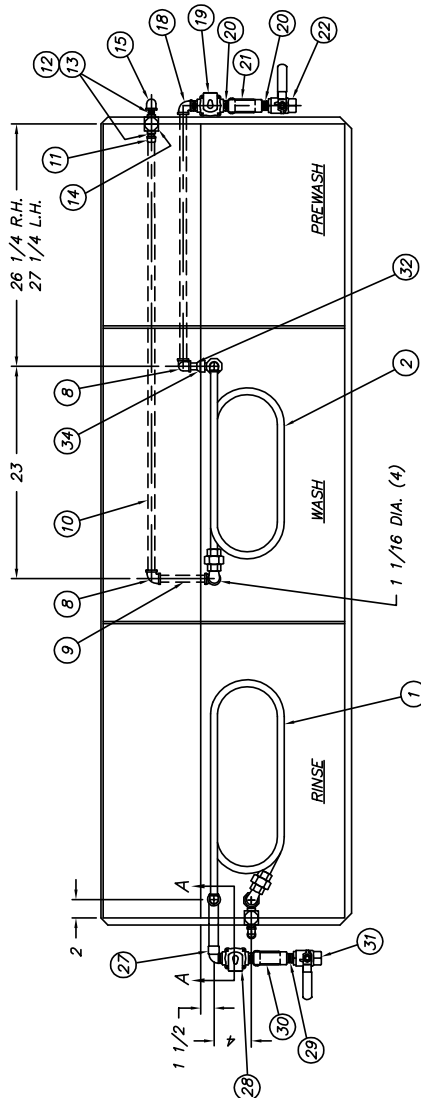


SECTION A-A

R.H. SHOWN, L.H. OPPOSITE

H	2642	11/15/12	TOLERANCES	TITLE	STEAM PIPING	NEXT ASSY DWG. NO.
G	2048	11/28/05	FRACTIONS ±1/64	REQ'D	1	1162-61
F	1949	10/16/02	DECIMALS .XXX ±.005	W/ SOLENOIDS		
E	1775	7/21/00	.XX ±.01	MAT'L	NOTED	SCALE
D	1715	11/22/99	ANGLES ±1/2°			1=10
REV	ECN NO.	DATE	UNLESS OTHERWISE SPECIFIED			USED ON
						SPEEDER 64
						DRWN/DATE
						EMM 10.10.94
						FAX (215) 624-6966

NO.	DESCRIPTION	PART NO.	QTY.
1	STEAM COIL - RINSE	1133-99	1
2	STEAM COIL - WASH	1070-2	1
3	LOCKNUT 3/4 IPS	D326F-E1	4
4	NIPPLE 3/4 IPS X 1 1/2 (ALL THRD.)	D314F-EA-12	4
5	BELL REDUCER 3/4 FIPS X 1/2 FIPS	D321F-E1-D1	2
6	ADAPTER 1/2 MIPS X 1/2 C	D317A-D2-D3	2
7	COPPER TUBING 1/2 CTS X 5 1/2 LG.	D207A-B4-22	2
8	90° ELBOW 1/2 C	D316A-D3	4
9	COPPER TUBING 1/2 CTS X 6 1/4 LG.	D207A-B4-25	2
10	COPPER TUBING 12 CTS X 47 1/2 LG.	D207A-B4-190	1
11	ADAPTER 1/2 FIPS X 1/2 C	D317A-D1-D3	1
12	FLUSH REDUCER 1/2 MIPS X 3/8 FIPS	D323F-D2-C1	4
13	CLOSE NIPPLE 3/8 IPS	D314F-CC-00	4
14	STEAM TRAP 3/8 IPS	D-2102	2
15	90° ELBOW 1/2 IPS	D316F-D1-D1	2
16	90° ELBOW 1/2 FIPS X 1/2 C	D316F-D1-D3	1
17	COPPER TUBING 1/2 CTS X 27 1/8 LG.	D207A-B4-108	1
18	90° ELBOW 1/2 MIPS X 1/2 C	D316F-D2-D3	1
19	SOLENOID 1/2 IPS	D-2945	1
20	CLOSE NIPPLE 1/2 IPS	D314F-DC-00	2
21	1" STRAINER 1/2 IPS	D-2483A	1
22	BALL VALVE 1/2 IPS	D-2339	1
23	COPPER ADAPTER 3/4 C X 3/4 F	D317A-E3-E1	1
24	COPPER TUBING 3/4 CTS X 5 1/2 LG.	D207A-B6-22	1
25	90° ELBOW 3/4 C	D316A-E3	1
26	COPPER TUBING 3/4 CTS X 4 5/8 LG.	D207A-B6-18	1
27	90° ELBOW 3/4 MIPS X 3/4 C	D316F-E2-E3	1
28	SOLENOID 3/4 IPS	D-2946	1
29	CLOSE NIPPLE 3/4 IPS	D314F-EC-00	2
30	1" STRAINER 3/4 IPS	D-2482	1
31	BALL VALVE 3/4 IPS	D-2340	1
32	COPPER TUBING 1/2 CTS X 2 1/2 LG.	D207A-B4-6	1
33	90° ELBOW 3/4 FIPS	D316F-E1-E1	1
34	ADAPTER 3/4 MIPS X 1/2 C	D317A-E2-D3	1

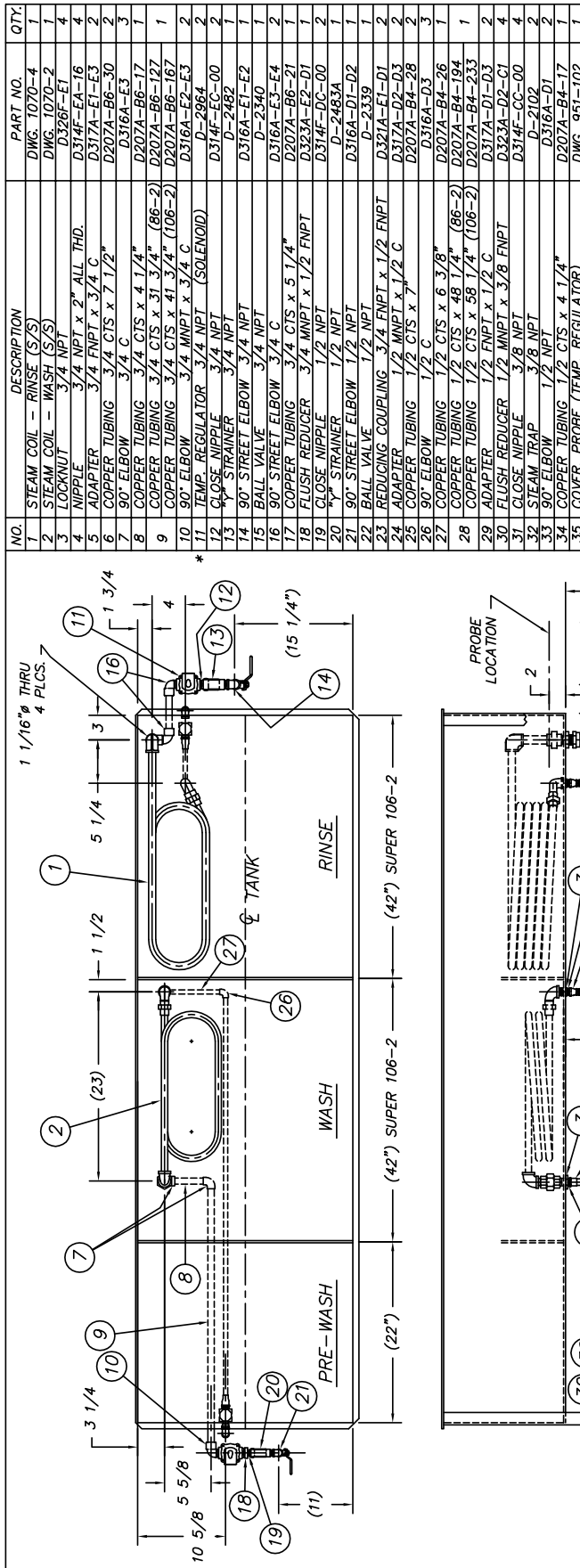


SECTION A-A

R.H. SHOWN L.H. OPPOSITE

TOLERANCES	FRACTIONS ±1/64	DECIMALS ±.005	ANGLES ±1/2°	UNLESS OTHERWISE SPECIFIED
I	2048	11.8.05		
H	1715	11.22.99		
G	1632	9.23.98		
F	1506	12.17.96		
REV	ECN NO.	DATE		
FILE: PARTS \ 1182-56				

TITLE	STEAM PIPING W/ SOLENOIDS	REQ'D NOTED	SCALE	USED ON
MAT'L	NOTED	1=12	SPDR 86-3	
Insinger Philadelphia, PA 19135 DRWN/DATE (215) 624-4800 EMM 7.7.94				
FAX (215) 624-6866				



* NOTE: USE D2452 FOR 120-240VAC

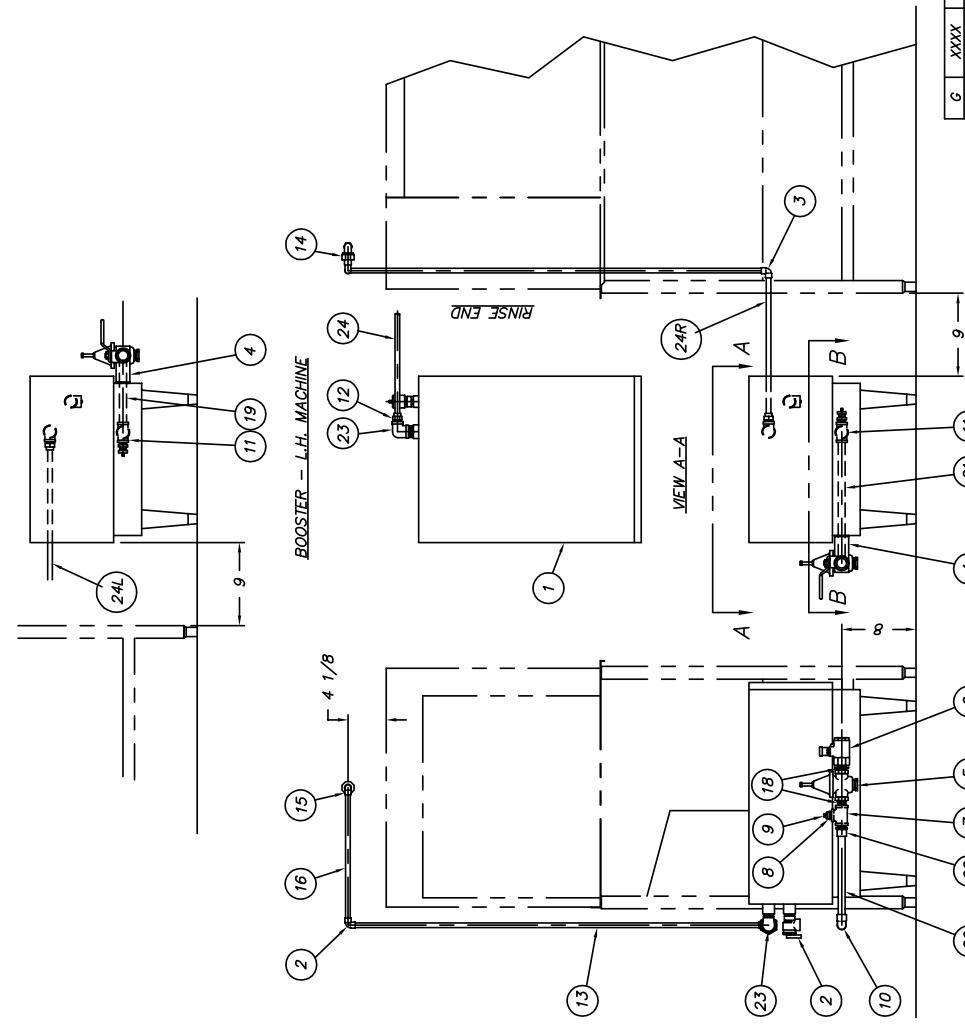
ROTATE BALL VALVE 90°
TO HORIZONTAL POSITION
(BOTH ENDS)

SUPERSEDES 951-96 DATED 1.27.84

L.H. SHOWN - R.H. OPPOSITE

TOLERANCES		TITLE		STEAM PIPING		NEXT ASSY DWG. NO.	
D	2408	FRACTIONS ±1/64		W/ SOLENOIDS	REQ'D 1	959-65	
C	2046	DIMAS .XXX ± .005					
B	1075	.XX ± .01					
A	-	7.30.84					
REV	ECN NO	DATE					
UNLESS OTHERWISE SPECIFIED		INSINGER					
FILE: PARTS\OTHER 959-65		Philadelphia, PA 19135 DRWN/DATE					
		(215) 624-4800 FAX (215) 624-6966					
		5.9.84					

SEE #1182-56 FOR SPEEDER 86



BOOSTER - L.H. MACHINE

RINSE END

VIEW A-A

VIEW B-B

ITEM	PART NO.	DESCRIPTION	QTY.
1	C24-58	ELECTRIC BOOSTER	1
2	-	RELIEF VALVE 3/4" IPS	1
3	D316A-D3	90° ELBOW 1/2" C	2
4	951-49	BRACKET	1
5	D2508	"Y" STRAINER	1
6	D2340	BALL VALVE 3/4" IPS	1
7	D320F-E1-E1-E1	TEE 3/4" IPS	1
8	D322F-E2-B1	REDUCER 3/4" MIPS x 1/4" FIPS	1
9	D328F-B2A	PIPE PLUG 1/4" IPS	1
10	D316A-E3-E3	90° ELBOW 3/4" C	1
11	D320F-D1-E1-E1	TEE 1/2" FIPS x 3/4" FIPS x 3/4" FIPS	1
12	D318A-D3-D2	UNION 1/2" MIPS x 1/2" C	1
13	D207A-B4-164	COPPER TUBING 1/2" x 41" LG.	1
14	D319A-D3-D2	90° UNION ELL 1/2" MIPS x 1/2" C	1
15	D316A-D3-D4	90° FTG. ELBOW 1/2" C x 1/2" FTG.	1
16	D207A-B4-47	COPPER TUBING 1/2" CTS x 11 3/4" LG.	1
17	-	-	-
18	D314F-EC-00	NIPPLE CLOSE 3/4" IPS	2
19	D207A-B6-20	COPPER TUBING 3/4" CTS x 5" LG.	1
20	D207A-B6-20	COPPER TUBING 3/4" CTS x 5" LG.	1
21	D207A-B6-44	COPPER TUBING 3/4" CTS x 11" LG.	1
22	D317A-E3-E2	ADAPTER 3/4" MIPS x 3/4" C	1
23	D316A-E1-D1	90° ELBOW 3/4" FIPS x 1/2" FIPS	1
24 RH	D207A-B4-54	COPPER TUBING 1/2" CTS x 13 1/2" LG.	1
24 LH	D207A-B4-77	COPPER TUBING 1/2" CTS x 19 1/4" LG.	1
25	D329-5	DRAIN COCK 1/4" IPS	1
26	D322F-D2-B1	REDUCER 1/2" MIPS x 1/4" FIPS	1
27	D318A-E3-E2	UNION 3/4" C x 3/4" MIPS	1

USED ON:
ADMIRAL 44 & 66-3
SPEEDER 64 & 86-3

G	XXX	4.18.13	TOLERANCES
F	2633	70.71.12	FRACTIONS ±1/64
E	2608	07.3.12	DIMENSIONS ±.005
D	1990	.XX ±.01	ANGLES ±.01
C	1700	8.11.99	UNLESS OTHERWISE SPECIFIED

REV	ECN NO.	DATE	FILE: PARTS\1182-47
1	1	5.12.88	

VIEW B-B

R.H. SHOWN - L.H. OPPOSITE

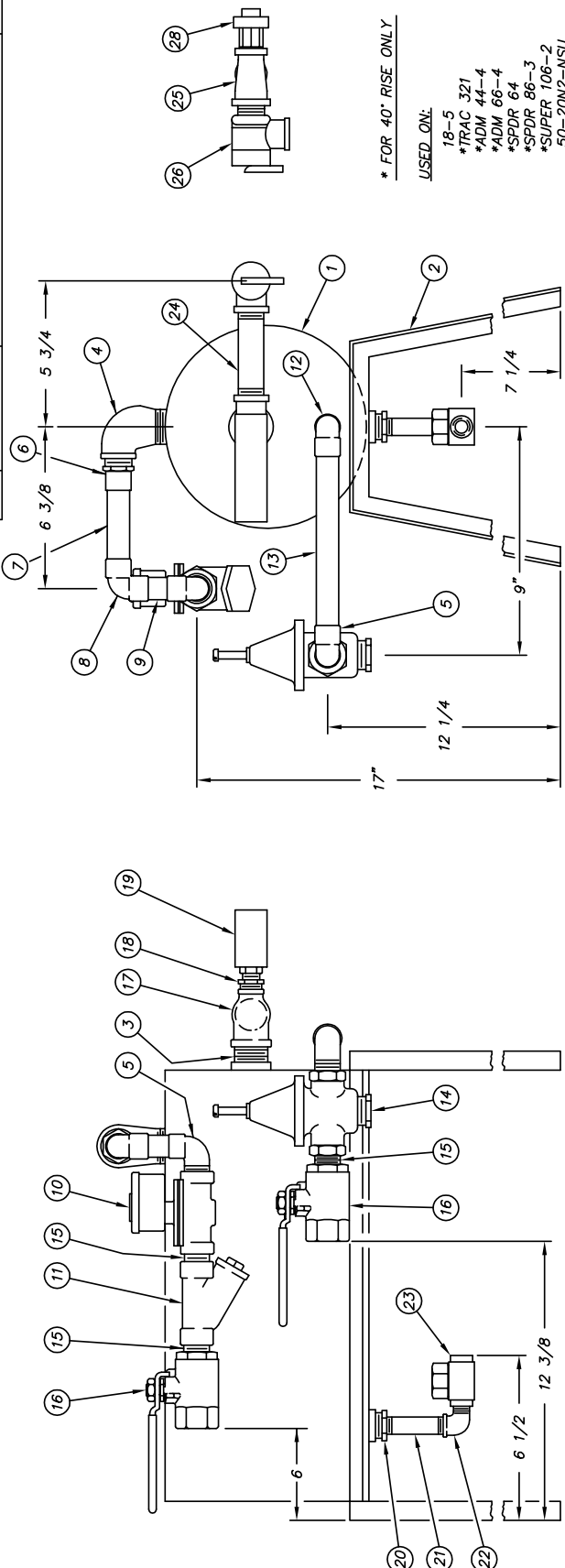
USED ON:
ADMIRAL 44 & 66-3
SPEEDER 64 & 86-3

TITLE	REQ'D	SCALE	USED ON
ELECTRIC BOOSTER ASSEMBLY	1182-47	1=12	SEE ABOVE

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ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	D2100	STEAM BOOSTER (1-2) (NOTE 1)	1	10	*** D2945	SOLENOID VALVE 1/2 IPS (NOTE 4)	1	19	** D2396	THERMOSTAT (NOTE 3)	1
2	278-1	BOOSTER STAND (NOTE 2)	1	11	D2483A	"Y" STRAINER 1/2 IPS	1	20	D322F-E2-D1	HEX REDUCER 3/4 MIPS X 1/2 FIPS	1
3	D314F-F0-00	CLOSE NIPPLE 1" IPS	1	12	D316A-E2-D3	90° ELBOW 3/4 MIPS X 1/2 C	1	21	D314F-DS-20	NIPPLE 1/2 IPS X 2 1/2 LG.	1
4	D316F-F1-F2	90° STREET ELL 1" MIPS X 1" FIPS	1	13	D207A-K4-32	COPPER TUBING 1/2 CTS X 8 LG.	1	22	D316F-D1-D2	90° STREET ELBOW 1/2 IPS	1
5	D316A-D3-D2	90° ELBOW 1/2 C X 1/2 MIPS	2	14	D2508A	PRESS. REG. & STRAINER 1/2 IPS	1	23	D2102A	STEAM TRAP 1/2 IPS	1
6	D317A-F2-D3	ADAPTER 1/2 C X 1 MIPS	1	15	D314F-DC-00	CLOSE NIPPLE 1/2 IPS	3	24	D314F-DS-32	NIPPLE 1/2 IPS X 4 LG.	1
7	D207A-K4-17	COPPER TUBING 1/2 CTS X 4 1/4 LG.	1	16	D2339	BALL VALVE 1/2 IPS	2	25	D320F-E1D1D1	TEE 3/4 FIPS X 1/2 FIPS X 1/2 FIPS	1
8	D316A-D3-D3	90° ELBOW 1/2 C	1	17	D320F-F1D1D1	TEE 1" IPS X 1/2 IPS X 1/2 IPS	1	26	D2507	PRESSURE RELIEF VALVE 3/4 IPS	1
9	D207A-K4-7	COPPER TUBING 1/2 CTS X 1 3/4 LG.	1	18	D322F-D2-C1	HEX REDUCER 1/2 MIPS X 3/8 FIPS	1	27	*** D323F-E2-D1	FL.RED. 3/4MIPS X 1/2FIPS (NOTE 4)	2
								28	D318A-D3-D2	UNION, 1/2 M X 1/2 C	1



* FOR 40° RISE ONLY

USED ON:

18-5

*TRAC 321

*ADM 44-4

*ADM 66-4

*SPDR 64

*SPDR 86-3

*SUPER 106-2

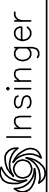
50-20N2-NSU

NOTES:

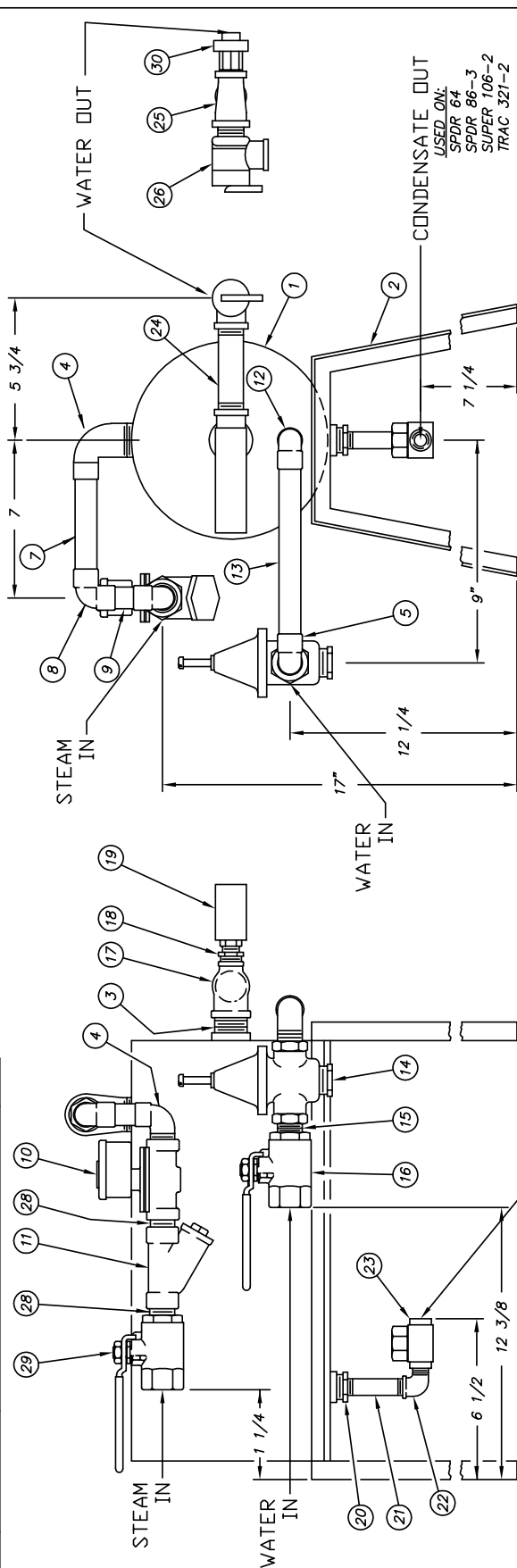
- (ITEM #1) ADD SUFFIX "NM" FOR NON-MAGNETIC MACHINES.
- (ITEM #2) USE PART NO. 278-1A FOR SHIPBOARD USE.
- (ITEM #19) USE PT. NO. D2301 (DUAL THERMOSTAT) FOR 50-20N2-NSU OR WHEN LOW TEMP. CUT-OFF IS SPECIFIED.
- (ITEM #10) FOR 50-20N2-NSU USE PT. NO. D2490-R3 AND ITEM NO. 27.

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

E	2048	11.8.05	TOLERANCES	FRACIONS ±1/64	DECIMALS	ANGLES ±1/2°	UNLESS OTHERWISE SPECIFIED
D	1916	2.14.02					
C	1090	12.8.94		.XX ± .01			
B	964	12.28.93		.XX ± .01			
A	952	10.8.93					
REV	ECN NO.	DATE					
FILE: PARTS\1394-1							

ITEM	1	1394-1
REQD	1	1394-1
SCALE	1=4	USED ON
MAT'L	AS NOTED	SEE ABOVE
 Insinger Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966		
NEXT ASSY DWG. NO. 1394-1		

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	D-2100	STEAM BOOSTER (1-2) (NOTE #1)	1	12	D316A-E2-D3	90° ELBOW 3/4 MIPS X 1/2 C	1	22	D316F-D1-D2	90° STREET ELBOW 1/2 IPS	1
2	278-1	BOOSTER STAND	1	13	D207A-K4-32	COPPER TUBING 1/2 CTS X 8 LG.	1	23	D2102A	STEAM TRAP 1/2 IPS	1
3	D314F-FC-00	CLOSE NIPPLE 1" IPS	1	14	D2508A	PRESS. REG. & STRAINER 1/2 IPS	1	24	D314F-DS-32	NIPPLE 1/2 IPS X 4 LG.	1
4	D316A-F3-F2	90° STREET ELL 1" C X 1" MIPS	2	15	D314F-DC-00	CLOSE NIPPLE 1/2 IPS	1	25	D320F-ETD1D1	TEE 3/4 FIPS X 1/2 FIPS X 1/2 FIPS	1
5	D316A-D3-D2	90° ELBOW 1/2 C X 1/2 MIPS	1	16	D2339	BALL VALVE 1/2 IPS	1	26	D2507	PRESSURE RELIEF VALVE 3/4 IPS	1
6	-	-	-	17	D320F-F1D1D1	TEE 1" IPS X 1/2 IPS X 1/2 IPS	1	27	-	-	-
7	D207A-K8-23	COPPER TUBING 1" CTS X 5 5/8 LG.	1	18	D322F-D2-C1	HEX REDUCER 1/2 MIPS X 3/8 FIPS	1	28	D314F-FC-00	CLOSE NIPPLE 1" IPS	2
8	D316A-F3-F3	90° ELBOW 1" C	1	19	D-2396	THERMOSTAT (NOTE 2)	1	29	D2379	BALL VALVE 1" IPS	1
9	D207A-K8-10	COPPER TUBING 1" CTS X 2 1/2 LG.	1	20	D322F-E2-D1	HEX REDUCER 3/4 MIPS X 1/2 FIPS	1	30	D318A-D3-D2	UNION, 1/2 C X 1/2 M	1
10	D2947	SOLENOID VALVE 1" IPS (STEAM 24V)	1	21	D314F-DS-20	NIPPLE 1/2 IPS X 2 1/2 LG.	1				
11	D2252	"Y" STRAINER 1" IPS	1								



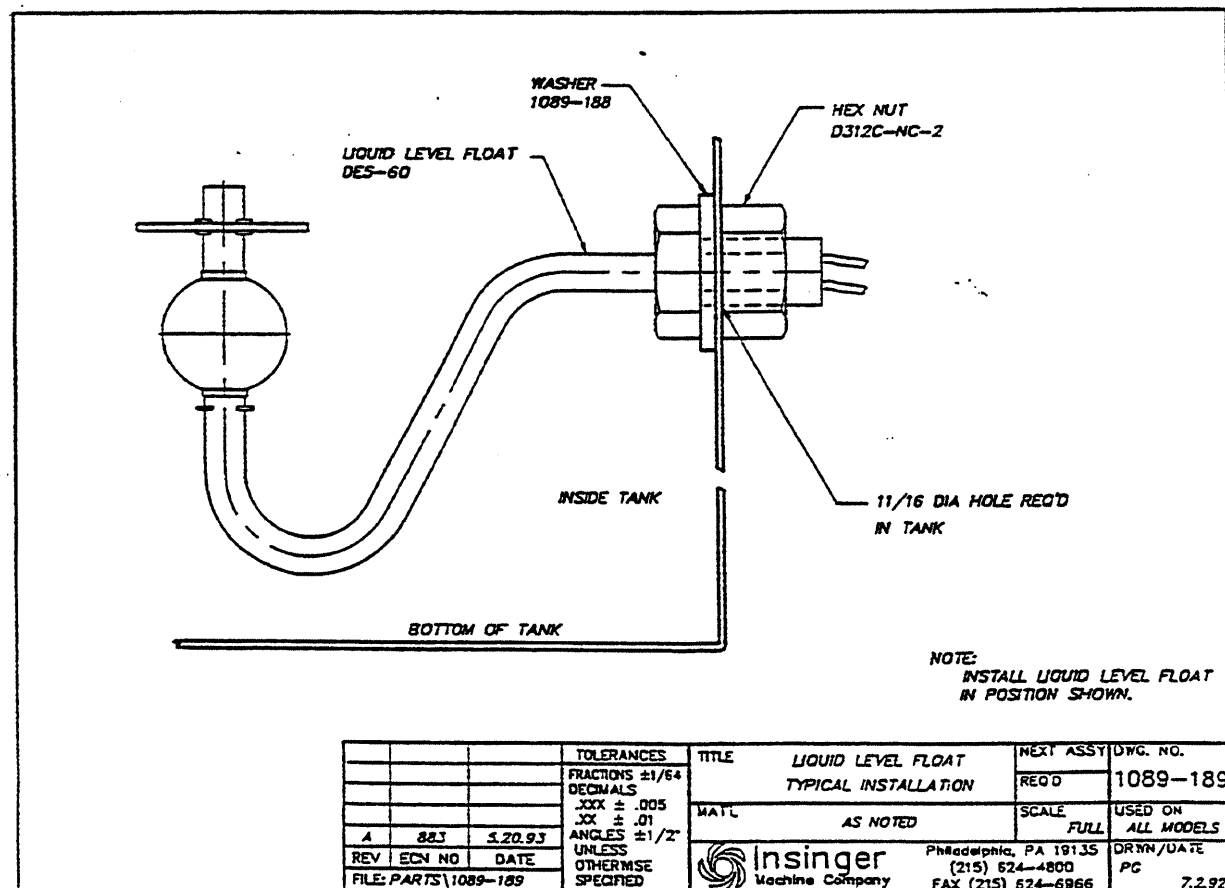
TOLERANCES				R.H. MACHINE SHOWN - L.H. MACHINE OPPOSITE			
F	2048	11.8.05	FRACTIONS ±1/64	1	1394-7	REQ'D	1
E	1916	2.14.02	DECIMALS .XXX ± .005	1	1394-7	SCALE	1
D	1826	11.16.00	.XX ± .01	1	1394-7	USED ON	SEE ABOVE
C	979	1.17.94	ANGLES ±1/2°	1	1394-7	DRWN/DATE	PG
REV	ECN NO	DATE	UNLESS OTHERWISE SPECIFIED	1	1394-7	FILE:PARTS\1394-7	7.8.93

- NOTES:**
- (ITEM #1) ADD SUFFIX "NM" FOR NON-MAGNETIC MACHINES.
 - (ITEM #19) USE PART NO. D-2396 AS STANDARD AND PART NO. D-2301 WHEN LOW TEMP. CUT-OFF IS SPECIFIED.
 - FACTORY WIRED AND PIPED TO WAREWASHER (WHEN ORDERED WITH WAREWASHER)

In order to insure the proper operation of your INSINGER dishwasher, it is necessary that the LIQUID LEVEL FLOAT be wiped free of any residue and/or moisture at each cleaning. This should be done, preferably, after each use of the machine, or, at a minimum, once each day.

The LIQUID LEVEL FLOAT is located below the scrap screens in those tanks which contain water heating devices (coils, steam injectors, or electric immersion heaters) and pump inlet strainers. They are usually located, in rackless and rack conveyor style machines, on the inside tank wall, at approximately water level, opposite and parallel to the inspection doors. In the door, stationary rack, type machines, the LIQUID LEVEL FLOAT may be found beneath the scrap screen.

Below is a depiction of the LIQUID LEVEL FLOAT and the surfaces which must be wiped clean.





THE FOLLOWING PAGES PERTAIN TO
PARTS FOR GAS HEATED MACHINES

INFRA-RED GAS HEAT WITH HOT SURFACE IGNITION

This dishwasher is heated by a high efficiency infra-red burner using natural gas or propane (L.P. gas). A fully electronic Hot Surface Ignition (H.S.I.) system with internal flame sensor and purge timer is used - no manual pilot. The thru-tank immersion heat tube and insulated multiple pass exhaust manifold optimizes heat transfer to the wash tank. The wash temperature board thermostat controls burner operation, with low water and high temperature cut-out switches as back-up. Indicator lights for blower on and burner on are mounted on the front of the burner box.

SERVICE CHECKS (SEE SK-3695-1 SEQUENCE OF OPERATIONS)

Symptom	Cause/Cure
1) Dead.	A) No 24 Volt Input. B) Check system wiring. C) Check thermostat, transformer, high temp limit switch, circuit breaker, etc.
2) Hot surface element heats up, but zero voltage at valve during trial-for-ignition.	A) Check wiring between valve and module. B) Check power to valve.
3) Hot surface element heats. 24 Volts to valve. Flame established, but does not stay on.	A) Check ground in system 24 Volt supply. B) Hot surface element improperly located. C) Check all wiring connections. D) Burner out of adjustment.
4) Hot surface element heats. 24 Volts to valve. System fails to ignite.	A) Gas supply off. B) Check gas valve. C) Burner out of adjustment (orifice plugged). D) Hot surface element incorrectly located.
5) Hot surface element does not heat, but unit cycles.	A) Check for broken or cracked hot surface element.

(SEE GENERAL ARRANGEMENT DWG. FOR COMPONENT LOCATIONS)

Draft Booster Blower & Fan Switch -

The fan switch is located at the rear of the fan motor. Contacts are normally open - closing on motor rotation. The motor and switch should be replaced as a complete unit (D2784).

High Temperature Cut Off -

Contacts are normally closed - opening at 200°F. Manual reset by pushing black pin in the center of the switch after the temperature drops below 200°F. This can be done without removing the burner box cover through a hole above the indicator lights.

Hot Surface Ignition Module -

24 VAC, 30 second prepurge, 4 second heat-up time, 4 second trial for ignition. Loss of flame will result in one re-try for ignition. This unit cannot be repaired - it must be replaced. Flame current .75 micro amp minimum.

Gas Valve -

This valve is equipped with a redundant solenoid valve that controls gas flow to the pilot and main burners, a relay operated main valve that controls gas flow to the main burner, a pressure regulator to maintain a constant outlet pressure, and a two-position gas cock knob for manual gas shut-off. Both redundant and main valves open together due to the jumper wire installed between terminals M-1 and P-3.

The gas outlet pressure is stamped on a metal nameplate inside the burner box. This should be checked using a manometer at the pressure tap on the outlet of the valve. Remove 1/8" pipe plug with an allen wrench (not brass hex fitting) to install test fitting.

The gas supply to the valve can be checked using a manometer at the pressure tap on the inlet of the valve. Shut off gas downstream before removing 1/8" pipe plug to install test fitting.

Hot Surface Element (Ignitor) -

This consists of a silicon carbide heater blade cemented into a ceramic holder with a metal mounting plate mechanically attached. The ceramic extends 3/4" past the mounting plate into the burner. The wide surface of the blade must face the burner surface.

To check operation, shut off gas supply. The glow of

the ignitor during the heat-up and trial-for-ignition

Hot Surface Element (Ignitor) continued -

periods can be seen through the viewport (look up from ground level). If no glow can be seen, a cracked blade or bad blade to wire joint is possible. Disconnect wire leads and measure resistance at room temperature (1 to 6 ohms).

Main Orifice -

This is installed inside a special holder fitting at the 3/8" NPT boss on the burner elbow. The orifice diameter is stamped on a metal nameplate inside the burner box and on the orifice itself.

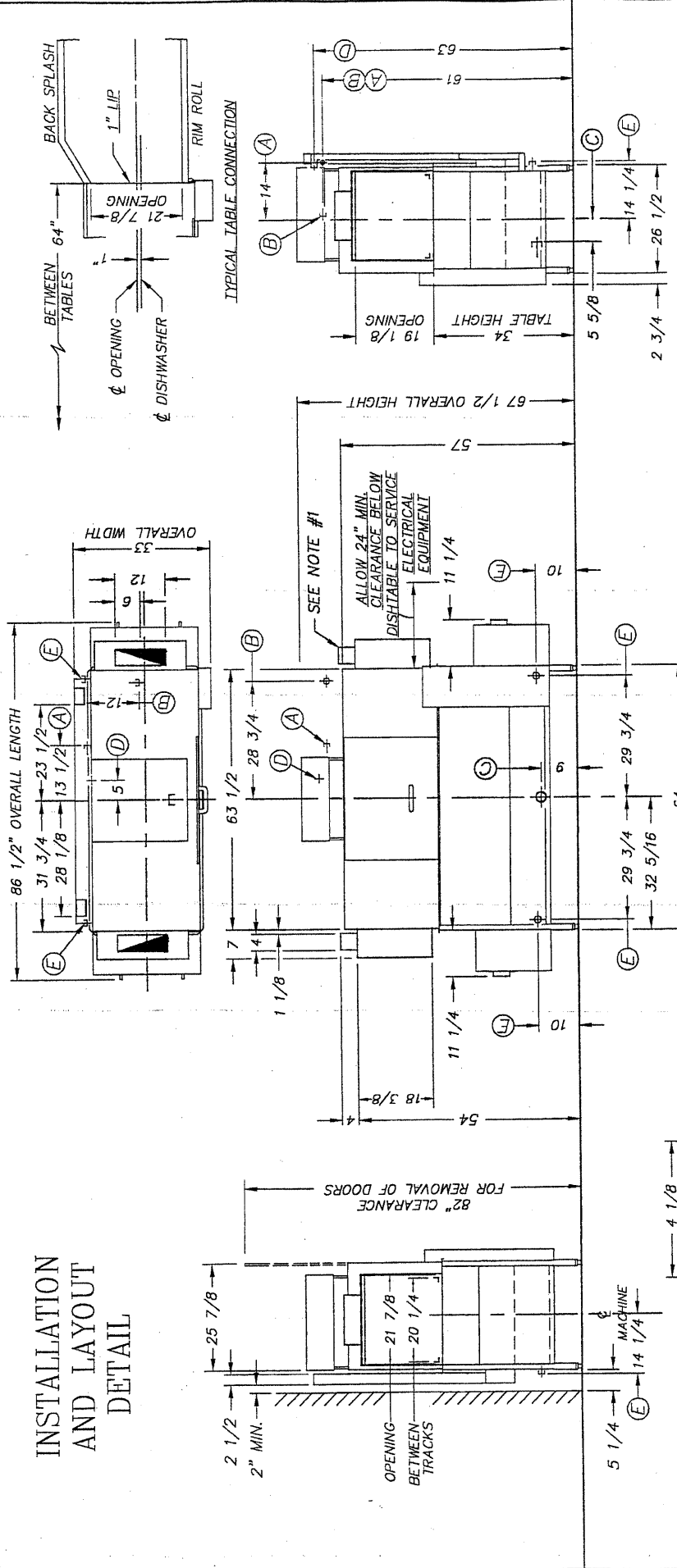
Infra-Red Burner -

This consists of a ceramic cylinder attached to a steel elbow. Burner operation can be monitored through the viewport and the window in the burner box cover. Upon starting, a blue flame is visible changing to a dull orange glow over the complete burner surface after warm-up. Continued operation with a blue flame indicates burner out of adjustment. Proper adjustment of the air shutter should be made using a combustion analyzer.

Excess Air - burner may be difficult or impossible to light; will not generate sufficient heat.

Insufficient Air - burner may produce hazardous levels of carbon monoxide gas.

INSTALLATION AND LAYOUT DETAIL



LEFT TO RIGHT FEED

- NOTES:
1. DO NOT INSTALL MACHINE CLOSER THAN 2" TO A VERTICAL COMBUSTIBLE SURFACE.
 2. (2) 4" x 12" VENTS WITH ADJUSTABLE DAMPERS FURNISHED WHEN SPECIFIED.
 3. THIS MACHINE SHOULD BE INSTALLED UNDER AN EXHAUST HOOD UNLESS OTHERWISE SPECIFIED BY LOCAL CODE.
 4. THE EXHAUST STACK SHOULD NOT BE DIRECTLY CONNECTED TO ANY UNPOWERED EXHAUST DUCT WITHOUT USING A DOWNDRAFT DIVERTER.

INSTALLATION CONNECTIONS	
DESCRIPTION	SIZE
A. HOT WATER TO AUTO FILL - 140° F	3/4" FIPS
B. HOT WATER TO FINAL RINSE - 180° F	1/2" FIPS
C. DRAIN CONNECTION	2" FIPS
D. ELECTRICAL CONNECTION - MOTORS	2 1/8" HP
E. GAS CONNECTIONS (100,000 BTUH TOTAL)	1/2" MIPs

Insinger

DOUBLE TANK CONVEYOR TYPE DISHWASHING MACHINE

Philadelphia, PA 19135

(215) 624-4800

FAX (215) 624-6866

DRWN: EMH 12.29.94 SCALE

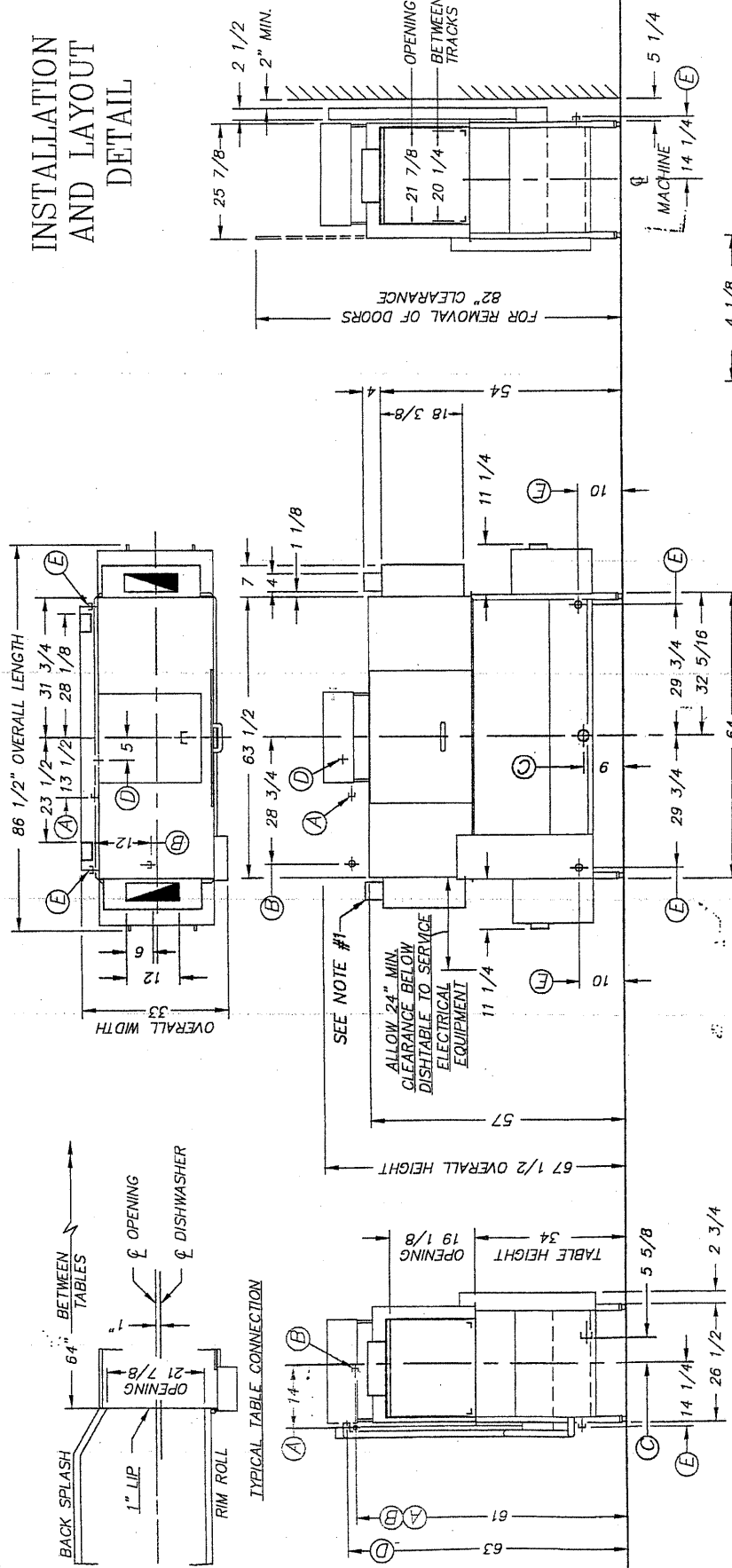
REV: CES 12.26.01 1/2" = 1'

FILE: STD/SP-64GL

REV D

SP-64GL

INSTALLATION AND LAYOUT DETAIL



RIGHT TO LEFT FEED

- NOTES:
- DO NOT INSTALL MACHINE CLOSER THAN 2" TO A VERTICAL COMBUSTIBLE SURFACE.
 - (2) 4" x 12" VENTS WITH ADJUSTABLE DAMPERS FURNISHED WHEN SPECIFIED.
 - THIS MACHINE SHOULD BE INSTALLED UNDER AN EXHAUST HOOD UNLESS OTHERWISE SPECIFIED BY LOCAL CODE.
 - THE EXHAUST STACK SHOULD NOT BE DIRECTLY CONNECTED TO ANY UNPOWERED EXHAUST DUCT WITHOUT USING A DOWNDRAFT DIVERTER.

VIEW A
SCALE: 1"=8'

INSTALLATION CONNECTIONS	
DESCRIPTION	SIZE
A HOT WATER TO AUTO FILL - 140° F	3/4" FIPS
B HOT WATER TO FINAL RINSE - 180° F	1/2" FIPS
C DRAIN CONNECTION	2" FIPS
D ELECTRICAL SERVICE - MOTORS	2 1/8" HP
E GAS CONNECTIONS (100,000 BTUH TOTAL)	1/2" MIPs

SPEEDER 64 GAS

DOUBLE TANK CONVEYOR TYPE DISHWASHING MACHINE

Insinger

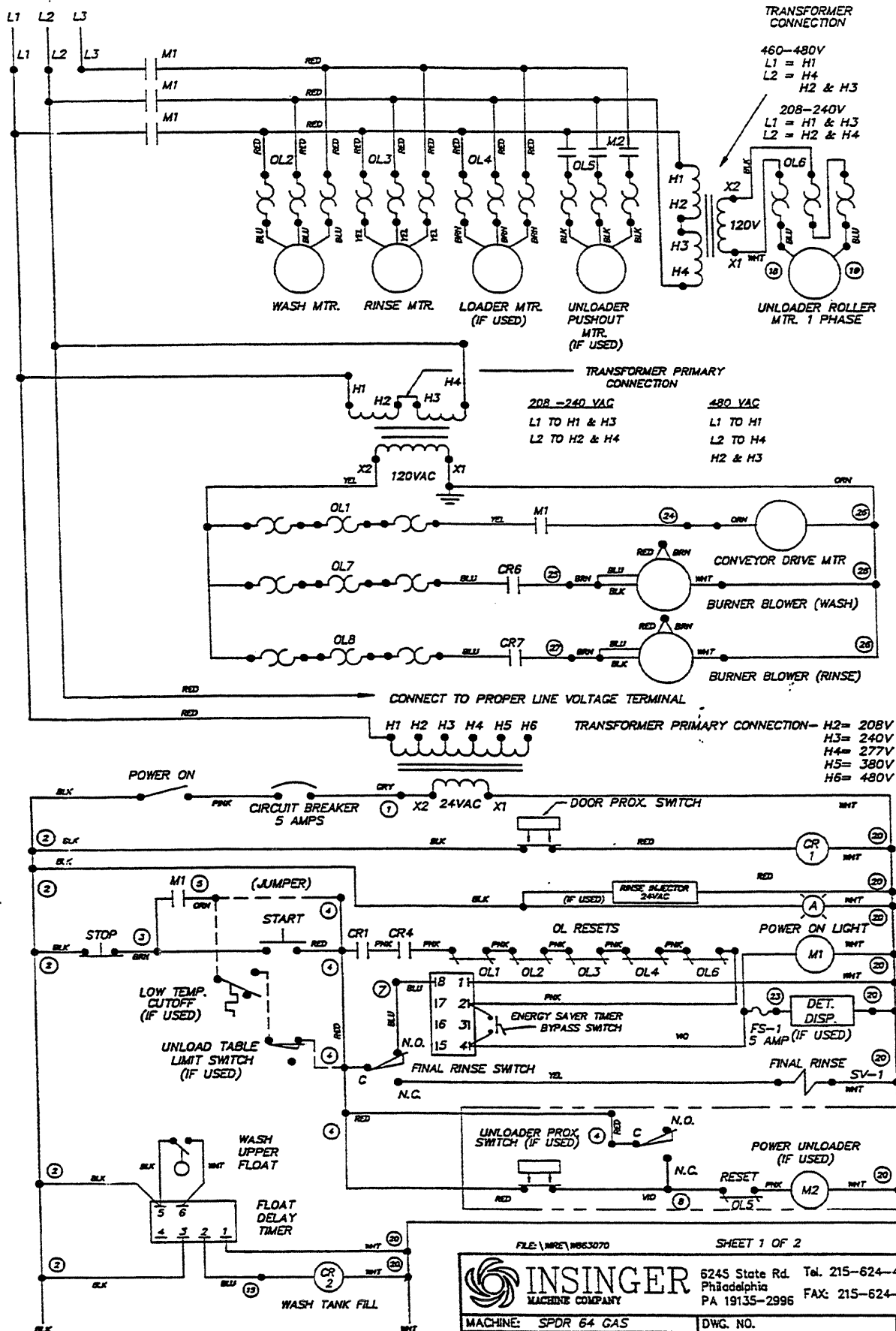
Philadelphia, PA 19135
(215) 824-4800
FAX (215) 624-8968

DRWN: EMM 3.16.95
REV: CES 12.26.01
FILE: STD/SP-64GR

SCALE: 1/2" = 1'

DWG. NO. SP-64GR

REV D



INSINGER
MACHINE COMPANY

6245 State Rd. Tel. 215-624-4800
Philadelphia PA 19135-2996 FAX: 215-624-6966

MACHINE: SPDR 64 GAS
DRAWN: CES 2.14.95
APPROVED: RICH

DWG. NO.

W863070

24V CONTROL CIRCUIT CONTINUED FROM SHEET 1

WASH LEVEL TIMER

WASH FLOAT (LOWER)

RESET

BURNER BLOWER SW.

RINSE UPPER FLOAT

WASH TEMPERATURE CONTROL

TEMP. PROBE

CR6

GAS BURNER AIRFLOW

GAS BURNER FLAME

WASH TANK GAS VALVE SV-3

H.S.I. IGNITER

HI-TEMP CUTOFF

CHASSIS GROUND

CR3

RINSE LEVEL TIMER

RINSE FLOAT (LOWER)

RESET

BURNER BLOWER SW.

RINSE TEMPERATURE CONTROL

TEMP. PROBE

CR7

GAS BURNER AIRFLOW

GAS BURNER FLAME

RINSE TANK GAS VALVE SV-5

H.S.I. IGNITER

HI-TEMP CUTOFF

CHASSIS GROUND

CR4

CR5

CONVEYOR JAM LIGHT

N.O. CONVEYOR JAM SWITCH

N.C.

CR5

M1

CR5



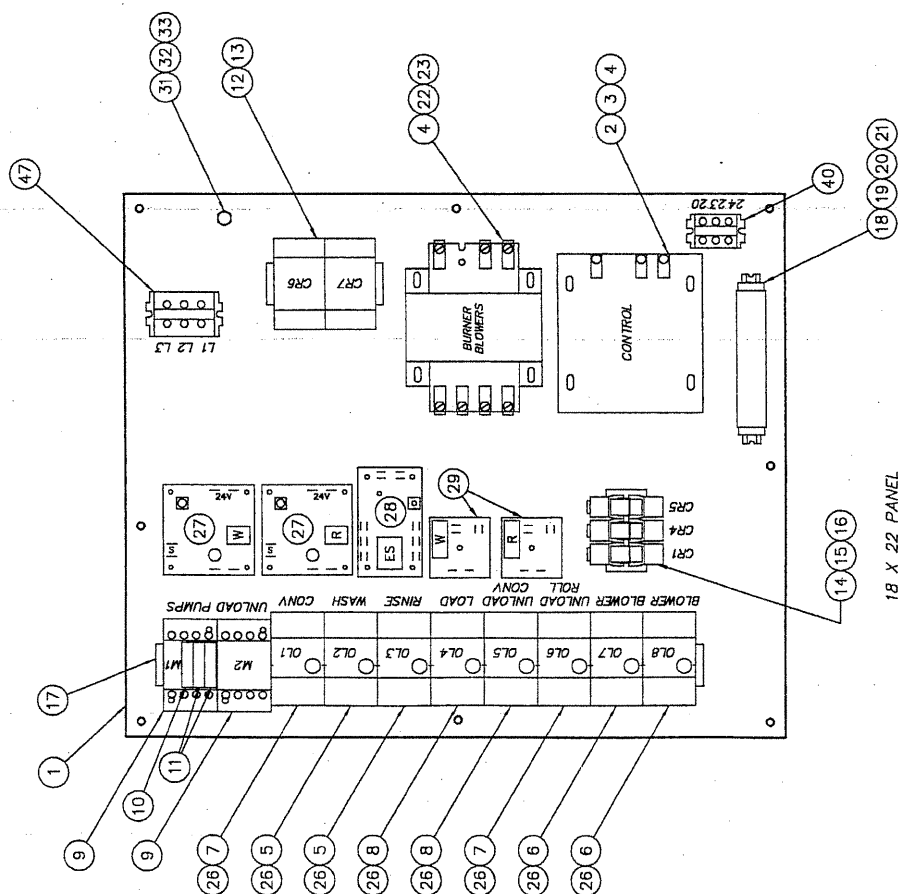
INSINGER
MACHINE COMPANY

6245 State Rd. Tel. 215-624-4800
Philadelphia
PA 19135-2996 FAX: 215-624-6966

MACHINE:	SPDR 64 GAS
DRAWN:	CES 214.95
APPROVED:	RICH

DWG. NO.	
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W863070



ITEM	DESCRIPTION	PART NO.	QTY.
1	COMPONENT MOUNTING PLATE	SK-3776	1
2	CONTROL TRANSFORMER (250 VA, 24 VAC)	DE6-25	1
3	FUSE BLOCK KIT (250 VA XFMR)	DE9-165	1
4	FUSE (250 VA TRANSFORMER PRIMARY)		4
	460 V FNO-R-1.8	DE9-169	
	380 V FNO-R-2	DE9-170	
	220 - 230 V FNO-R-3.5	DE9-174	
	208 V FNO-R-4	DE9-175	
5	OVERLOAD RELAY (1 HP WASH/RINSE PUMP)		2
	460/3/60 1.6-2.5 A	DE2-52	
	380/3/50 1.6-2.5 A	DE2-52	
	230/3/60 2.5-4 A	DE2-53	
	220/3/50 2.5-4 A	DE2-53	
	220/1/60 7-10 A	DE2-56	
	208/3/60 2.5-4 A	DE2-53	
6	OVERLOAD RELAY (BURNER BLOWER)		2
	115/1/60 .63-1 A	DE2-49	
7	OVERLOAD RELAY (1 1/4 HP CONV DRIVE)		AR
	460/3/60 .16-.25 A	DE2-91	
	380/3/50 .16-.25 A	DE2-91	
	230/3/60 .25-.40 A	DE2-92	
	220/3/50 .25-.40 A	DE2-92	
	208/3/60 .25-.40 A	DE2-92	
	115/1/60 .63-1 A	DE2-49	
8	OVERLOAD RELAY (1 1/4 HP UNLOADER & 1/3 HP LOADER)		AR
	460/3/60 .63-1 A	DE2-49	
	380/3/50 .63-1 A	DE2-49	
	230/3/60 1-1.6 A	DE2-50	
	220/3/50 1-1.6 A	DE2-50	
	220/1/60 2.5-4 A	DE2-53	
	208/3/60 1-1.6 A	DE2-50	

ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
9	CONTACTOR, MOTORS SP4	DE1-93	AR	25	OVERLOAD, BASE	DE2-60	AR	40	TERMINAL BLK ASSY	DE3-9	1
10	AUXILIARY CONTACT, NC	DE1-61AE	1	26	TEMPERATURE CONTROL BOARD	DE9-251	2	41	SELECTOR SWITCH ASSY	DEB-58	2
11				27	TIME DELAY BOARD (ENERGY SAVER)	DE7-28	1	42	PUSHBUTTON ASSY, START	DEB-64	1
12	RELAY BASE	DE3-25	2	28	TIMER (LIQUID LEVEL)	DE7-35	2	43	PUSHBUTTON ASSY, STOP	DEB-65	1
13	RELAY	DE2-12	2	29				44	PILOT LIGHT ASSY - YELLOW	DEB-62	1
14	RELAY BASE	DE2-37	3	30				45	PILOT LIGHT ASSY - RED	DEB-61	1
15	RELAY	DE2-38	3	31	GROUNDING STUD	D309C-GC-46	1	46	CIRCUIT BREAKER (10A)	DE9-106	1
16	RELAY HOLD DOWN SPRING	DE3-43	3	32	LOCKWASHER, 1/4"	D313C-G5	1	47	TERMINAL BLOCK ASSY	DE3-3	1
17	DIN RAIL (35 mm)	DE9-84	1	33	HEX NUT, 1/4-20	D312C-GC-2	1	48	CONTACT BLOCK, NC	DEB-60	1
18	DIN RAIL (15 mm)	DE3-42	1	34	CONTROL BOX	SK-3716	1	49	CONTACT BLOCK, NO	DEB-59	1
19	TERMINAL SECTION	DE3-39	AR	35	CONTROL BOX COVER	SK-3717	1				
20	TERMINAL END COVER PLATE	DE3-40	1	36	GASKET	9007-001	1				
21	TERMINAL END CLAMP	DE3-41	2	37	NUT	D312C-EF-5	4				
22	TRANSFORMER (250 VA, 120 VAC CONV) 230 & 460 V	DE6-10	1	38	DECAL	SK-3700	1				
23	FUSE BLOCK KIT (250 VA XFMR)	DE6-21	1	39	DATA DECAL	SK-3715	1				
24		DE9-164	1								

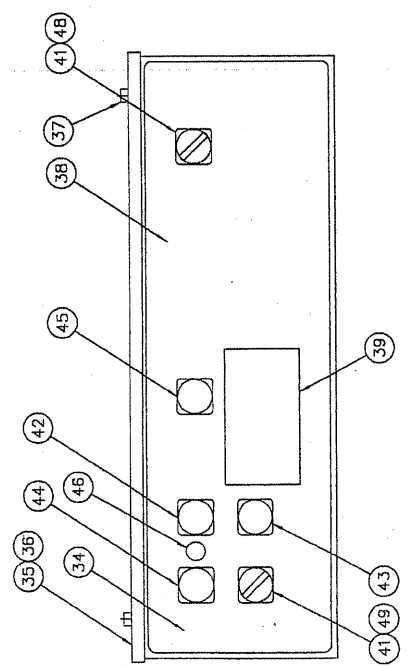
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PILOT LIGHT, WHITE DE9-108 2

PILOT LIGHT, AMBER DE9-109 2

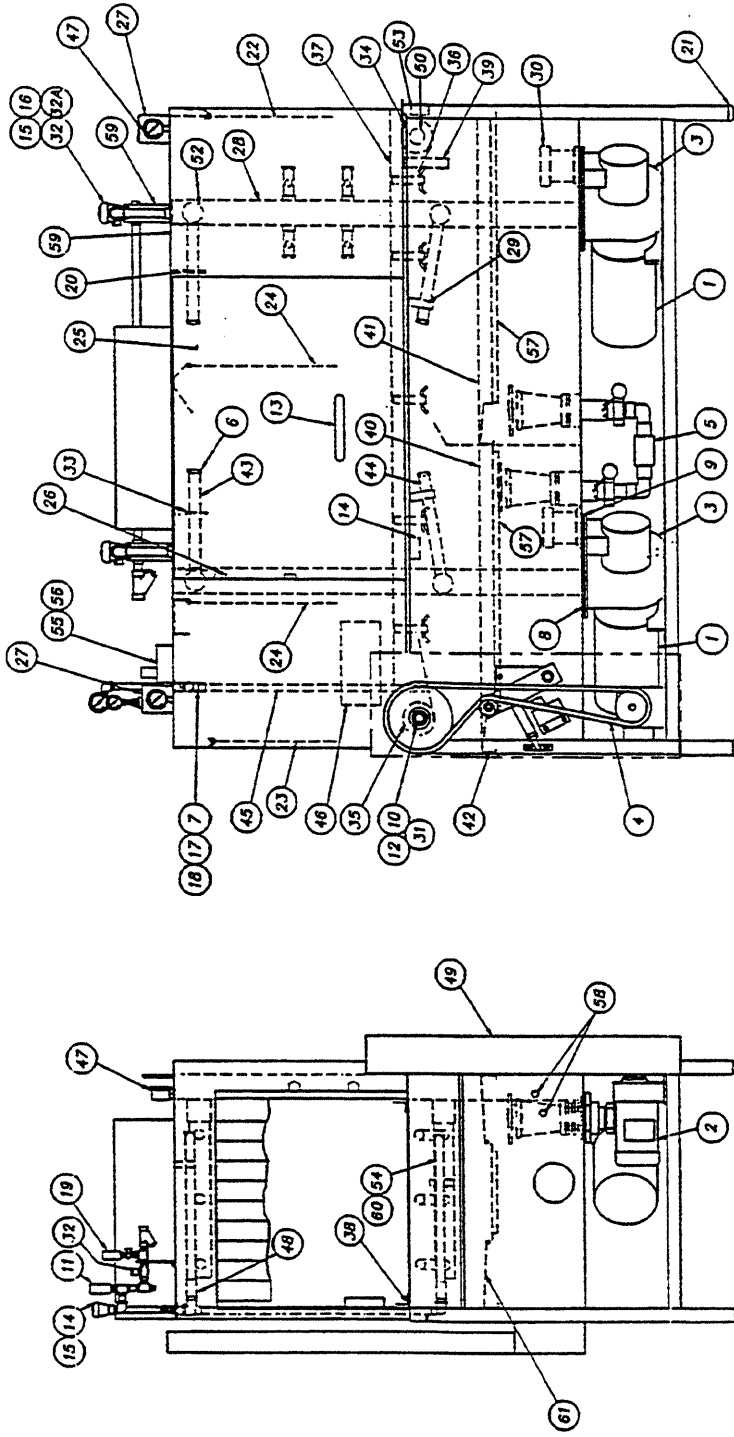
DECAL, GAS BURNER LIGHTS 1430-31 2

TEMPERATURE SENSOR DE9-252 2



SHEET 2 OF 2

TITLE SPEEDER 64			
GAS HEAT CONTROL PANEL LAYOUT			
		Philadelphia, PA 19135 DRWN/DATE (215) 624-4800 MFCJ FAX (215) 624-6866 6.1.95	
FILE: SKETCH\SK-3670		DWG. NO.	
SCALE 1=4		SK-3670	
G 1986 8.1.03	F 1857 2.15.01	REV	ECN NO DATE



SHEET 1 OF 2

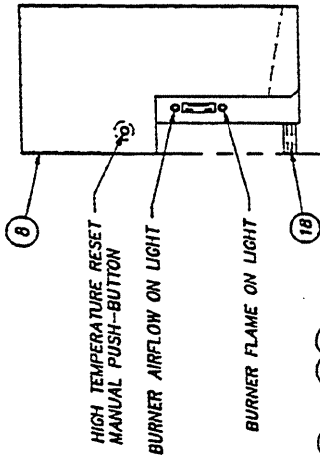
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ITEM#	PART#	DESCRIPTION	REQ.	ITEM#	PART#	DESCRIPTION	REQ.
1	**	PUMP & MOTOR, WASH & RINSE	2	40	1430-9	SCRAP SCREEN SPACER - FRONT RINSE	1
2	D2762	GEAR MOTOR	1	41	1430-8	SCRAP SCREEN SPACER - FRONT WASH	1
3	D2471	PUMP	2	42	1430-6	SCRAP SCREEN SPACER - ENDS	2
4	1397-1	DRIVE MECHANISM ASSEMBLY (SEE PARTS LIST)	1	43	1162-88	MANIFOLD ASSEMBLY - UPPER WASH & RINSE	2
5	1430-27	DRAIN ASSEMBLY (SEE PARTS LIST)	2	44	1162-89	MANIFOLD ASSEMBLY - LOWER WASH & RINSE	2
6	D2-554-J	PIPE PLUG 7/8-9UNC-2A	16	45	1169-45	FINAL RINSE - INSIDE PIPING	1
7	D2-554-2	PIPE PLUG 3/4-10UNC-2A	1	46	1162-44	FINAL RINSE - LEVER ASSEMBLY	1
8	D514	DISCHARGE GASKET	2	47	D2390	THERMOMETER	1
9	D530	SUCTION GASKET	3	48	D3-803	ADAPTOR	2
10	D586-1	BUSHING CONVEYOR DRIVE	4	49	1162-60	MECHANISM GUARD	1
11	D2495	THERMOMETER, FINAL RINSE	1	50	1169-165	CONVEYOR FOLLOWER SHAFT	1
12	1162-16	CONVEYOR DRIVE SHAFT	1	51	D3-849	STOP BRACKET, UPPER MANIFOLD	2
13	D2099	DOOR HANDLE	1	52	D2-564	O-RING, MANIFOLD	4
14	DE5-37	MAGNETIC SWITCH	1	53	1169-159	CHAIN TENSIONER ASSEMBLY (SEE PARTS LIST)	1
15	D2241	VACUUM BREAKER 1/2	3	54	D2286	SPRAY NOZZLE FINAL RINSE - LOWER	3
16	D2242	VACUUM BREAKER REPAIR KIT 1/2	3	55	816-58	SPRING	1
17	D2698	SPRAY NOZZLE	6	56	DE5-4	SWITCH, FINAL RINSE	1
18	1169-174	SPRAY PIPE FINAL RINSE - UPPER	1	57	1162-63	SCRAP SCREEN	2
19	SK-1433	PRESSURE GAUGE	1	58	DE5-60	FLOAT SWITCH	4
20	D2-879	LATCH ASSEMBLY - WASH	1	59	828-52	BRACKET, PIPING SUPPORT	1
21	D2430	ADJUSTABLE FOOT	4	60	D647	SPRAY PIPE FINAL RINSE - LOWER	1
22	D3-523	CURTAIN - ENTER	1	61	1430-7	SCRAP SCREEN SPACER - BACK	2
23	D3-501 rev. A	CURTAIN - EXIT	1				
24	D3-508	CURTAIN - CENTER	2				
25	1162-9	DOOR	1				
26	D2715-R	DOOR LATCH, RIGHT	2				
27	D2715-L	DOOR LATCH, LEFT	2				
28	D2-754A	THERMOMETER GUARD, SINGLE	2				
29	1162-17	DISCHARGE LINE ASSEMBLY (SEE PARTS LIST)	1				
30	1430-28	SPRAY PIPE CRADLE ASSY (SEE PARTS LIST)	2				
31	D2-541	SUCTION STRAINER	2				
32	D2-104	SHAFT BEARING - FRONT & REAR	2				
33	D2606	SOLENOID VALVE, 1/2"	3				
34	D2641	SOLENOID VALVE REPAIR KIT	3				
35	1162-90	LATCH ASSEMBLY - RINSE	1				
36	512-206A	DRIVEN SPROCKET	1				
37	512-207A	DRIVE SPROCKET	1				
38	9014-003	CONVEYOR CHAIN	1				
39	1162-36	FRONT TRACK	1				
	1162-52	REAR TRACK ASSEMBLY (SEE PARTS LIST)	1				
	1183-9	TRACK BRACKET	2				

SHEET 2 OF 2

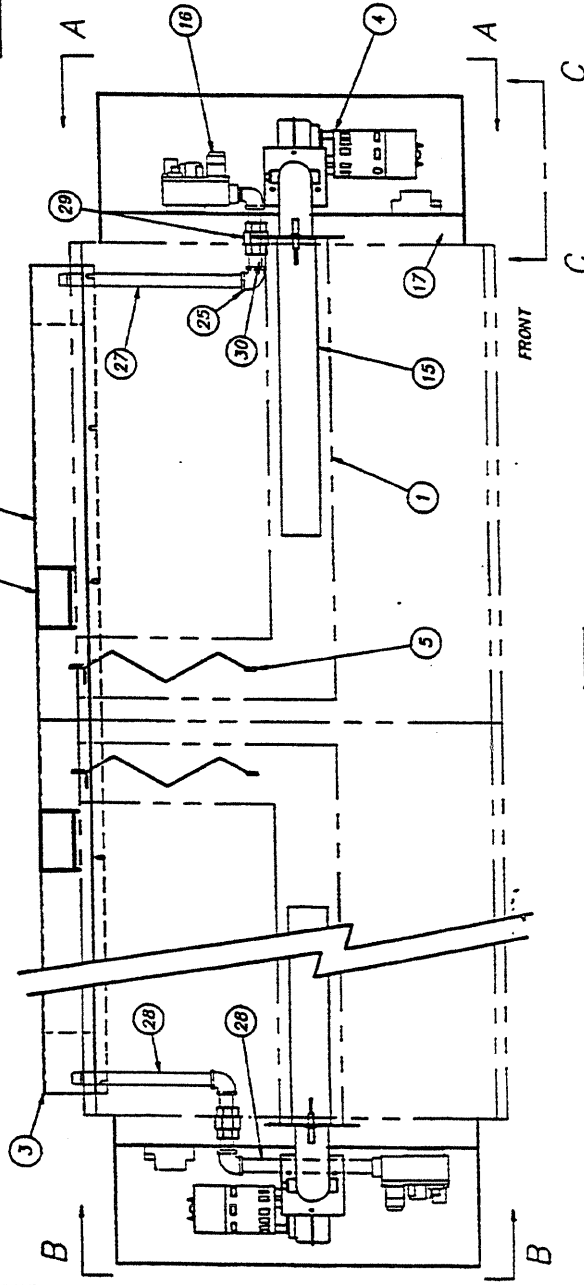
TOLERANCES		TITLE	PARTS LIST	NEXT ASSY Dwg. No.
FRACTIONS ±1/64			SPEEDER 64 GAS	RECD NOTED
DECIMALS			NOTED	SCALE
.XX ± .005				FULL SPOR 64 GAS
.XX ± .01				USED ON
ANGLES ±1/2°				DRWN/DATE
UNLESS OTHERWISE SPECIFIED				CES
REV	ECN NO	DATE	 Insinger Machine Company	
FILE: SKETCH\SK-36682		Philadelphia, PA 19135 (215) 824-1800 FAX (215) 824-8988		

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1430-4	B	TANK W/BURNER PIPE	1
2	1425-18	A	MAIN ORIFICE 60,000 BTUH (NAT OR LP)	2
3	1430-22R	B	DOUBLE PASS FLUE WELDM'T R.H.	1
4	1425-11	A	MODIFIED DRAFT BOOSTER BLOWER	2
5	1425-12	B	TURBULATOR	2
6	1430-22L	B	DOUBLE PASS FLUE WELDM'T L.H.	1
7	1430-13	B	BOTTOM-BURNER COVER	2
8	1430-19	A	BURNER COVER WELDM'T	2
9	1430-12	A	COVER ATTACHMENT STRIP	2
10	1425-22	A	AIR SHUTTER ASSY	2
11	1415-9	B	FLUE STACK WELDM'T	2
12	1430-23	B	INSULATION PANELS	1



VIEW C-C

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
13	D2827	A	HOT SURFACE IGNITION MODULE	2
14	D2789	-	FLEX S/S GAS LINE	2
15	D2780	A	INFRA-RED BURNER	2
16	D2815	A	H.S.I. IGNITER	2
17	1430-14	A	MOUNTING ANGLE	2
18	1430-15	A	SPACER	6
19	0317C-D2-06	-	MALE CONN 45° FLARE-1/2 T X 1/2 MPI	2
20	D2786	-	GAS VALVE	2
21	1415-33	A	HIGH TEMP LIMIT SWITCH MTO BRKT	2
22	DE5-65	A	HIGH TEMP LIMIT SWITCH	2
23	1415-29	A	PIPE BRACKET-ANGLE	2

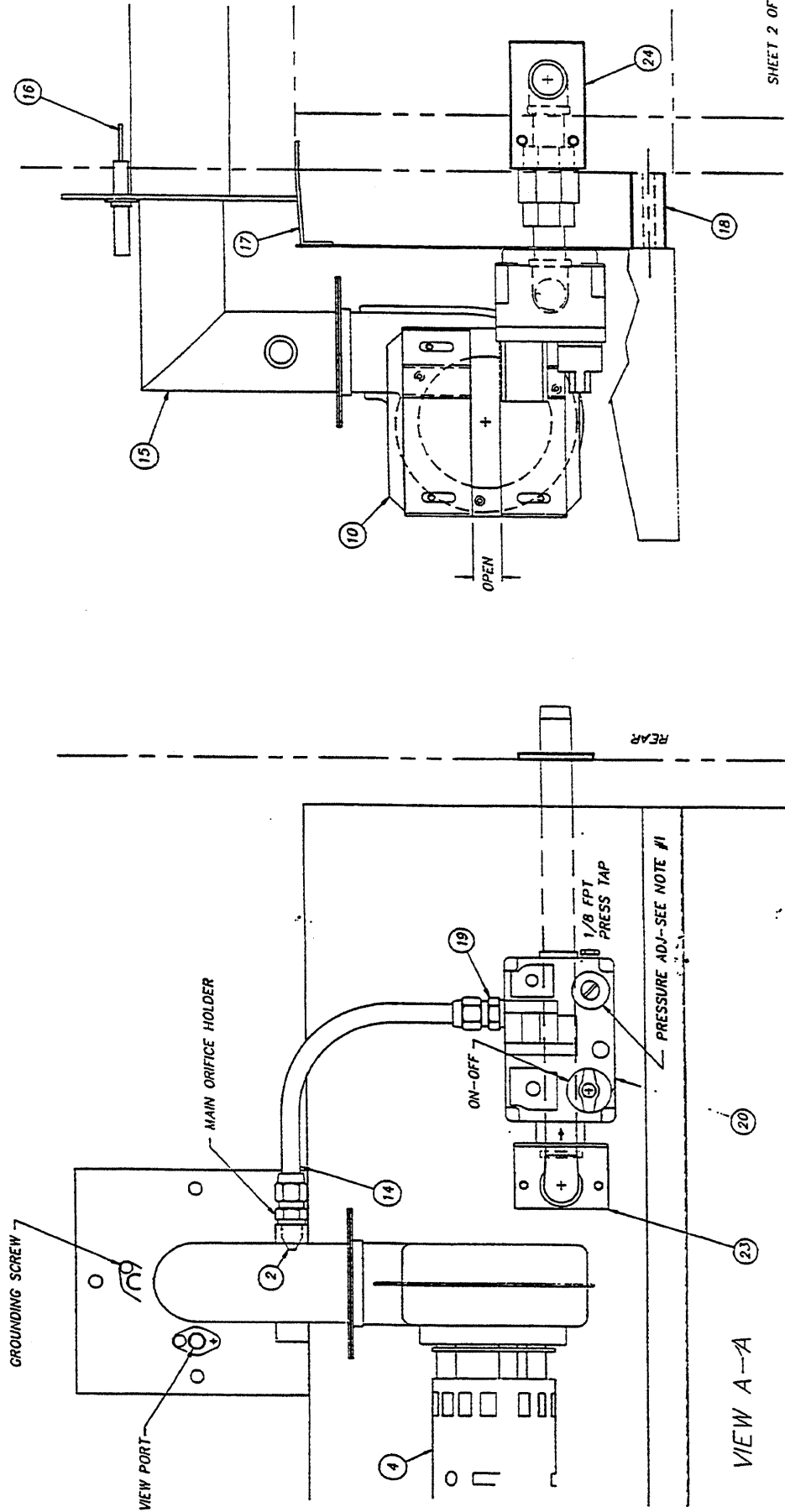


24	1415-30	A	PIPE BRACKET-PLATE	2
25	0316B-01-01	-	90° ELBOW 1/2 IPS-BLACK	3
26	0316B-01-02	-	90° STREET ELBOW 1/2 IPS-BLACK	1
27	0314B-05-96	-	NIPPLE 1/2 IPS X 12 LG-BLACK	1
28	0314B-05-72	-	NIPPLE 1/2 IPS X 9 LG-BLACK	2
29	0316B-01	-	UNION 1/2 IPS-BLACK	2
30	0314B-05-12	-	NIPPLE 1/2 IPS X 1 1/2 LG-BLACK	4

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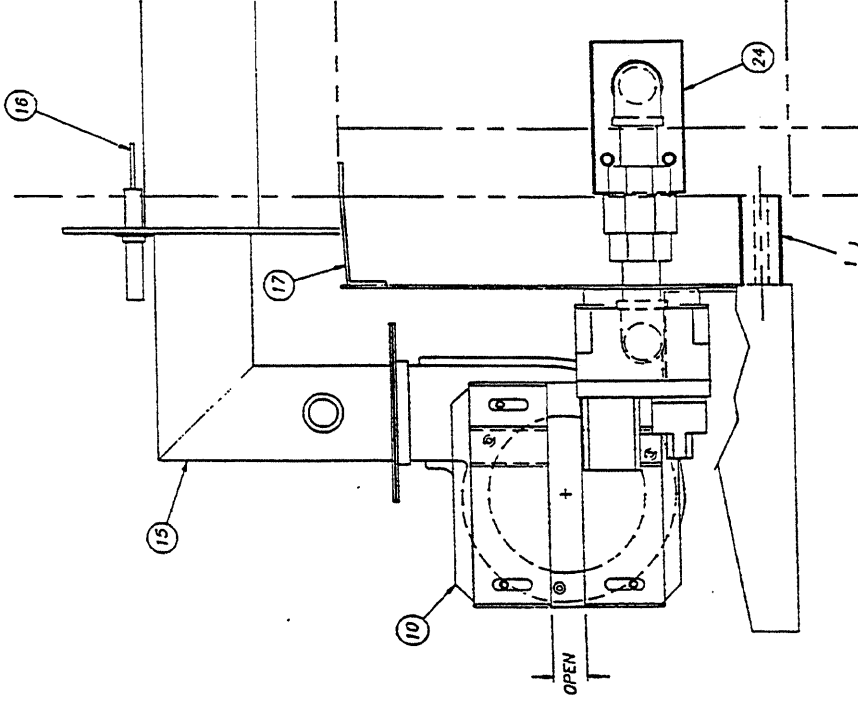
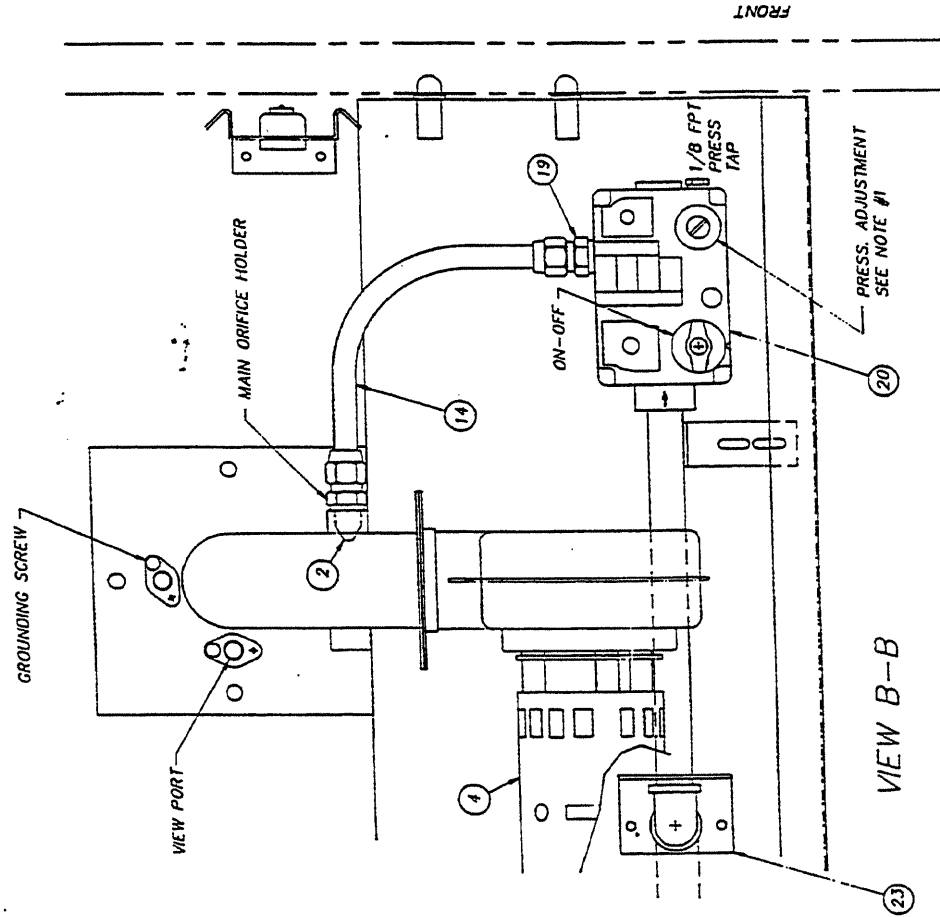
NOTE: 1) FOR PROPANE (L.P. GAS), REMOVE CAP, REMOVE CAP & INSTALL CONVERSION KIT D2793
(SPRING + LABELS), ADJUST TO 11" WC & REPLACE CAP
2) USE MAIN ORIFICE SIZED FOR PROPANE



SHEET 2 OF 3

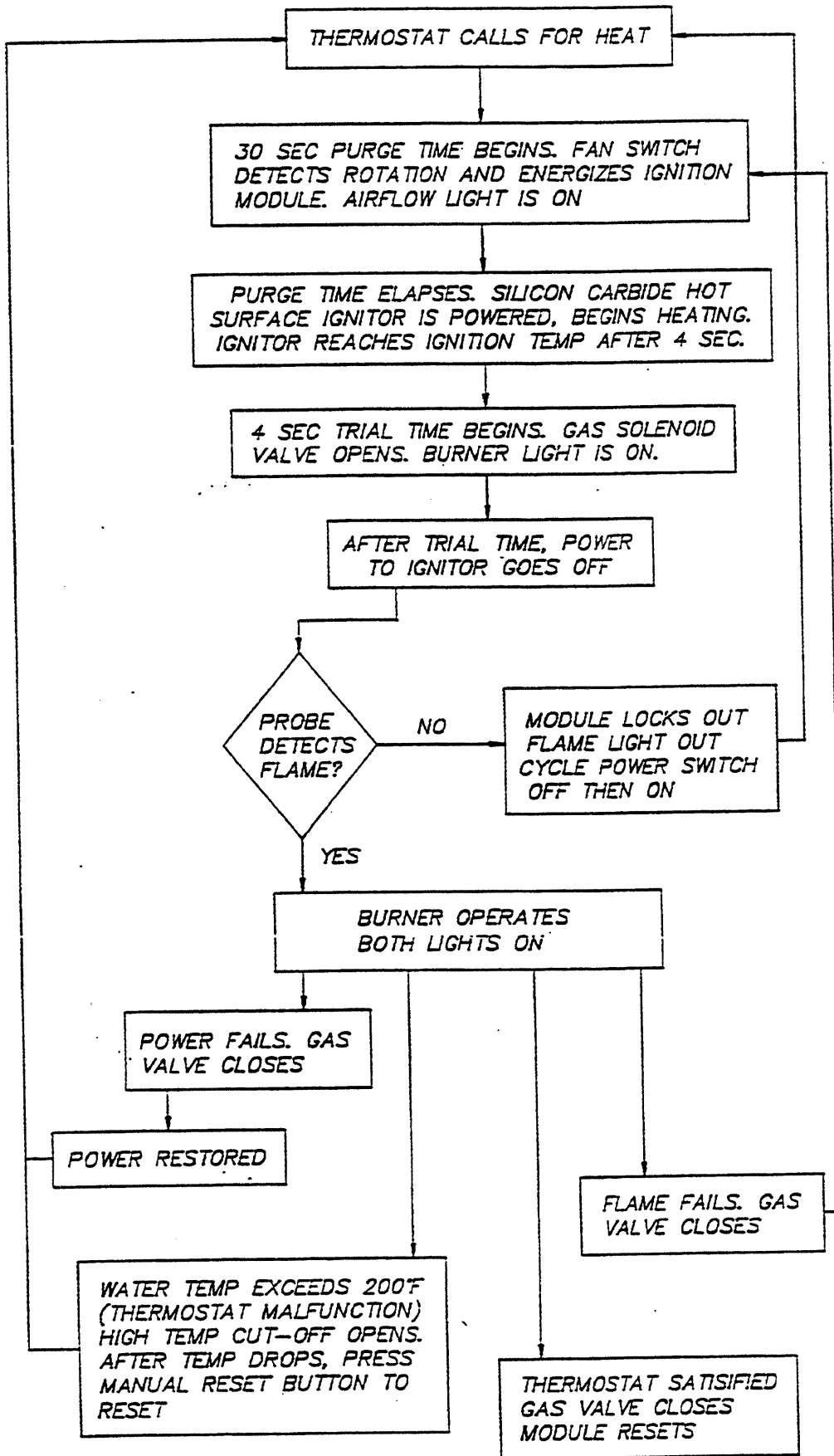
TOLERANCES		TITLE		INFRA-RED BURNER		NEXT ASSY DWG. NO.	
FRACTIONS	±1/64			GENERAL ARRANGEMENT		REQD	1 1430-1
DECIMALS	.XXX ± .005					SCALE	USED ON
XX ± .01						1=8	SPDR 64 GAS
ANGLES	±1/2°						URWN/DATE
UNLESS OTHERWISE SPECIFIED							CES
REV	ECN NO	DATE					
FILE: PARTS	1430-1						
				Insinger Machine Company Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6866 CES 2.10.85			

NOTE: 1) FOR PROPANE (L.P.L. GAS), REMOVE CAP & INSTALL CONVERSION KIT D2793
(SPRING + LABELS), ADJUST TO 11" WC & REPLACE CAP
2) USE MAIN ORIFICE SIZED FOR PROPANE



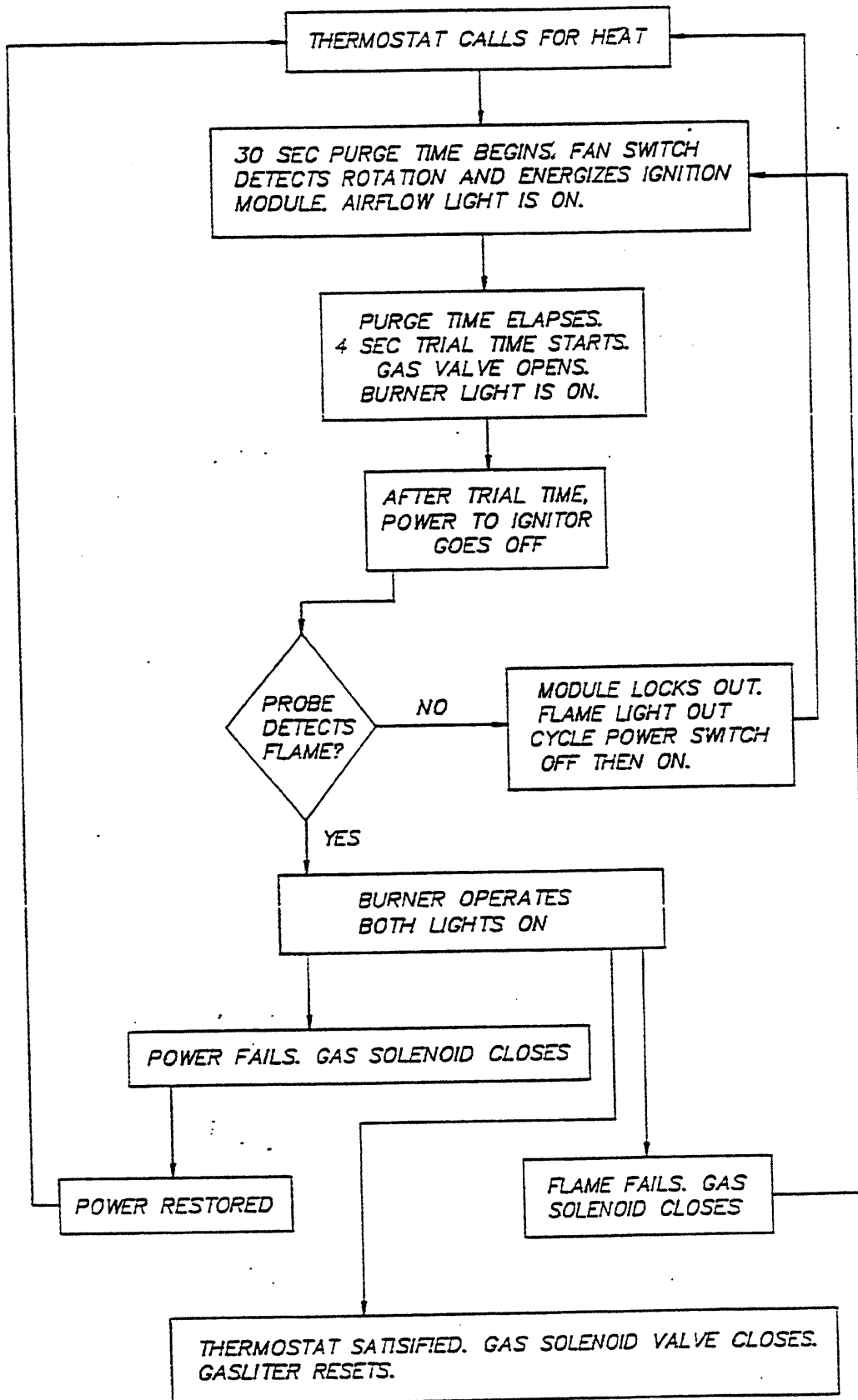
SHEET 3 OF 3

TOLERANCES		TITLE		NEXT ASSY Dwg. NO.	
FRACTIONS	±1/64	INFRA-RED BURNER		REC'D	1430-1
DECIMALS	XXX ± .005	GENERAL ARRANGEMENT		SCALE	USED ON
XX	± .01	MAYL		1=8	SPOR 64 GAS
ANGLES	±1/2°	Philadelphia, PA 19135		DRWN/DATE	2.10.95
UNLESS OTHERWISE SPECIFIED		Insinger Machine Company		CEC	
REV	ECH NO	DATE	FILE:PARTS\1430-1		



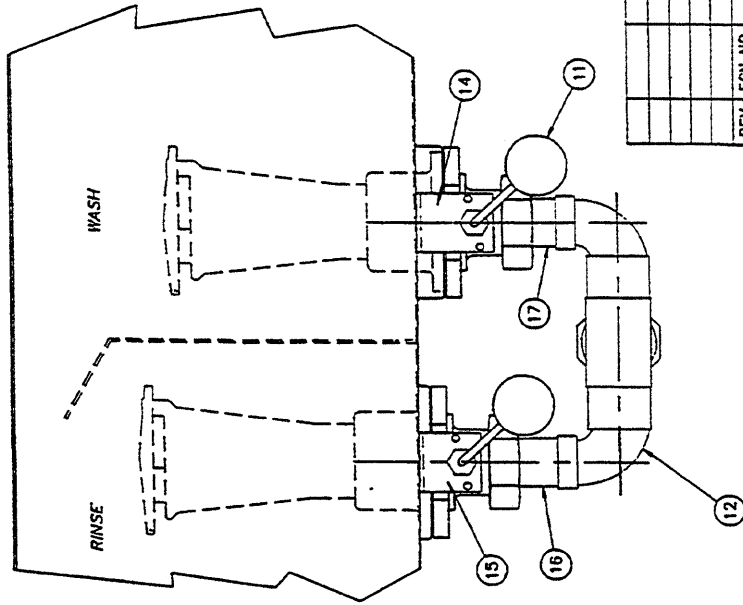
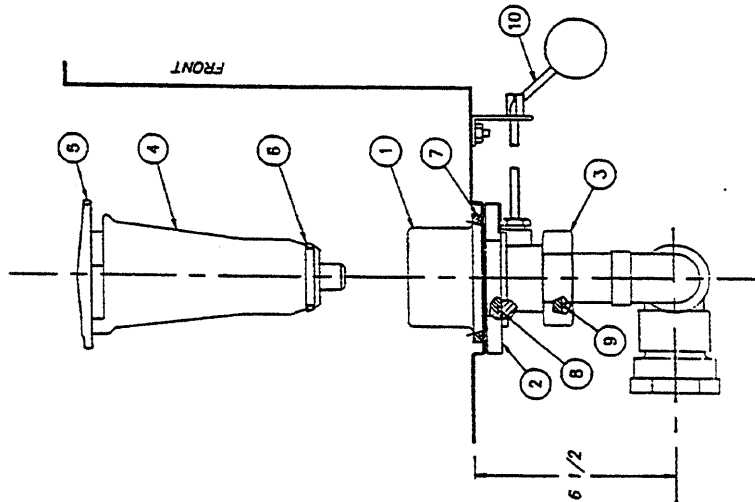
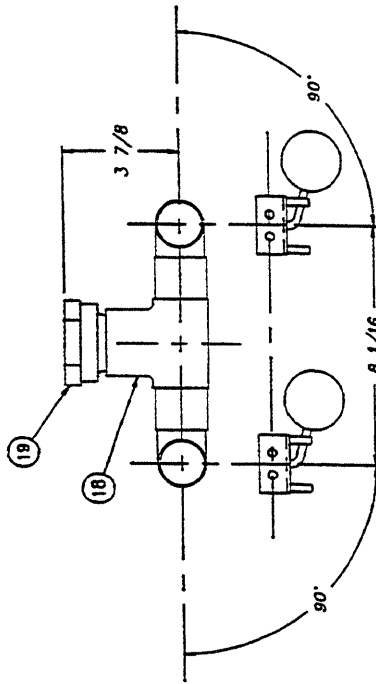
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				TOLERANCES		TITLE		SEQUENCE OF OPERATIONS		NEXT ASSY		DWG. NO.	
				FRACTIONS ±1/64				DIRECT SPARK IGNITION		REQ'D 1		SK3695-2	
				DECIMALS									
				.XXX ± .005						SCALE		USED ON	
				.XX ± .01						FULL		ADM GAS	
				ANGLES ±1/2°									
				UNLESS									
				OTHERWISE									
				SPECIFIED									

ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	954-50A	A	UPPER BODY	1 EA
2	954-50B	A	LOWER BODY	1 EA
3	954-50C	A	NUT	1 EA
4	1169-179D	B	OVERFLOW TUBE 1 INCH LONGER	1 EA
5	D-193	A	SKIMMER CAP	1 EA
6	D2-557	A	"U" CUP SEAL	1 EA
7	D2-548	A	"O" RING	1 EA
8	D2-549	A	"O" RING	1 EA
9	D2-550	A	"O" RING	1 EA
10	1100-79	A	DRAIN HANDLE	1 EA
11	D2-507	-	BALL	1 EA
12	D316A-H3-H4	-	90° STREET ELBOW 1 1/2C	1 EA
13	-	-	-	-
14	954-8B	A	BRACKET-DRAIN HANDLE-WASH	1
15	954-8	A	BRACKET-DRAIN HANDLE-RINSE	1
16	D207A-B12-10	-	COPPER TUBE-1 1/2CTS X 2 1/2 LG	1
17	D207A-B12-8	-	COPPER TUBE-1 1/2CTS X 2 LG	1
18	D320A-H3H3J3	-	TEE 1 1/2C X 1 1/2C X 2C	1
19	D317A-J4-J1	-	ADAPTER 2 FTG. X 2 FPS	1

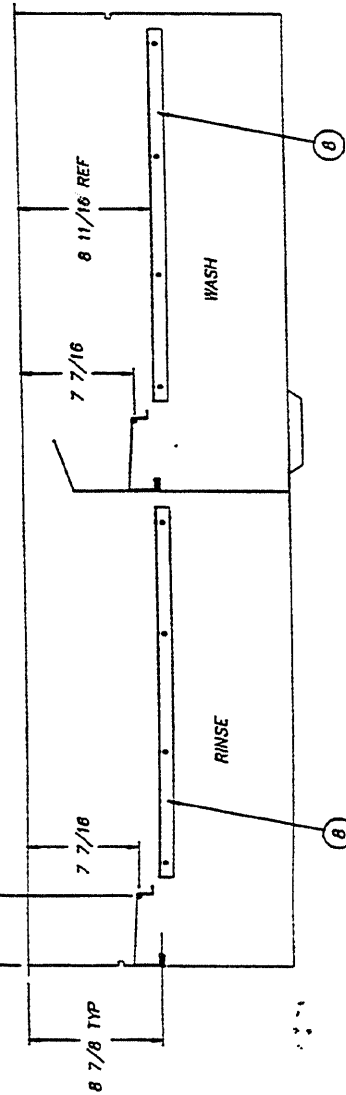
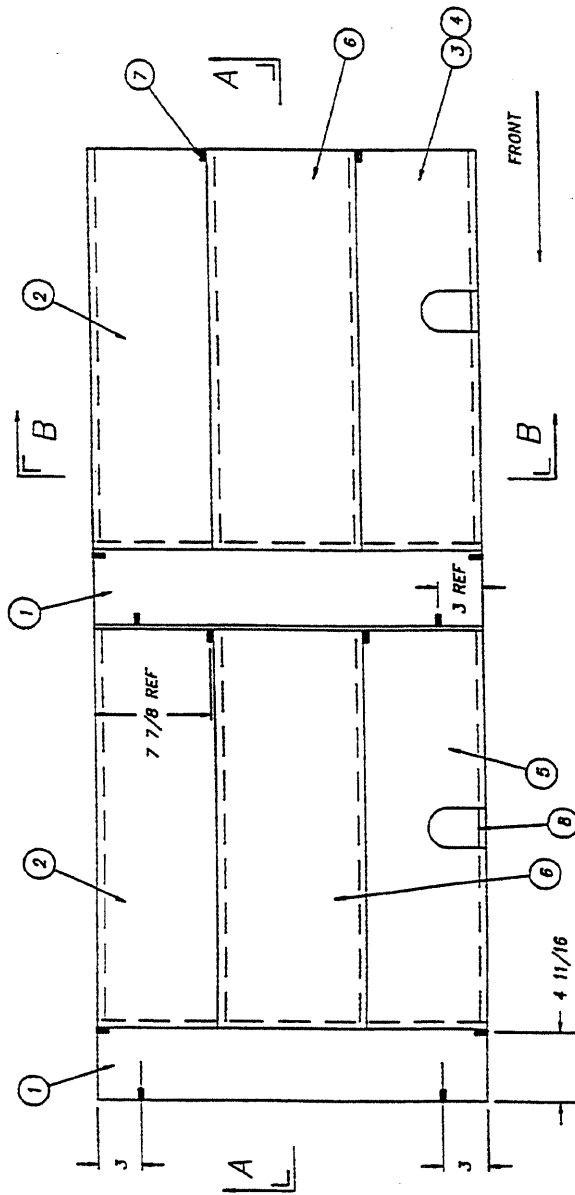


L.H. SHOWN - R.H. OPPOSITE

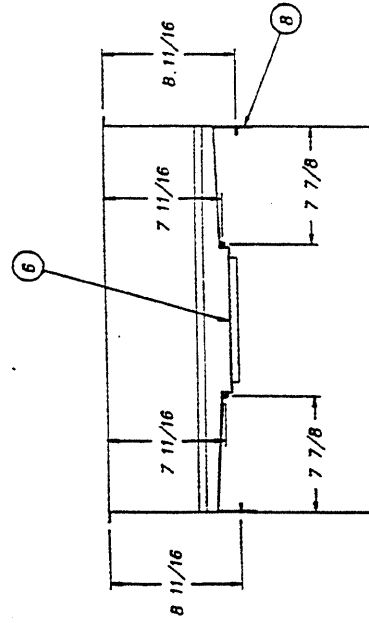
TOLERANCES	TITLE	NEXT ASSY	DWG. NO.
FRACTIONS ±1/64	DRAIN	REC'D 1	1430-27
DECIMALS .XXX ±.005	ASSEMBLY	SCALE 1=4	USED ON SPDR 64 GAS
.XX ±.01	NOTED		DRWN/DATE
ANGLES ±1/2°			CCS 12.12.94
UNLESS OTHERWISE SPECIFIED			
REV	ECN NO.	DATE	FILE: PARTS\1430-27

Insinger
Machine Company
Phila., Pa. 19135
(215) 624-4800
FAX (215) 624-6966

ITEM	PART NO.	DESCRIPTION	QTY.	QTY.
1	1430-6	SCRAP SPACER-END	2	2
2	1430-7	SCRAP SPACER-BACK	2	2
3	1430-8R	SCRAP SPACER-WASH W/SLOT RH	-	1
4	1430-8L	SCRAP SPACER-WASH W/SLOT LH	1	-
5	1430-9	SCRAP SPACER-RINSE W/SLOT	1	1
6	1162-63	SCRAP SCREEN	2	2
7	D309C-PG-6G	1/4 DIA X 3/4 LG WELDPIN	12	12
8	1162-42	SCRAP SPACER SUPPORT X 25"	4	4
				L.H. R.H.



SECTION A-A



SECTION B-B

R.H. SHOWN -- L.H. OPPOSITE		NEXT ASSY DWG. NO.	
TITLE		1430-5	
TOLERANCES		SCALE	
FRACTIONS ±1/64		1"=8	
DECIMALS .XXX ±.005		USED ON	
.XX ±.01		SPDR 64 GAS	
ANGLES ±1/2°		DRWN/DATE	
UNLESS OTHERWISE SPECIFIED		CES	
REV		ECON NO	
DATE		FILE: PARTS/1430-5	
REV		ECON NO	
DATE		FILE: PARTS/1430-5	

Insinger
Machine Company
Philadelphia, PA 19135
(215) 624-4600
FAX (215) 624-8866
11.21.94



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