



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.



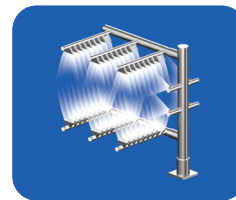
Project _____
 Item _____
 Quantity _____
 CSI - 11400 _____
 Approval _____
 Date _____



Speeder 64

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
- Error proof replacement with color-coded curtains



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

STANDARD FEATURES

- CrossFire Wash System
- Color-coded curtains
- Tank heat:
 - Electric immersion heater
 - Steam injector
- 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 delimiting
- End caps/pipe plugs secured to prevent loss
- Timing belt conveyor drive

OPTIONS

- Stainless steel steam coil tank heat
- Steam booster
- Electric booster
- 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
- Totally enclosed motors
- Rack limit switch
- Power Loader
- Power Unloader
- Door activated drain closers
- Insulated hood and door
- Plastic 20" x 20" racks (plate or silver)

SPECIFIER STATEMENT

Specified unit will be an Insinger Speeder 64 double tank rack conveyor dishwasher. Features include CrossFire Wash System, capillary thermometer for wash and rinse, in-line thermometer for final rinse, vacuum breaker, SureFire Start-Up & Check-Out service, inspection door automatic tank fill, low water protection, door safety switch, energy saver, timing belt conveyor drive, and 304 stainless steel construction.



Additional Information

| | |
|---|--|
| 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 |

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

SPECIFICATIONS

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.

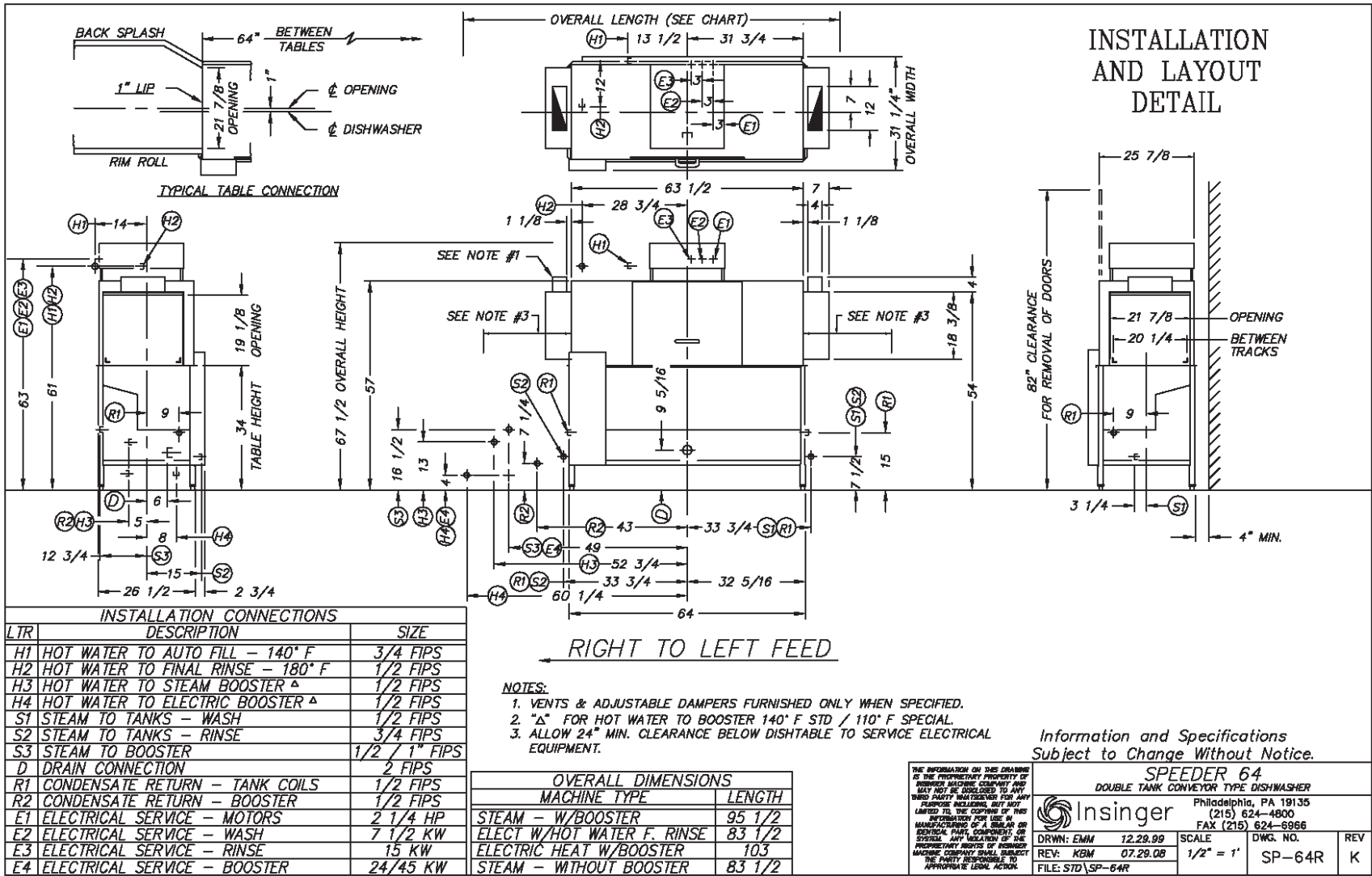
WASH- Upper and lower manifolds with the patented CrossFire® Wash System. One manifold above with 3 power wash arms, each with 9 high pressure cleaning slots and one manifold below with 3 power wash arms, each with 9 high pressure cleaning slots. The slots are precision milled for water control producing 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.



| INSTALLATION CONNECTIONS | | |
|--------------------------|-----------------------------------|---------------|
| LTR | DESCRIPTION | SIZE |
| H1 | HOT WATER TO AUTO FILL - 140° F | 3/4 FIPS |
| H2 | HOT WATER TO FINAL RINSE - 180° F | 1/2 FIPS |
| H3 | HOT WATER TO STEAM BOOSTER Δ | 1/2 FIPS |
| H4 | HOT WATER TO ELECTRIC BOOSTER Δ | 1/2 FIPS |
| S1 | STEAM TO TANKS - WASH | 1/2 FIPS |
| S2 | STEAM TO TANKS - RINSE | 3/4 FIPS |
| S3 | STEAM TO BOOSTER | 1/2 / 1" FIPS |
| D | DRAIN CONNECTION | 2 FIPS |
| R1 | CONDENSATE RETURN - TANK COILS | 1/2 FIPS |
| R2 | CONDENSATE RETURN - BOOSTER | 1/2 FIPS |
| E1 | ELECTRICAL SERVICE - MOTORS | 2 1/4 HP |
| E2 | ELECTRICAL SERVICE - WASH | 7 1/2 KW |
| E3 | ELECTRICAL SERVICE - RINSE | 15 KW |
| E4 | ELECTRICAL SERVICE - BOOSTER | 24/45 KW |

| OVERALL DIMENSIONS | |
|----------------------------|--------|
| MACHINE TYPE | LENGTH |
| STEAM - W/BOOSTER | 95 1/2 |
| ELECT W/HOT WATER F. RINSE | 83 1/2 |
| ELECTRIC HEAT W/BOOSTER | 103 |
| STEAM - WITHOUT BOOSTER | 83 1/2 |

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Information and Specifications
Subject to Change Without Notice.

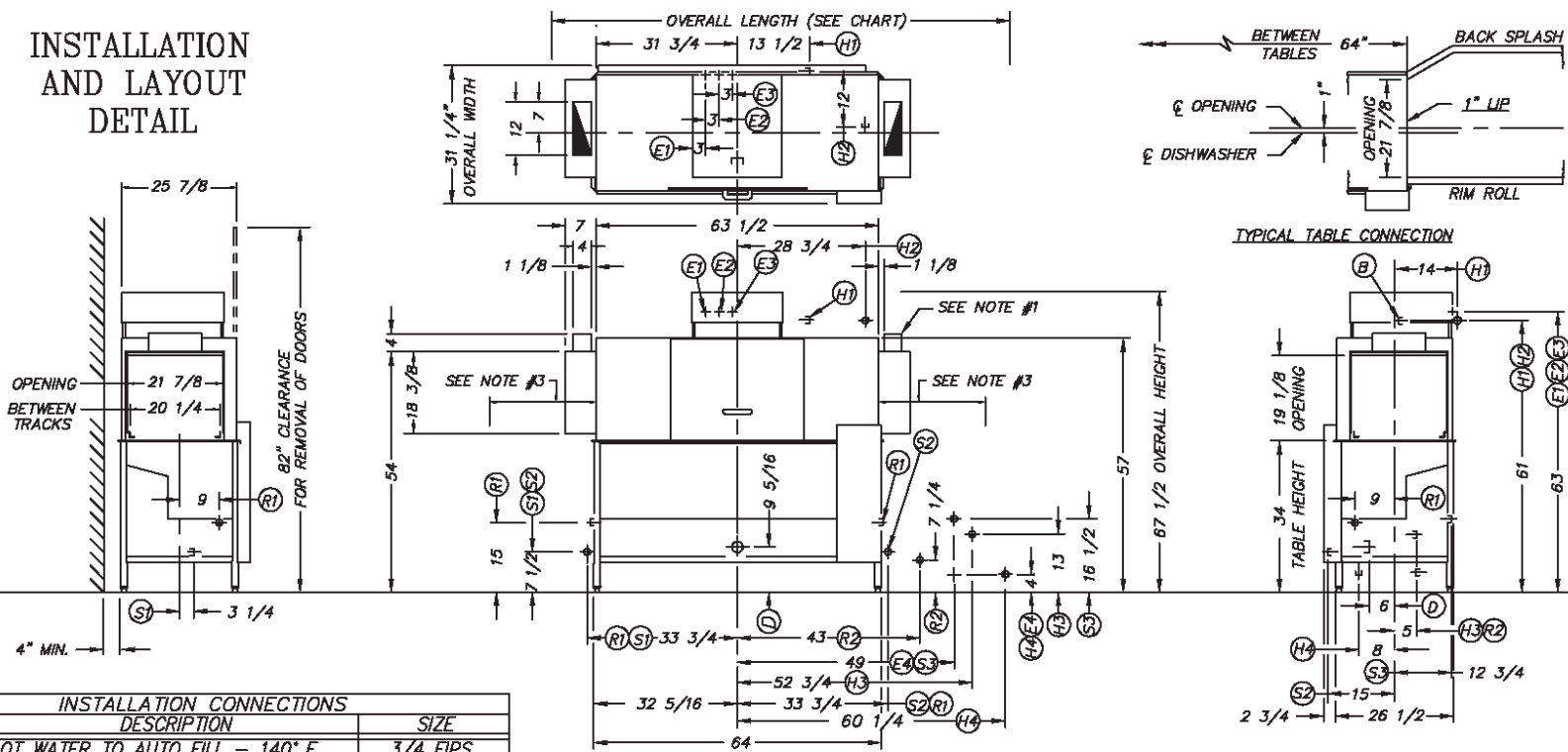
SPEEDER 64
DOUBLE TANK CONVEYOR TYPE DISHWASHER

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

Insinger

| | | | | |
|------------------|----------|-----------|----------|-----|
| DRWN: EMM | 12.29.99 | SCALE | DWG. NO. | REV |
| REV: KGM | 07.29.08 | 1/2" = 1' | SP-64R | K |
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INSTALLATION AND LAYOUT DETAIL



LEFT TO RIGHT FEED

| INSTALLATION CONNECTIONS | | |
|--------------------------|-----------------------------------|---------------|
| LTR | DESCRIPTION | SIZE |
| H1 | HOT WATER TO AUTO FILL - 140° F | 3/4 FIPS |
| H2 | HOT WATER TO FINAL RINSE - 180° F | 1/2 FIPS |
| H3 | HOT WATER TO STEAM BOOSTER Δ | 1/2 FIPS |
| H4 | HOT WATER TO ELECTRIC BOOSTER Δ | 1/2 FIPS |
| S1 | STEAM TO TANKS - WASH | 1/2 FIPS |
| S2 | STEAM TO TANKS - RINSE | 3/4 FIPS |
| S3 | STEAM TO BOOSTER | 1/2 / 1" FIPS |
| D | DRAIN CONNECTION | 2 FIPS |
| R1 | CONDENSATE RETURN - TANK COILS | 1/2 FIPS |
| R2 | CONDENSATE RETURN - BOOSTER | 1/2 FIPS |
| E1 | ELECTRICAL SERVICE - MOTORS | 2 1/4 HP |
| E2 | ELECTRICAL SERVICE - WASH HEAT | 7 1/2 KW |
| E3 | ELECTRICAL SERVICE - RINSE HEAT | 15 KW |
| E4 | ELECTRICAL SERVICE - BOOSTER | 24/45 KW |

- NOTES:
1. VENT & ADJUSTABLE DAMPERS FURNISHED ONLY WHEN SPECIFIED.
 2. "Δ" FOR HOT WATER TO BOOSTER 140° F STD / 110° F SPECIAL.
 3. ALLOW 24" MIN. CLEARANCE BELOW DISHTABLE TO SERVICE ELECTRICAL EQUIPMENT.

| OVERALL DIMENSIONS | |
|-----------------------------|--------|
| MACHINE TYPE | LENGTH |
| STEAM - W/ BOOSTER | 95 1/2 |
| ELECT. W/HOT WATER F. RINSE | 83 1/2 |
| ELECTRIC HEAT W/BOOSTER | 103 |
| STEAM - WITHOUT BOOSTER | 83 1/2 |

Information and Specifications
Subject to Change Without Notice.

SPEEDER 64
DOUBLE TANK CONVEYOR TYPE DISHWASHING MACHINE

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

Insinger

| | | | | |
|------------------|----------|-----------|----------|-----|
| DRWN: EMM | 12.30.89 | SCALE | DWG. NO. | REV |
| REV: KBM | 07.29.08 | 1/2" = 1' | SP-64L | K |
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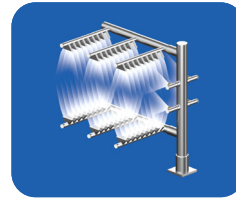
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Speeder 86

Double Tank Conveyor Dishwasher with Recirculating 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
- Error proof replacement with color-coded curtains



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

STANDARD FEATURES

- CrossFire Wash System
- Color-coded curtains
- Tank heat:
 - Electric immersion heater
 - Steam injector
- 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 delimiting
- End caps/pipe plugs secured to prevent loss
- Timing belt conveyor drive

OPTIONS

- Stainless steel steam coil tank heat
- Steam booster
- Electric booster
- 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
- Totally enclosed motors
- Rack limit switch
- Power Loader
- Power Unloader
- Door activated drain closers
- Insulated hood and door
- Plastic 20" x 20" racks (plate or silver)

SPECIFIER STATEMENT

Specified unit will be an Insinger Speeder 86 double tank rack conveyor dishwasher with pre-wash. Features include CrossFire Wash System, capillary thermometer for wash and rinse, in-line thermometer for final rinse, vacuum breaker, SureFire Start-Up & Check-Out service, inspection door automatic tank fill, low water protection, door safety switch, energy saver, timing belt conveyor drive, and 304 stainless steel construction.



Additional Information

| | |
|---|--|
| 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 |
| 480/3/60 | 4.9 | 5.4 | 31.9 |
| 380/3/50 | 5.9 | 6.6 | 40.0 |

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

SPECIFICATIONS

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.

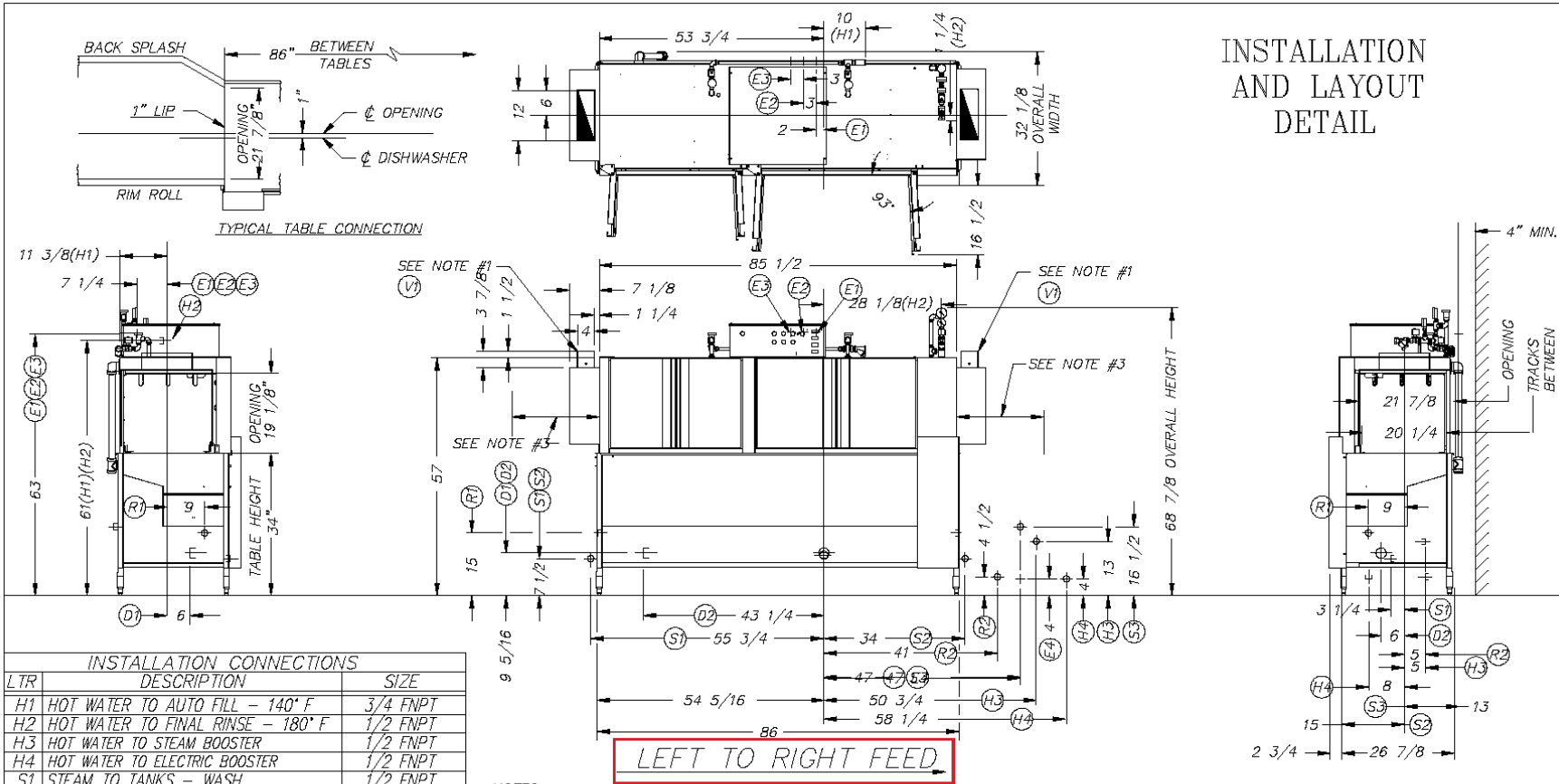
RINSE- Upper and lower manifolds. One manifold above with 3 power rinse arms, each with 9 high pressure rinsing slots and one manifold below with 3 power rinse arms, each with 9 high pressure rinsing slots. The slots are precision milled for water control producing a fan spray. Rinse arms are fillet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

INSTALLATION AND LAYOUT DETAIL



| INSTALLATION CONNECTIONS | | |
|--------------------------|-----------------------------------|----------------|
| LTR | DESCRIPTION | SIZE |
| H1 | HOT WATER TO AUTO FILL - 140° F | 3/4 FNPT |
| H2 | HOT WATER TO FINAL RINSE - 180° F | 1/2 FNPT |
| H3 | HOT WATER TO STEAM BOOSTER | 1/2 FNPT |
| H4 | HOT WATER TO ELECTRIC BOOSTER | 1/2 FNPT |
| S1 | STEAM TO TANKS - WASH | 1/2 FNPT |
| S2 | STEAM TO TANKS - RINSE | 3/4 FNPT |
| S3 | STEAM TO BOOSTER | 1/2 or 1" FNPT |
| D1 | DRAIN CONNECTION - WASH & RINSE | 2" FNPT |
| D2 | DRAIN CONNECTION - PREWASH | 1 1/2 FNPT |
| R1 | CONDENSATE RETURN - TANK COILS | 1/2 FNPT |
| R2 | CONDENSATE RETURN - BOOSTER | 1/2 FNPT |
| E1 | ELECT. SERVICE - WASHER MTRS. | 2.6 HP |
| E2 | ELECT. SERVICE - WASH HTRS. | 8 KW |
| E3 | ELECT. SERVICE - RINSE HTRS. | 15 KW |
| E4 | ELECT. SERVICE - BOOSTER | 24/45 KW |
| V1 | VENT, EXHAUST (4 x 12) | 350 CFM EACH |

- NOTES:**
1. END COWLS WITH VENT & ADJUSTABLE DAMPERS FURNISHED ONLY WHEN SPECIFIED.
 2. " " FOR HOT WATER TO BOOSTER 140° F STD / 110° F SPECIAL.
 3. ALLOW 24" MIN. CLEARANCE BELOW DISHTABLE TO SERVICE ELECTRICAL EQUIPMENT.

Information and Specifications
Subject to Change Without Notice.

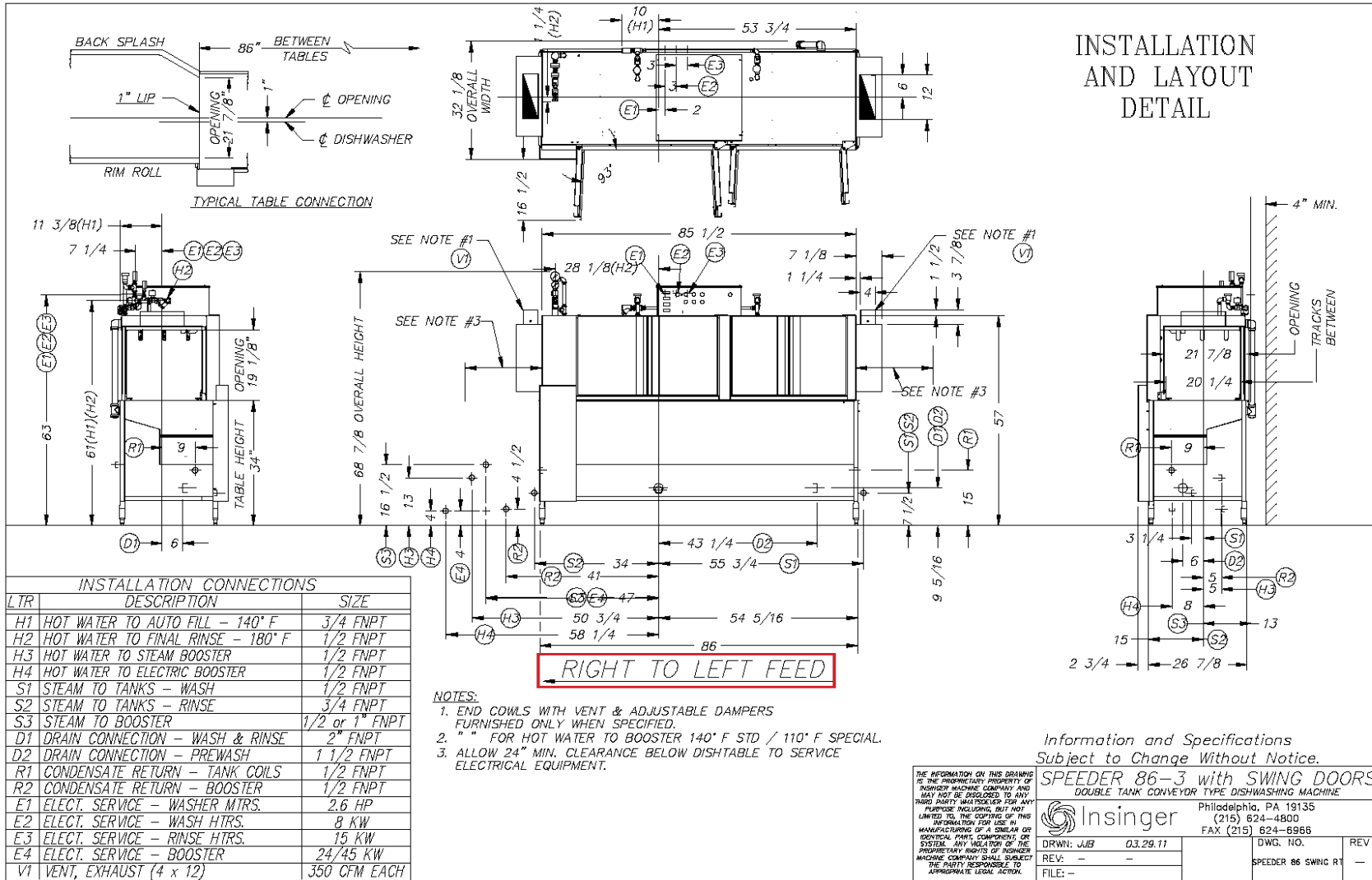
SPEEDER 86-3 with SWING DOORS
DOUBLE TANK CONVEYOR TYPE DISHWASHING MACHINE

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

Insinger

| | | | |
|-----------|----------|---------------------|-----|
| DRWN: JJB | 03.29.11 | DWG. NO. | REV |
| REV: - | - | SPEEDER 86 SWING LT | - |
| FILE: - | - | | |

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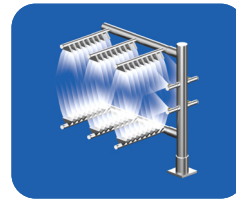




Super 106

Three Tank 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
- Error proof replacement with color-coded curtains



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

STANDARD FEATURES

- CrossFire Wash System
- Color-coded curtains
- Tank heat:
 - Electric immersion heater
 - Steam injector
- 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 delimiting
- End caps/pipe plugs secured to prevent loss
- Timing belt conveyor drive

OPTIONS

- Stainless steel steam coil tank heat
- Steam booster
- Electric booster
- 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
- Totally enclosed motors
- Rack limit switch
- Power Loader
- Power Unloader
- Door activated drain closers
- Insulated hood and door
- Plastic 20" x 20" racks (plate or silver)

SPECIFIER STATEMENT

Specified unit will be an Insinger Super 106-2 double tank rack conveyor dishwasher with pre-wash. Features include CrossFire Wash System, capillary thermometer for wash and rinse, in-line thermometer for final rinse, vacuum breaker, SureFire Start-Up & Check-Out service, inspection door automatic tank fill, low water protection, door safety switch, energy saver, timing belt conveyor drive, and 304 stainless steel construction.



Additional Information

| | |
|--|--|
| 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 |

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

SPECIFICATIONS

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.

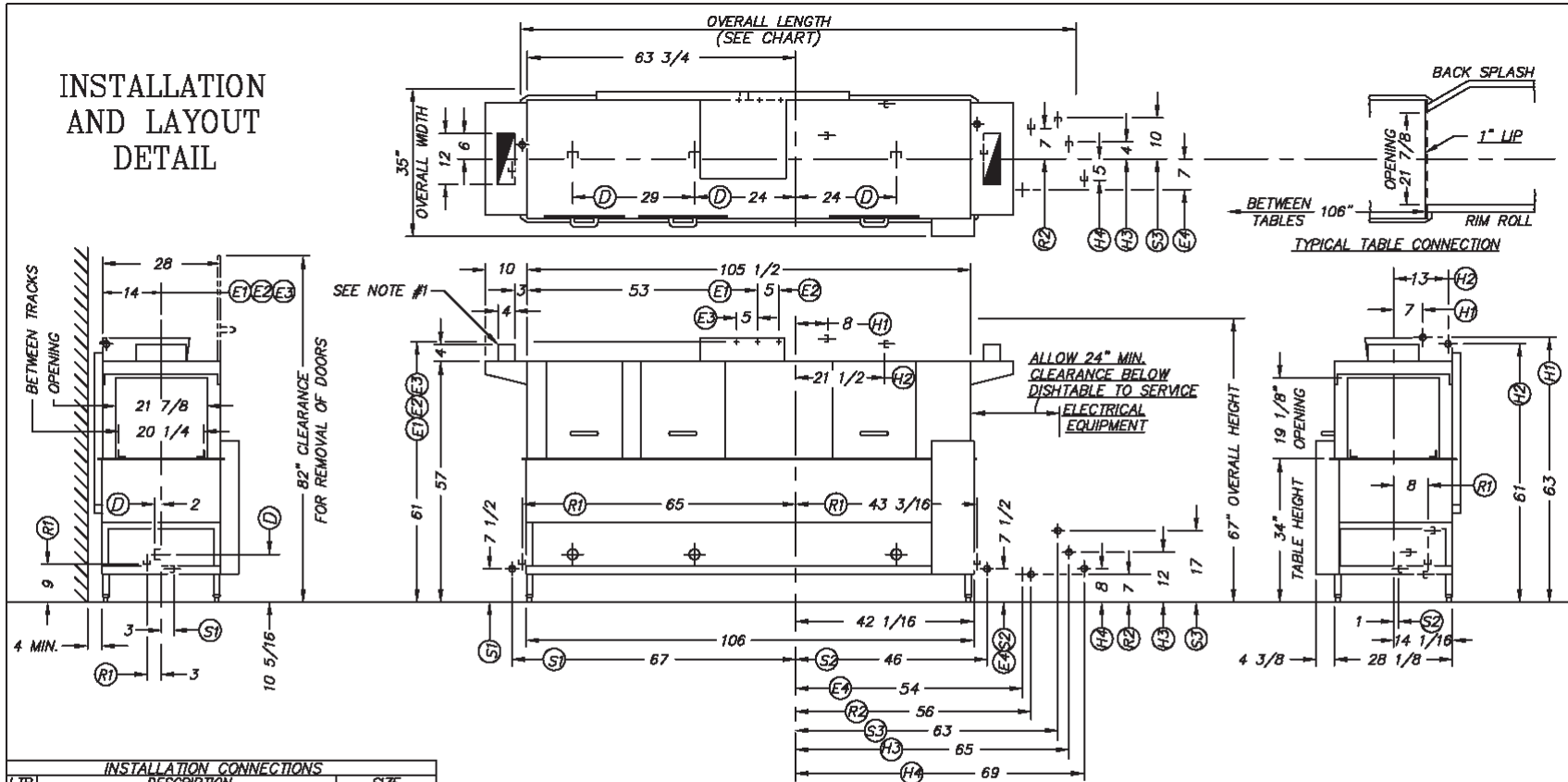
RINSE- Upper and lower manifolds. One manifold above with 3 power rinse arms, each with 9 high pressure rinsing slots and one manifold below with 3 power rinse arms, each with 9 high pressure rinsing slots. The slots are precision milled for water control producing a fan spray. Rinse arms are fillet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

INSTALLATION AND LAYOUT DETAIL



LEFT TO RIGHT FEED

- NOTES:**
1. END COWLS WITH VENT FURNISHED ONLY WHEN SPECIFIED.
 2. "Δ" FOR HOT WATER TO BOOSTER 140° F STD / 110° F SPECIAL.

| LTR | INSTALLATION CONNECTIONS DESCRIPTION | SIZE |
|-----|--------------------------------------|--------------|
| H1 | HOT WATER TO AUTO FILL - 140° F | 3/4 FIPS |
| H2 | HOT WATER TO FINAL RINSE - 180° F | 1/2 FIPS |
| H3 | HOT WATER TO STEAM BOOSTER Δ | 1/2 FIPS |
| H4 | HOT WATER TO ELECTRIC BOOSTER | 3/4 FIPS |
| S1 | STEAM TO TANKS - WASH | 1/2 FIPS |
| S2 | STEAM TO TANKS - RINSE | 3/4 FIPS |
| S3 | STEAM TO BOOSTER | 1/2 1/4 FIPS |
| D | DRAIN CONNECTION - 3 PLACES | 1 1/2 FIPS |
| R1 | CONDENSATE RETURN - TANK COILS | 1/2 FIPS |
| R2 | CONDENSATE RETURN - BOOSTER | 1/2 FIPS |
| E1 | ELECTRICAL SERVICE - MOTORS | 3 3/4 HP |
| E2 | ELECTRICAL SERVICE - WASH | 7 1/2 KW |
| E3 | ELECTRICAL SERVICE - RINSE | 22 1/2 KW |
| E4 | ELECTRICAL SERVICE - BOOSTER | 27/45 KW |

| OVERALL DIMENSIONS | |
|-----------------------------|---------|
| MACHINE TYPE | LENGTH |
| STEAM - W/BOOSTER | 132 |
| ELECT. W/HOT WATER F. RINSE | 114 1/8 |
| ELECTRIC HEAT W/BOOSTER | 135 |
| STEAM - WITHOUT BOOSTER | 114 1/8 |

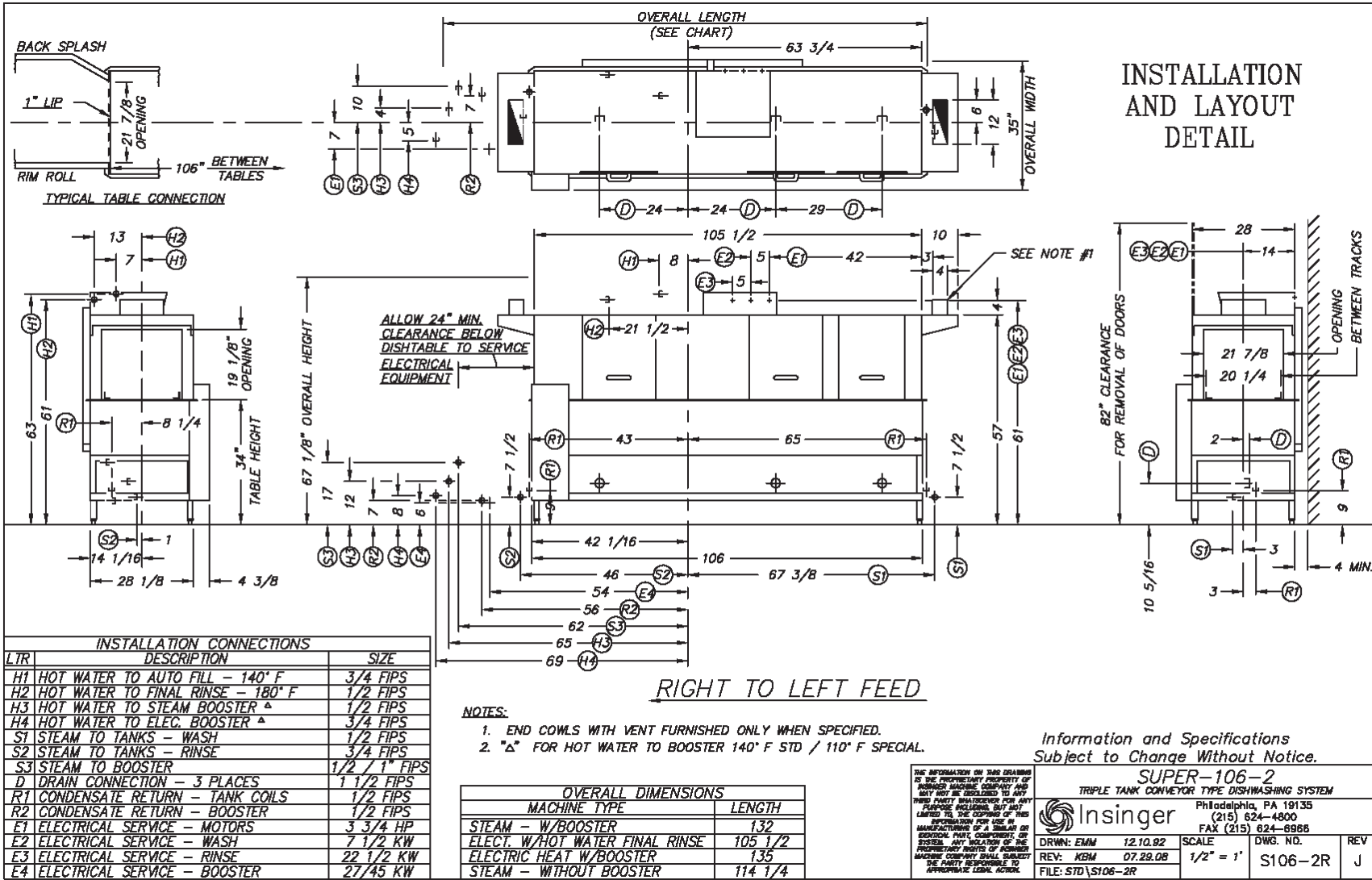
Information and Specifications
Subject to Change Without Notice.

SUPER 106-2
TRIPLE TANK CONVEYOR TYPE DISHWASHING MACHINE

Insinger Philadelphia, PA 18135
(215) 624-4800
FAX (215) 624-8886

| | | | | |
|-------------------|----------|-----------|----------|-----|
| DRWN: EMM | 12.10.92 | SCALE | DWG. NO. | REV |
| REV: KBM | 07.29.08 | 1/2" = 1' | S106-2L | J |
| FILE: STD\S106-2L | | | | |

THE INFORMATION ON THIS DRAWING IS THE PROPRIETARY PROPERTY OF INSINGER MACHINE COMPANY AND MAY NOT BE DISCLOSED TO ANY THIRD PARTY UNLESS SO SPECIFICALLY AUTHORIZED BY INSINGER MACHINE COMPANY. ANY REPRODUCTION OR TRANSMISSION OF THIS INFORMATION WITHOUT THE WRITTEN PERMISSION OF INSINGER MACHINE COMPANY IS STRICTLY PROHIBITED. THE PARTY RESPONSIBLE TO APPROPRIATE LEGAL ACTION.





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 DISHMACHINES 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 Overflow Adjustment

- A.7.1.1 Locate tank overflow 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 overflow timer starts timing when the upper level float is actuated. Adjust the overflow 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. Overflow timer not set properly. | a. Remove obstruction b. Set overflow 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 |

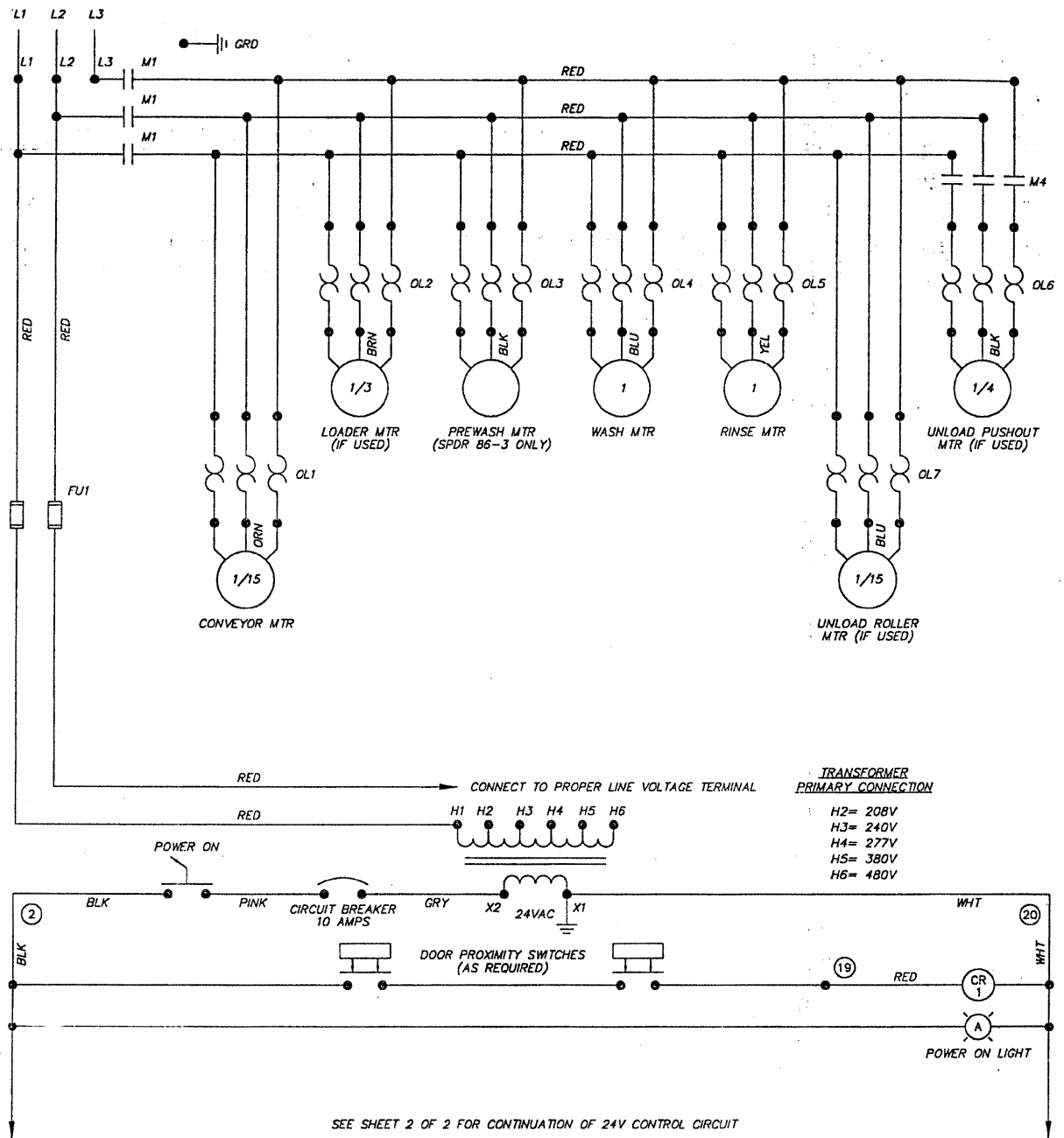
BASIC SERVICE GUIDE

| 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 |

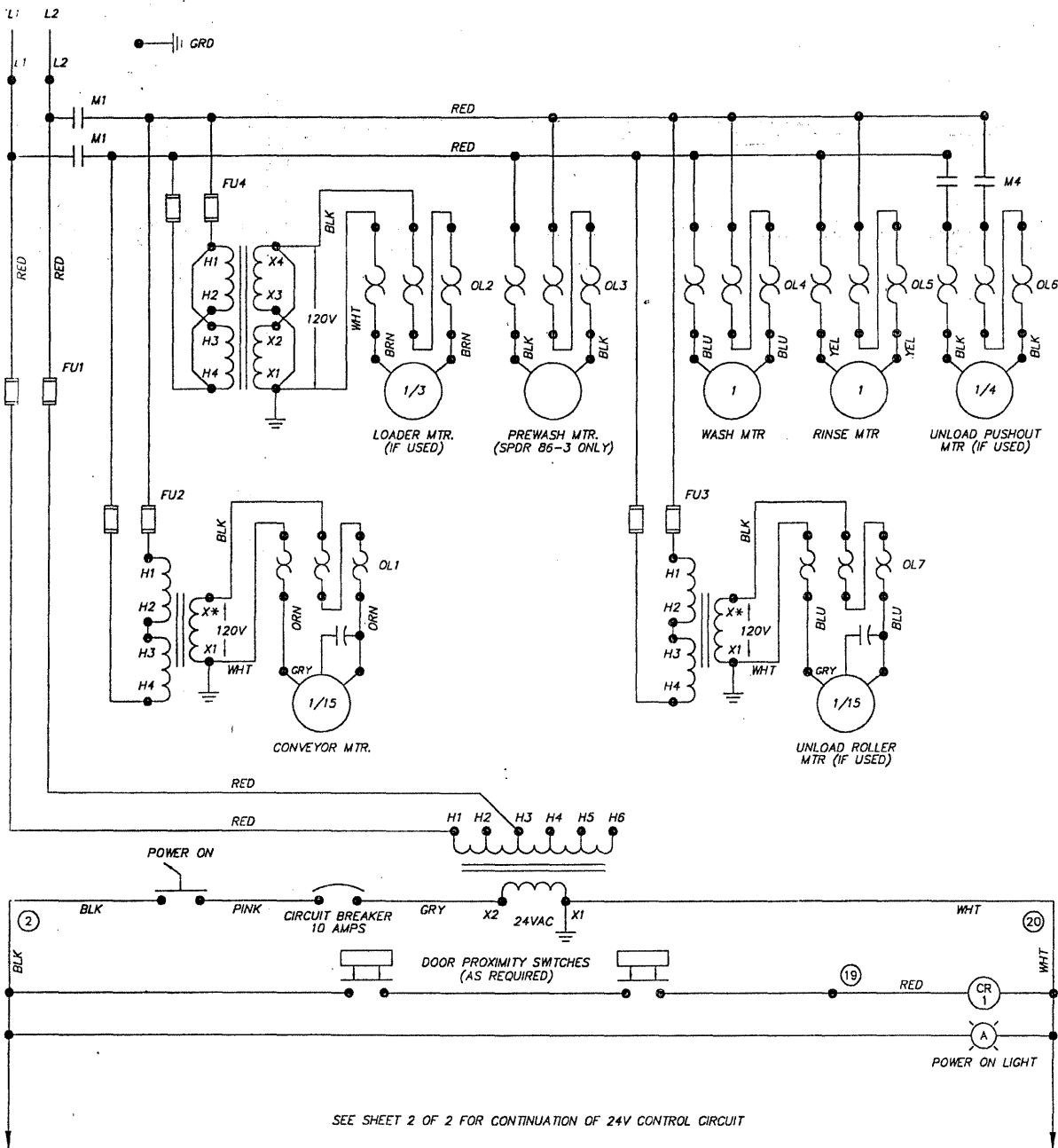


PART 4

**ELECTRICAL SCHEMATICS and
ELECTRICAL REPLACEMENT PARTS**



| | | | | | | |
|--------------------|------|---------|-------|---------------------------------|-----------|---|
| | | | TITLE | SPEEDER 64 & 86-3 STEAM HEAT | DWG. NO. | W863010 |
| J | 1752 | 4.11.00 | REV | ECN NO | DATE | Philadelpia, PA 19135 (215) 624-4800 FAX (215) 624-6966 |
| FILE: WIRE\W863010 | | | | | DRWN/DATE | RAF 05.18.95 |



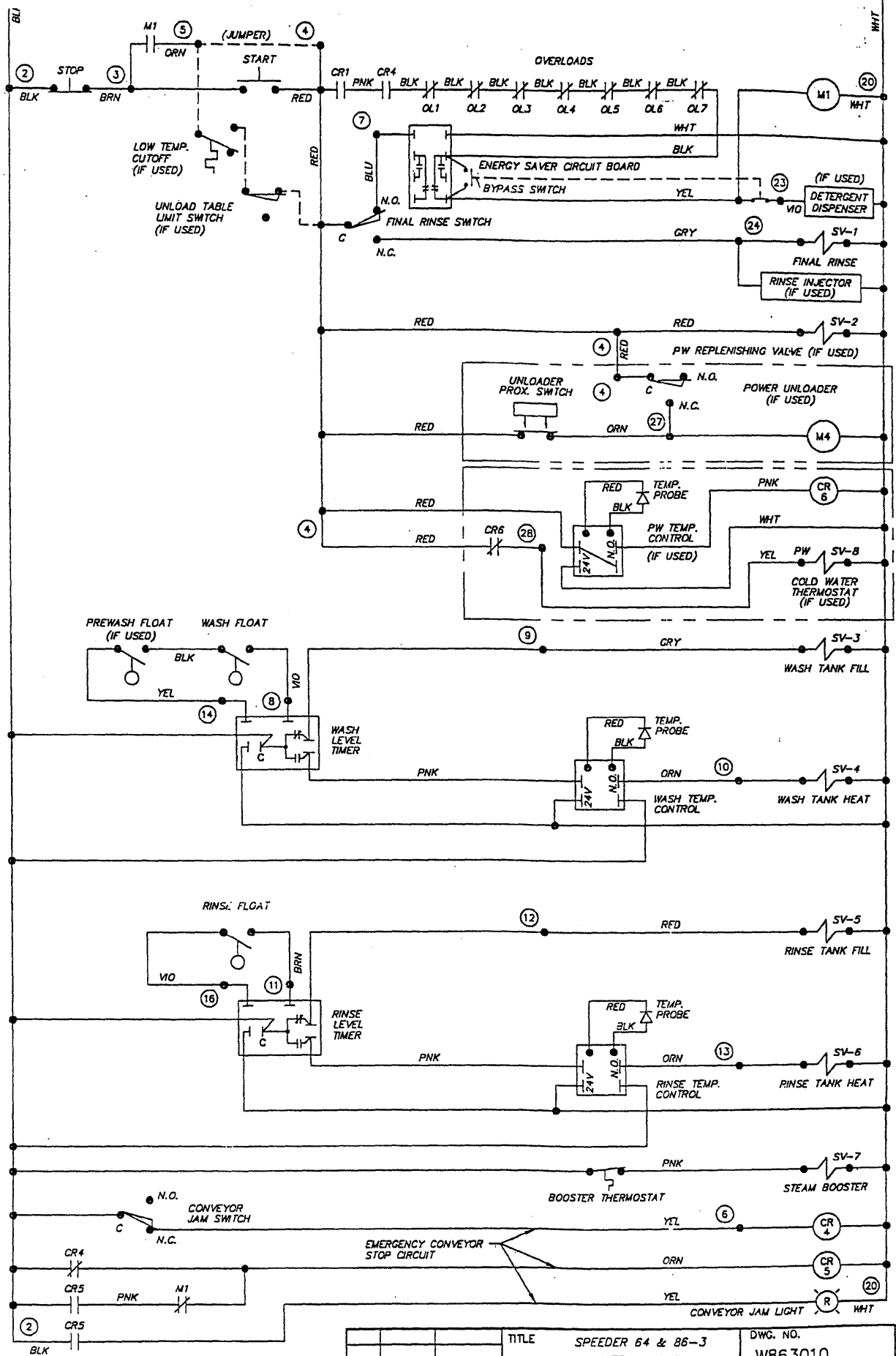
SEE SHEET 2 OF 2 FOR CONTINUATION OF 24V CONTROL CIRCUIT

| 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 |
| | - | - | - | H2 TO H3 |
| X* | X3 | X2 | X3 | X2 |

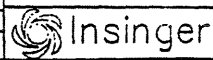
| UNLOADER MOTOR TRANSFORMER CONNECTIONS | | | | |
|--|----------|----------|---------|----------|
| | 208 VAC | 230 VAC | 380 VAC | 480 VAC |
| L1 TO | H1 & H3 | H1 & H3 | H1 | H1 |
| L2 TO | H2 & H4 | H2 & H4 | H4 | H4 |
| | - | - | - | H2 TO H3 |
| X* | X4 | X4 | X4 | X4 |
| | X1 TO X3 | X1 TO X3 | - | X1 TO X3 |
| | X2 TO X4 | X2 TO X4 | - | X2 TO X4 |

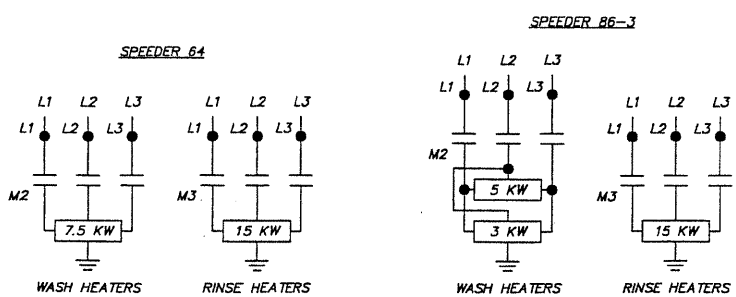
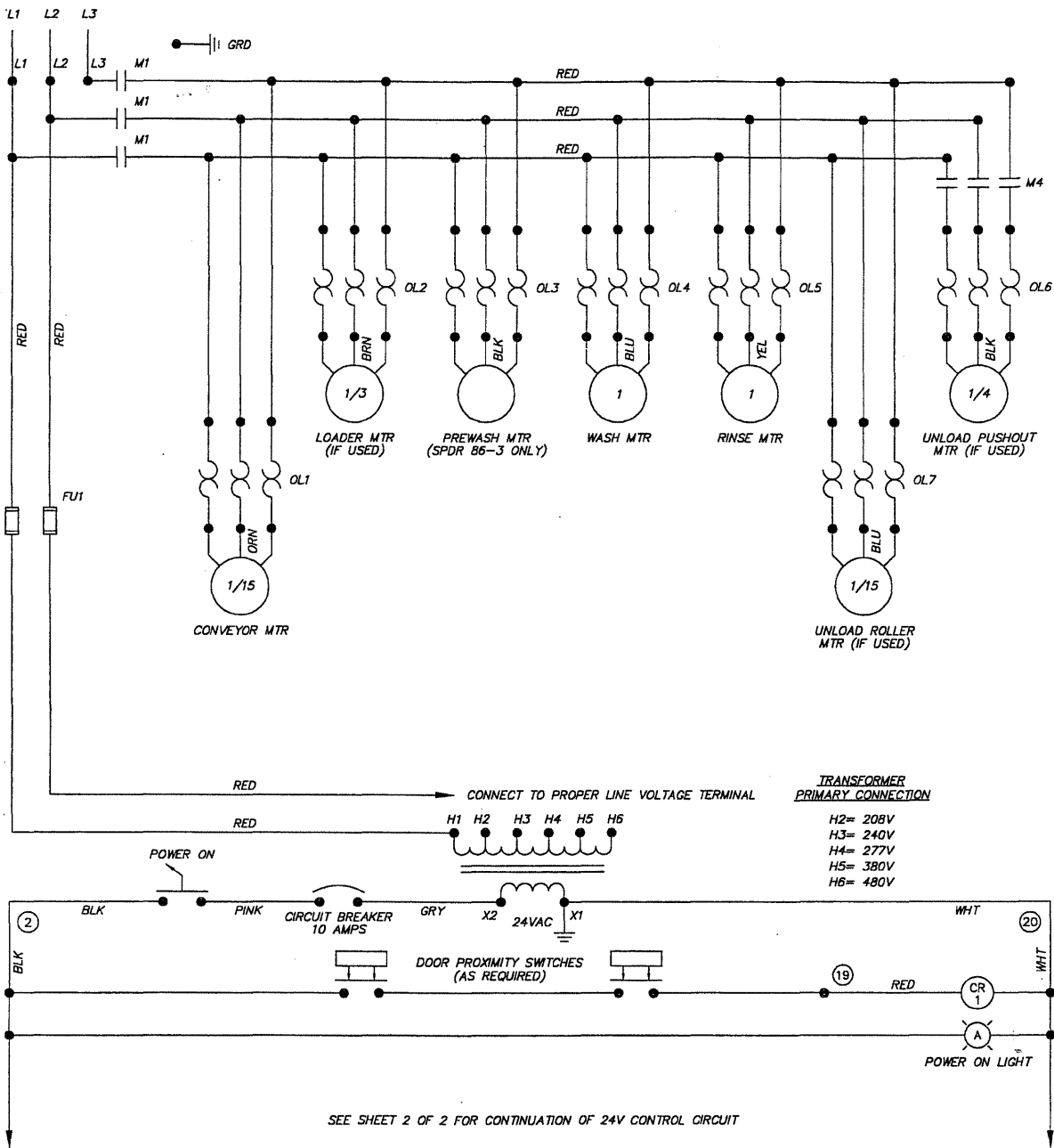
SINGLE PHASE WIRING ONLY

| | | | | | | |
|---------------|--------|---------|-------|--|-----------|----------------|
| J | 1752 | 4.11.00 | TITLE | SPEEDER 64 & 86-3 STEAM HEAT, SINGLE PHASE | DWG. NO. | W863010 |
| REV | ECN NO | DATE | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | DRWN/DATE | MFJ 7.31.97 |
| SHEET 1B OF 2 | | | | FILE: WIRE\W863010 | | |



| | | | | | | |
|-------------------|--------|---------|------------------------|--|------------|--|
| TITLE | | | SPEEDER 64 & 86-3 | | DWG. NO. | |
| | | | STEAM HEAT | | W863010 | |
| REV | ECN NO | DATE | Philadelphia, PA 19135 | | DRAWN/DATE | |
| J | 1752 | 4.11.00 | (215) 624-4800 | | RAF | |
| FILE: WRE\W863010 | | | FAX (215) 624-6966 | | 05.18.95 | |

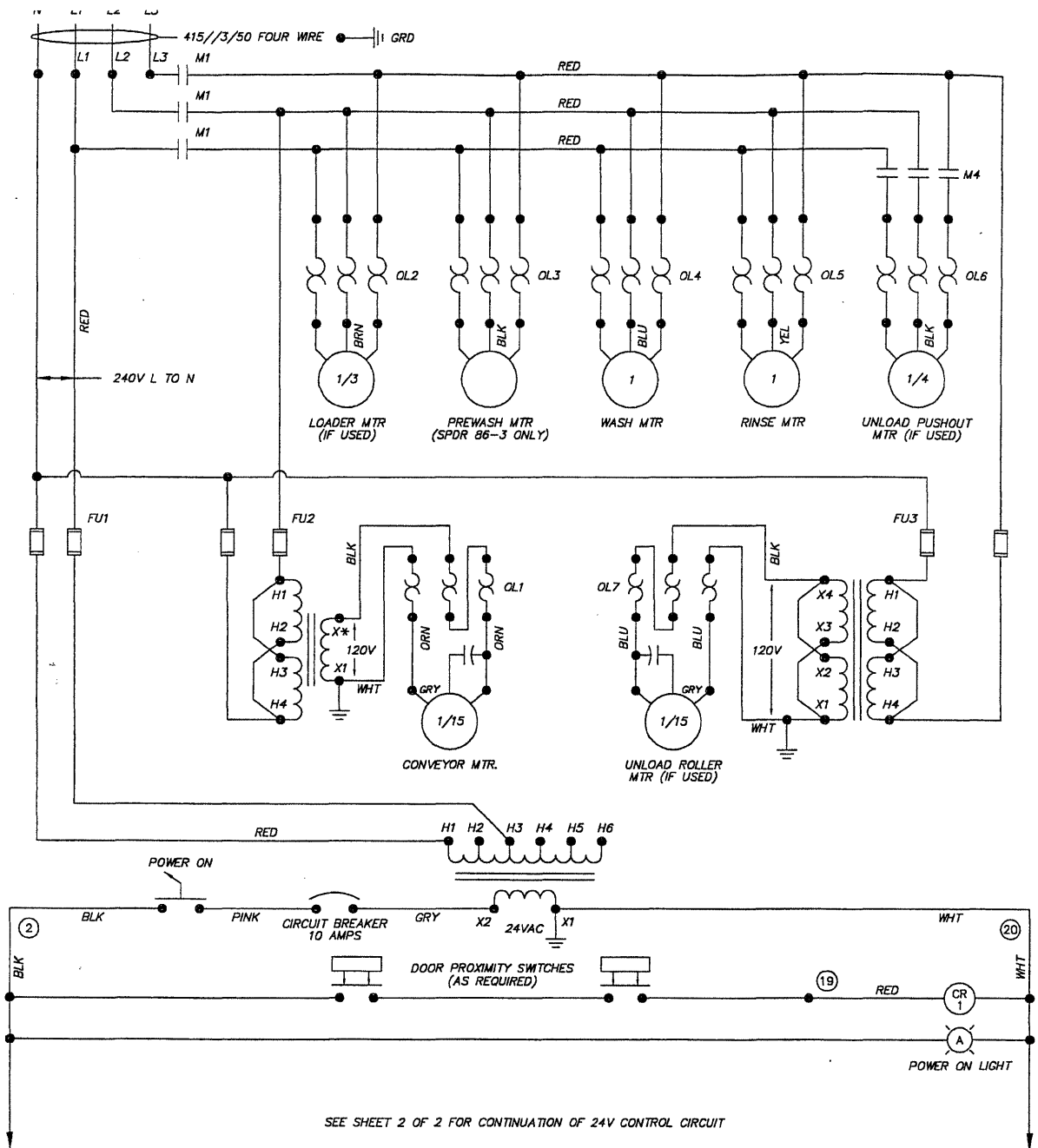




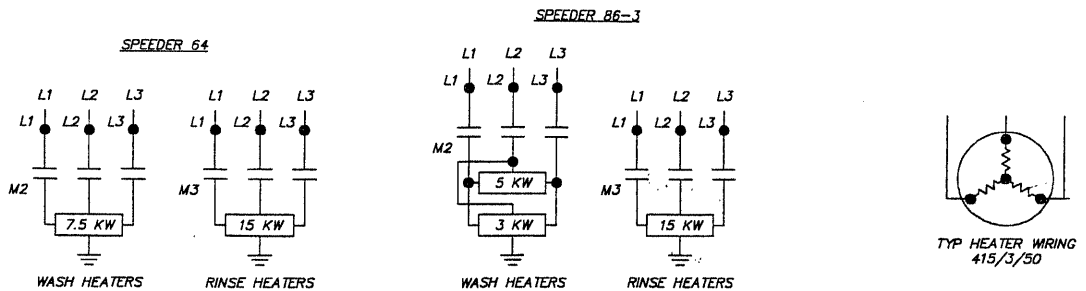
NOTE:
 1. THREE SEPARATE ELECTRICAL SERVICES ARE NECESSARY:
 1- MOTORS/CONTROLS
 2- WASH IMMERSION HEATERS
 3- RINSE IMMERSION HEATERS

SEE SHT 1B FOR 415/3/50 WIRING

| | | | | | | |
|-------|--------------|--------|---------------|-------------------|------------------------|-----------|
| | | | TITLE | SPEEDER 64 & 86-3 | DWG. NO. | W863020 |
| | | | ELECTRIC HEAT | | | |
| L | 1988 | 7.7.03 | | | | |
| REV | ECN NO | DATE | | | | |
| FILE: | WIRE\W863020 | | | | Philadelphia, PA 19135 | DRWN/DATE |
| | | | | | (215) 624-4800 | RAF |
| | | | | | FAX (215) 624-6966 | 05.17.95 |



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

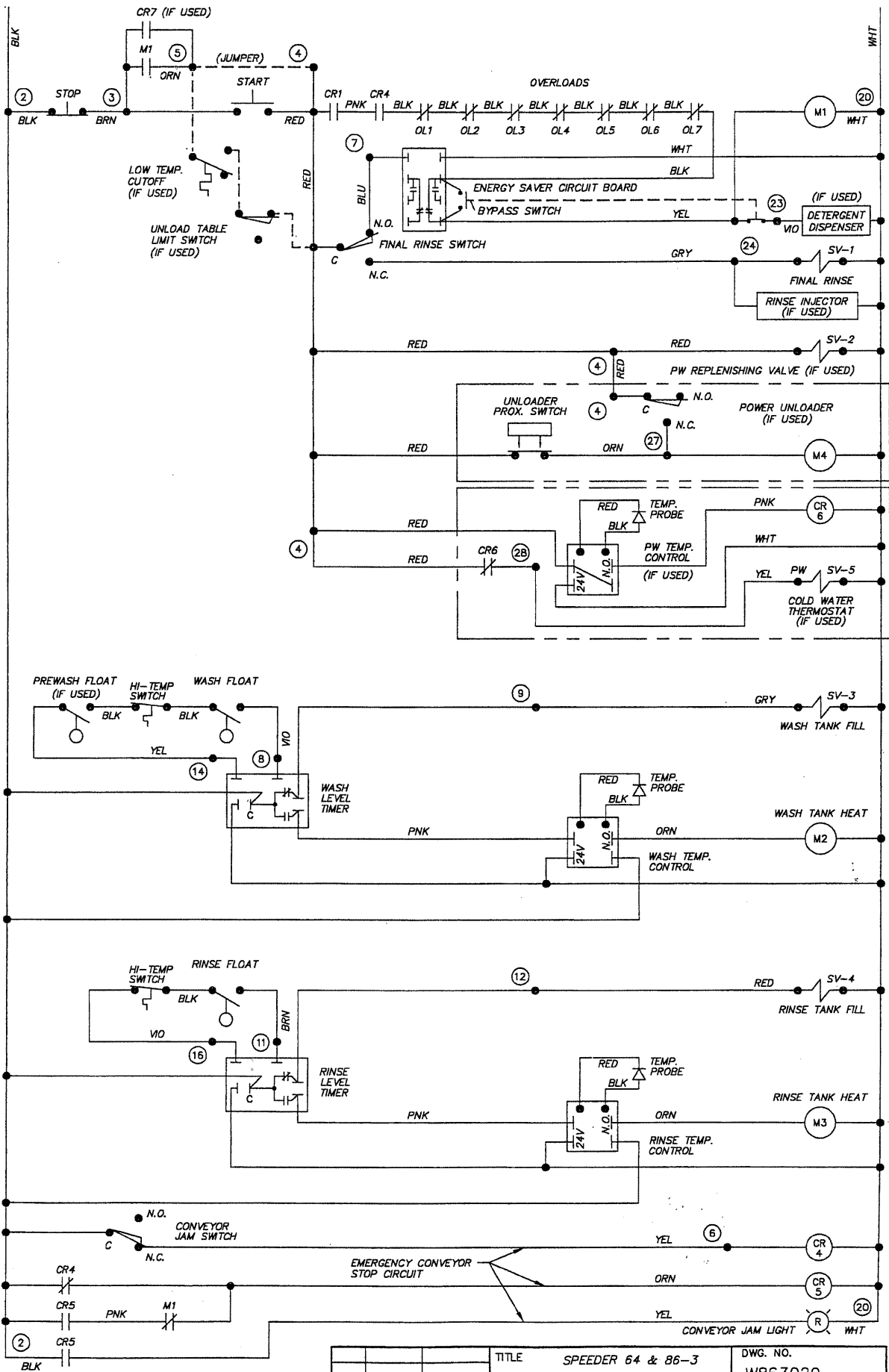


- NOTE:**
- THREE SEPARATE ELECTRICAL SERVICES ARE NECESSARY:
 - MOTORS/CONTROLS
 - WASH IMMERSION HEATERS
 - RINSE IMMERSION HEATERS

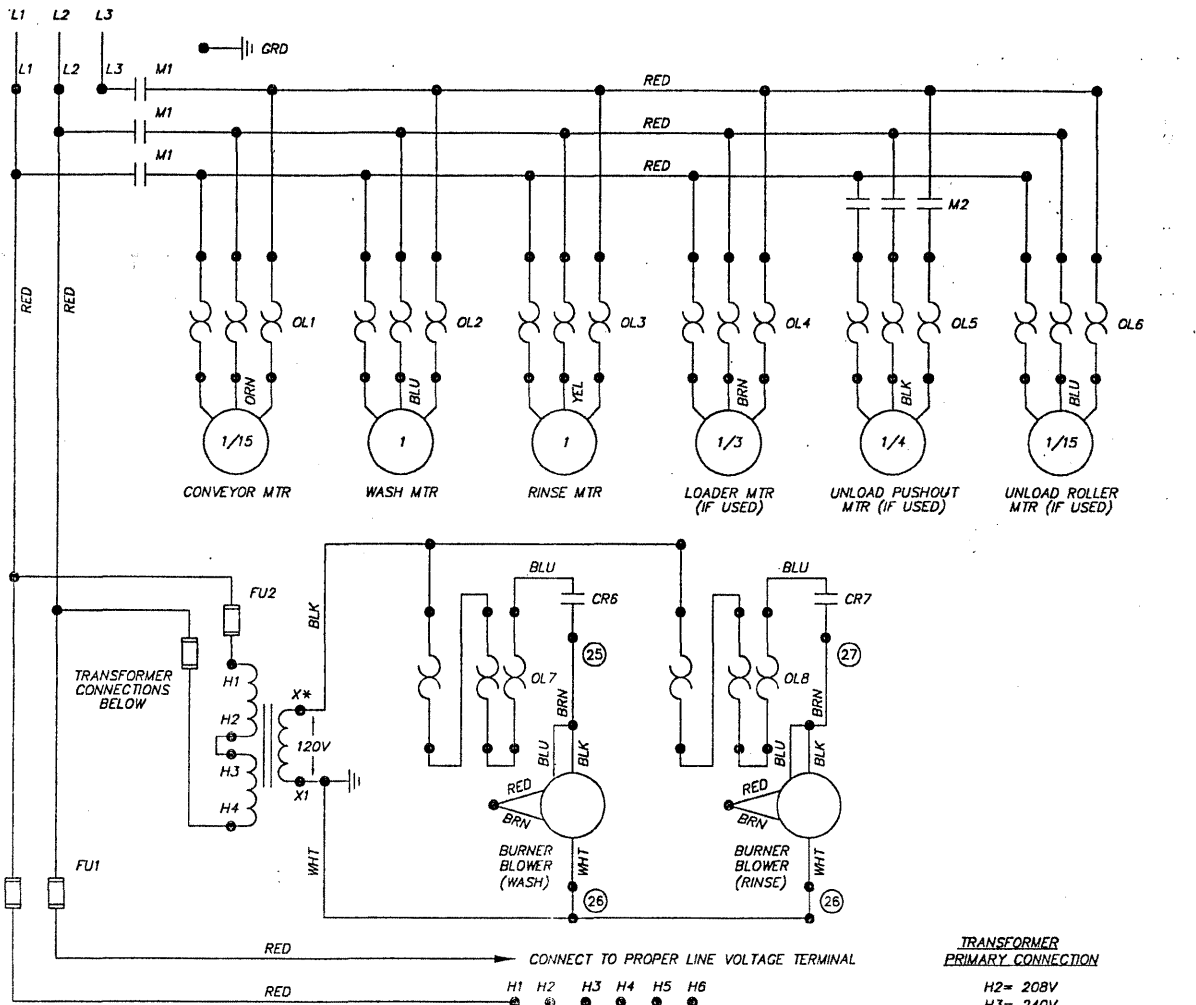
SHEET 18 OF 2

415/3/50 WIRING ONLY

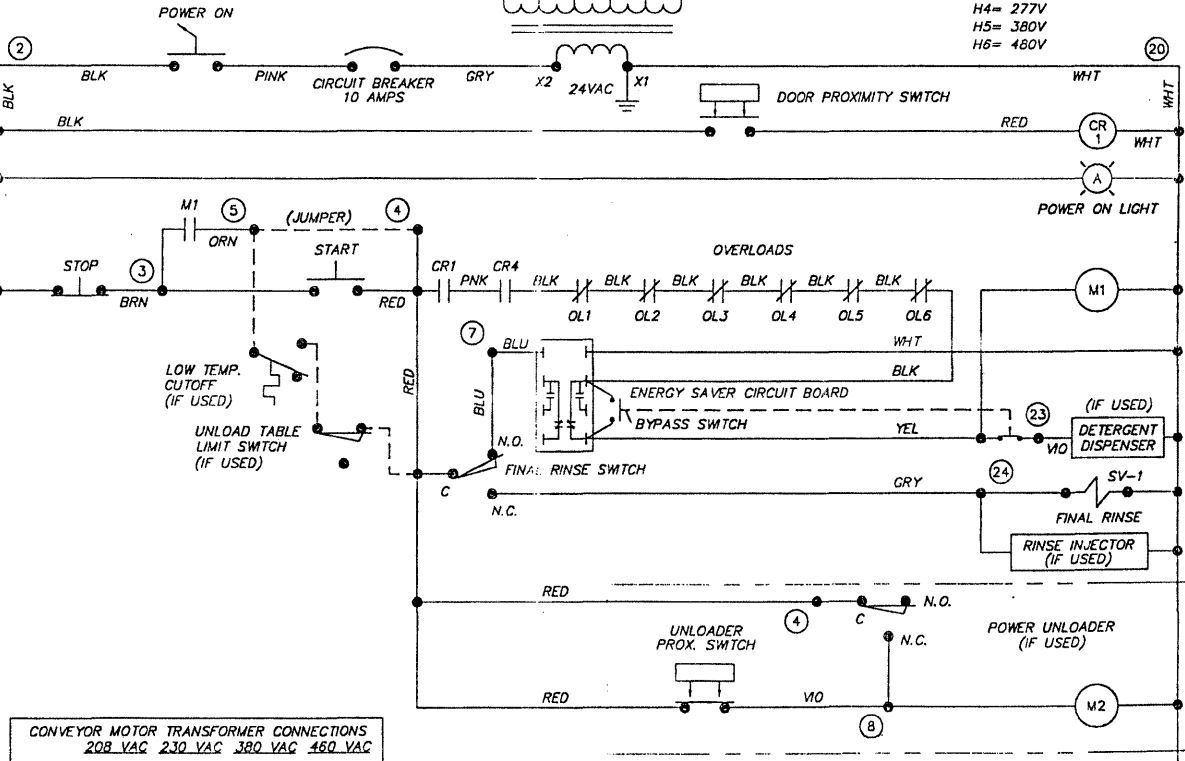
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|-------------------|----------|-------------------|------------------------|----------|-----------|
| TITLE | | SPEEDER 64 & 86-3 | | DWG. NO. | |
| | | ELECTRIC HEAT | | W863020 | |
| L | 1988 | 7.7.03 | | | |
| REV | ECN NO | DATE | | | |
| FILE: WRE\W863020 | Insinger | | Philadelphia, PA 19135 | | DRWN/DATE |
| | | | (215) 624-4800 | | RAF |
| | | | FAX (215) 624-6966 | | 05.17.95 |



| | | | | | | |
|--------------------|--------|--------|------------------------|--|--------------------|--|
| TITLE | | | SPEEDER 64 & 86-3 | | DWG. NO. | |
| | | | ELECTRIC HEAT | | W863020 | |
| L | 1988 | 7.7.03 | Philadelphia, PA 19135 | | DRWN/DATE | |
| REV | ECN NO | DATE | (215) 624-4800 | | RAF | |
| FILE: WIRE\W863020 | | | INSINGER | | FAX (215) 624-6966 | |
| | | | | | 05.17.95 | |



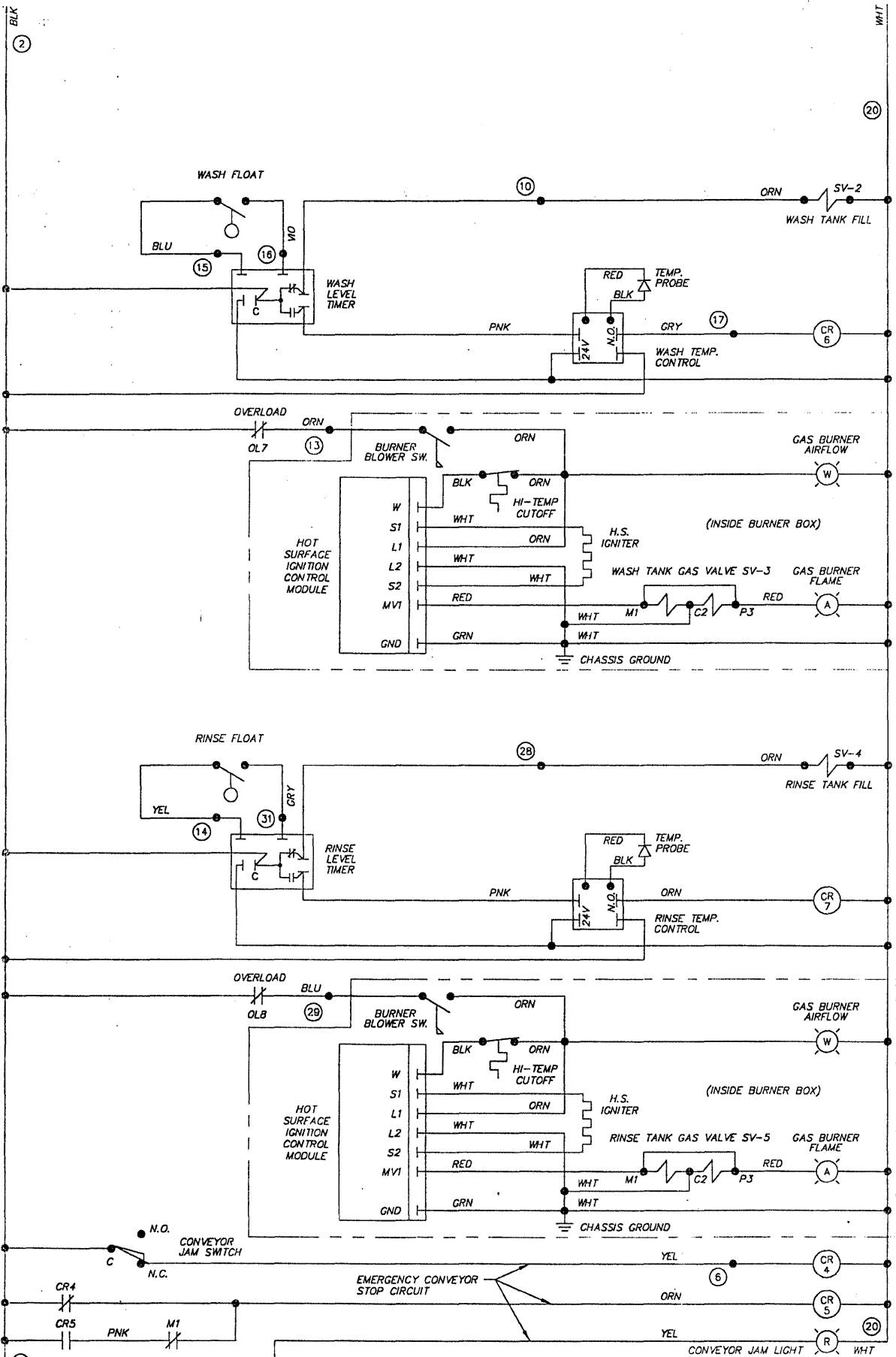
TRANSFORMER PRIMARY CONNECTIONS
 H2= 208V
 H3= 240V
 H4= 277V
 H5= 380V
 H6= 480V



| 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 |
| | | | | H2 TO H3 |
| X* | X3 | X2 | X3 | X2 |

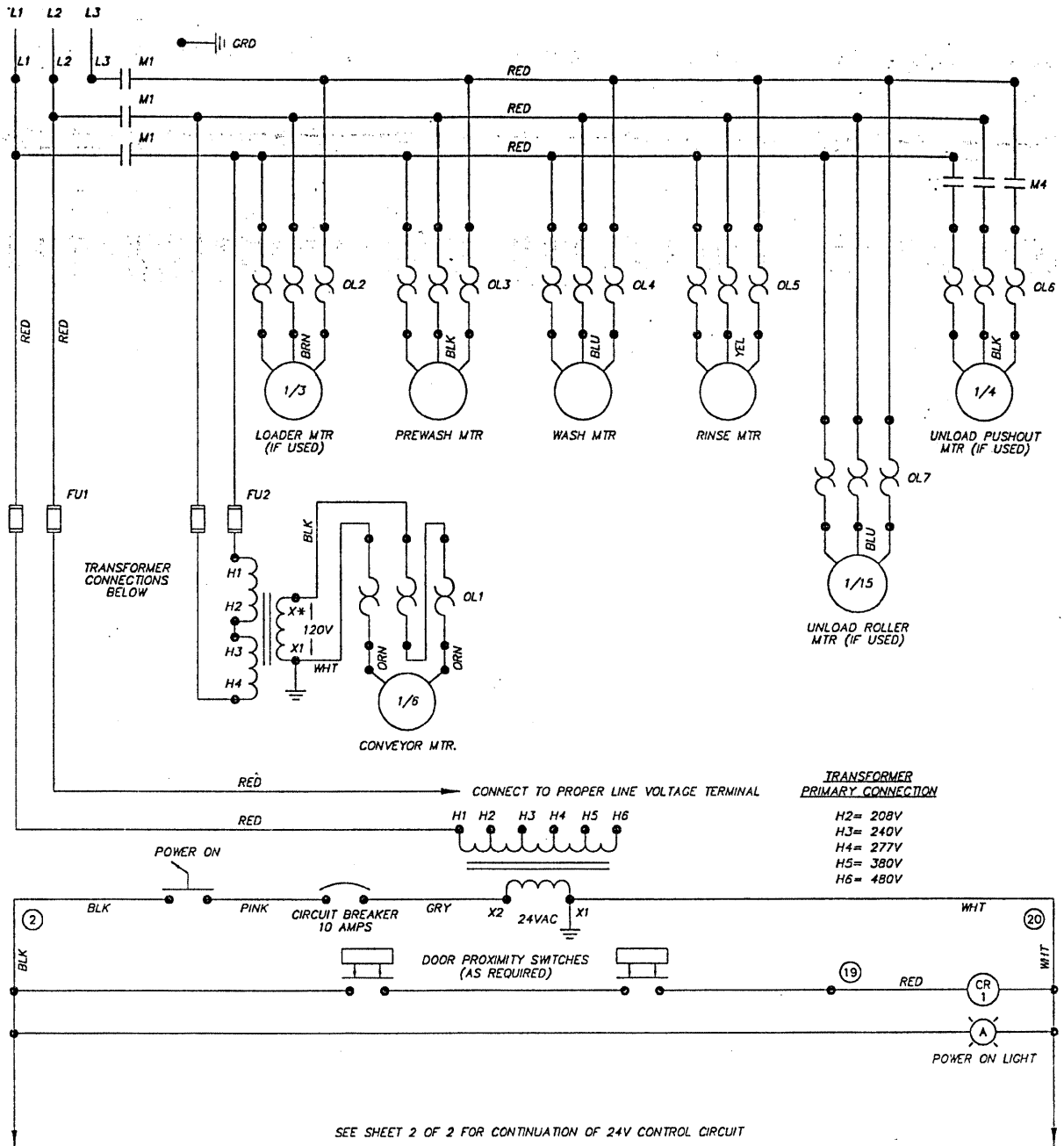
SHEET 1 OF 2 SEE SHEET 2 OF 2 FOR CONTINUATION OF 24V CONTROL CIRCUIT

| | | | | | | |
|-------|---------|---------|----------|-------------------|------------------------|-----------|
| 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 | Insinger | | Philadelphia, PA 19135 | DRWN/DATE |
| FILE: | W863070 | | | | (215) 624-4800 | RAF |
| | | | | | FAX (215) 624-6966 | 05.19.95 |

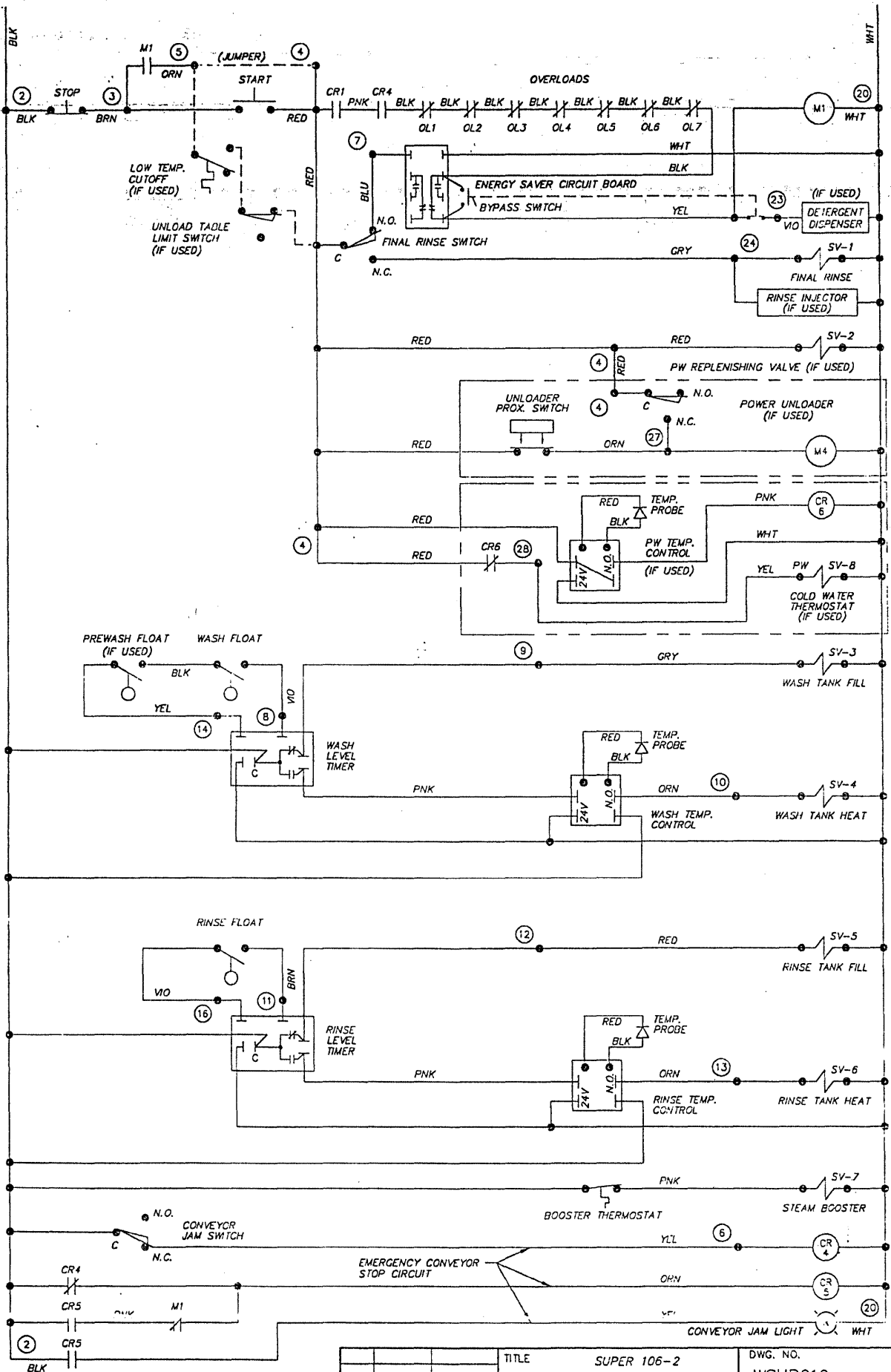


| | | | | | |
|-----|--------|---------|----------|-------------------|------------------------|
| E | 1752 | 4.11.00 | TITLE | SPEEDER 64 | DWG. NO. |
| D | 1696 | 7.27.99 | | GAS HEAT (H.S.I.) | W863070 |
| C | 1583 | 12.1.97 | | | |
| REV | ECN NO | DATE | Insinger | | Philadelphia, PA 19135 |
| |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

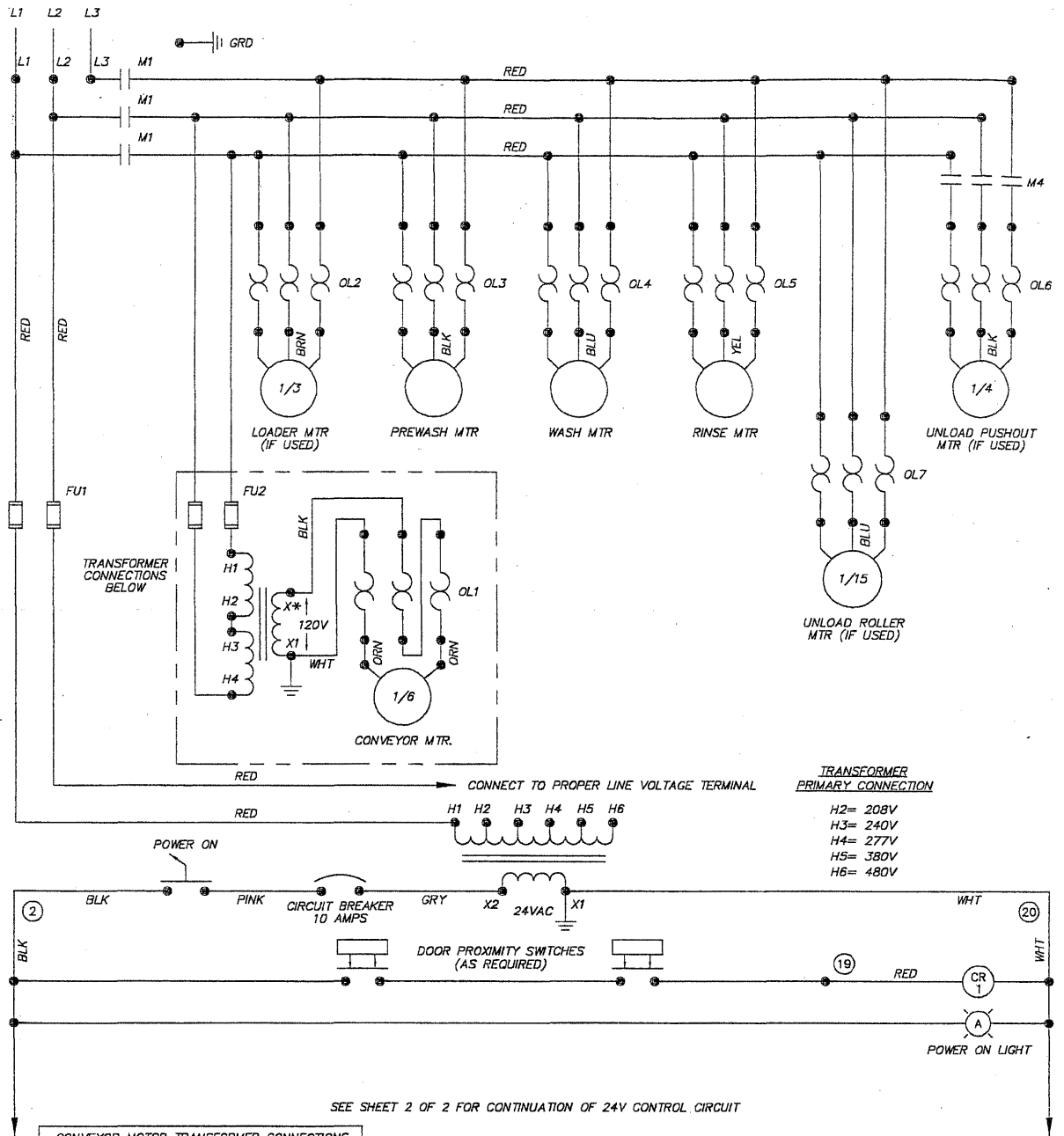
FILE: WIRE\W863070



| 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 |
| | - | - | - | H2 TO H3 |
| X* | X3 | X2 | X3 | X2 |

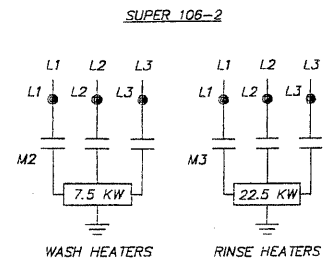
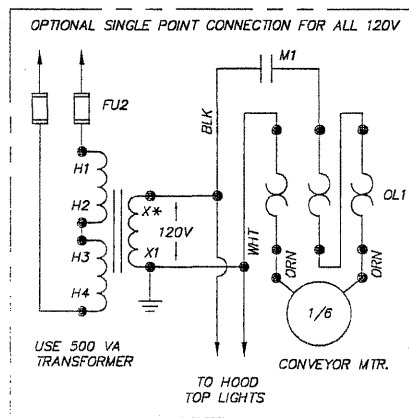


| | | | | | | |
|--------------|--------|------|--------------------|---------------------------|------------------------|-----------|
| | | | TITLE | SUPER 106-2 STEAM HEAT | DWG. NO. | WSUP010 |
| REV | ECN NO | DATE | | | Philadelphia, PA 19135 | DRWN/DATE |
| | | | | | (215) 624-4800 | MfJ |
| SHEET 2 OF 2 | | | FILE: WIRE\WSUP010 | FAX (215) 624-6966 | | |



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

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



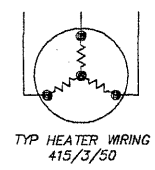
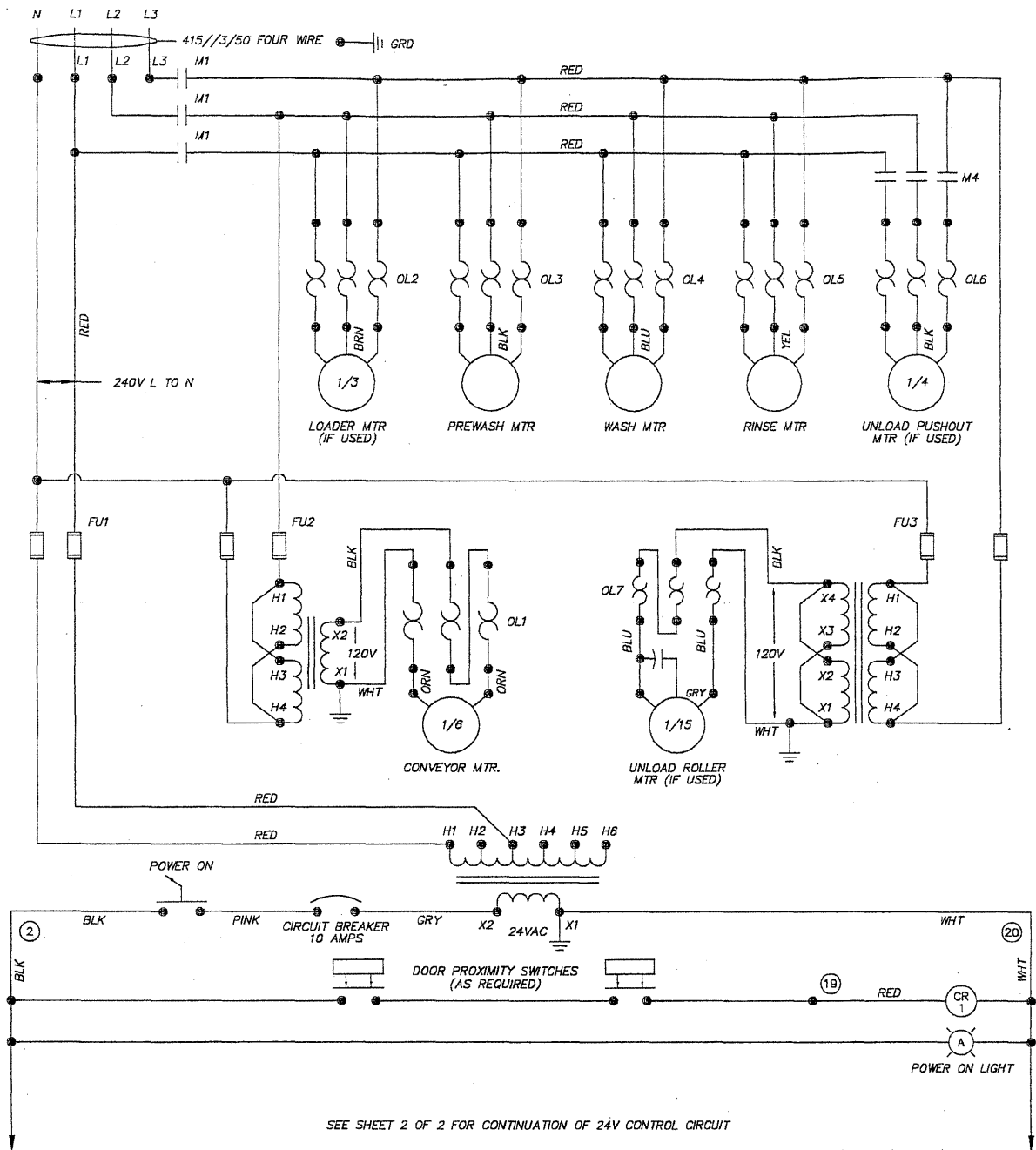
NOTE:

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

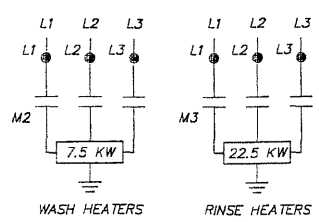
SHEET 1A OF 2

SEE SHT 1B FOR 415/3/50 WIRING

| | | | | | | |
|--------------------|--------|---------|----------|------------------------------|--|---------------|
| | | | TITLE | SUPER 106-2 ELECTRIC HEAT | DWG. NO. | WSUP020 |
| B | 1996 | 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 |



SUPER 106-2

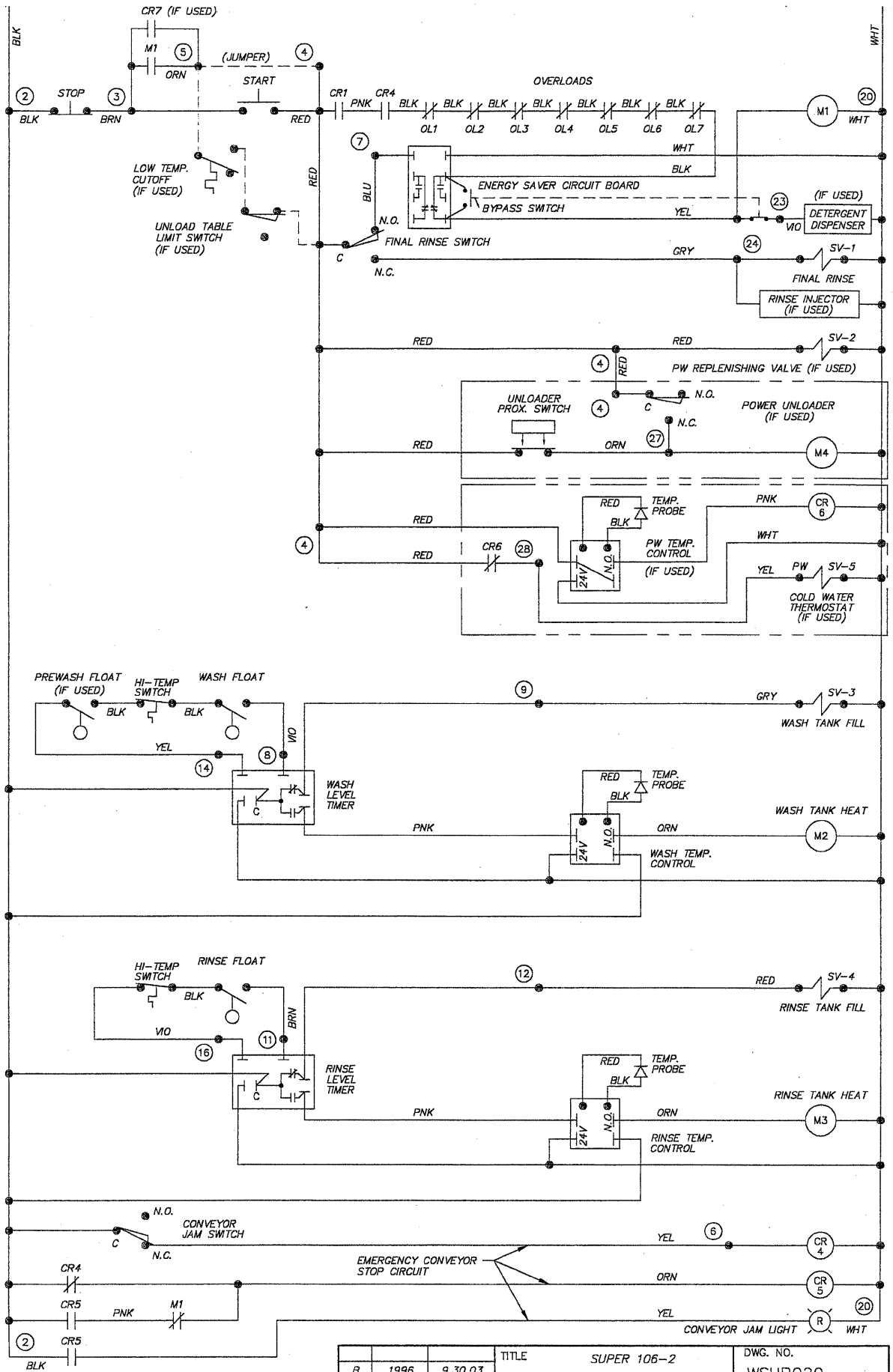


- NOTE:**
- THREE SEPARATE ELECTRICAL SERVICES ARE NECESSARY:
 - MOTORS/CONTROLS
 - WASH IMMERSION HEATERS
 - RINSE IMMERSION HEATERS

SHEET 1B OF 2

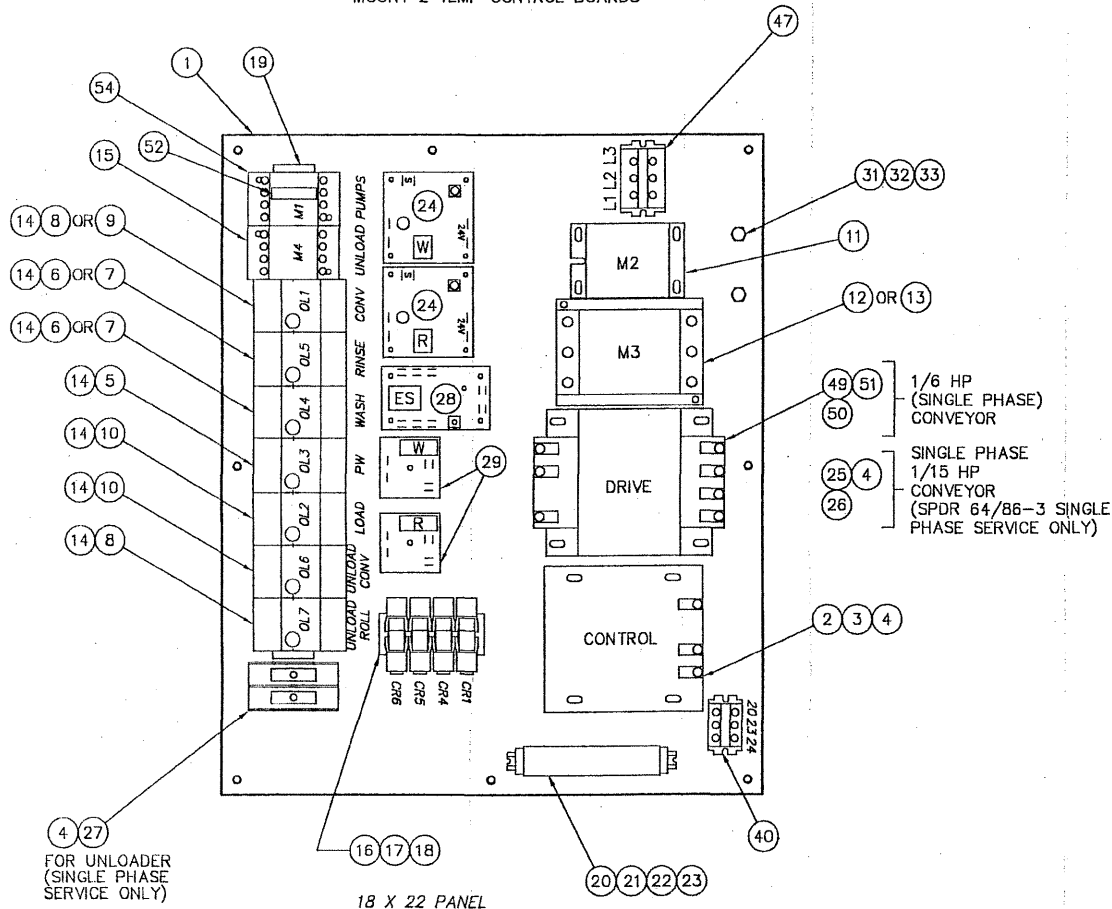
415/3/50 WIRING ONLY

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



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

BRACKET SK-3758 USED TO MOUNT 2 TEMP CONTROL BOARDS



| 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 FNQ-R-1.8 | DE9-169 | |
| | 380 V FNQ-R-2 | DE9-170 | |
| | 220 - 230 V FNQ-R-3.5 | DE9-174 | |
| | 208 V FNQ-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 | |

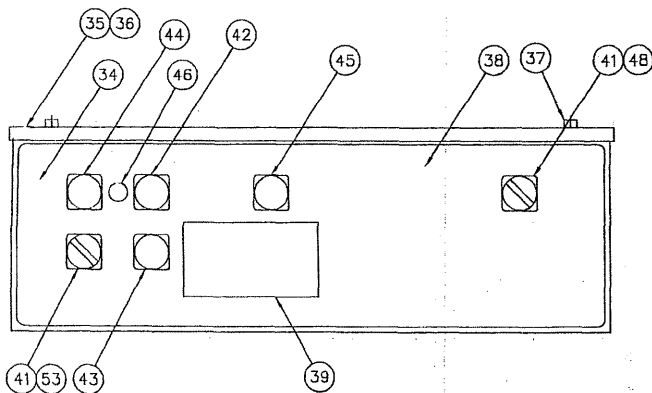
SHEET 1 OF 2

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.

NOT SHOWN
 TRANSFORMER FOR UNLOADER (SINGLE PH SERVICE ONLY)
 250 VA DE6-26
 250 VA (380 V ONLY) DE6-21

| TITLE | | CONTROL PANEL LAYOUT | |
|--------------------------------|--------|--|----------------------|
| SPDR 64, 86-3, AND SUPER 106-2 | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | |
| Insinger | | DRWN/DATE | 6.1.95 |
| P | 1986 | 8.1.03 | FILE: SKETCH/SK-3142 |
| N | 1945 | 7.17.02 | SCALE |
| M | 1857 | 2.15.01 | 1=4 |
| REV | ECN NO | DATE | DRWN/DATE |
| | | | SK-3142 |

| ITEM | DESCRIPTION | PART NO. | QTY | ITEM | DESCRIPTION | PART NO. | QTY | ITEM | DESCRIPTION | PART NO. | QTY |
|------|--|----------|-----|------|--|-------------|-----|------|---|------------|-----|
| 9 | OVERLOAD RELAY (1/6 HP CONV DRIVE) 115/1/60 1.6-2.5 A | DE2-52 | 1 | 14 | OVERLOAD BASE | DE2-60 | AR | 35 | CONTROL BOX COVER | SK-3717 | 1 |
| 10 | OVERLOAD RELAY (1/4 HP UNLOADER & 1/3 HP LOADER) | | AR | 15 | CONTACTOR (UNLDR) SP4 | DE1-93 | AR | 36 | GASKET | 9007-001 | 1 |
| | 460/3/60 .63-1 A | DE2-49 | | 16 | RELAY BASE | DE2-37 | AR | 37 | NUT | D312C-EF-5 | 4 |
| | 380/3/50 .63-1 A | DE2-49 | | 17 | RELAY | DE2-38 | AR | 38 | DECAL | SK-3700 | 1 |
| | 230/3/60 1-1.6 A | DE2-50 | | 18 | RELAY HOLD DOWN SPRING | DE3-43 | AR | 39 | DATA DECAL | SK-3715 | 1 |
| | 220/3/50 1-1.6 A | DE2-50 | | 19 | DIN RAIL (35 mm) | DE9-216 | 1 | 40 | TERMINAL BLK ASSY | DE3-9 | 1 |
| | 220/1/60 2.5-4 A | DE2-53 | | 20 | DIN RAIL (15 mm) | DE3-42 | 1 | 41 | SELECTOR SWITCH ASSY | DE8-58 | 2 |
| | 208/3/60 1-1.6 A | DE2-50 | | 21 | TERMINAL SECTION | DE3-39 | AR | 42 | PUSHBUTTON ASSY, START | DE8-64 | 1 |
| 11 | CONTACTOR (7.5/8.0 KW ELECT WASH TANK HEAT ONLY) ALL 3 PHASE 30 A RES | DE1-109 | 1 | 22 | TERMINAL END COVER PLATE | DE3-40 | 1 | 43 | PUSHBUTTON ASSY, STOP | DE8-65 | 1 |
| | 220/1/60 50 A RES | DE1-110 | | 23 | TERMINAL END CLAMP | DE3-41 | 2 | 44 | PILOT LIGHT ASSY - YELLOW | DE8-62 | 1 |
| 12 | CONTACTOR (15 KW ELECT RINSE TANK HEAT ONLY) | | 1 | 24 | TEMPERATURE CONTROL BOARD | DE9-251 | AR | 45 | PILOT LIGHT ASSY - RED | DE8-61 | 1 |
| | 460/3/60 30 A RES | DE1-109 | | 25 | DRIVE TRANSFORMER (250 VA, 120 VAC) 230 & 460 V | DE6-10 | 1 | 46 | CIRCUIT BREAKER (10A) | DE9-106 | 1 |
| | 380/3/50 30 A RES | DE1-109 | | | 208 & 380 V | DE6-21 | | 47 | TERMINAL BLOCK ASSY | DE3-3 | 1 |
| | 230/3/60 50 A RES | DE1-110 | | 26 | FUSE BLOCK KIT (250 VA XFMR) | DE9-164 | 1 | 48 | CONTACT BLOCK, NC | DE8-60 | 1 |
| | 220/3/50 50 A RES | DE1-110 | | 27 | FUSE BLOCK, 2 POLE (XFMR PRIMARY) | DE9-185 | 1 | 49 | DRIVE TRANSFORMER (350 VA, 120 VAC) 230 & 460 V | DE6-38 | 1 |
| | 220/1/60 SP47 | DE1-94 | | 28 | TIME DELAY BOARD (ENERGY SAVER) | DE7-28 | 1 | | 208 & 380 V | DE6-43 | 1 |
| | 208/3/60 50 A RES | DE1-110 | | 29 | TIMER (LIQUID LEVEL) | DE7-35 | 2 | 50 | FUSE BLOCK KIT (350 VA XFMR) 208 & 380 V | DE9-165 | 1 |
| 13 | CONTACTOR (22.5 KW ELECT RINSE TANK HEAT ONLY) | | 1 | 30 | CAPACITOR (1/15 HP, 120 V CONV MTR) | D2888 | AR | | 230 & 460 V | DE9-164 | 1 |
| | 460/3/60 SP47 | DE1-94 | | 31 | GROUNDING STUD | D309C-GC-4G | 2 | 51 | FUSE (350 VA TRANSFORMER PRIMARY) 460 V FNQ-R-2.25 | DE9-171 | 2 |
| | 380/3/50 SP47 | DE1-94 | | 32 | LOCKWASHER, 1/4" | D313C-G5 | 2 | | 380 V FNQ-R-3 | DE9-173 | 1 |
| | 230/3/60 SP47 | DE1-94 | | 33 | HEX NUT, 1/4-20 | D312C-GC-2 | 2 | | 220 - 230 V FNQ-R-5 | DE9-176 | 1 |
| | 220/3/50 SP47 | DE1-94 | | 34 | CONTROL BOX | SK-3716 | 1 | | 208 V FNQ-R-5 | DE9-176 | 1 |
| | 220/1/60 SP77 | DE1-96 | | | | | | 52 | AUXILIARY CONTACT, NC | DE1-61AE | 1 |
| | 208/3/60 SP47 | DE1-94 | | | | | | 53 | CONTACT BLOCK, NO | DE8-59 | 1 |
| | | | | | | | | 54 | CONTACTOR (PUMPS) ALL 3 PHASE SP4 | DE1-93 | 1 |
| | | | | | | | | | 220/1/60 SP17 | DE1-56AE | 1 |



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

NOT SHOWN

ELECTRIC IMMERSION HEATER (3 KW)

440-480 V, 3 PH
380 V, 3 PH
220-240 V, 3 PH
208V, 3PH

DE13-SD73
DE13-SD53
DE13-SD43
DE13-SD23

DE13-SE73
DE13-SE53
DE13-SE43
DE13-SE23
DE9-252

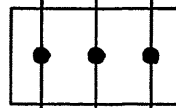
DE13-SC73
DE13-SC53
DE13-SC43
DE13-SC23

SHEET 2 OF 2

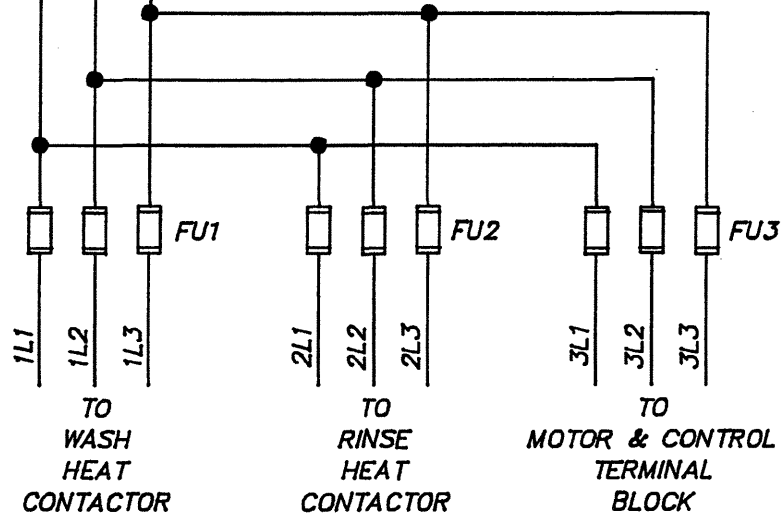
| TITLE | | | |
|--------------------------------|--------|--|----------------------------|
| CONTROL PANEL LAYOUT | | | |
| SPDR 64, 86-3, AND SUPER 106-2 | | | |
| Insinger | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | DRWN/DATE MFJ 6.1.95 |
| P | 1986 | 8.1.03 | FILE: SKETCH SK-3142 |
| N | 1945 | 7.17.02 | SCALE |
| M | 1857 | 2.15.01 | DWG. NO. |
| REV | ECN NO | DATE | 1=4 SK-3142 |


CUSTOMER SERVICE

L1 L2 L3



POWER DISTRIBUTION BLOCK

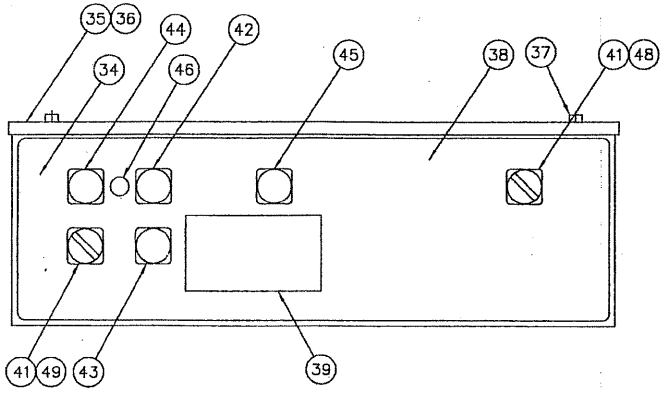


| | | | | | | | |
|-------------------------|--------|------|----------------------------|---|--------------------------------|------------------|------------------|
| | | | TOLERANCES | TITLE | SINGLE POINT CONNECTION | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS $\pm 1/64$ | | REMOTE FUSE BOX | - | SK-3822 |
| | | | DECIMALS | | | REQ'D - | |
| | | | .XXX $\pm .005$ | MATL | - | SCALE | USED ON |
| | | | .XX $\pm .01$ | | | FULL | - |
| | | | ANGLES $\pm 1/2^\circ$ | | | | DRWN/DATE |
| REV | ECN NO | DATE | UNLESS OTHERWISE SPECIFIED |  Insinger | Philadelphia, PA 19135 | | MFJ |
| FILE: SKETCHA \ SK-3822 | | | | Machine Company | (215) 624-4800 | | 12.7.95 |
| | | | | | FAX (215) 624-6966 | | |

| 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 | OVERLOAD BASE | DE2-60 | AR | 41 | SELECTOR SWITCH ASSY | DE8-58 | 2 |
| 11 | | | | 27 | TEMPERATURE CONTROL BOARD | DE9-251 | 2 | 42 | PUSHBUTTON ASSY, START | DE8-64 | 1 |
| 12 | RELAY BASE | DE3-25 | 2 | 28 | TIME DELAY BOARD (ENERGY SAVER) | DE7-28 | 1 | 43 | PUSHBUTTON ASSY, STOP | DE8-65 | 1 |
| 13 | RELAY | DE2-12 | 2 | 29 | TIMER (LIQUID LEVEL) | DE7-35 | 2 | 44 | PILOT LIGHT ASSY - YELLOW | DE8-62 | 1 |
| 14 | RELAY BASE | DE2-37 | 3 | 30 | | | | 45 | PILOT LIGHT ASSY - RED | DE8-61 | 1 |
| 15 | RELAY | DE2-38 | 3 | 31 | GROUNDING STUD | D309C-GC-4G | 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 | DE8-60 | 1 |
| 18 | DIN RAIL (15 mm) | DE3-42 | 1 | 34 | CONTROL BOX | SK-3716 | 1 | 49 | CONTACT BLOCK, NO | DE8-59 | 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 | | | | |
| | 208 & 380 V | DE6-21 | | 39 | DATA DECAL | SK-3715 | 1 | | | | |
| 23 | FUSE BLOCK KIT (250 VA XFMR) | DE9-164 | 1 | | | | | | | | |
| 24 | | | | | | | | | | | |

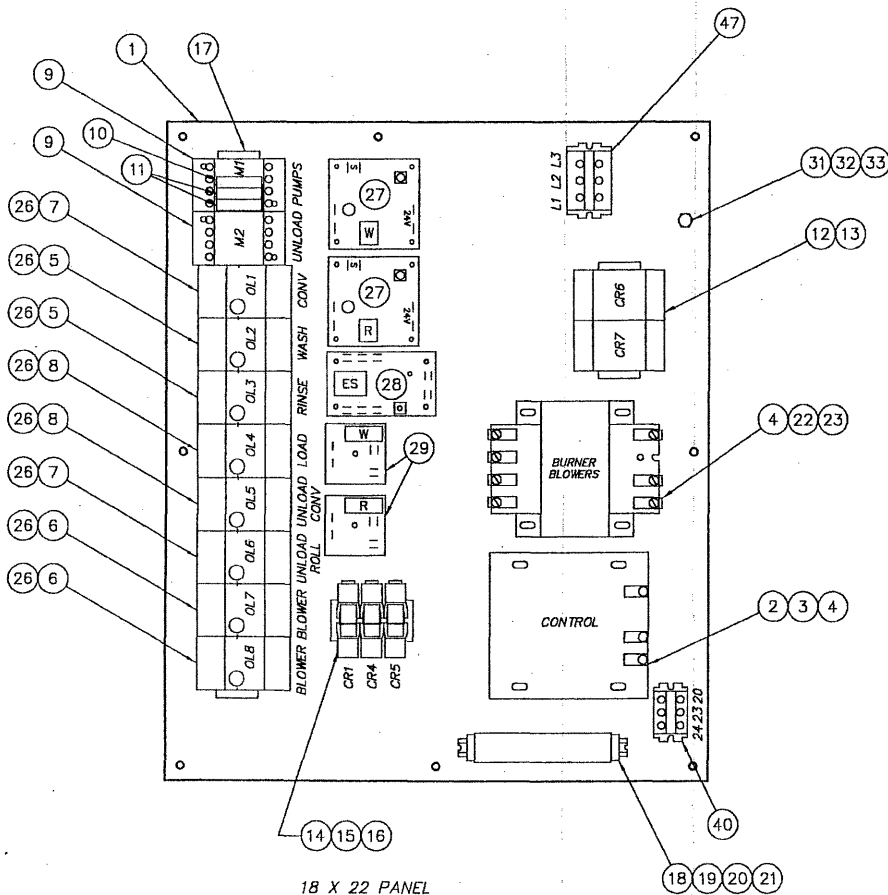
NOT SHOWN

| | | |
|--------------------------|---------|---|
| 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 | | DRWN/DATE | |
| | | GAS HEAT CONTROL PANEL LAYOUT | | MFJ 6.1.95 | |
| Insinger | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-8986 | | FILE: SKETCH \SK-3670 | |
| G | 1986 | 8.1.03 | SCALE | DWG. NO. | |
| F | 1857 | 2.15.01 | 1=4 | SK-3670 | |
| REV | ECN NO | DATE | | | |



18 X 22 PANEL

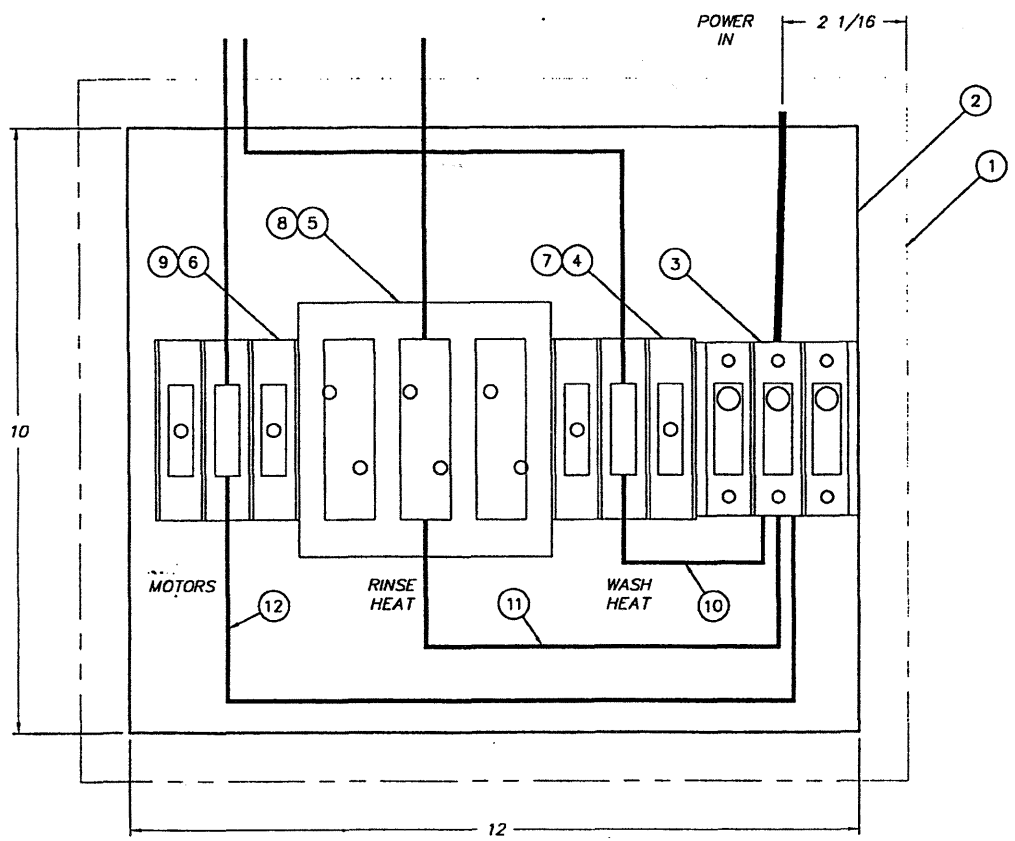
| ITEM | DESCRIPTION | PART NO. | QTY |
|------|--|----------|-----|
| 1 | COMPONENT MOUNTING PLATE | SK-3776 | 1 |
| 2 | CONTROL TRANSFORMER (250 VA, 24 VAC) | DE6-25 | 1 |
| 3 | FUSE BLOCK KIT (250 VA XFMR) | DE9-165 | 1 |
| 4 | FUSE (250 VA TRANSFORMER PRIMARY) | | 4 |
| | 460 V FNQ-R-1.8 | DE9-169 | |
| | 380 V FNQ-R-2 | DE9-170 | |
| | 220 - 230 V FNQ-R-3.5 | DE9-174 | |
| | 208 V FNQ-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 (1/15 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 | |
| 8 | OVERLOAD RELAY (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 | |

SHEET 1 OF 2

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

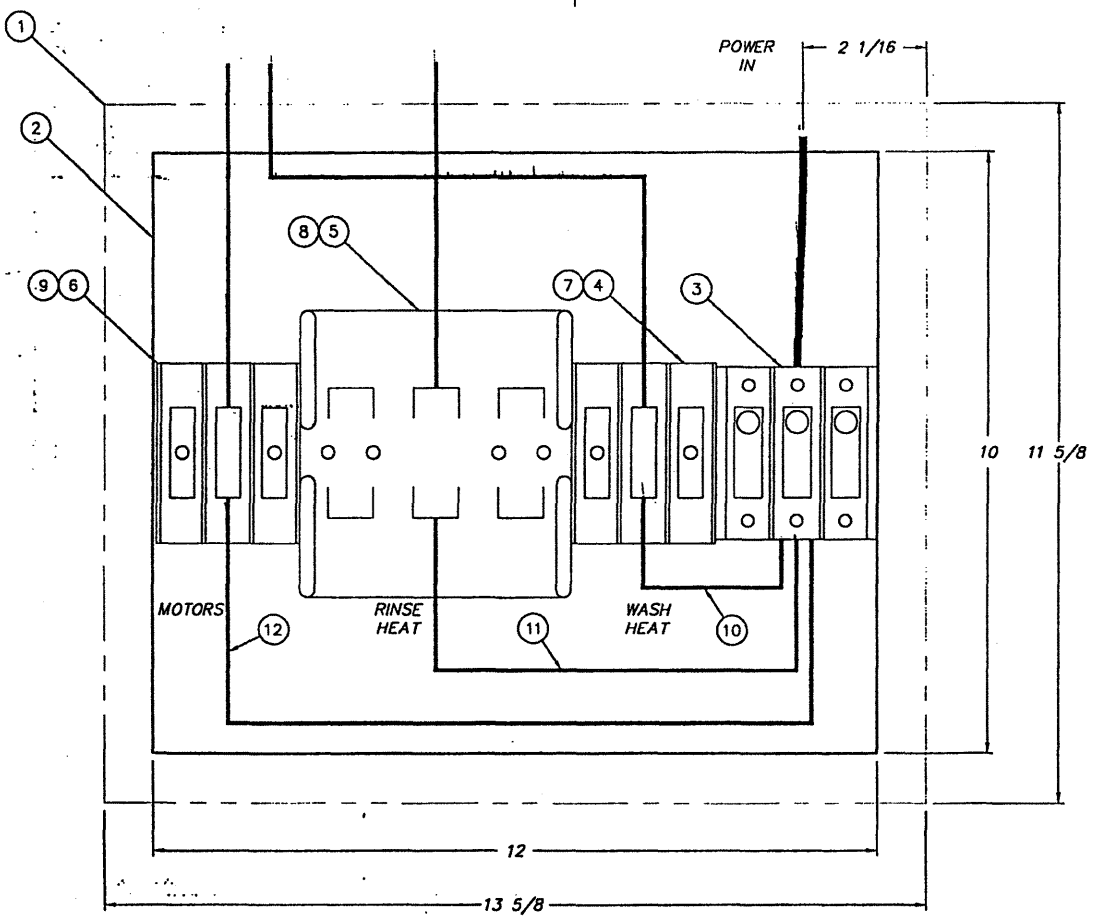
| ITEM | DESCRIPTION | PART NO. | QTY |
|------|----------------------------|----------|-----|
| 12 | MOTOR & CONTROL WIRES | | |
| | 460/3/60 | #14 MTW | |
| | 380/3/50 | #14 MTW | |
| | 230/3/60 | #12 MTW | |
| | 208/3/60 | #12 MTW | |
| 13 | BRACKET (2" BOX ELEVATION) | SK-4153 | 2 |

| 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) | | 1 |
| | 460/3/60 30A | DE9-186 | |
| | 380/3/50 30A | DE9-186 | |
| | 230/3/60 60A | DE9-187 | |
| | 208/3/60 60A | DE9-187 | |
| 6 | FUSE BLOCK (MOTORS & CONTROLS) 30A | DE9-186 | 1 |
| 7 | FUSE (WASH HEATERS) | | 3 |
| | 460/3/60 KTK-R-15 | DE9-194 | |
| | 380/3/50 KTK-R-15 | DE9-194 | |
| | 230/3/60 KTK-R-25 | DE9-207 | |
| | 208/3/60 KTK-R-30 | DE9-189 | |
| 8 | FUSE (RINSE HEATERS) | | 3 |
| | 460/3/60 KTK-R-25 | DE9-207 | |
| | 380/3/50 KTK-R-30 | DE9-189 | |
| | 230/3/60 NON-50 | DE9-206 | |
| | 208/3/60 NON-60 | DE9-188 | |
| 9 | FUSE (MOTORS) | | 3 |
| | 460/3/60 FNQ-R-10 | DE9-181 | |
| | 380/3/50 FNQ-R-15 | DE9-183 | |
| | 230/3/60 FNQ-R-20 | DE9-184 | |
| | 208/3/60 FNQ-R-20 | DE9-184 | |
| 10 | WASH HEATER WIRES | | |
| | 460/3/60 | #14 SIR | |
| | 380/3/50 | #14 SIR | |
| | 230/3/60 | #14 SIR | |
| | 208/3/60 | #14 SIR | |
| 11 | RINSE HEATER WIRES | | |
| | 460/3/60 | #14 SIR | |
| | 380/3/50 | #12 SIR | |
| | 230/3/60 | #10 SIR | |
| | 208/3/60 | #8 SIR | |



| | | | |
|--|--------|--|--------------------------|
| TITLE FUSE BOX LAYOUT -SPEEDER 64 & 86-3 | | | |
| SINGLE POINT CONNECTION | | | |
| | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | DRWN/DATE MFJ 5.16.95 |
| 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 | ITEM | DESCRIPTION | PART NO. | QTY |
|------|----------------------------|----------|-----|------|------------------------------------|----------|-----|
| 12 | MOTOR & CONTROL WIRES | | | 1 | ENCLOSURE | SK-3727 | 1 |
| | 460/3/60 | #14 MTW | | 2 | COMPONENT MOUNTING PLATE | SK-3729 | 1 |
| | 380/3/50 | #14 MTW | | 3 | POWER DISTRIBUTION BLOCK | DE3-152 | 1 |
| | 230/3/60 | #10 MTW | | 4 | FUSE BLOCK (WASH HEATERS) 30A | DE9-186 | 1 |
| | 208/3/60 | #10 MTW | | 5 | FUSE BLOCK (RINSE HEATERS) | | 1 |
| 13 | BRACKET (2" BOX ELEVATION) | SK-4153 | 2 | | 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) | | 3 |
| | | | | | 460/3/60 KTK-R-15 | DE9-194 | |
| | | | | | 380/3/50 KTK-R-15 | DE9-194 | |
| | | | | | 230/3/60 KTK-R-25 | DE9-207 | |
| | | | | | 208/3/60 KTK-R-30 | DE9-189 | |
| | | | | 8 | FUSE (RINSE HEATERS) | | 3 |
| | | | | | 460/3/60 JJS-35 | DE9-208 | |
| | | | | | 380/3/50 JJS-45 | DE9-243 | |
| | | | | | 230/3/60 JUN-70 | DE9-211 | |
| | | | | | 208/3/60 JUN-80 | DE9-221 | |
| | | | | 9 | FUSE (MOTORS) | | 3 |
| | | | | | 460/3/60 FNQ-R-15 | DE9-183 | |
| | | | | | 380/3/50 FNQ-R-15 | DE9-183 | |
| | | | | | 230/3/60 FNQ-R-25 | DE9-220 | |
| | | | | | 208/3/60 FNQ-R-25 | DE9-220 | |
| | | | | 10 | WASH HEATER WIRES | | |
| | | | | | 460/3/60 | #14 SIR | |
| | | | | | 380/3/50 | #12 SIR | |
| | | | | | 230/3/60 | #12 SIR | |
| | | | | | 208/3/60 | #12 SIR | |
| | | | | 11 | RINSE HEATER WIRES | | |
| | | | | | 460/3/60 | #12 SIR | |
| | | | | | 380/3/50 | #10 SIR | |
| | | | | | 230/3/60 | #6 SIR | |
| | | | | | 208/3/60 | #6 SIR | |

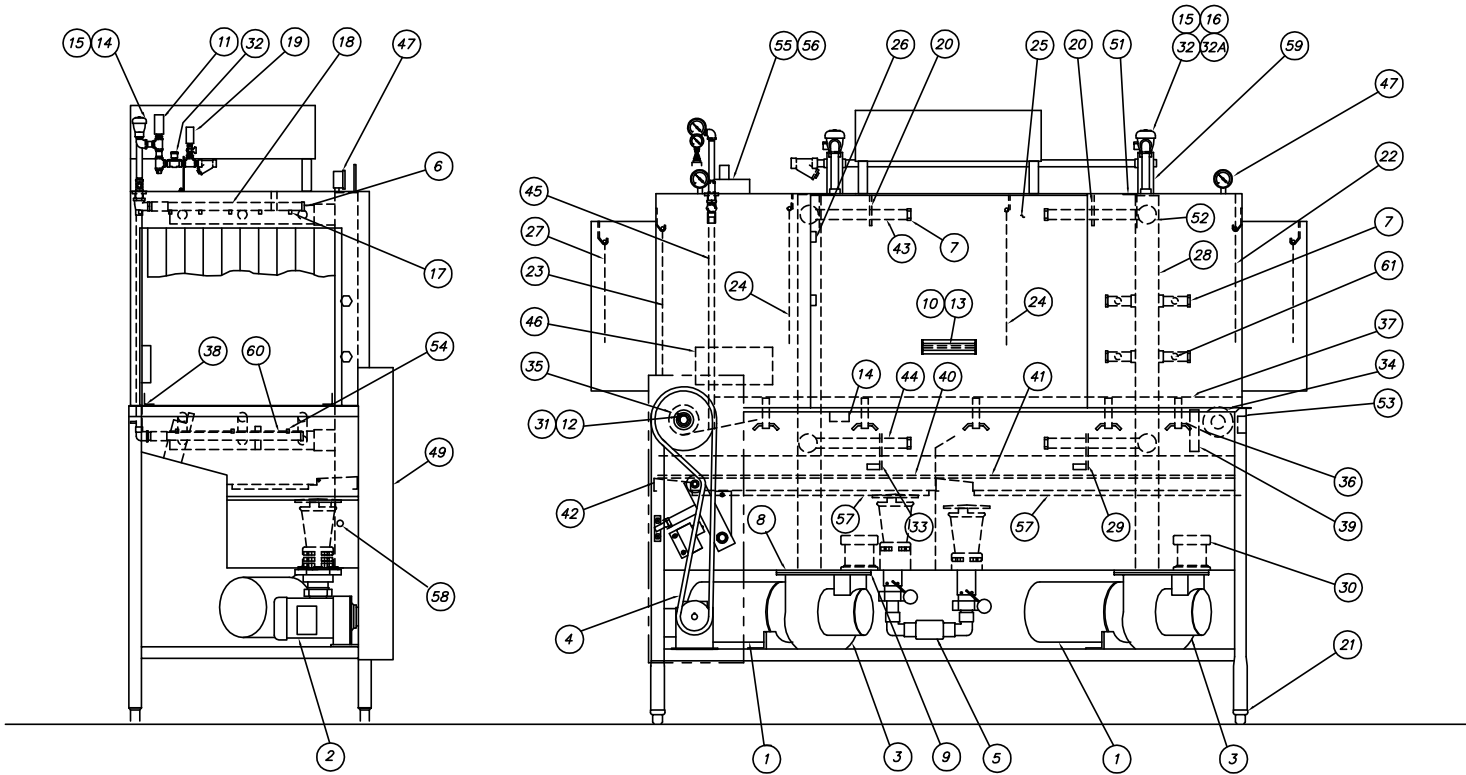


| | | | | | |
|----------------------|--------|------------------------|-------|-------------------------------|--|
| TITLE | | | | FUSE BOX LAYOUT - SUPER 106-2 | |
| | | | | SINGLE POINT CONNECTION | |
| | | Philadelphia, PA 19135 | | DRWN/DATE | |
| | | (215) 624-4800 | | MFJ | |
| | | FAX (215) 624-6966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




Part 5

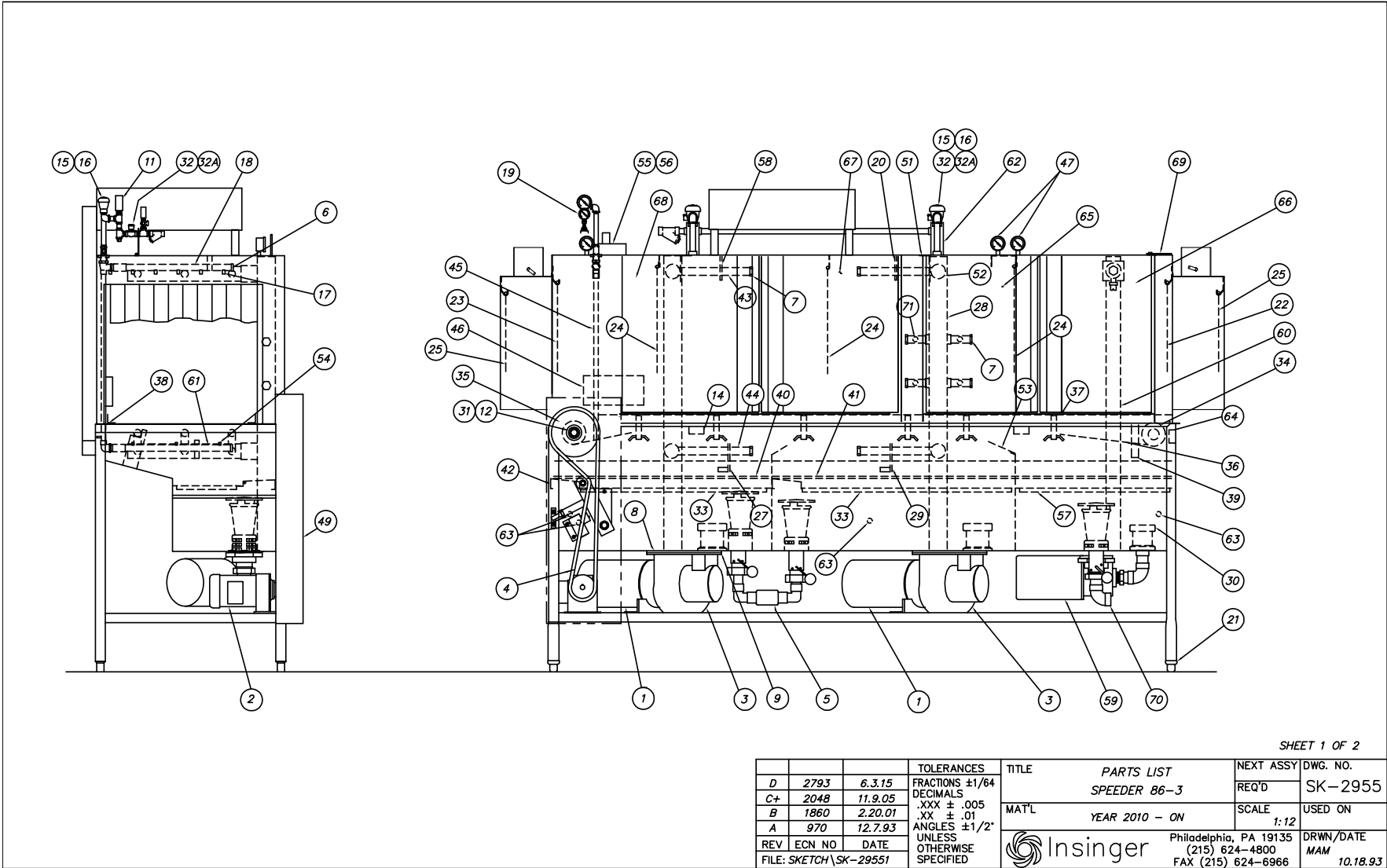
Replacement Parts




SHEET 1 OF 2

| | | | | | | | |
|-----------------------|--------|---------|-----------------|--|----------------------------|-----------|-----------|
| G | 2793 | 5.26.15 | TOLERANCES | TITLE | PARTS LIST | NEXT ASSY | DWG. NO. |
| F | 2048 | 11.9.05 | FRACTIONS ±1/64 | SPEEDER 64 | YEAR 2006 - ON | REQ'D | SK-2851 |
| E | 1897 | 9.26.01 | DECIMALS | | | SCALE | USED ON |
| D | 1893 | 9.18.01 | .XXX ± .005 | MAT'L | 1:12 | SPDR 64 | DRWN/DATE |
| C | 1860 | 2.20.01 | .XX ± .01 |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | 10.18.93 | | |
| REV | ECN NO | DATE | ANGLES ±1/2° | | UNLESS OTHERWISE SPECIFIED | | |
| FILE: SKETCH\SK-28511 | | | | | | | |

SHEET 1 OF 2



| | | | TOLERANCES | TITLE | PARTS LIST | NEXT ASSY | DWG. NO. |
|-----------------------|------|---------|----------------------------|--|----------------|-----------|-----------------|
| D | 2793 | 6.3.15 | FRACTIONS ±1/64 | | SPEEDER 86-3 | REQ'D | SK-2955 |
| C+ | 2048 | 11.9.05 | DECIMALS | | | | |
| B | 1860 | 2.20.01 | .XXX ± .005 | | | | |
| A | 970 | 12.7.93 | .XX ± .01 | | | | |
| | | | ANGLES ±1/2° | | YEAR 2010 - ON | SCALE | USED ON |
| REV ECN NO DATE | | | UNLESS OTHERWISE SPECIFIED |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | 1:12 | DRWN/DATE |
| FILE: SKETCH\SK-29551 | | | | | | | MAM 10.18.93 |

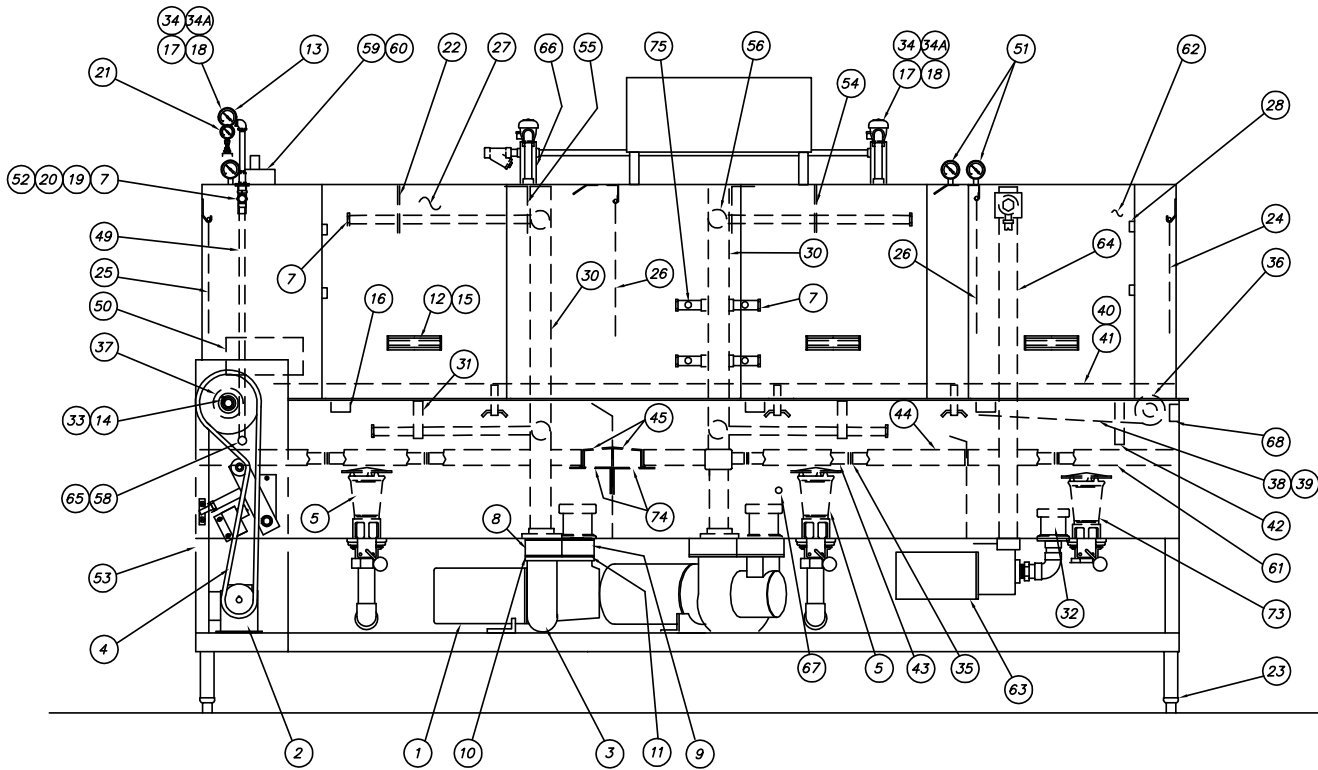


| ITEM# | PART# | DESCRIPTION | REQ. | ITEM# | PART# | DESCRIPTION | REQ. |
|-------|--------------|--|------|-------|-------------|---|------|
| 1 | ** | PUMP & MOTOR, WASH & RINSE | 2 | 40 | 1162-62 | SCRAP SCREEN SPACER - FRONT RINSE | 1 |
| 2 | (SEE ITEM 4) | GEAR MOTOR | 1 | 41 | 1162-40 | SCRAP 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 - FRONT & REAR | 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 | 1 | | | | |
| 35 | 975-55 | DRIVE SPROCKET (WITH KEY) | 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 | 6.3.75 | FRACTIONS ±1/64 | SPEEDER 86-3 | | REQ'D | SK-2955 |
| C+ | 2048 | 11.9.05 | DECIMALS | | | NOTED | |
| B | 1860 | 2.20.01 | .XXX ± .005 | MAT'L | YEAR 2010 - ON | SCALE | USED ON |
| A | 970 | 12.7.93 | .XX ± .01 | | | FULL | SPDR 86-3 |
| REV | ECN NO | DATE | ANGLES ±1/2° | | | | DRWN/DATE |
| | | | UNLESS OTHERWISE SPECIFIED | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | | MAM 10.18.93 |
| FILE: SKETCH\SK-29552 | | | | | | | |



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 | DECIMALS | | | | |
| D | 1897 | 9.27.01 | .XXX ± .005 | | | | |
| C | 1893 | 9.18.01 | .XX ± .01 | | | | |
| | | | ANGLES ±1/2° | | | | |
| | | | UNLESS OTHERWISE SPECIFIED | | | | |
| REV | ECN NO | DATE | |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | SCALE | USED ON |
| | | | | | YEAR 2005 - ON | 1:12 | SUPER 106-2 |
| | | | | | | DRWN/DATE | |
| | | | | | | MAM | 12.6.93 |



SHEET 2 OF 2

| 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 | - | - | - |
| | 1530-1 | TIMING BELT DRIVE ASSEMBLY (SEE SEP DWG) | 1 | 47 | - | - | - |
| 5 | 1437-6 | DRAIN ASSEMBLY COMMON DRAIN (SEE SEP DWG) | 1 | 48 | - | - | - |
| 6 | - | - | - | 49 | 1169-45 | FINAL RINSE - INSIDE PIPING | 1 |
| 7 | D2-554-2A | PIPE PLUG 3/4-10 W/HOLE | 18 | 50 | 951-28A | FINAL RINSE - LEVER ASSEMBLY | 1 |
| 8 | D424A | DISCHARGE SHIM | 2 | 51 | D2390 | THERMOMETER | 3 |
| 9 | D425B | SUCTION SHIM | 2 | 52 | - | - | - |
| 10 | D514 | DISCHARGE GASKET | 4 | 53 | 1162-60 | MECHANISM GUARD | 1 |
| 11 | D530 | SUCTION GASKET | 5 | 54 | 1162-90 | LATCH ASSY - SPRAY PIPE WASH | 1 |
| 12 | RC-15-21 | DOOR ROD | 3 | 55 | D3-849 | STOP BRACKET, UPPER MANIFOLD | 2 |
| 13 | D2495 | THERMOMETER, FINAL RINSE | 1 | 56 | D580 | O-RING, MANIFOLD | 4 |
| 14 | 951-40A | CONVEYOR DRIVE SHAFT | 1 | 57 | 1450-8 | TANK BAFFLE, PW - WASH DIVIDER | 1 |
| 15 | RC-15-20 | DOOR HANDLE | 3 | 58 | D2836 | SPRAY NOZZLE FINAL RINSE - LOWER | 3 |
| 16 | DE5-37 | MAGNETIC SWITCH | 3 | 59 | 816-58 | SPRING | 1 |
| 17 | D2241 | VACUUM BREAKER 1/2 | 3 | 60 | D2215A | MICROSWITCH, FINAL RINSE | 1 |
| 18 | D2242A | VACUUM BREAKER REPAIR KIT 1/2 | 3 | 61 | 959-70 | SCRAP SCREEN SPACER - FRONT & REAR (PW) | 2 |
| 19 | D2836 | SPRAY NOZZLE, FINAL RINSE, UPPER | 6 | 62 | D2-719 | DOOR (PREWASH) | 1 |
| 20 | 951-165 | SPRAY PIPE FINAL RINSE - UPPER | 1 | 63 | D2441 | PUMP & MOTOR, PREWASH | 1 |
| 21 | SK-1433 | PRESSURE GAUGE | 1 | | SK-2397 | PUMP PARTS (SEE SEP DWG) | 1 |
| 22 | D2349 | LATCH ASSEMBLY - SPRAY PIPE RINSE | 1 | 64 | 959-59 | DISCHARGE LINE ASSY. - PW (SEE SEP DWG) | 1 |
| 23 | D2874 | ADJUSTABLE FOOT | 4 | 65 | 951-165 | SPRAY PIPE FINAL RINSE - LOWER | 1 |
| 24 | D2-523 | CURTAIN - ENTER | 1 | 66 | 957-80A | BRACKET, PIPING SUPPORT | 1 |
| 25 | D3-501 | CURTAIN - EXIT | 1 | 67 | DE5-60 | FLOAT SWITCH | 3 |
| 26 | D2-524A | CURTAIN - CENTER | 4 | 68 | 951-36 | CONVEYOR FOLLOWER SHAFT ASS'Y (SEE SEP. DWG) | 1 |
| 27 | D2-715 | DOOR (WASH & RINSE) | 2 | 69 | - | - | - |
| 28 | D2715A | DOOR LATCH | 6 | 70 | - | - | - |
| 29 | - | - | - | 71 | - | - | - |
| 30 | 962-6A | DISCHARGE LINE ASSY W & R (SEE SEP. DWG.) | 1 | 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 | 1 | | | | |
| 42 | D3-827A | TRACK BRACKET - WASH END | 2 | | | | |

** CALL FACTORY WITH SERIAL NUMBER OF MACHINE

| | | | | | | | |
|-----|--------|---------|----------------------------|-------|------------------------|-----------|-----------|
| | | | TOLERANCES | TITLE | PARTS LIST | NEXT ASSY | DWG. NO. |
| F | 2793 | 5.27.15 | FRACTIONS ±1/64 | | SUPER 106-2 | REQ'D | SK-2681 |
| E | 2048 | 11.9.05 | DECIMALS | | | NOTED | |
| D | 1897 | 9.27.01 | .XXX ± .005 | MAT'L | YEAR 2005 - ON | SCALE | USED ON |
| C | 1893 | 9.18.01 | .XX ± .01 | | | FULL | SUP 106-2 |
| REV | ECN NO | DATE | ANGLES ±1/2" | | | | |
| | | | UNLESS OTHERWISE SPECIFIED | | Philadelphia, PA 19135 | | DRWN/DATE |
| | | | | | (215) 624-4800 | | MAM |
| | | | | | FAX (215) 624-6966 | | 12.14.93 |

FILE: SKETCH\SK-26812

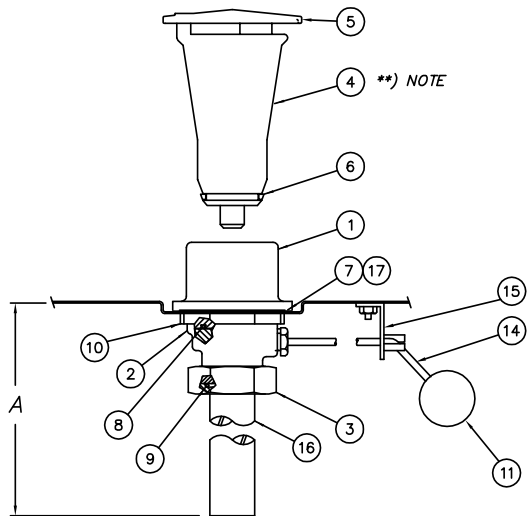
| MODEL | "A" DIM. | MODEL | ITEM # 14 | ITEM # 15 | ITEM # 16 | LENGTH |
|--|-----------------|--------------|-------------|----------------------|--------------|--------|
| SPEEDER 86-3 | - | SPEEDER 86-3 | 1100-79 | 954-8 954-8A 954-8B | | |
| SPEEDER 64 | - | SPEEDER 64 | 1100-79 | 954-8 954-8B | | |
| TRAC 321 | 7 5/16 | TRAC 321 | 970-55 | 954-8 | D207A-B12-16 | 4" |
| TRAC 321 RPW | - | TRAC 321 RPW | 970-55 | 954-8A 954-8 | | |
| MASTER | - | MASTER | 1100-79 *** | 954-8A 954-8 (2 PCS) | | |
| CLIPPER | - | CLIPPER | 1100-79 | 954-8A 954-8 (2 PCS) | | |
| CENTURY | - | CENTURY | 1100-79 | 954-8A 954-8 (2 PCS) | | |
| DEFENDER | - | DEFENDER | 1100-79 *** | 954-8A 954-8 | | |
| 18-5 | 6 9/16 | 18-5 | 1100-79A | 954-8C | D207A-B12-17 | 4 1/4 |
| CA-3 | 8 | CA-3 | 925-52 | 954-8 | D207A-B12-33 | 8 1/4 |
| DA-3 | 8 | DA-3 | 925-52 | 954-8 | D207A-B12-33 | 8 1/4 |
| SUPER 106-2 | - | SUPER 106-2 | 954-5 | 954-8A P.W. | D207A-B12-17 | 4 1/4 |
| ADMIRAL 44 | 6 9/16 | SUPER 106-2 | 954-5 | 954-8 WASH | D207A-B12-20 | 5 |
| SPEEDER 64 & 86 ADMIRAL 44 & 66 UNLOADER | SEE 1162-108 | SUPER 106-2 | 954-5 | 954-8 RINSE | D207A-B12-22 | 5 1/2 |
| | | ADM 44 | 1169-21 | 954-8 WASH | D207A-B12-17 | 4 1/4 |
| | | ADM 66 | 1169-21 | 954-8 WASH | D207A-B12-17 | 4 1/4 |
| | | ADM 66 | 1100-79 | 954-8A P.W. | D207A-B12-8 | 2 |

| ITEM | PART NO. | SIZE | DESCRIPTION | QTY. |
|------|-------------|------|------------------------------|------|
| 1 | 954-50A | A | UPPER VALVE BODY | 1 |
| 2 | 954-50B | A | LOWER VALVE BODY | 1 |
| 3 | 954-50C | A | O RING NUT | 1 |
| 4 | 954-50D | A | OVERFLOW TUBE | 1 |
| 5 | D-193 | A | SKIMMER CAP | 1 |
| 6 | D2-557 | - | "U" CUP SEAL | 1 |
| 7 | 954-9 | - | SEALING WASHER | 1 |
| 8 | D2-549 | - | "O" RING | 1 |
| 9 | D2-550 | - | "O" RING | 1 |
| 10 | D-305A | - | DRAIN JAM NUT | 1 |
| 11 | D2-507 | - | BALL | 1 |
| 12 | - | - | - | - |
| 13 | D316A-H3-H1 | - | 90° ELL 1 1/2 C X 1 1/2 FIPS | 0 |
| 14 | SEE TABLE | A | DRAIN HANDLE ASS'Y | 1 |
| 15 | SEE TABLE | A | BRACKET | 1 |
| 16 | SEE TABLE | - | COPPER TUBING 1 1/2 CTS | 1 |
| 17 | D3-559 | - | SEALANT (1.5 OZ) | 1 |
| | 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 ASS'Y 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

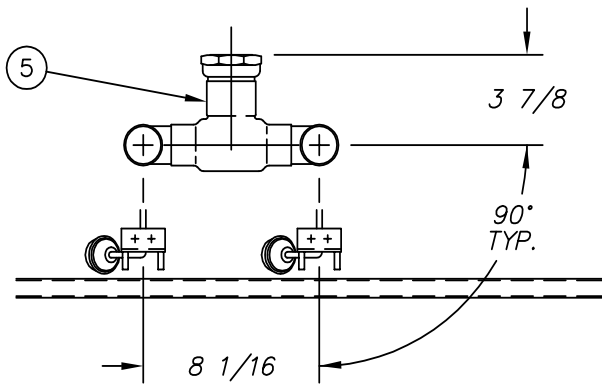


| MODEL | REQ'D \ MACH. |
|--------------|---------------|
| SPEEDER 86-3 | 3 |
| SPEEDER 64 | 2 |
| TRAC 321 | 1 |
| TRAC 321 RPW | 2 |
| MASTER | 3 |
| CLIPPER | 3 |
| CENTURY | 3 |
| DEFENDER | 2 |
| 18-5 | 1 |
| CA-3 | 1 |
| DA-3 | 2 |
| SUPER 106-2 | 3 |
| ADM 44 | 1 |
| ADM 66 | 2 |

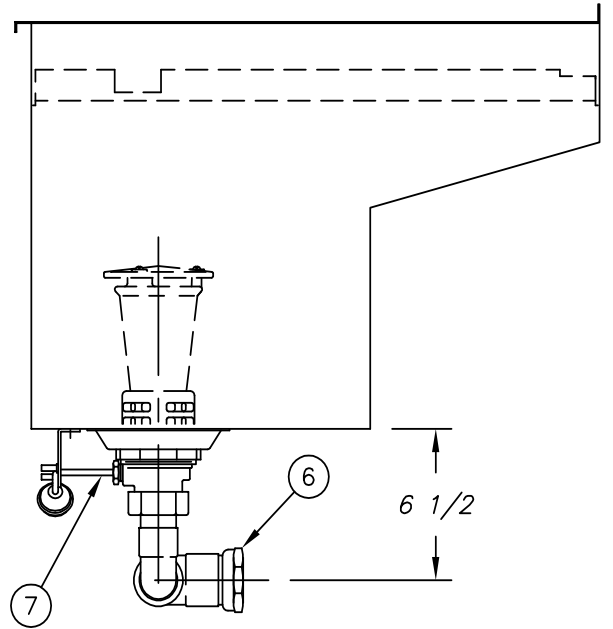
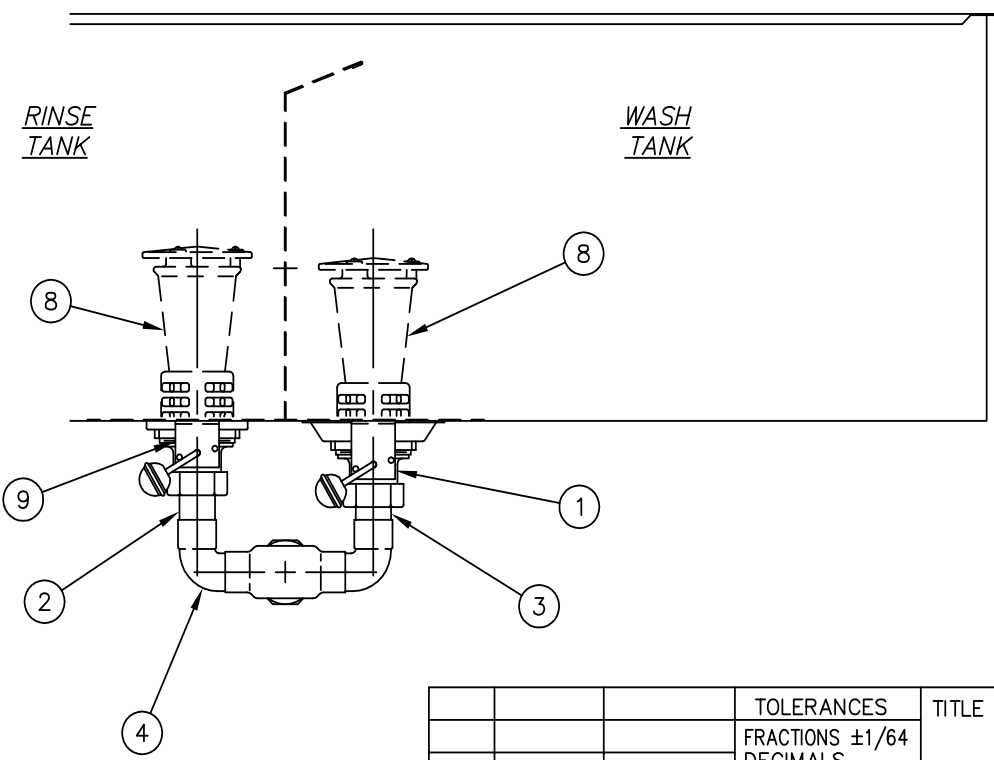
| N | 2474 | 05.11.10 | TOLERANCES | TITLE | DRAIN ASSEMBLY | NEXT ASSY | DWG. NO. |
|-------|-------------|----------|----------------------------|-------|----------------|-----------|-------------------|
| M | 2165 | 07.29.08 | FRACTIONS ±1/64 | | CHART | REQ'D 1 | 954-1 |
| L | 2158 | 06.19.08 | DECIMALS | | | | |
| K | 1989 | 07.07.03 | .XXX ± .005 | | | | |
| J | 1938 | 05.31.02 | .XX ± .01 | | NOTED | SCALE 1=4 | USED ON SEE ABOVE |
| | | | ANGLES ±1/2° | | | | DRWN/DATE |
| | | | UNLESS OTHERWISE SPECIFIED | | | | RAF |
| REV | ECN NO | DATE | | | | | 11.27.84 |
| FILE: | PARTS\954-1 | | | | | | |

SHEET 1 OF 2

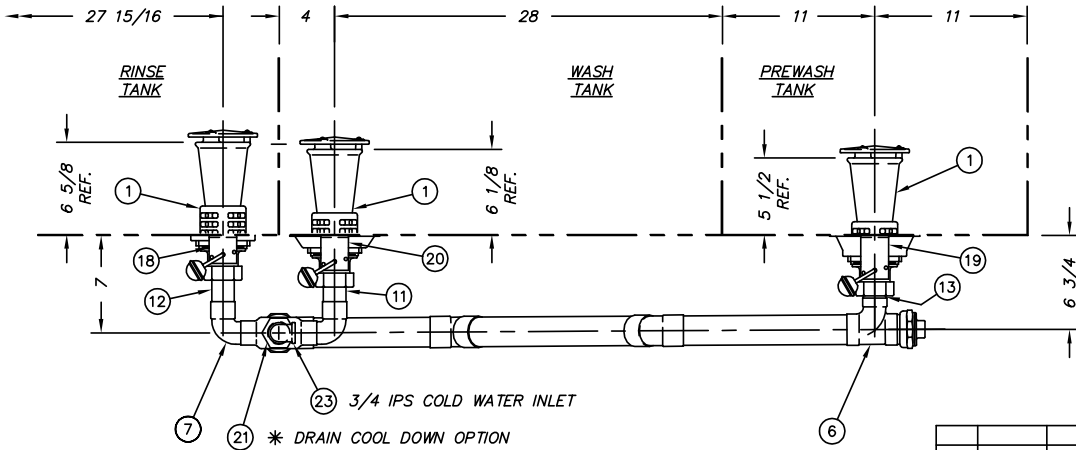
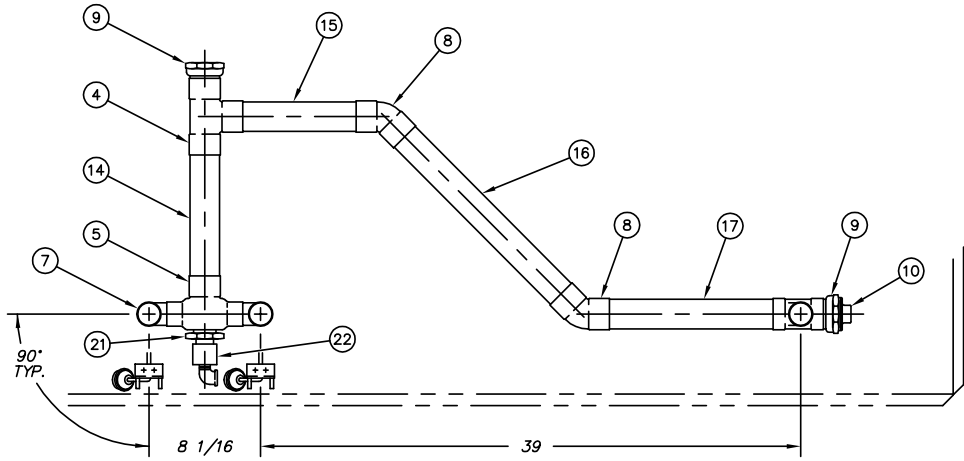
Insinger Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966



| 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 |



| | | | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
|---------------------|--------|----------|----------------------------|---------------------------------|-----------|--------------------|
| | | | FRACTIONS ±1/64 | DRAIN ASSEMBLY | REQ'D 1 | 1162-38 |
| | | | DECIMALS | | | |
| B | 1597 | 3.9.98 | .XXX ± .005 | MAT'L | SCALE 1/8 | USED ON SPEEDER 64 |
| A | 1268 | 09.22.95 | .XX ± .01 | NOTED | | |
| REV | ECN NO | DATE | ANGLES ±1/2° | Insinger Philadelphia, PA 19135 | | DRWN/DATE |
| | | | UNLESS OTHERWISE SPECIFIED | (215) 624-4800 | | RAF |
| FILE: PARTS\1162-38 | | | | FAX (215) 624-6966 | | 07.31.86 |



* DRAIN COOL DOWN OPTION
1 5/8 DIA HOLESAW THRU ITEM #5.
INSERT ITEM #21 & SWEAT.

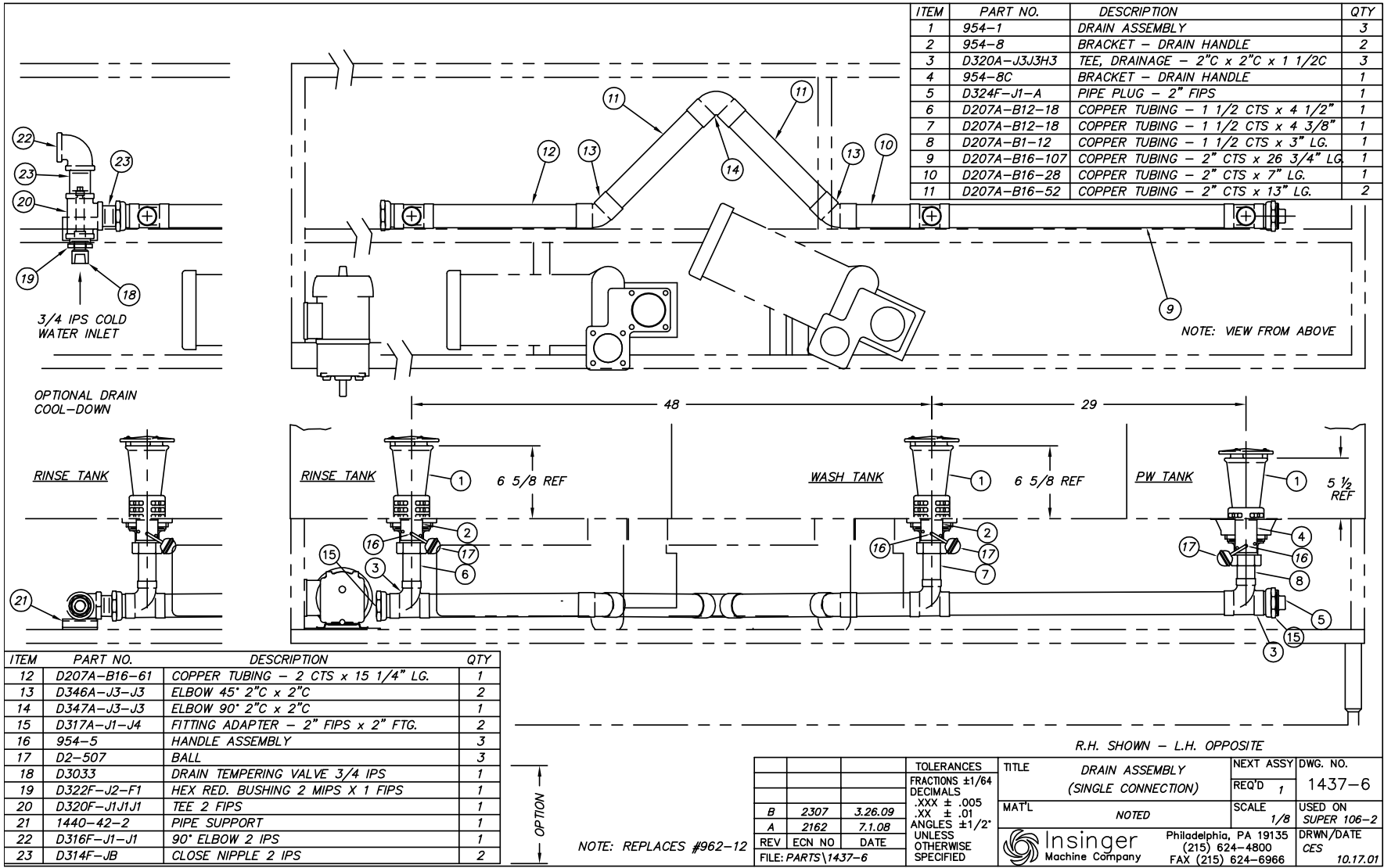
| ITEM | PART NO. | DESCRIPTION | QTY |
|------|--------------|--------------------------------------|-----|
| 1 | 954-1 | INSINGER DRAIN ASSEMBLY | 3 |
| 2 | | | |
| 3 | | | |
| 4 | D348A-J3J3J3 | DRAINAGE TEE - 2"C | 1 |
| 5 | D348A-H3H3J3 | DRAINAGE TEE - 1 1/2C x 1 1/2C x 2"C | 1 |
| 6 | D320A-J3J3H3 | DRAINAGE TEE - 2"C x 2"C x 1 1/2C | 1 |
| 7 | D347A-H3-H4 | 90° STREET ELBOW - 1 1/2C | 2 |
| 8 | D346A-J3-J3 | 45° ELBOW - 2"C | 2 |
| 9 | D317A-J1-J4 | ADAPTER - 2"FTG 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 |

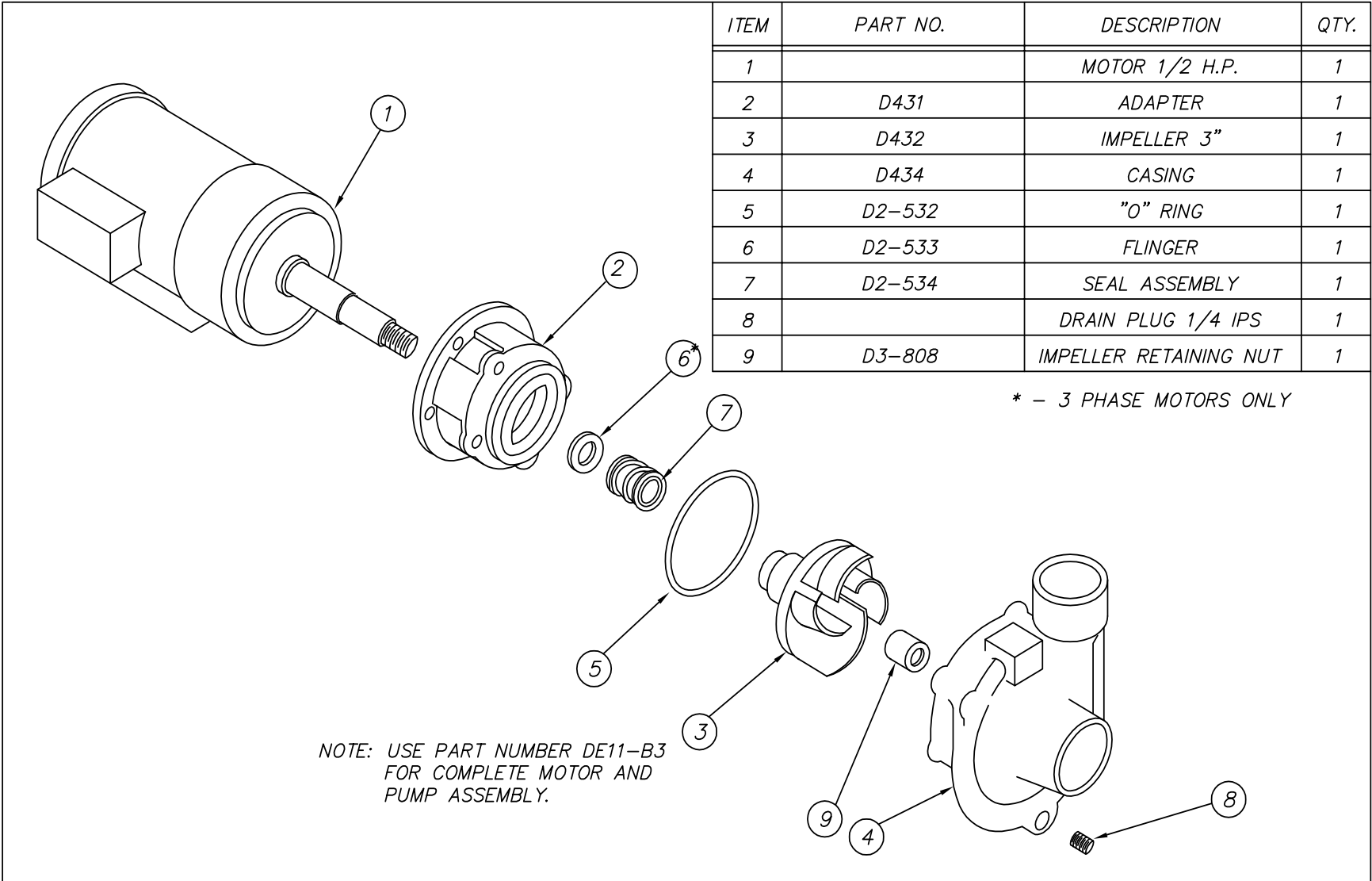
* OPTIONAL DRAIN COOL DOWN

THE DRAIN TEMPERING VALVE (DTV-R) IS USED WHERE THE WATER DISCHARGED TO THE DRAIN MUST BE LIMITED TO 140°F. COLD WATER IS ADDED WHEN THE DRAIN TEMPERATURE EXCEEDS THIS FIGURE & AUTOMATICALLY TURNS OFF WHEN NOT NEEDED. 3/4" IPS COLD WATER SUPPLY REQ'D.

R.H. MACHINE ONLY

| TOLERANCES | | | TITLE | NEXT ASSY | DWG. NO. |
|------------|---------------|----------|--|---------------------|------------------------------|
| E | 2109 | 12.3.07 | FRACTIONS ±1/64 | DRAIN ASSEMBLY | 1182-39 |
| D | 1283 | 06.17.95 | DECIMALS | (SINGLE CONNECTION) | REQ'D/NOTED |
| C | 1001 | 05.10.94 | .XXX ± .005 | MAT'L | SCALE |
| B | 420 | 04.24.90 | .XX ± .01 | NOTED | 1/8 |
| REV | ECN NO | DATE | UNLESS OTHERWISE SPECIFIED | USED ON SPDR 86-3 | |
| FILE: | PARTS\1182-39 | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | DRWN/DATE RFN 04.23.90 |






| 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

NOTE: USE PART NUMBER DE11-B3 FOR COMPLETE MOTOR AND PUMP ASSEMBLY.

| | | | | | | |
|------------------------|--------|----------|----------------------------|--|-----------|--------------|
| | | | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | PARTS LIST | REQ'D - | SK-2397 |
| | | | DECIMALS | | | |
| B | 1044 | 8.22.94 | .XXX ± .005 | MAT'L | SCALE - | USED ON |
| A | 961 | 10.29.93 | .XX ± .01 | | | VARIOUS |
| REV | ECN NO | DATE | ANGLES ±1/2° |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | DRWN/DATE |
| FILE: SKETCHA \SK-2397 | | | UNLESS OTHERWISE SPECIFIED | | | MAM 11.11.93 |

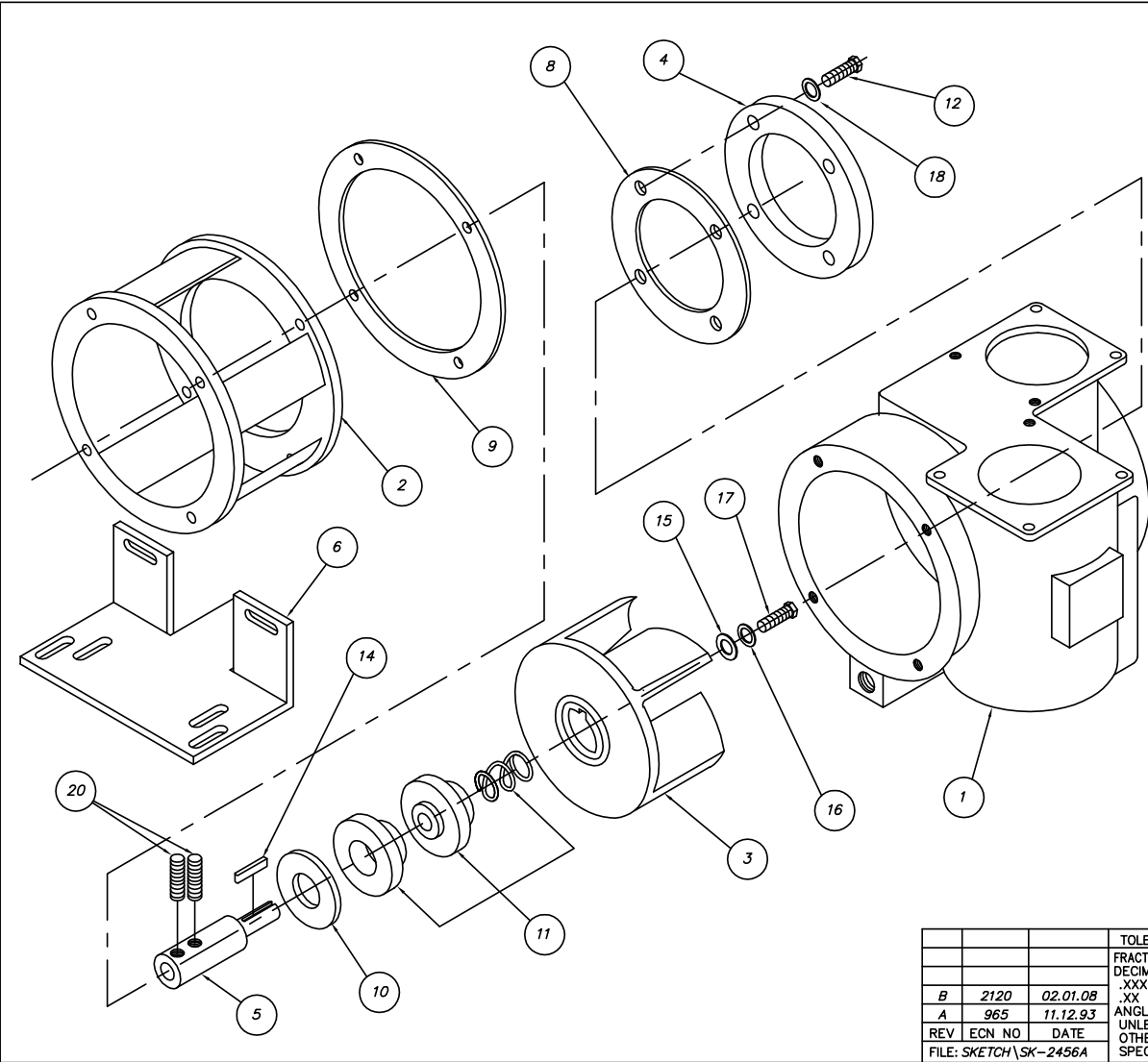
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|-------------|----------------------|------|
| 1 | UP-1 | PUMP BODY | 1 |
| 2 | D-435 | ADAPTER | 1 |
| 3 | NOTED | IMPELLER | 1 |
| 4 | SUP-3 | END COVER PLATE | 1 |
| 5 | D3-805 | PUMP SHAFT | 1 |
| 6 | D3-816 | MOUNTING BRACKET | 1 |
| 7 | | | |
| 8 | UP-8 | END COVER GASKET | 1 |
| 9 | UP-9 | HOUSING COVER GASKET | 1 |
| 10 | UP-13 | FLINGER | 1 |
| 11 | UP-15 | CERAMIC SEAL | 1 |
| 12 | D309C-JC-6A | END COVER BOLT | 12 |
| 13 | | | |
| 14 | D302-1 | KEY | 1 |
| 15 | D3-824A | WASHER | 1 |
| 16 | D313C-J2 | LOCKWASHER | 1 |
| 17 | D309C-JC-5A | IMPELLER BOLT | 1 |
| 18 | D313A-J1 | WASHER | 12 |
| 19 | | | |
| 20 | D309C-GC-2H | SET SCREW | 2 |

NOTE:
 FOR COMPLETE ASSEMBLY USE PART NO. D2471A
 IMPELLER PART NO. & SIZE:
 SUP-2A 4 1/2" (MODULAR, SPEEDER)
 SUP-9A 5" (ADMIRAL WASH, SUPER W&R, CLIPPER/MASTER
 /CENTURY PW ONLY)

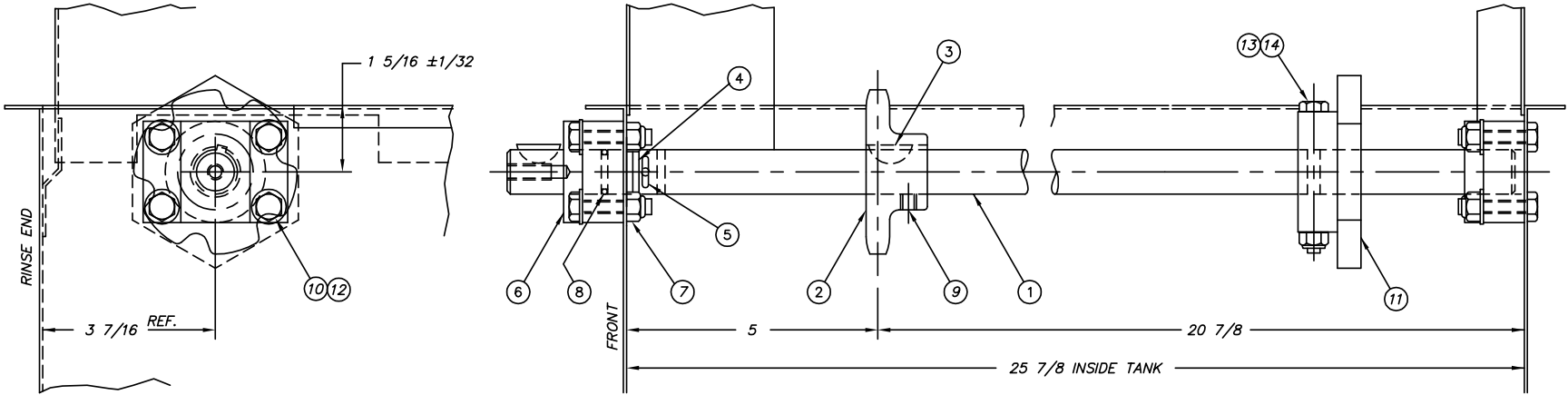
| | | | | | | | |
|-----|--------|----------|-----------------|-------|-----------------|-----------|-----------|
| | | | TOLERANCES | TITLE | PUMP ASSEMBLY | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | | MODEL 2 1/2 SUP | REQ'D 1 | SK-2456A |
| | | | DECIMALS | | | | |
| | | | .XXX ± .005 | | | | |
| B | 2120 | 02.01.08 | .XX ± .01 | MAT'L | | SCALE | USED ON |
| A | 965 | 11.12.93 | ANGLES ±1/2° | | | FULL | |
| | | | UNLESS | | | | |
| | | | OTHERWISE | | | | |
| | | | SPECIFIED | | | | |
| REV | ECN NO | DATE | | | | | DRWN/DATE |
| | | | | | | | PG |
| | | | | | | | 8.29.94 |




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



| 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-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 | D309C-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-H1 | 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 |



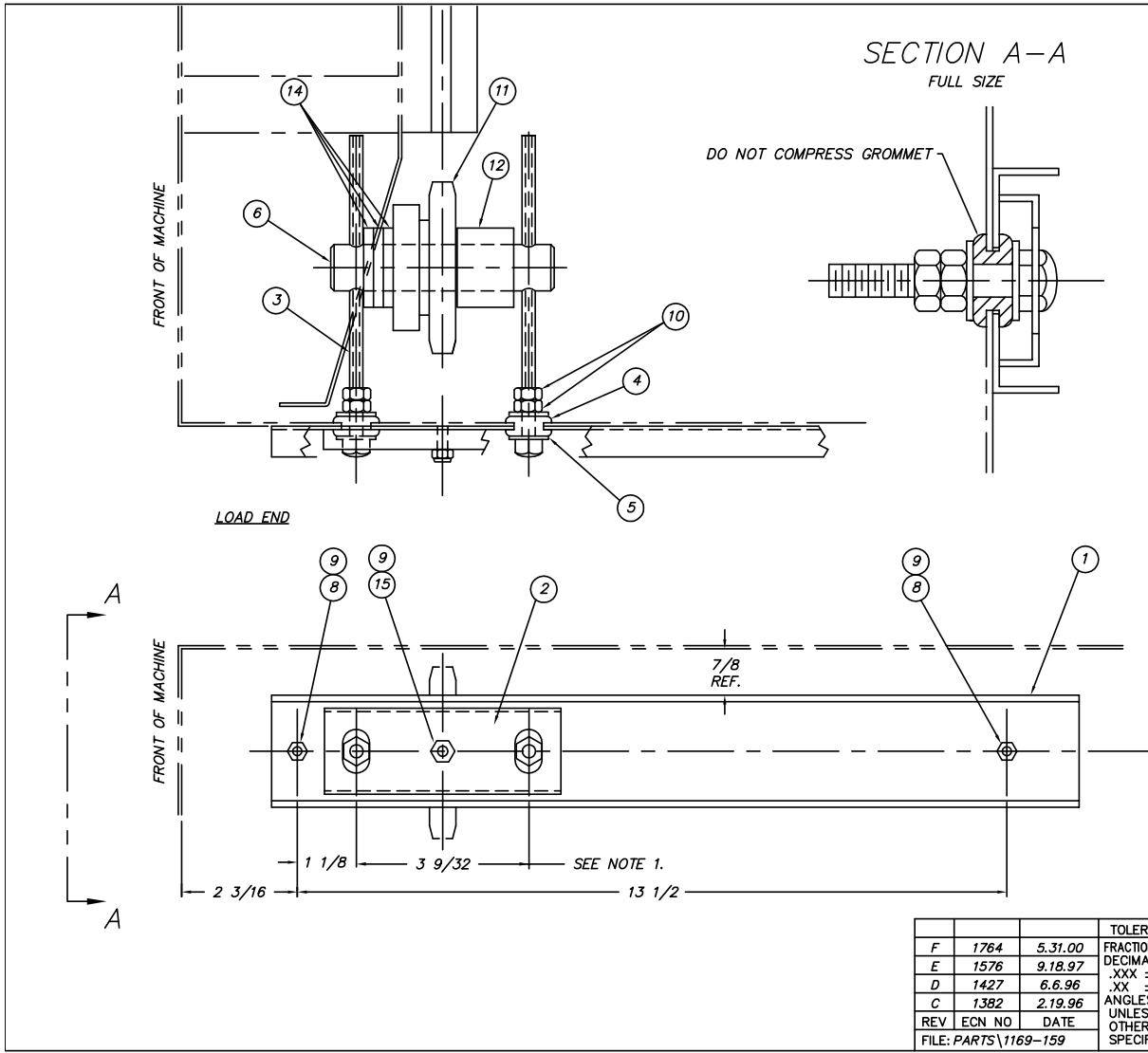
RH SHOWN - LH OPPOSITE

| | | | | | | |
|----------------------|--------|----------|----------------------------|--|-------------|----------|
| | | | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
| D | 1996 | 9.19.03 | FRACTIONS ±1/64 | CONVEYOR DRIVE | - | 1162-111 |
| C | 1905 | 11.08.01 | DECIMALS | SHAFT ASSEMBLY | REQ'D/NOTED | |
| B | 1783 | 8.3.00 | .XXX ± .005 | MAT'L | SCALE | USED ON |
| A | 1591 | 1.28.98 | .XX ± .01 | NOTED | 1/2 | ADM/SPDR |
| REV | ECN NO | DATE | ANGLES ±1/2° |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | DRWN/DATE | |
| | | | UNLESS OTHERWISE SPECIFIED | | PG | 8.29.97 |
| FILE: PARTS\1162-111 | | | | | | |



Insinger

PART 5 REPLACEMENT PARTS



| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|-------------|------------------------|------|
| 1 | 1169-160 | FRAME (5/8 DIA HOLES) | 1 |
| 2 | 1169-199 | YOKE (SHEET METAL) | 1 |
| 3 | 1169-162 | ADJUSTMENT SCREW | 2 |
| 4 | D3-549 | RUBBER GROMMET 5/16 ID | 2 |
| 5 | D313C-H1 | FLAT WASHER 5/16 | 4 |
| 6 | 1169-189 | SHAFT | 1 |
| 7 | - | - | - |
| 8 | D309C-EF-4G | WELD STUD #10-32 x 1/2 | 2 |
| 9 | D312C-EF-5 | SEAL NUT #10-32 | 3 |
| 10 | D312C-HC-2 | HEX NUT 5/16-18 | 4 |
| 11 | D2857 | SPROCKET (UHMW) | 1 |
| 12 | D2858 | HUB SPACER 1 1/16 LG | 1 |
| 13 | - | - | - |
| 14 | D2-525 | WASHER | 3 |
| 15 | D309C-EF-6G | WELDSTUD #10-32 x 3/4 | 1 |

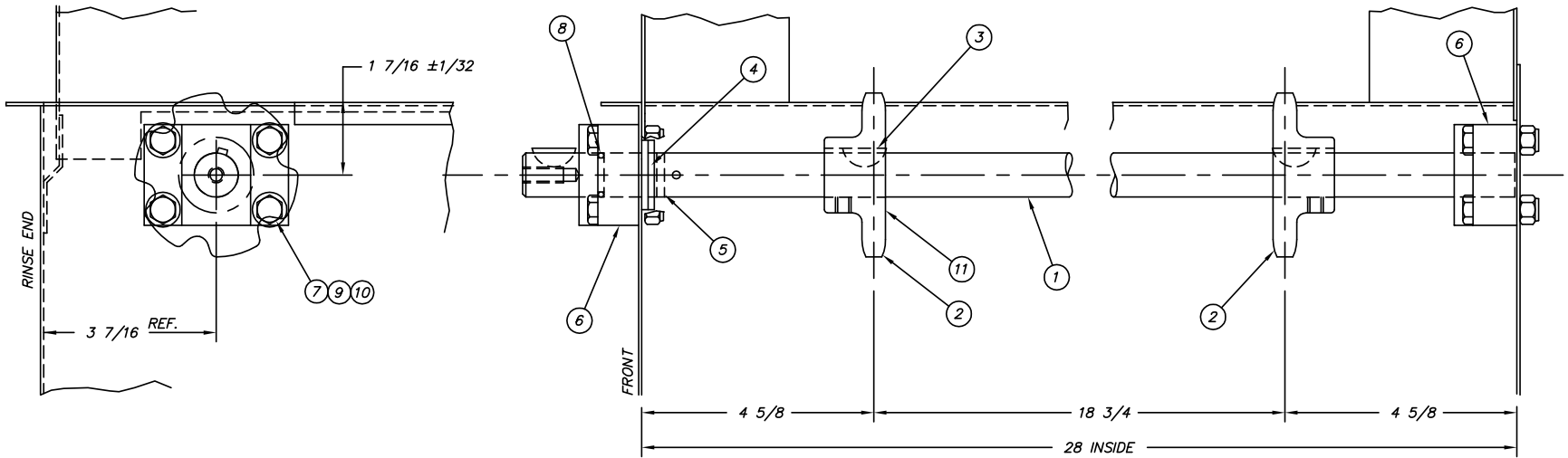
- NOTES:**
1. THESE DIMENSIONS LOCATE THE CENTERS OF (2) 9/16 DIA HOLES TO BE DRILLED THRU SIDE OF MACHINE.
 2. SEE SK-3875 FOR RETRO-FIT
 3. BE SURE SPROCKET IS ALIGNED WITH TRACK BEFORE INSTALLING CHAIN. RE-POSITION WASHERS (ITEM #14) IF NECESSARY.

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

R.H. SHOWN, L.H. OPPOSITE

| | | | | | | | | | | | | |
|--|--------|--|-----|--------|------|----------------------|--|--|--|---|--|--|
| <table border="1"> <tr> <td>REV</td> <td>ECN NO</td> <td>DATE</td> </tr> <tr> <td>FILE: PARTS\1169-159</td> <td></td> <td></td> </tr> </table> | | | REV | ECN NO | DATE | FILE: PARTS\1169-159 | | | TOLERANCES FRACTIONS ±1/64 DECIMALS .XXX ± .005 .XX ± .01 ANGLES ±1/2° UNLESS OTHERWISE SPECIFIED | TITLE CHAIN TENSIONER ASSEMBLY MAT'L - | NEXT ASSY REQ'D 1 SCALE 1:2 | DWG. NO. 1169-159 USED ON SEE ABOVE DRWN/DATE MAM 11.11.94 |
| REV | ECN NO | DATE | | | | | | | | | | |
| FILE: PARTS\1169-159 | | | | | | | | | | | | |
| | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | | | | | | | | | |

| 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 | D309C-HC-11A | HHCS 5/16-18 X 1 3/8 S/S | 8 |
| 11 | D309C-HC-3H | SET SCREW S/S 5/16-18 X 3/8 | 2 |



USED ON: ADM GAS
SUPER 106

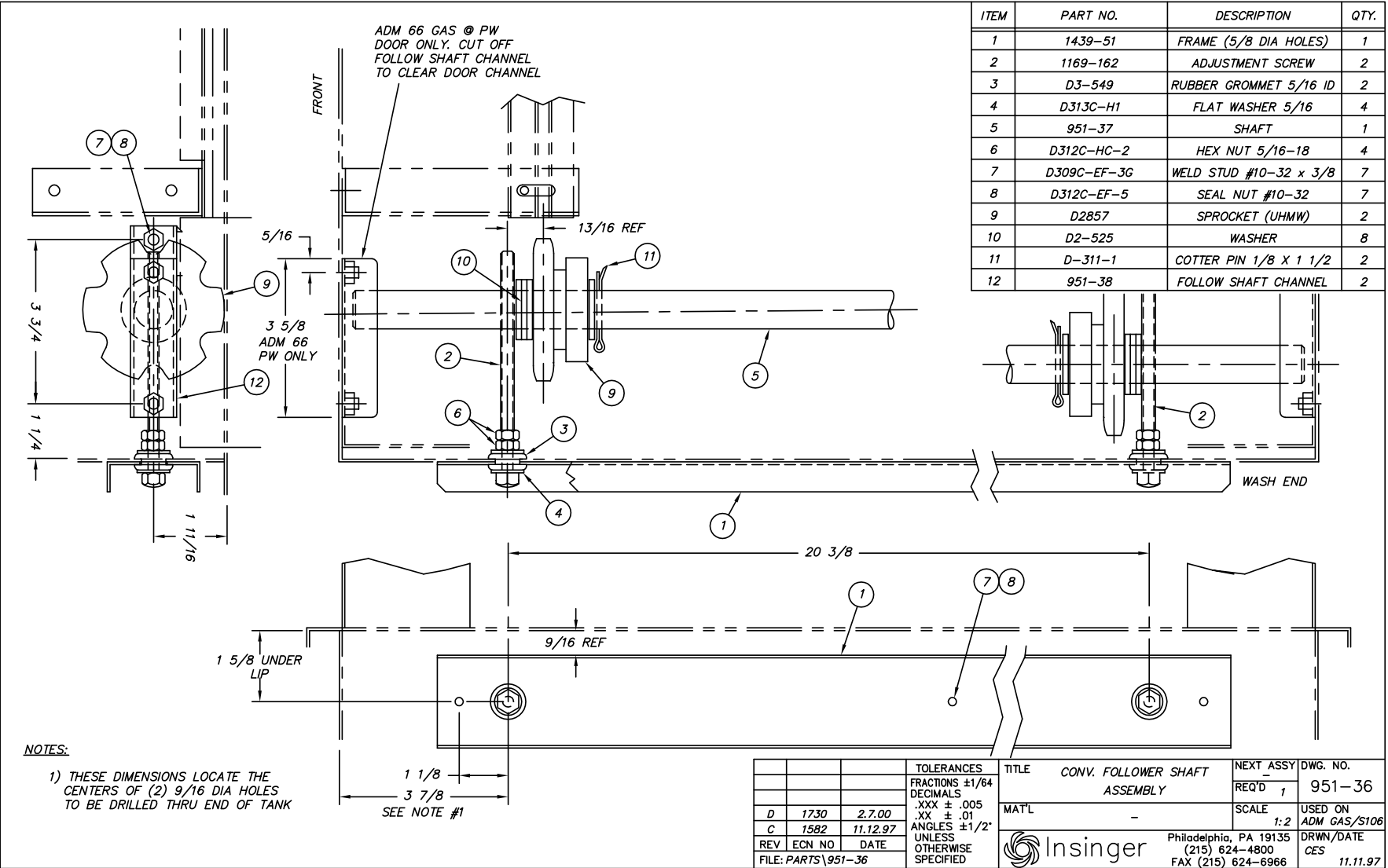
NOTE: BEARING HOLES ARE PRE-PUNCHED
IN TANK PER #1439-43

| | | | | | | | |
|--------------------|------|----------|----------------------------|--|----------------------------------|-----------|-----------|
| | | | TOLERANCES | TITLE | CONVEYOR DRIVE SHAFT ASSEMBLY | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | | | REQ'D | 951-87 |
| | | | DECIMALS | | | 1 | |
| F | 1905 | 11.08.01 | .XXX ± .005 | | | SCALE | USED ON |
| E | 1783 | 8.3.00 | .XX ± .01 | | | 1=2 | SEE ABOVE |
| D | 1582 | 11.6.97 | ANGLES ±1/2° | | | DRWN/DATE | |
| REV ECN NO DATE | | | UNLESS OTHERWISE SPECIFIED | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | AP | |
| FILE: PARTS\951-87 | | | | | | 1/11/83 | |



Insinger

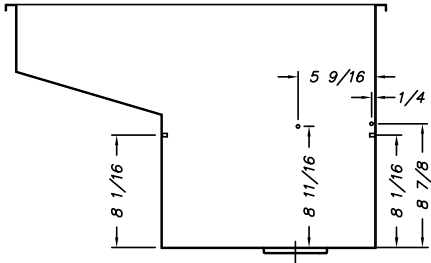
PART 5 REPLACEMENT PARTS



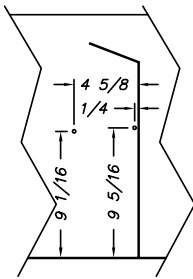
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|-------------|------------------------|------|
| 1 | 1439-51 | FRAME (5/8 DIA HOLES) | 1 |
| 2 | 1169-162 | ADJUSTMENT SCREW | 2 |
| 3 | D3-549 | RUBBER GROMMET 5/16 ID | 2 |
| 4 | D313C-H1 | FLAT WASHER 5/16 | 4 |
| 5 | 951-37 | SHAFT | 1 |
| 6 | D312C-HC-2 | HEX NUT 5/16-18 | 4 |
| 7 | D309C-EF-3G | WELD STUD #10-32 x 3/8 | 7 |
| 8 | D312C-EF-5 | SEAL NUT #10-32 | 7 |
| 9 | D2857 | SPROCKET (UHMW) | 2 |
| 10 | D2-525 | WASHER | 8 |
| 11 | D-311-1 | COTTER PIN 1/8 X 1 1/2 | 2 |
| 12 | 951-38 | FOLLOW SHAFT CHANNEL | 2 |

| | | | | | | | |
|-------|--------------|------|--|-------|----------------------------------|-----------|--------------|
| | | | TOLERANCES | TITLE | CONV. FOLLOWER SHAFT ASSEMBLY | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | | | REQ'D 1 | 951-36 |
| | | | DECIMALS | | | SCALE | USED ON |
| | | | .XXX ± .005 | | | 1:2 | ADM GAS/S106 |
| | | | .XX ± .01 | | | DRWN/DATE | CES |
| | | | ANGLES ±1/2° | | | 11.11.97 | |
| | | | UNLESS OTHERWISE SPECIFIED | | | | |
| REV | ECN NO | DATE | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | | | |
| FILE: | PARTS\951-36 | | | | | | |

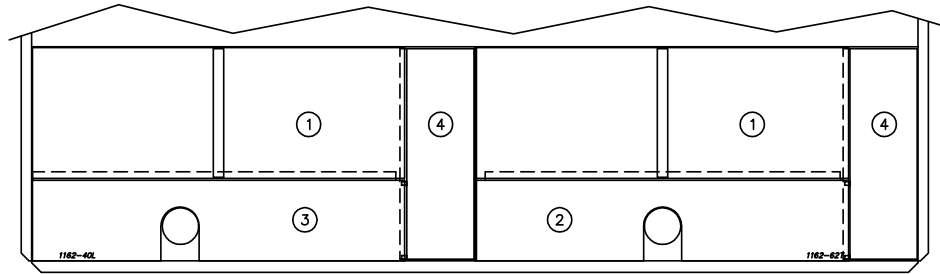
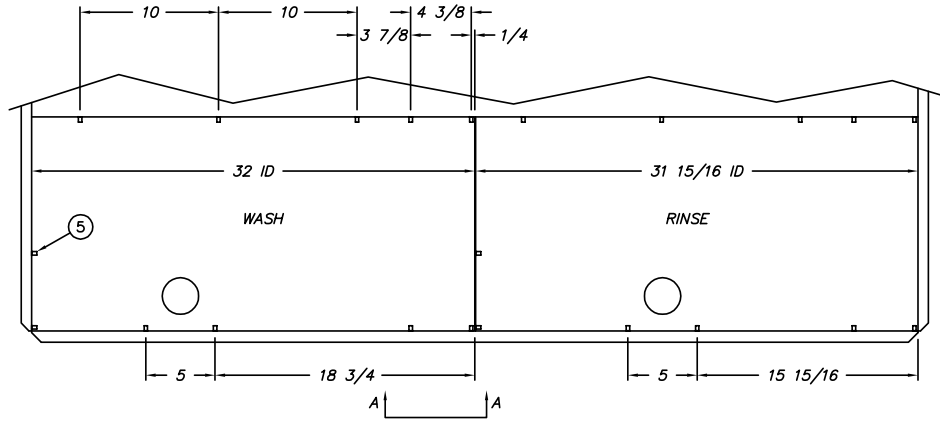
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|-------------------|------------------------|------|
| 1 | 1162-63 | SCRAP SCREEN | 2 |
| 2 | 1162-62 | SCRAP SCREEN SPACER | 1 |
| 3 | 1162-40R (FOR RH) | SCRAP SCREEN SPACER | 1 |
| | 1162-40L (FOR LH) | SCRAP SCREEN SPACER | 1 |
| 4 | 1162-41 | SCRAP SCREEN SPACER | 2 |
| 5 | D309C-GP-3G | WELDPIN, 1/4 DIA X 3/8 | 22 |




END WALL & TANK DIVIDER



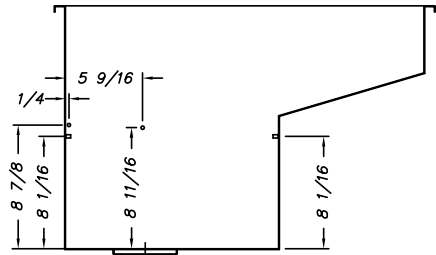
VIEW A-A
FRONT/REAR WALLS
FOR ITEM 4



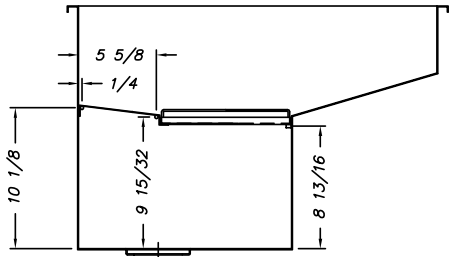
LH SHOWN - RH OPPOSITE

| | | | | | | | |
|---------------------|--------|---------|--|-------------|--------------|-----------|-----------|
| | | | TOLERANCES | TITLE | SCRAP SCREEN | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | ARRANGEMENT | | REQ'D 1 | 1162-39 |
| | | | DECIMALS | AS NOTED | | SCALE | USED ON |
| | | | .XXX ± .005 | | | 1=8 | SPDR 64 |
| | | | .XX ± .01 | | | | DRWN/DATE |
| | | | ANGLES ±1/2° | | | | MFJ |
| | | | UNLESS OTHERWISE SPECIFIED | | | | 6.27.97 |
| REV | ECN NO | DATE |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | | | |
| E | 1556 | 6.10.97 | | | | | |
| FILE: PARTS\1162-39 | | | | | | | |

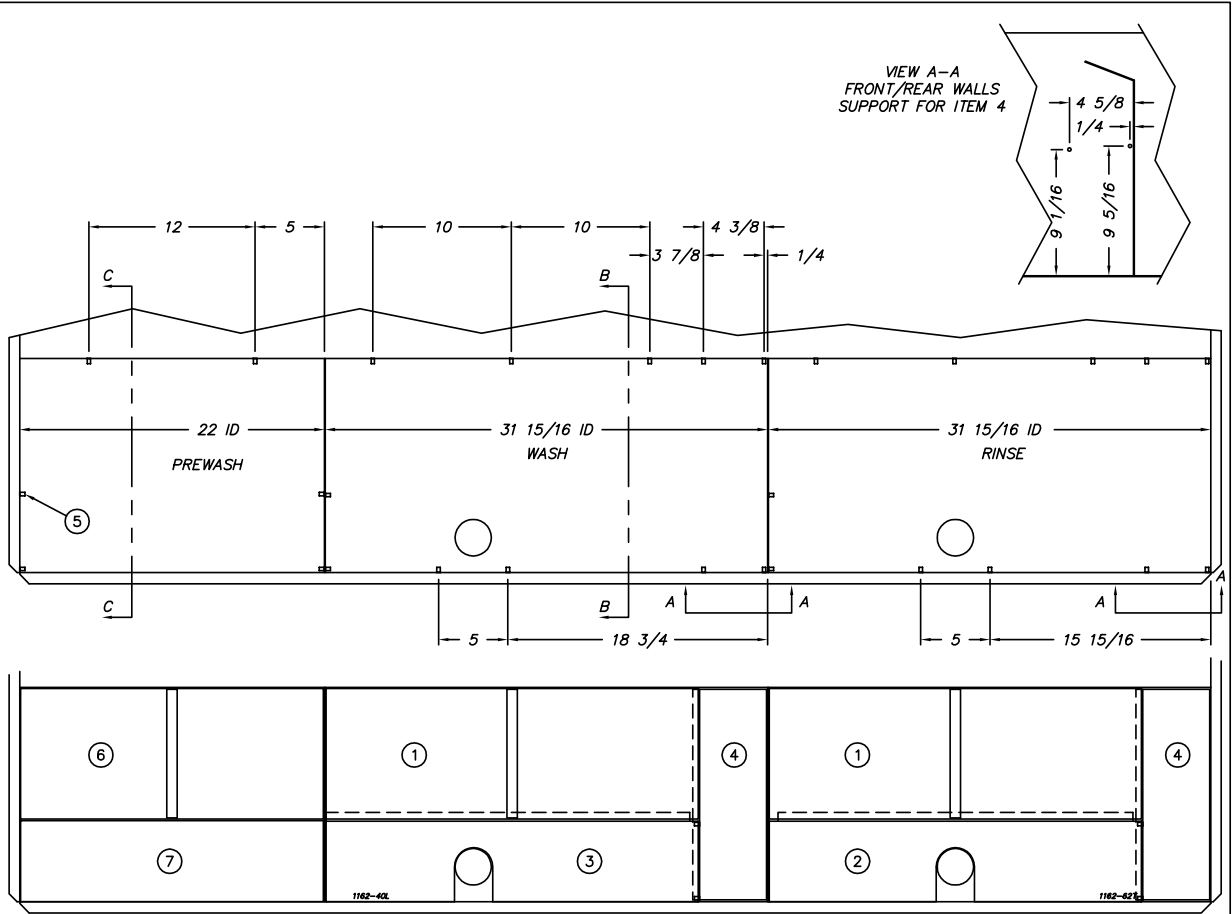
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|-------------|------------------------|------|
| 1 | 1162-63 | SCRAP SCREEN | 2 |
| 2 | 1162-62 | SCRAP SCREEN SPACER | 1 |
| 3 | 1162-40R | SCRAP SCREEN SPACER | 1 |
| | 1162-40L | SCRAP SCREEN SPACER | 1 |
| 4 | 1162-41 | SCRAP SCREEN SPACER | 2 |
| 5 | D309C-GP-3G | WELDPIN, 1/4 DIA X 3/8 | 28 |
| 6 | 1182-29 | SCRAP SCREEN | 1 |
| 7 | 1182-28 | SCRAP SCREEN SPACER | 1 |



VIEW B-B
END WALL & TANK DIVIDER
WASH & RINSE TANKS

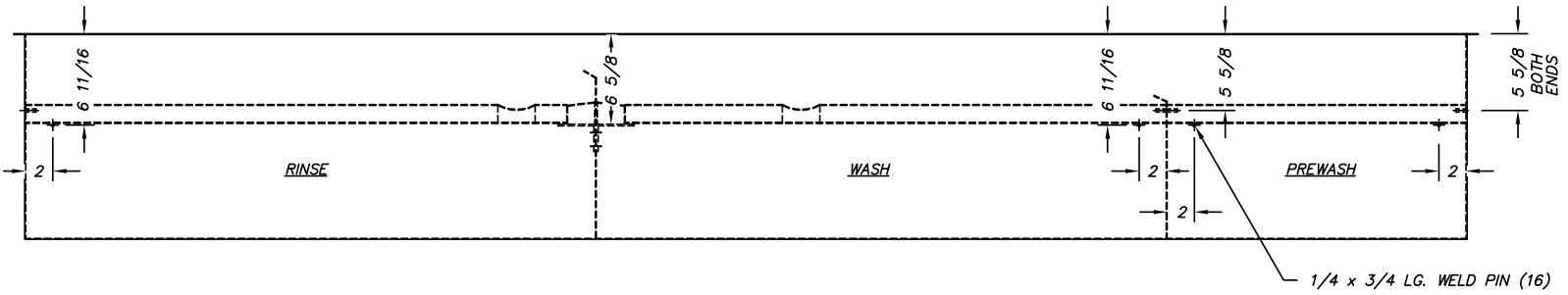
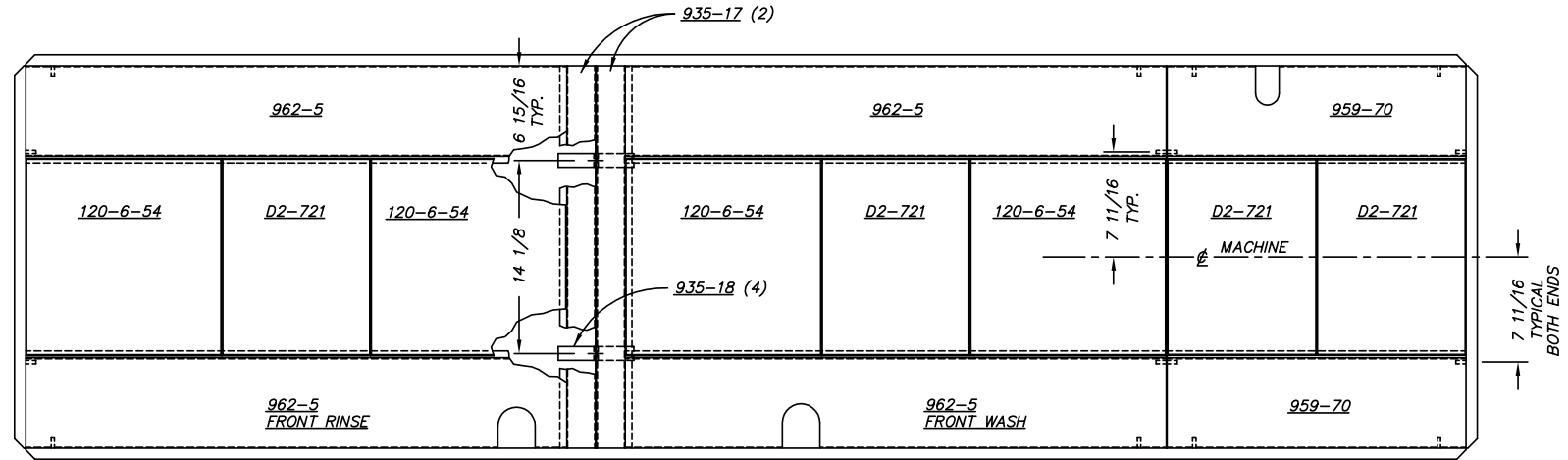


VIEW C-C
END WALL & TANK DIVIDER
PREWASH TANK




LH SHOWN - RH OPPOSITE

| | | | | | | | |
|-------|---------------|---------|----------------------------|-------------|--------------|------------------------|-----------|
| | | | TOLERANCES | TITLE | SCRAP SCREEN | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | ARRANGEMENT | | REQ'D 1 | 1182-12 |
| | | | DECIMALS | AS NOTED | | SCALE | USED ON |
| | | | .XXX ± .005 | | | 1=8 | SPDR 86-3 |
| | | | .XX ± .01 | | | | DRWN/DATE |
| B | 1556 | 6.10.97 | ANGLES ±1/2° | | | | MFJ |
| REV | ECN NO | DATE | UNLESS OTHERWISE SPECIFIED | Insinger | | Philadelphia, PA 19135 | 6.27.97 |
| FILE: | PARTS\1162-12 | | | | | (215) 624-4800 | |
| | | | | | | FAX (215) 624-6966 | |

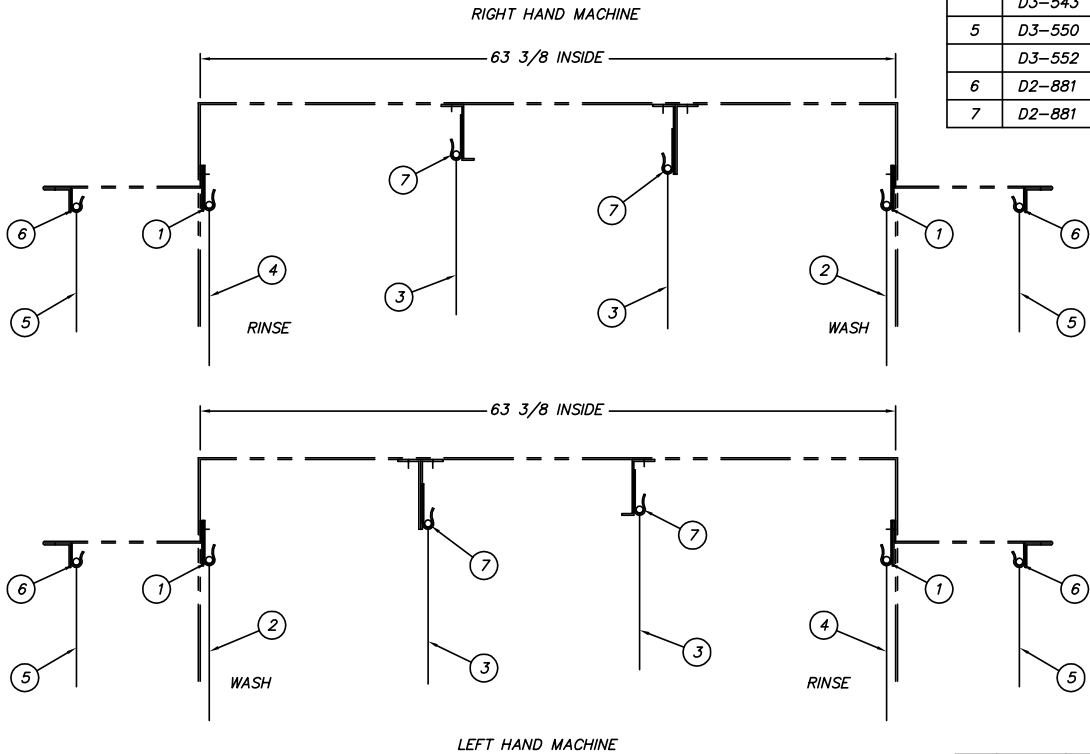


SUPERSEDES 962-4 DATED 05.16.78


R.H. SHOWN - L.H. OPPOSITE

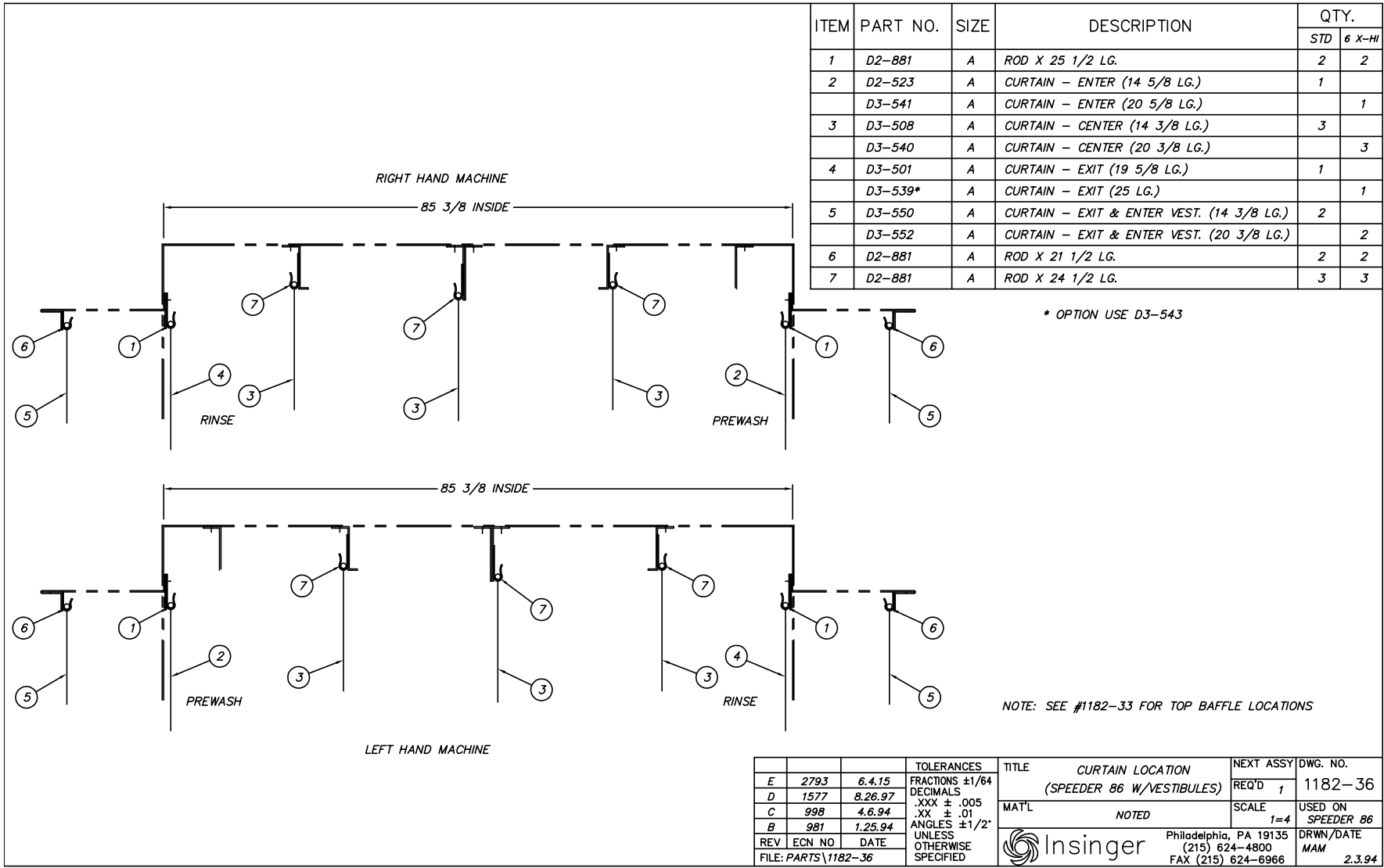
| | | | | | | | |
|--------------------|--------|------|---------------------|--|------------|-----------|-------------|
| | | | TOLERANCES | TITLE | SCRAP TRAY | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | | LOCATIONS | REQ'D | 962-4A |
| | | | DECIMALS | | | | |
| | | | .XXX ± .005 | MAT'L | NOTED | SCALE | USED ON |
| | | | .XX ± .01 | | | 1/8 | SUPER 106-2 |
| | | | ANGLES ±1/2° | | | | DRWN/DATE |
| | | | UNLESS |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | RAF | |
| REV | ECN NO | DATE | OTHERWISE SPECIFIED | | | 04.10.84 | |
| FILE: PARTS\962-4A | | | | | | | |

| 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 |



NOTE: SEE #1477-22 FOR TOP BAFFLE LOCATIONS


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



| 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

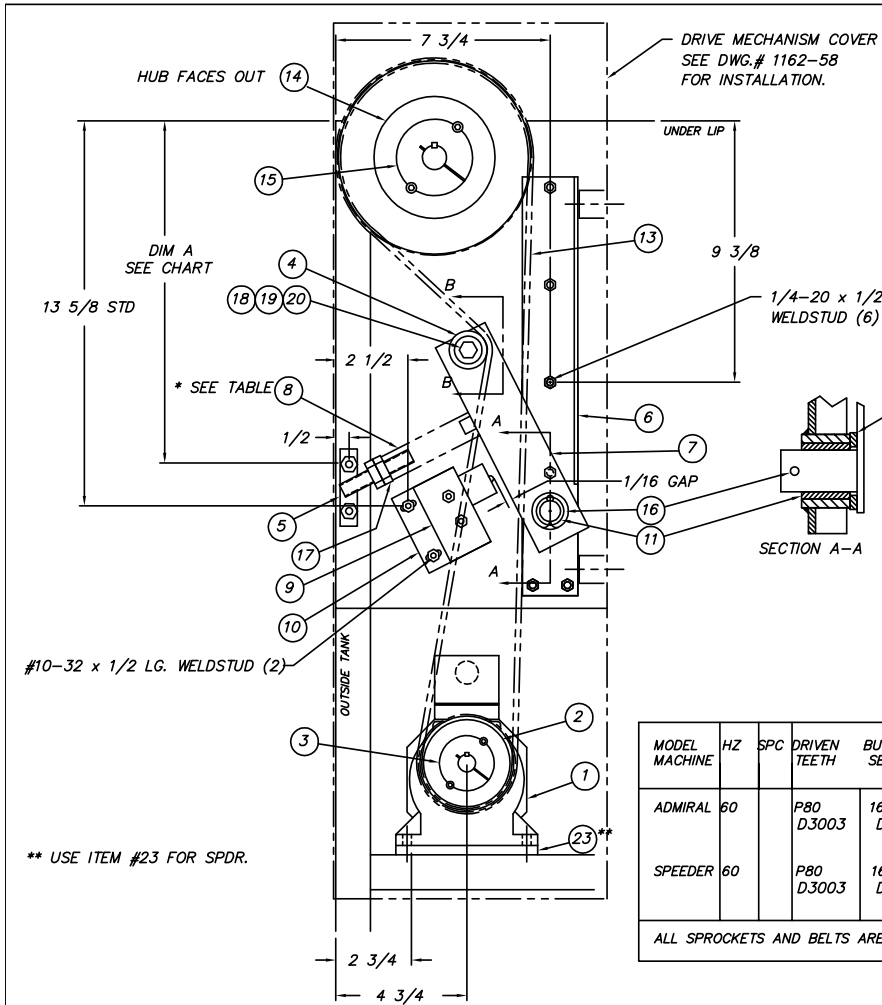
NOTE: SEE #1182-33 FOR TOP BAFFLE LOCATIONS

| | | | | | | |
|------------|---------------|---------|--|---------------------------|-----------|------------|
| TOLERANCES | | | TITLE | CURTAIN LOCATION | NEXT ASSY | DWG. NO. |
| E | 2793 | 6.4.15 | FRACTIONS ±1/64 | (SPEEDER 86 W/VESTIBULES) | REQ'D 1 | 1182-36 |
| D | 1577 | 8.26.97 | DECIMALS | | | |
| C | 998 | 4.6.94 | .XXX ± .005 | | | |
| B | 981 | 1.25.94 | .XX ± .01 | | | |
| REV | ECN NO | DATE | ANGLES ±1/2° | MAT'L | SCALE | USED ON |
| | | | UNLESS OTHERWISE SPECIFIED | NOTED | 1=4 | SPEEDER 86 |
| FILE: | PARTS\1182-36 | |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | DRWN/DATE | MAM 2.3.94 |



Insinger

PART 5 REPLACEMENT PARTS



| GEARMOTOR VOLTAGE | RPM | GEARMOTOR PN |
|-------------------|------|--------------|
| 208-230/3/60 | 15 | D2883 |
| 220/3/50 | 12.5 | D2883 |
| 380/3/50 | 12.5 | D2885 |
| 460/3/60 | 15 | D2884 |
| 120/1/60 | 15 | D2886 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|--------------|--------------------------------------|------|
| 1 | SEE CHART | GEARMOTOR, 1/15 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 | 1530-9 | PIVOT SHAFT WELDMENT ANGLE | 1 |
| 7 | 1530-2 | IDLER SPROCKET ARM | 1 |
| 8 | D351 | SPRING | 1 |
| 9 | DE5-4 | MICROSWITCH | 1 |
| 10 | 967-78 | MICROSWITCH BRACKET | 1 |
| 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 | A/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-LC-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 | A/R |
| 21 | - | - | - |
| 22 | - | - | - |
| 23 | ** 975-186B | GEARMOTOR SPACER X 1/8 THICK | A/R |
| 24 | D3061 | FRONT FLANGE WASHER (3/8 ID) | 1 |
| 25 | D3062 | REAR FLANGE WASHER (3/4 ID) | 1 |

| MODEL MACHINE | HZ | SPC | DRIVEN TEETH | BUSHING SERIES-SIZE | DRIVE TEETH | BUSHING SERIES-SIZE | BELT LENGTH |
|---------------|----|-----|--------------|---------------------|-------------|---------------------|--------------|
| ADMIRAL | 60 | | P80 D3003 | 1610 7/8 D3005 | P48 D3016 | 1210 3/4 D2998 | 1450MM D2968 |
| SPEEDER | 60 | | P80 D3003 | 1610 7/8 D3005 | P56 D2965 | 1610 3/4 D2964 | 1450MM D2968 |

ALL SPROCKETS AND BELTS ARE FOR 5MM PITCH 15MM WIDE

| MODEL NUMBER | HZ | * SPRING COMPRESSION | ADJ SPRING STOP ANGLE | DIM A |
|-------------------|----|----------------------|-----------------------|--------|
| ADMIRAL 44 & 66-4 | 60 | 3 11/16 | 975-136 (50°) | 13 3/4 |
| SPEEDER 64 & 86-3 | 60 | 3 11/16 | 975-136 (50°) | 13 3/4 |

USED ON ADMIRAL STEAM & ELECTRIC HEAT
SPEEDER STEAM, ELECTRIC & GAS HEAT

SHEET 1 OF 2

| | | | |
|-------|--------------|----------|----------------------------|
| F | 2173 | 8.21.08 | TOLERANCES |
| E | 2114 | 12.27.07 | FRACTIONS ±1/64 |
| D | 2102 | 12.10.07 | DECIMALS |
| C+ | 207B | 10.20.06 | .XXX ± .005 |
| C | 207B | 10.16.06 | .XX ± .01 |
| REV | ECN NO | DATE | ANGLES ±1/2° |
| FILE: | PARTS\1530-1 | | UNLESS OTHERWISE SPECIFIED |

| | | | |
|----------|--|--|---------|
| TITLE | TIMING BELT DRIVE ASSY. ENERGY SAVER TANK | NEXT ASSY DWG. NO. | 1530-1 |
| MAT'L | NOTED | SCALE | 1:8 |
| INSINGER | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | USED ON SEE ABOVE DRWN/DATE CES | 12.9.03 |

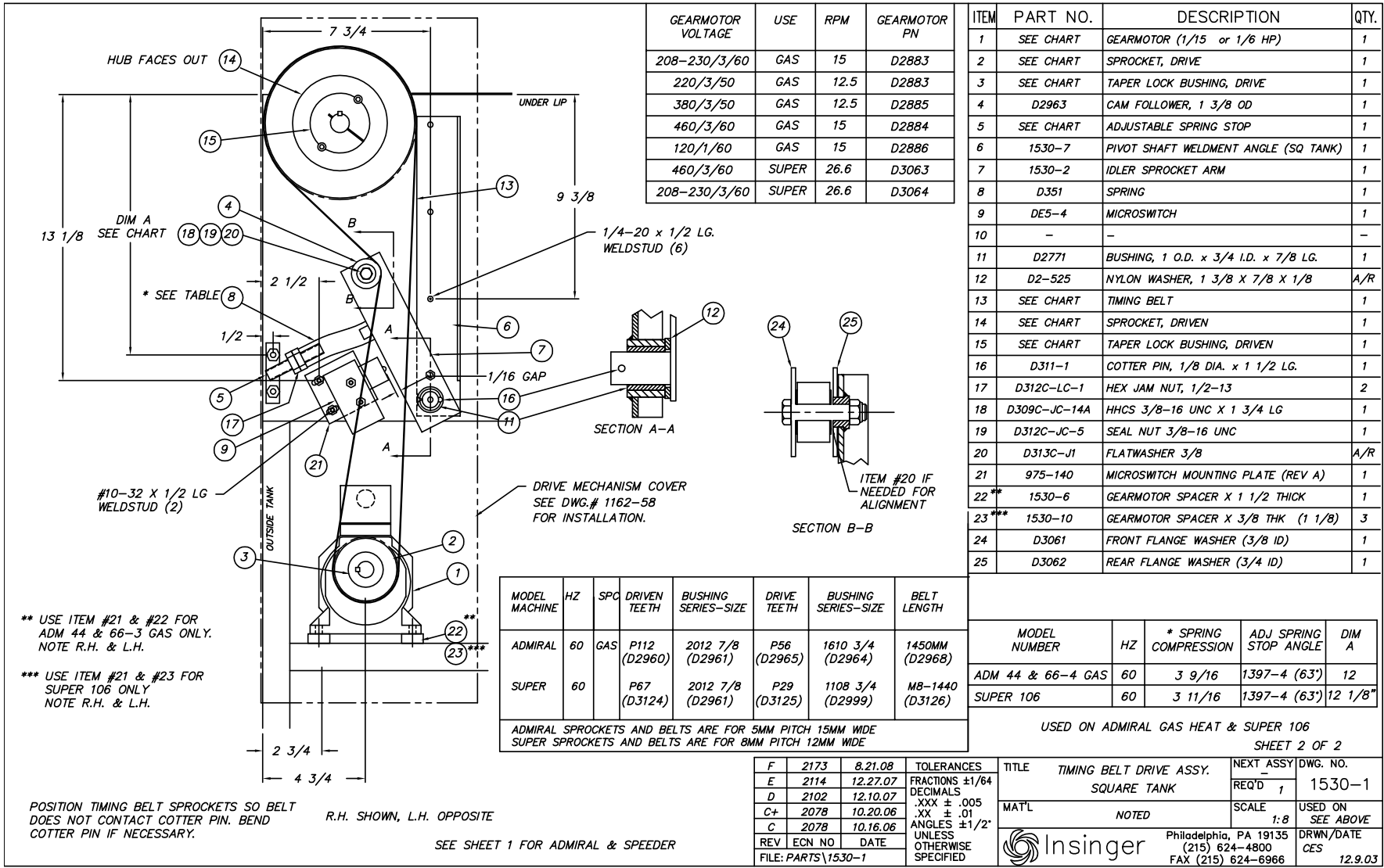
POSITION TIMING BELT SPROCKETS SO BELT DOES NOT CONTACT COTTER PIN. BEND COTTER PIN IF NECESSARY.

R.H. SHOWN, L.H. OPPOSITE

SEE SHEET 2 FOR ADMIRAL GAS & SUPER 106



Insinger



| 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 |

| 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 | A/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-LC-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 | A/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 |

| MODEL MACHINE | HZ | SPO | 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 NUMBER | 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

| F | 2173 | 8.21.08 | TOLERANCES | TITLE | TIMING BELT DRIVE ASSY. | NEXT ASSY DWG. NO. |
|-------|--------------|----------|--|-------|-------------------------|--------------------|
| E | 2114 | 12.27.07 | FRACTIONS ±1/64 DECIMALS | | SQUARE TANK | REQ'D 1 1530-1 |
| D | 2102 | 12.10.07 | .XXX ± .005 .XX ± .01 | | | |
| C+ | 207B | 10.20.06 | ANGLES ±1/2° UNLESS OTHERWISE SPECIFIED | | | |
| C | 207B | 10.16.06 | | | | |
| REV | ECN NO | DATE | | | | |
| FILE: | PARTS\1530-1 | | | | | |

Insinger Philadelphia, PA 19135
 (215) 624-4800
 FAX (215) 624-6966
 DRWN/DATE CES 12.9.03

** USE ITEM #21 & #22 FOR ADM 44 & 66-3 GAS ONLY. NOTE R.H. & L.H.
 *** USE ITEM #21 & #23 FOR SUPER 106 ONLY. NOTE R.H. & L.H.

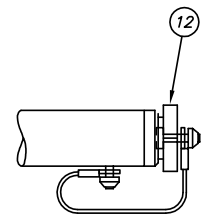
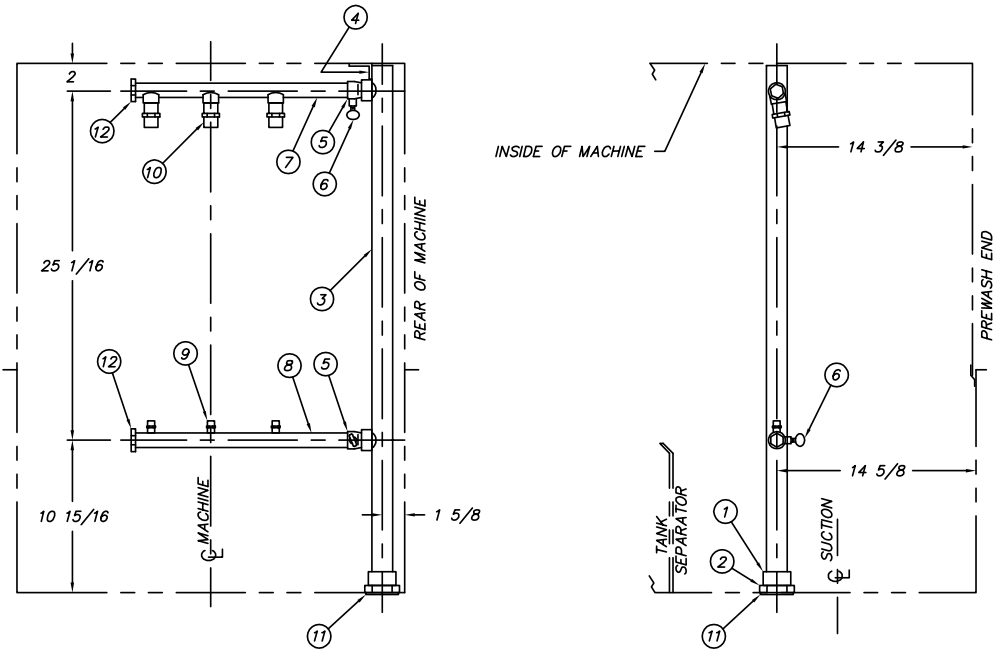
POSITION TIMING BELT SPROCKETS SO BELT DOES NOT CONTACT COTTER PIN. BEND COTTER PIN IF NECESSARY.
 R.H. SHOWN, L.H. OPPOSITE
 SEE SHEET 1 FOR ADMIRAL & SPEEDER



Insinger

PART 5 REPLACEMENT PARTS

| 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 |



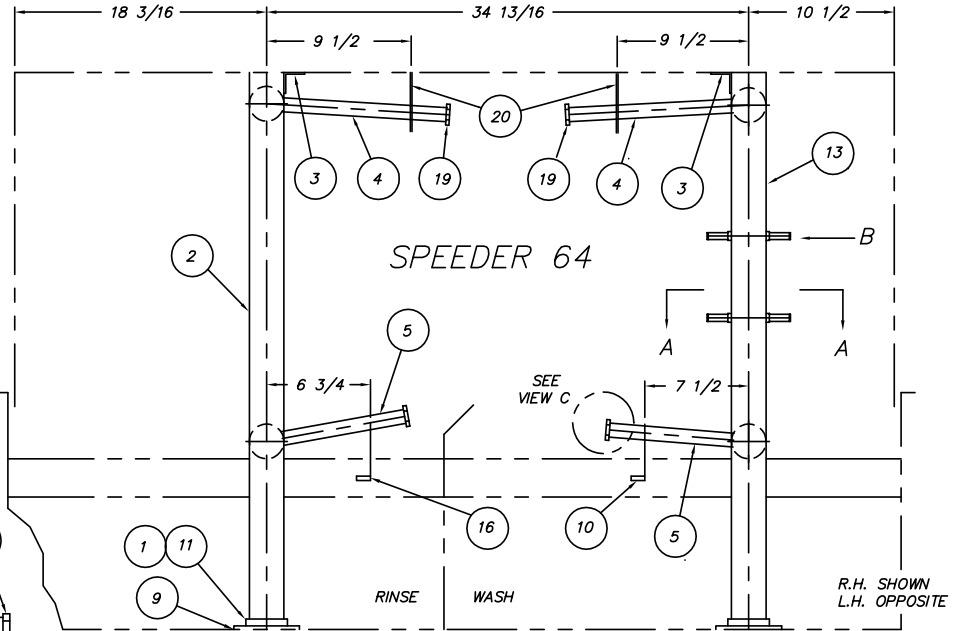
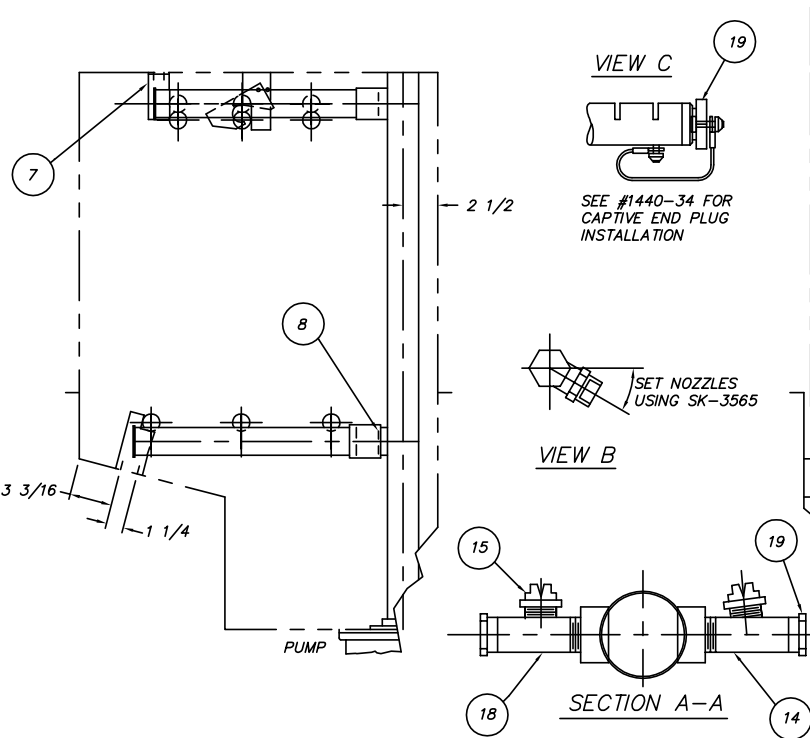
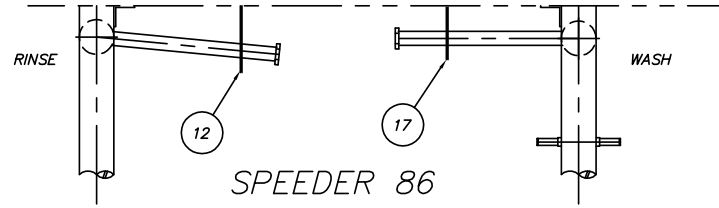
SEE #1440-34 FOR CAPTIVE END PLUG INSTALLATION

RH MACHINE SHOWN, LH OPPOSITE

| | | | | | | |
|----------------------------|--|--|------------------------|---------------------------------|-----------|-------------|
| TOLERANCES | | | TITLE | PREWASH DISCHARGE LINE ASSEMBLY | NEXT ASSY | DWG. NO. |
| FRACTIONS ±1/64 | | | MAT'L | NOTED | REQ'D 1 | 959-59 |
| DECIMALS | | | | | SCALE | USED ON |
| .XXX ± .005 | | | | | 1=8 | SUPER 106-2 |
| .XX ± .01 | | | | | DRWN/DATE | |
| ANGLES ±1/2° | | | | | MFJ | |
| UNLESS OTHERWISE SPECIFIED | | | Insinger | | 11.22.00 | |
| REV ECN NO DATE | | | Philadelphia, PA 19135 | | | |
| FILE: PARTS\959-59 | | | (215) 624-4800 | | | |
| | | | FAX (215) 624-6966 | | | |

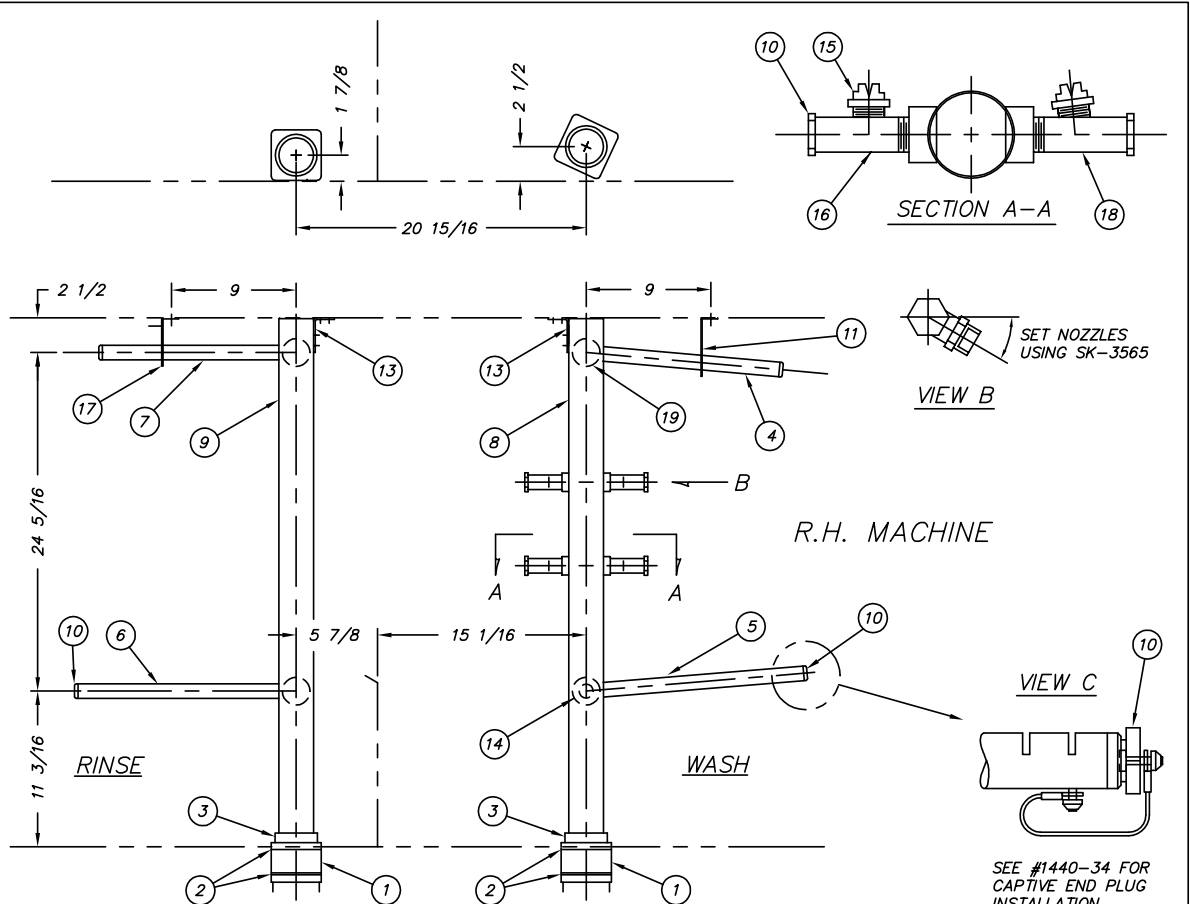
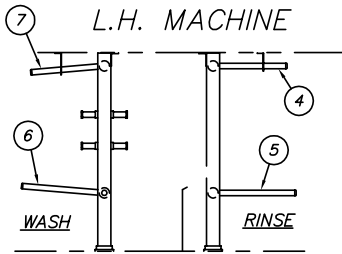
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|----------------------|------|
| 1 | D2-158 | TANK FLANGE | 2 |
| 2 | 1162-18 | DISCHARGE TUBE ASSY | 1 |
| 3 | 1169-96 | SUPPORT INSTALLATION | 2 |
| 4 | 1162-88 | UPPER MANIFOLD ASSY | 2 |
| 5 | 1162-89 | LOWER MANIFOLD ASSY | 2 |
| 6 | - | - | - |
| 7 | D3-849 | STOP BRACKET | 2 |
| 8 | D580 | "O" RING (01-029) | 4 |
| 9 | D-514 | GASKET | 2 |
| 10 | 1162-31 | BRACKET, BOTTOM WASH | 1 |

| ITEM | PART NO. | DESCRIPTION | QTY. SPD64 | QTY. SPD86 |
|------|-----------|--------------------------------|------------|------------|
| 11 | D3-511 | CUPSEAL PARKER #9406-0250-4180 | 2 | 2 |
| 12 | 1477-27 | LATCH ASSY, RINSE TOP | - | 1 |
| 13 | 1162-86 | DISCHARGE TUBE ASSY | 1 | 1 |
| 14 | 1162-87 | EXTENSION WASH MAN. | 2 | 2 |
| 15 | D2773 | SPRAY NOZZLE (80100) | 4 | 4 |
| 16 | 1162-91 | BRACKET, RINSE BOTTOM | 1 | 1 |
| 17 | D2349 | LATCH ASSY, WASH TOP | - | 1 |
| 18 | 1162-94 | EXTENSION WASH MAN. (90') | 2 | 2 |
| 19 | D2-554-2A | PLUG 3/4-10 W/HOLE | 16 | 16 |
| 20 | 1162-90 | LATCH ASSY | 2 | - |



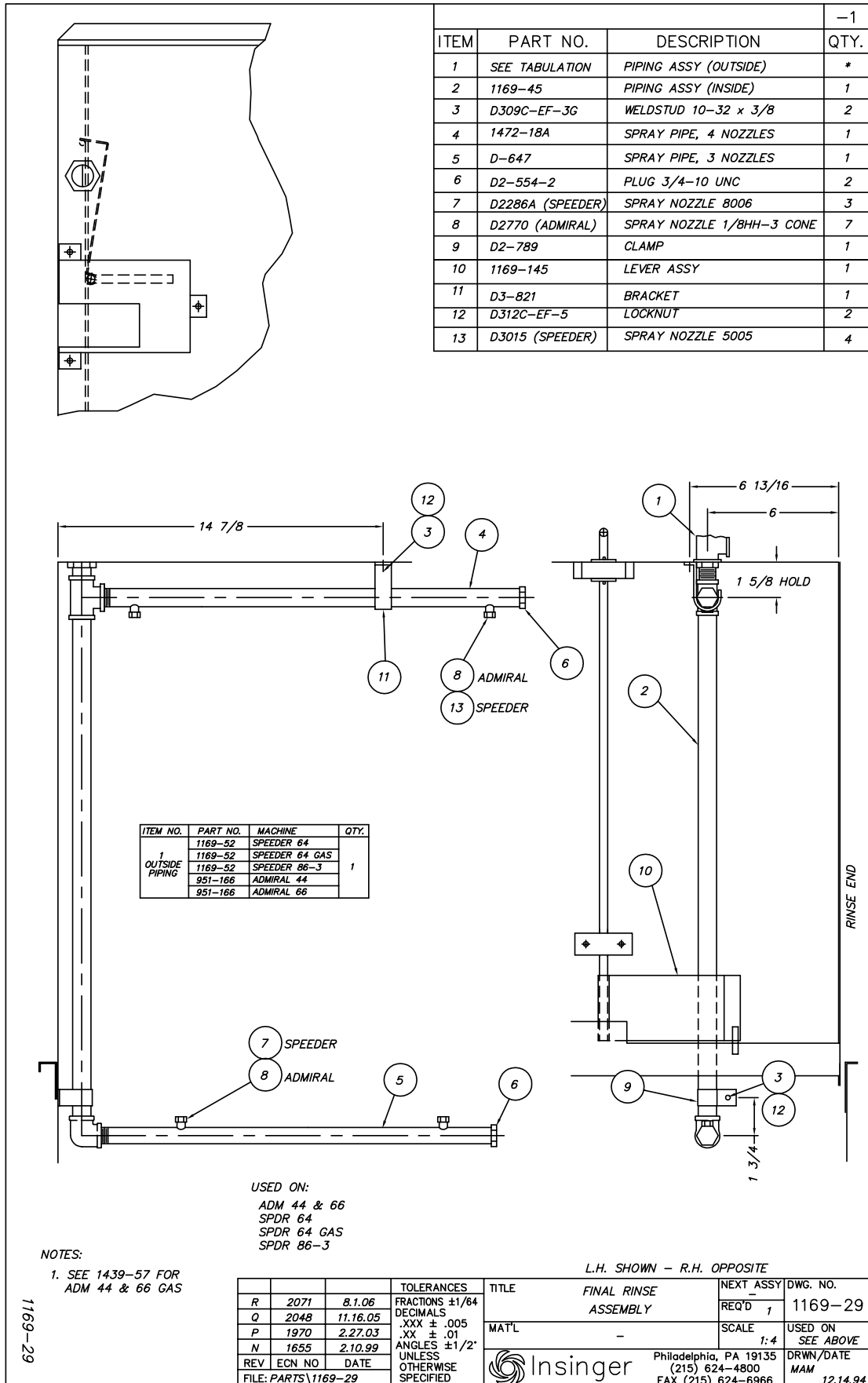
| | | | | | | | |
|-------|---------------|----------|----------------------------|----------|--|-----------|--------------|
| N | 2048 | 11.8.05 | TOLERANCES | TITLE | DISCHARGE LINE ASSEMBLY | NEXT ASSY | DWG. NO. |
| M | 1960 | 7.23.03 | FRACTIONS ±1/64 | MAT'L | - | 1162-1 | 1162-17 |
| L | 1914 | 12.27.01 | DECIMALS | | | REQ'D 1 | |
| K | 1591 | 2.2.98 | .XXX ± .005 | | | SCALE | USED ON |
| J | 1402 | 6.3.96 | .XX ± .01 | | | 1=8 | SPDR 64,86-3 |
| REV | ECN NO | DATE | ANGLES ±1/2° | | | | DRWN/DATE |
| | | | UNLESS OTHERWISE SPECIFIED | | | | PG |
| FILE: | PARTS\1162-17 | | | Insinger | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | 8.5.92 |

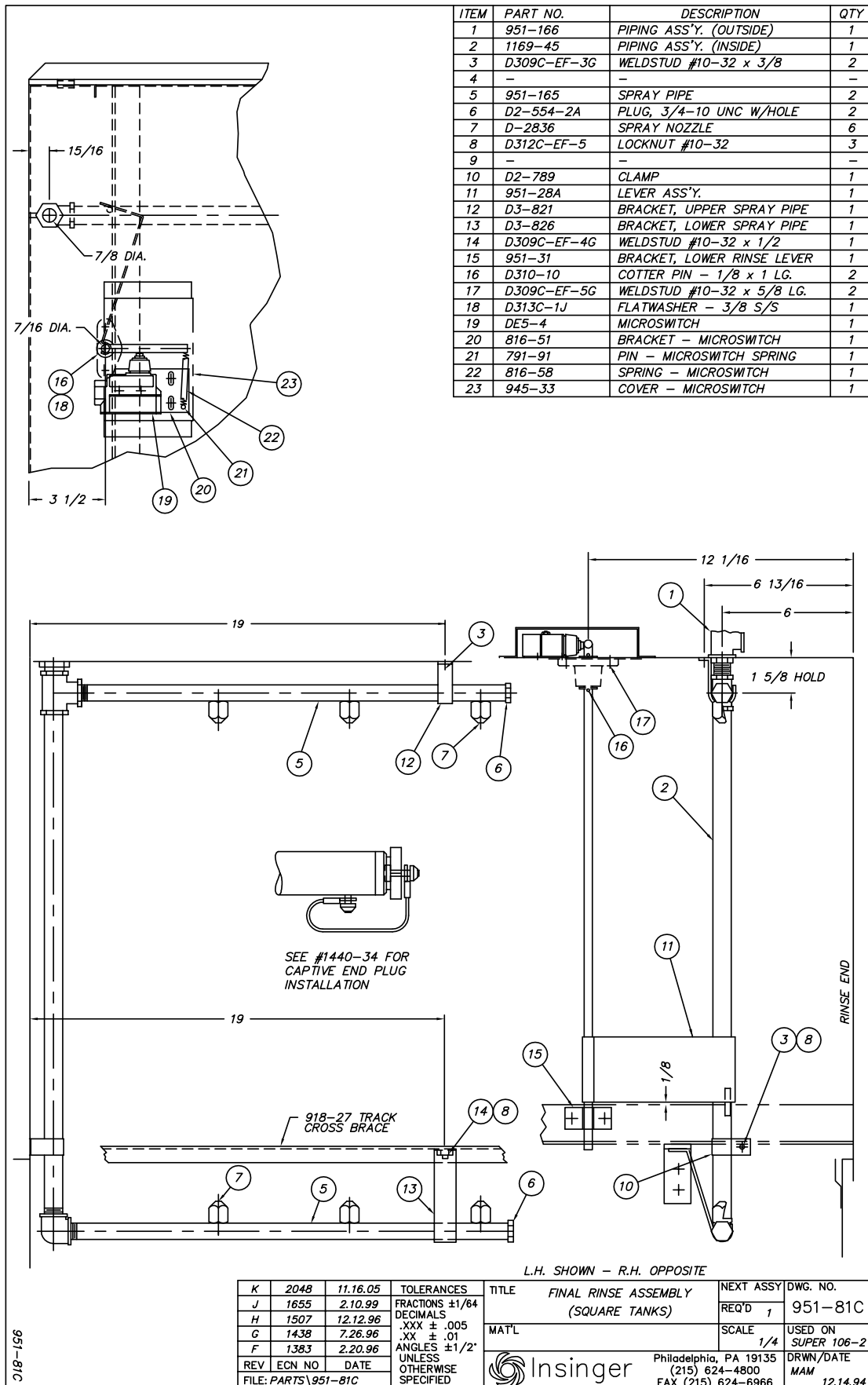
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|---------------|--------------------------------|------|
| 1 | D442A (D424B) | PUMP SHIM | 2 |
| 2 | D514 | GASKET | 4 |
| 3 | D2-158 | DISCH. TANK FLANGE (CUP SEAL) | 2 |
| 4 | 1437-1 | UPPER MANIFOLD 3x13" LG | 1 |
| 5 | 1437-2 | LOWER MANIFOLD 3x14 3/4" LG | 1 |
| 6 | 962-9AL | LOWER MANIFOLD 3x14 3/4" LG | 1 |
| 7 | 962-10AR | UPPER MANIFOLD 3x13" LG | 1 |
| 8 | 1437-4S | DISCH. TUBE ASSY. - WASH | 1 |
| 9 | 1437-5 | DISCH. TUBE ASSY. - RINSE | 1 |
| 10 | D2-554-2A | PLUG 3/4-10 W/HOLE | 16 |
| 11 | 1162-90 | LATCH ASSEMBLY | 1 |
| 12 | - | - | - |
| 13 | 1169-96 | SUPPORT | 2 |
| 14 | 951-25 | CHOKE | 2 |
| 15 | D2773 | SPRAY NOZZLE 80-100 | 4 |
| 16 | 1162-87 | EXTENSION, WASH MANIFOLD | 2 |
| 17 | D2349 | LATCH ASSEMBLY | 1 |
| 18 | 1162-94 | EXTENSION WASH MAN. | 2 |
| 19 | D580 | "O" RING (01-029) | 4 |
| 20 | D3-511 | CUPSEAL PARKER #B406-0250-4180 | 2 |

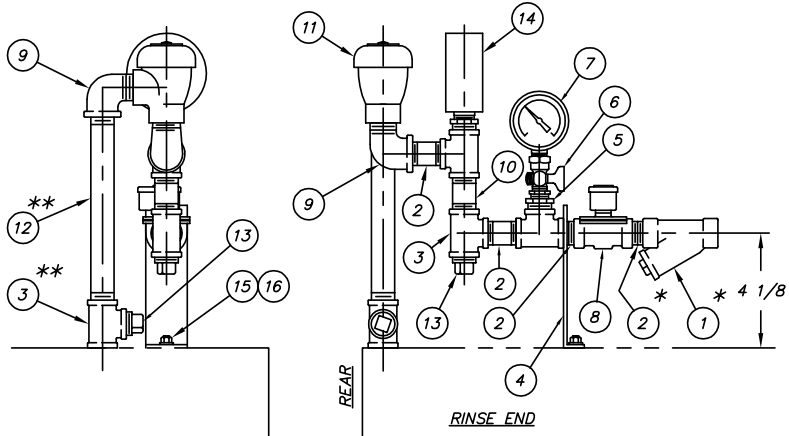


| ITEM | PART NO. | USE |
|------|----------|--------------------------------|
| 4 | 1437-1 | LH UPPER RINSE - RH UPPER WASH |
| 5 | 1437-2 | LH LOWER RINSE - RH LOWER WASH |
| 6 | 962-9AL | LH LOWER WASH - RH LOWER RINSE |
| 7 | 962-10AR | LH UPPER WASH - RH UPPER RINSE |

| | | | | | | | |
|--------------------|--------|----------|-----------------|--|-----------------------|-----------|---------------------|
| K | 2048 | 11.8.05 | TOLERANCES | TITLE | DISCHARGE LINE ASS'Y. | NEXT ASSY | DWG. NO. |
| J | 1981 | 6.4.03 | FRACTIONS ±1/64 | WASH & RINSE | | REQ'D 1 | 962-6A |
| H | 1904 | 11.06.01 | DECIMALS | MAT'L | SCALE | 1/8 | USED ON SUPER 106-2 |
| G | 1828 | 11.22.00 | .XXX ± .005 | INSINGER Philadelphia, PA 19135 (215) 624-4800 | | | |
| F | 1507 | 12.12.96 | .XX ± .01 | FAX (215) 624-6966 | | | |
| REV | ECN NO | DATE | ANGLES ±1/2° | UNLESS OTHERWISE SPECIFIED | | | |
| FILE: PARTS\962-6A | | | | | | | |
| | | | DRWN/DATE | | RAF 12.17.93 | | |







| 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-D1D1D1 | 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.

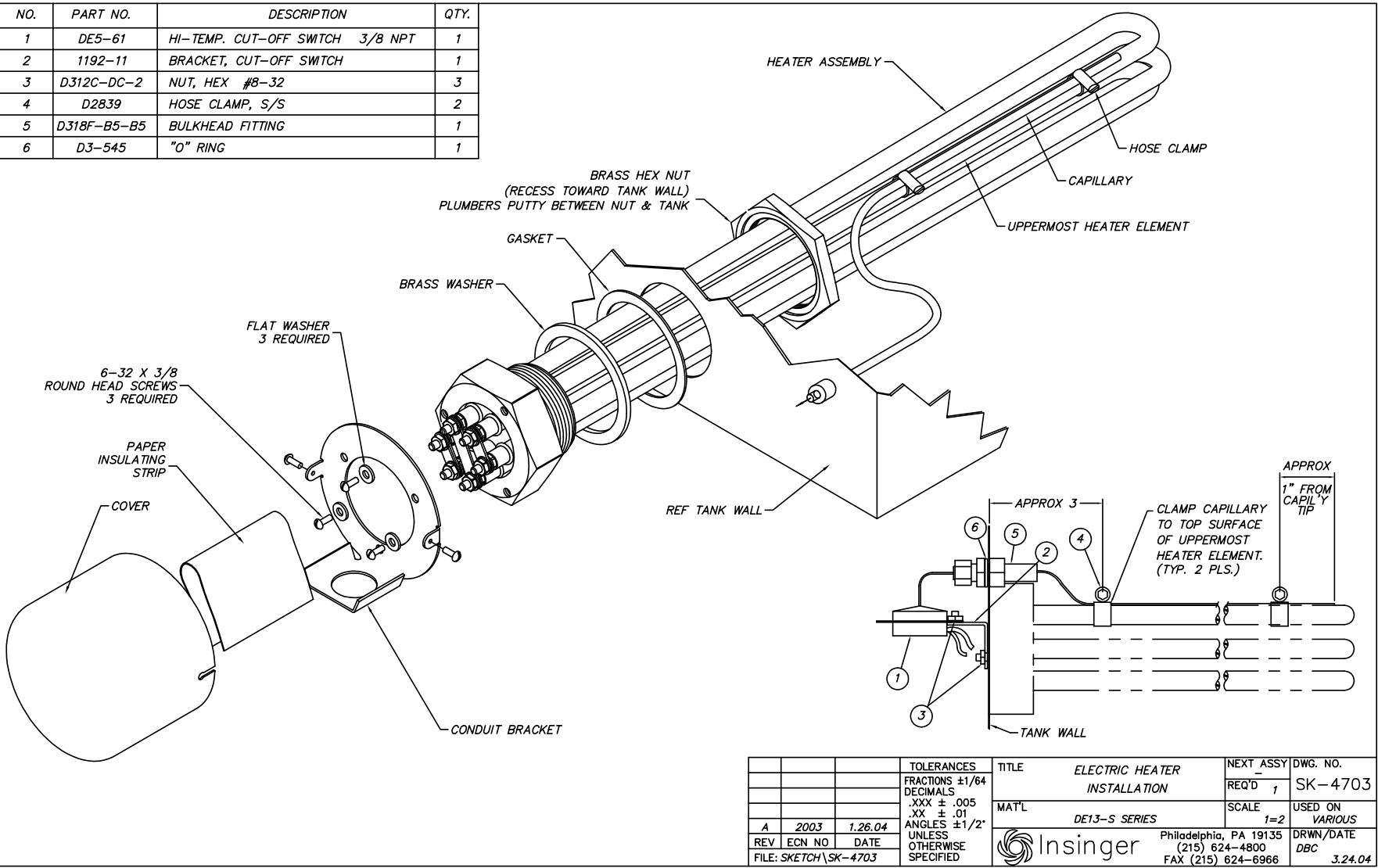
OMIT SOLENOID WHEN USING LOW PRESSURE BUILT-IN BOOSTER PER #1440-131

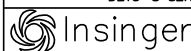
** FOR CHEMICAL SANITIZER, SEE #1169-44 OR REPLACE ITEMS MARKED ** WITH S/S

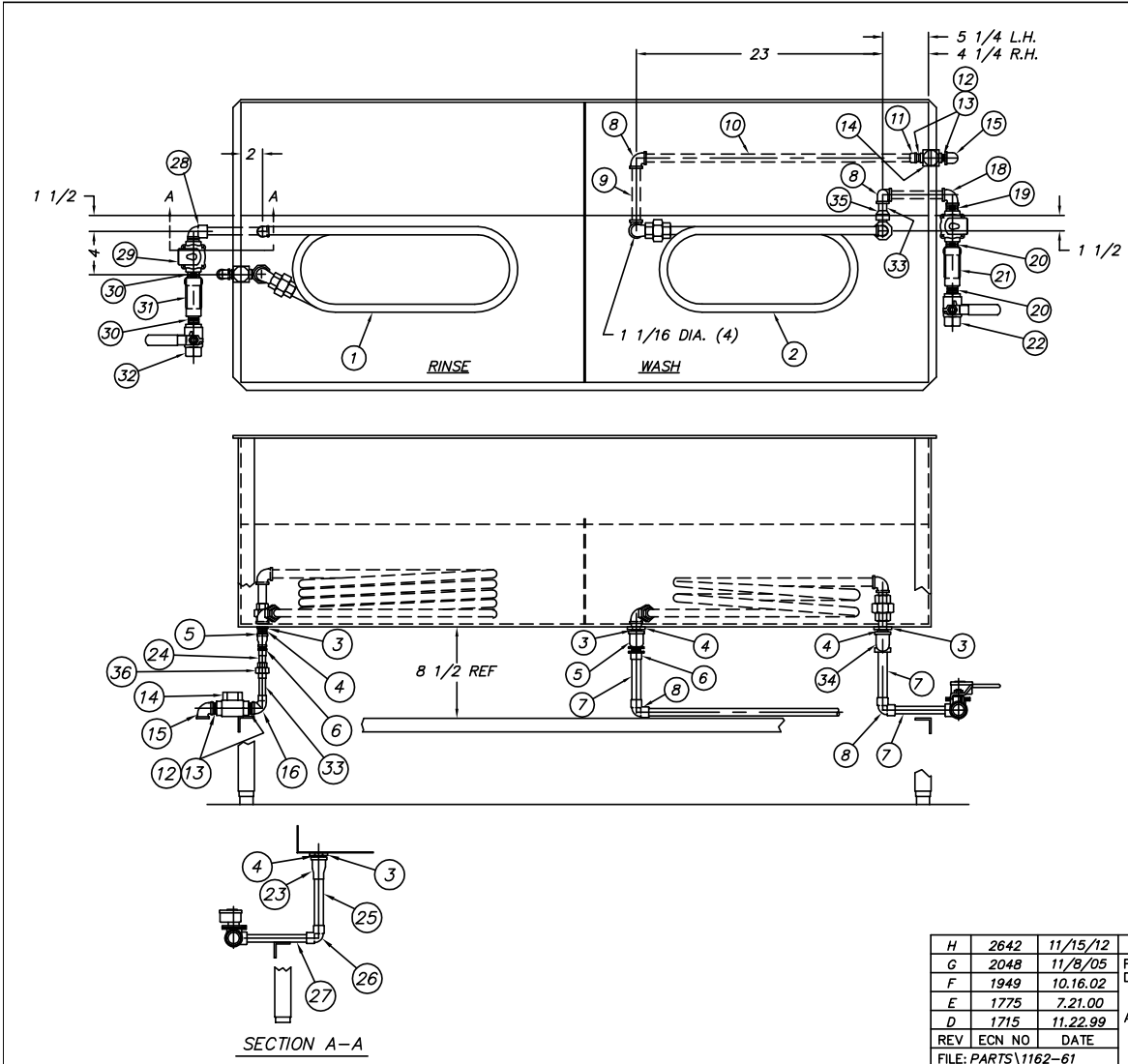
R.H. SHOWN - L.H. OPPOSITE

| | | | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
|-------|---------------|----------|----------------------------|-----------------------|------------------------|-----------------------|
| | | | FRACTIONS ±1/64 | PIPING ASSEMBLY | REQ'D 1 | 951-166 |
| | | | DECIMALS | FINAL RINSE (OUTSIDE) | | |
| C | 2649 | 12.20.12 | .XXX ± .005 | MAT'L | SCALE 1=4 | USED ON ADMIRAL 44/66 |
| B | 1981 | 6.2.03 | .XX ± .01 | NOTED | | DRWN/DATE |
| A | 1600 | 4.2.98 | ANGLES ±1/2° | | | PG |
| REV | ECN NO | DATE | UNLESS OTHERWISE SPECIFIED | Insinger | Philadelphia, PA 19135 | |
| FILE: | PARTS\951-166 | | | | (215) 624-4800 | 12.13.96 |
| | | | | | FAX (215) 624-6966 | |

| NO. | PART NO. | DESCRIPTION | QTY. |
|-----|-------------|---------------------------------|------|
| 1 | DE5-61 | HI-TEMP. CUT-OFF SWITCH 3/8 NPT | 1 |
| 2 | 1192-11 | BRACKET, CUT-OFF SWITCH | 1 |
| 3 | D312C-DC-2 | NUT, HEX #8-32 | 3 |
| 4 | D2839 | HOSE CLAMP, S/S | 2 |
| 5 | D318F-B5-B5 | BULKHEAD FITTING | 1 |
| 6 | D3-545 | "O" RING | 1 |



| | | | | | | | |
|-----|--------|------|----------------------------|--|-----------------|-----------|-----------------|
| | | | TOLERANCES | TITLE | ELECTRIC HEATER | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | | INSTALLATION | REQ'D 1 | SK-4703 |
| | | | DECIMALS | | | | |
| | | | .XXX ± .005 | MAT'L | DE13-S SERIES | SCALE 1=2 | USED ON VARIOUS |
| | | | .XX ± .01 | | | | |
| | | | ANGLES ±1/2° | | | | |
| | | | UNLESS OTHERWISE SPECIFIED | | | | |
| REV | ECN NO | DATE | |  Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | DRWN/DATE | DBC 3.24.04 |
| | | | | FILE: SKETCH\SK-4703 | | | |



| 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-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 | 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-D1 | 2 |
| 16 | 90° ELBOW 1/2 C x 1/2 FIPS | D316F-D3-D1 | 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 3/4C 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 |

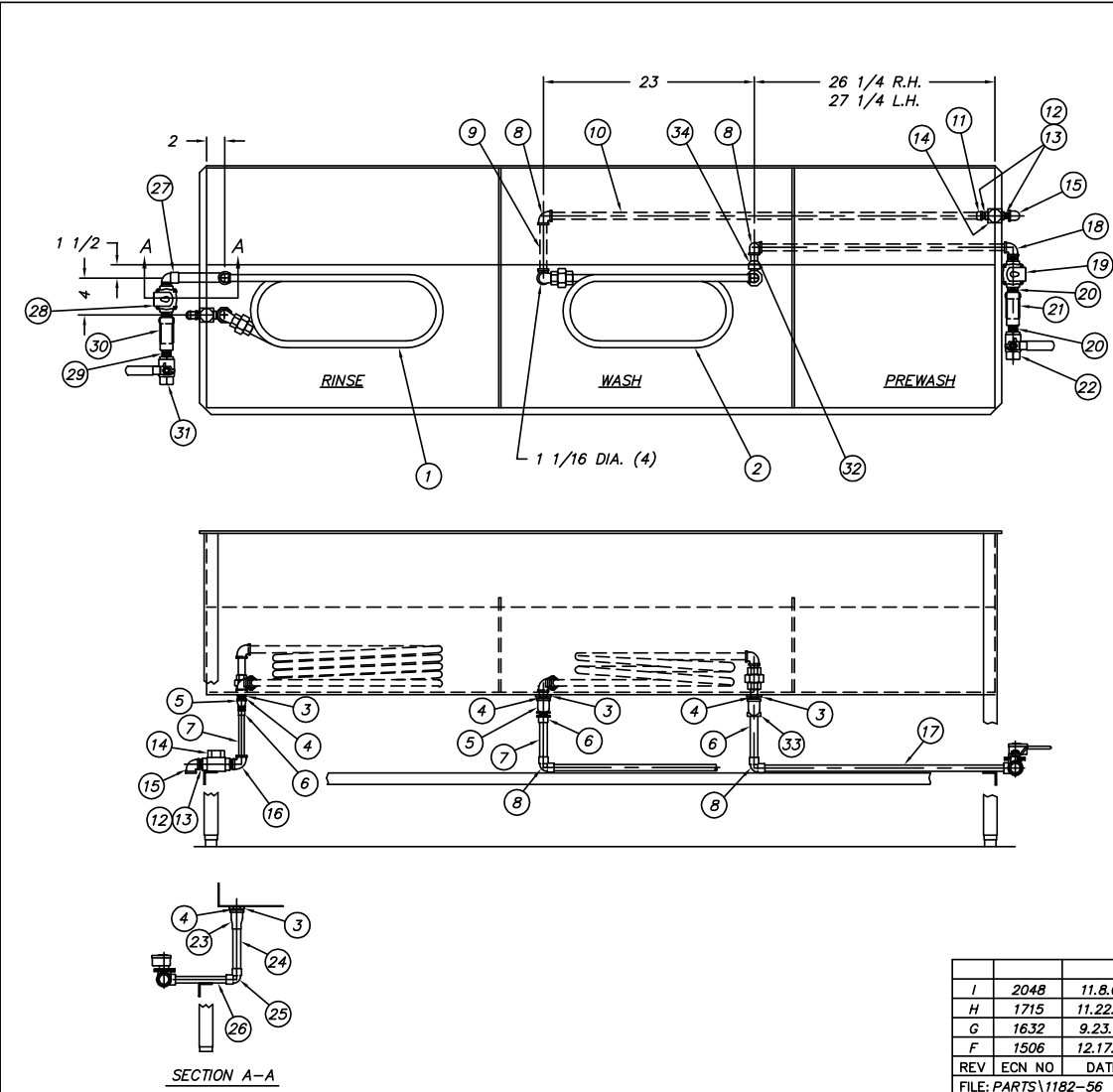
R.H. SHOWN, L.H. OPPOSITE

| H | 2642 | 11/15/12 | TOLERANCES | TITLE | STEAM PIPING | NEXT ASSY | DWG. NO. |
|-------|---------------|----------|----------------------------|--|--------------|-----------|------------|
| G | 2048 | 11/8/05 | FRACTIONS ±1/64 | | W/ SOLENOIDS | REQ'D | 1162-61 |
| F | 1949 | 10.16.02 | DECIMALS .XXX ± .005 | | | SCALE | USED ON |
| E | 1775 | 7.21.00 | .XX ± .01 | | NOTED | 1=10 | SPEEDER 64 |
| D | 1715 | 11.22.99 | ANGLES ±1/2° | | | | DRWN/DATE |
| REV | ECN NO | DATE | UNLESS OTHERWISE SPECIFIED | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | EMM | 10.10.94 |
| FILE: | PARTS\1162-61 | | | | | | |



Insinger

PART 5 REPLACEMENT PARTS



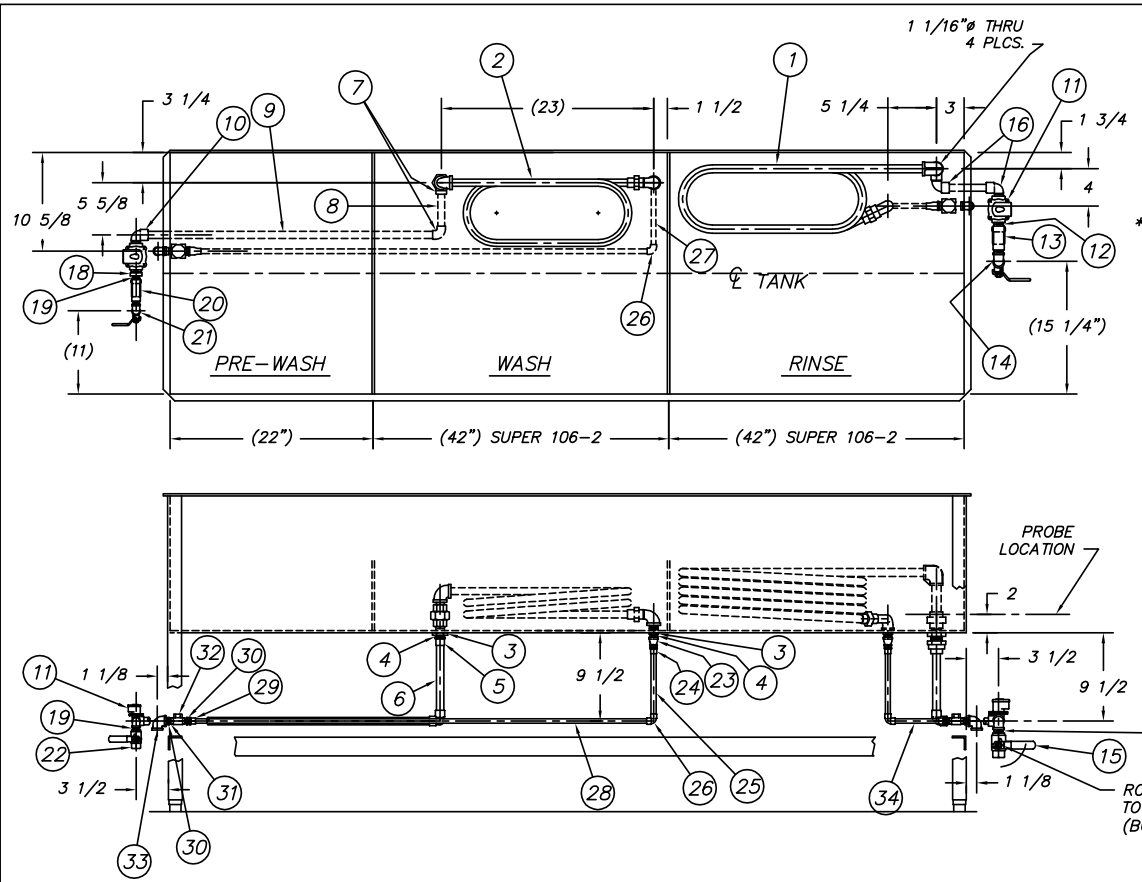
| NO. | DESCRIPTION | PART NO. | QTY. |
|-----|-------------------------------------|--------------|------|
| 1 | STEAM COIL - RINSE | 1133-99 | 1 |
| 2 | STEAM COIL - WASH | 1070-2 | 1 |
| 3 | LOCKNUT 3/4 IPS | D326F-E1 | 4 |
| 4 | NIPPLE 3/4 IPS X 1 1/2 (ALL THR'D.) | D314F-EA-12 | 4 |
| 5 | BELL REDUCER 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 | "Y" 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 | "Y" 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 |

R.H. SHOWN L.H. OPPOSITE

| REV | ECN NO | DATE | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
|---------------------|--------|----------|--|------------------------------|-------------------------|-------------------|
| I | 2048 | 11.8.05 | FRACTIONS ±1/64 DECIMALS .XXX ± .005 .XX ± .01 | STEAM PIPING W/ SOLENOIDS | - | 1182-56 |
| G | 1632 | 9.23.98 | ANGLES ±1/2° UNLESS OTHERWISE SPECIFIED | MAT'L NOTED | SCALE 1=12 | USED ON SPDR 86-3 |
| F | 1506 | 12.17.96 | | Insinger | DRWN/DATE EMM 7.7.94 | |
| FILE: PARTS\1182-56 | | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | | |



Insinger



| NO. | DESCRIPTION | PART NO. | QTY. |
|-----|--|--------------|------|
| 1 | STEAM COIL - RINSE (S/S) | DWG. 1070-4 | 1 |
| 2 | STEAM COIL - WASH (S/S) | DWG. 1070-2 | 1 |
| 3 | LOCKNUT 3/4 NPT | D326F-E1 | 4 |
| 4 | NIPPLE 3/4 NPT x 2\" ALL THD. | D314F-EA-16 | 4 |
| 5 | ADAPTER 3/4 FNPT x 3/4 C | D317A-E1-E3 | 2 |
| 6 | COPPER TUBING 3/4 CTS x 7 1/2\" | D207A-B6-30 | 2 |
| 7 | 90° ELBOW 3/4 C | D316A-E3 | 3 |
| 8 | COPPER TUBING 3/4 CTS x 4 1/4\" | D207A-B6-17 | 1 |
| 9 | COPPER TUBING 3/4 CTS x 31 3/4\" (86-2) | D207A-B6-127 | 1 |
| 9 | COPPER TUBING 3/4 CTS x 41 3/4\" (106-2) | D207A-B6-167 | 1 |
| 10 | 90° ELBOW 3/4 MNPT x 3/4 C | D316A-E2-E3 | 2 |
| 11 | TEMP. REGULATOR 3/4 NPT (SOLENOID) | D-2964 | 2 |
| 12 | CLOSE NIPPLE 3/4 NPT | D314F-EC-00 | 2 |
| 13 | *Y STRAINER 3/4 NPT | D-2482 | 1 |
| 14 | 90° STREET ELBOW 3/4 NPT | D316A-E1-E2 | 1 |
| 15 | BALL VALVE 3/4 NPT | D-2340 | 1 |
| 16 | 90° STREET ELBOW 3/4 C | D316A-E3-E4 | 2 |
| 17 | COPPER TUBING 3/4 CTS x 5 1/4\" | D207A-B6-21 | 1 |
| 18 | FLUSH REDUCER 3/4 MNPT x 1/2 FNPT | D323A-E2-D1 | 1 |
| 19 | CLOSE NIPPLE 1/2 NPT | D314F-DC-00 | 2 |
| 20 | *Y STRAINER 1/2 NPT | D-2483A | 1 |
| 21 | 90° STREET ELBOW 1/2 NPT | D316A-D1-D2 | 1 |
| 22 | BALL VALVE 1/2 NPT | D-2339 | 1 |
| 23 | REDUCING COUPLING 3/4 FNPT x 1/2 FNPT | D321A-E1-D1 | 2 |
| 24 | ADAPTER 1/2 MNPT x 1/2 C | D317A-D2-D3 | 2 |
| 25 | COPPER TUBING 1/2 CTS x 7\" | D207A-B4-28 | 2 |
| 26 | 90° ELBOW 1/2 C | D316A-D3 | 3 |
| 27 | COPPER TUBING 1/2 CTS x 6 3/8\" | D207A-B4-26 | 1 |
| 28 | COPPER TUBING 1/2 CTS x 48 1/4\" (86-2) | D207A-B4-194 | 1 |
| 28 | COPPER TUBING 1/2 CTS x 58 1/4\" (106-2) | D207A-B4-233 | 1 |
| 29 | ADAPTER 1/2 FNPT x 1/2 C | D317A-D1-D3 | 2 |
| 30 | FLUSH REDUCER 1/2 MNPT x 3/8 FNPT | D323A-D2-C1 | 4 |
| 31 | CLOSE NIPPLE 3/8 NPT | D314F-CC-00 | 4 |
| 32 | STEAM TRAP 3/8 NPT | D-2102 | 2 |
| 33 | 90° ELBOW 1/2 NPT | D316A-D1 | 2 |
| 34 | COPPER TUBING 1/2 CTS x 4 1/4\" | D207A-B4-17 | 1 |
| 35 | COVER, PROBE (TEMP. REGULATOR) | DWG. 951-102 | 1 |

* NOTE: USE D2452 FOR 120-240VAC

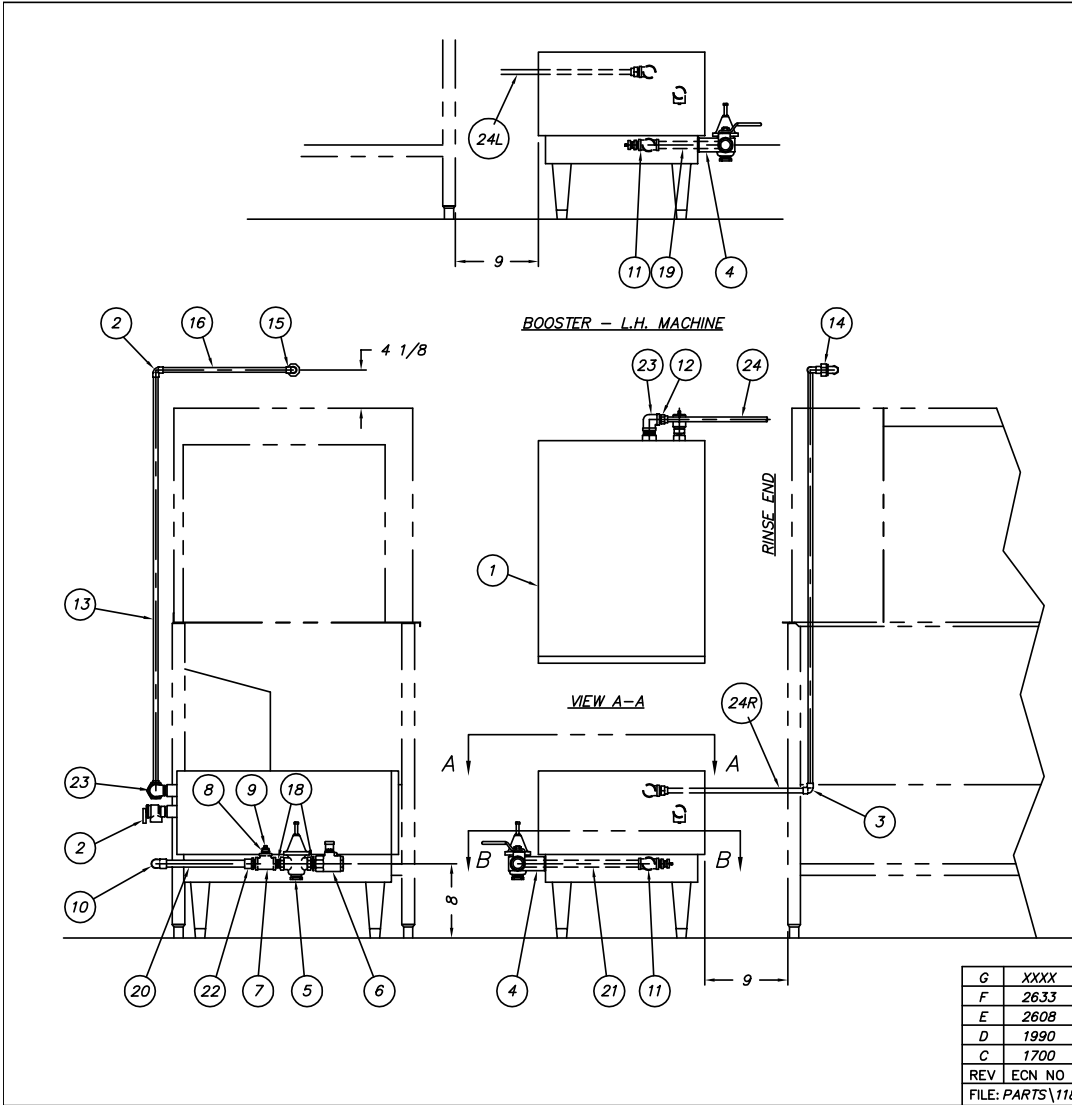
ROTATE BALL VALVE 90° TO HORIZONTAL POSITION (BOTH ENDS)

SUPERSEDES 951-96 DATED 1.27.84

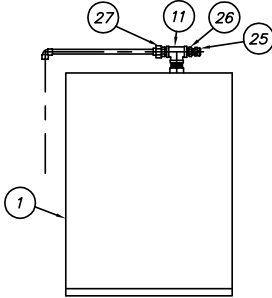
L.H. SHOWN - R.H. OPPOSITE

| REV | ECN NO | DATE | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
|-----|--------|----------|----------------------------|------------------------|------------|------------------------------|
| D | 2408 | 10.14.09 | FRACTIONS ±1/64 | STEAM PIPING | REQ'D 1 | 959-65 |
| C | 2046 | 11.8.05 | DECIMALS | W/ SOLENOIDS | | |
| B | 1075 | 10.13.94 | .XXX ± .005 | MAT'L | SCALE 1/12 | USED ON 951-96-2 SUPER 106-2 |
| A | - | 7.30.84 | .XX ± .01 | | | |
| | | | ANGLES ±1/2° | NOTED | | |
| | | | UNLESS OTHERWISE SPECIFIED | Insinger | DRWN/DATE | |
| | | | | Philadelphia, PA 19135 | RAF | 5.9.84 |
| | | | | (215) 624-4800 | | |
| | | | | FAX (215) 624-6966 | | |

SEE #1182-56 FOR SPEEDER 86



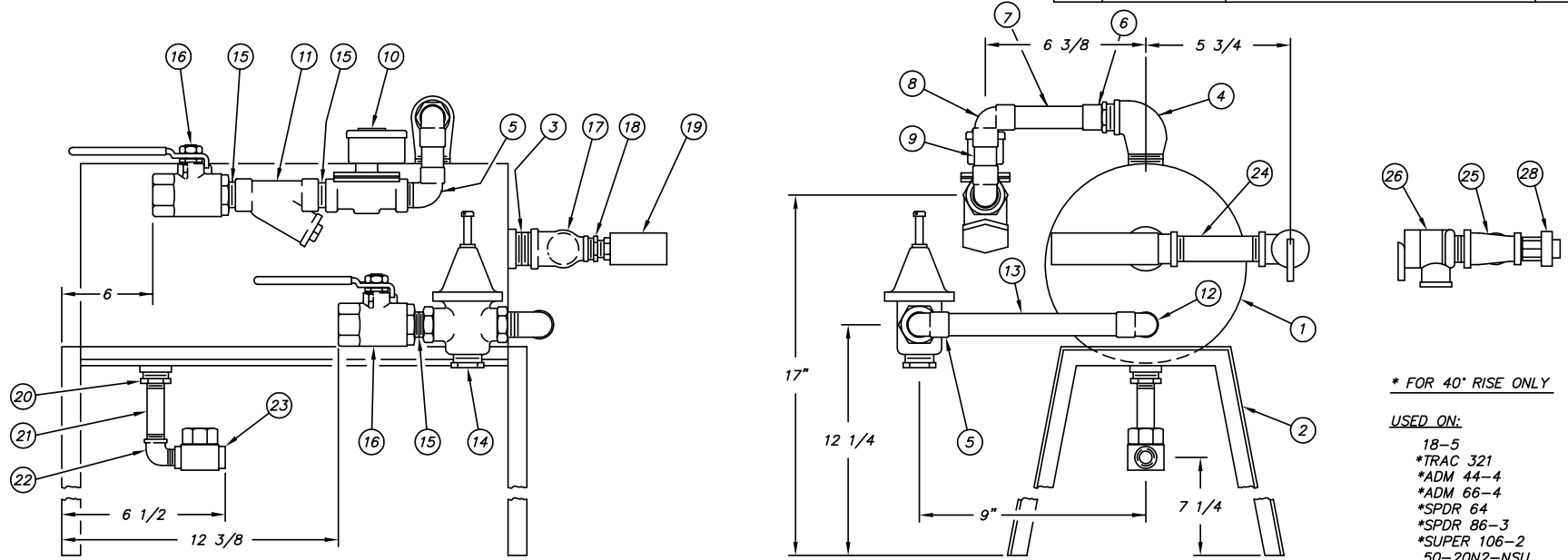
| ITEM | PART NO. | DESCRIPTION | QTY. |
|-------|----------------|---------------------------------------|------|
| 1 | C24-58 | ELECTRIC BOOSTER | 1 |
| 2 | - | RELIEF VALVE 3/4" IPS | 1 |
| 3 | D316A-D3 | 90° ELBOW 1/2" C | 2 |
| 4 | 951-49 | BRACKET | 1 |
| 5 | D2508 | "Y" STRAINER | 1 |
| 6 | D2340 | 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 | | | | TOLERANCES | | | | TITLE | | NEXT ASSY | | DWG. NO. | |
|---------------------|------|----------|-----------------|--------------------------|--------|----------|----------------------------|---------------------------|--|--|------|-----------------------|--|
| F | 2633 | 10.11.12 | FRACTIONS ±1/64 | F | 2633 | 10.11.12 | DECIMALS | ELECTRIC BOOSTER ASSEMBLY | | REQ'D | - | 1182-47 | |
| E | 2608 | 07.3.12 | .XXX ± .005 | D | 1990 | 8.8.03 | .XX ± .01 | MAT'L - | | SCALE | 1=12 | USED ON SEE ABOVE | |
| C | 1700 | 8.11.99 | ANGLES ±1/2° | REV | ECN NO | DATE | UNLESS OTHERWISE SPECIFIED | Insinger | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | DRWN/DATE EMM 5.12.88 | |
| FILE: PARTS\1182-47 | | | | R.H SHOWN - L.H OPPOSITE | | | | | | | | | |

| 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-FC-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

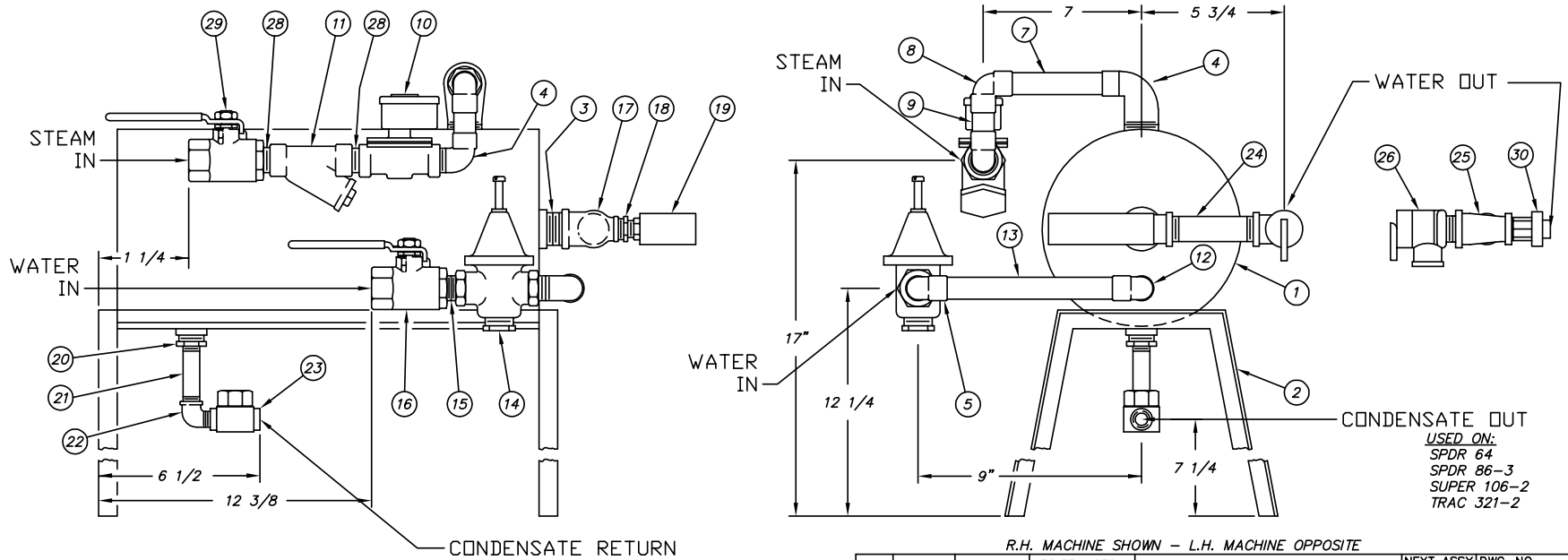
NOTES:

- (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 | TITLE | STEAM BOOSTER | NEXT ASSY | DWG. NO. |
| D | 1916 | 2.14.02 | FRACTIONS ±1/64 | ASSEMBLY | REQ'D | 1 | 1394-1 |
| C | 1090 | 12.8.94 | DECIMALS | MAT'L | AS NOTED | SCALE | USED ON |
| B | 964 | 12.28.93 | .XXX ± .005 | | | 1=4 | SEE ABOVE |
| | | | .XX ± .01 | | | | DRWN/DATE |
| A | 952 | 10.8.93 | ANGLES ±1/2° | | | | PG |
| | | | UNLESS OTHERWISE SPECIFIED | | | | 7.8.93 |
| REV | ECN | NO | DATE | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | | |
| FILE: | PARTS\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-E1D1D1 | 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 | | | | | | | | |



NOTES:

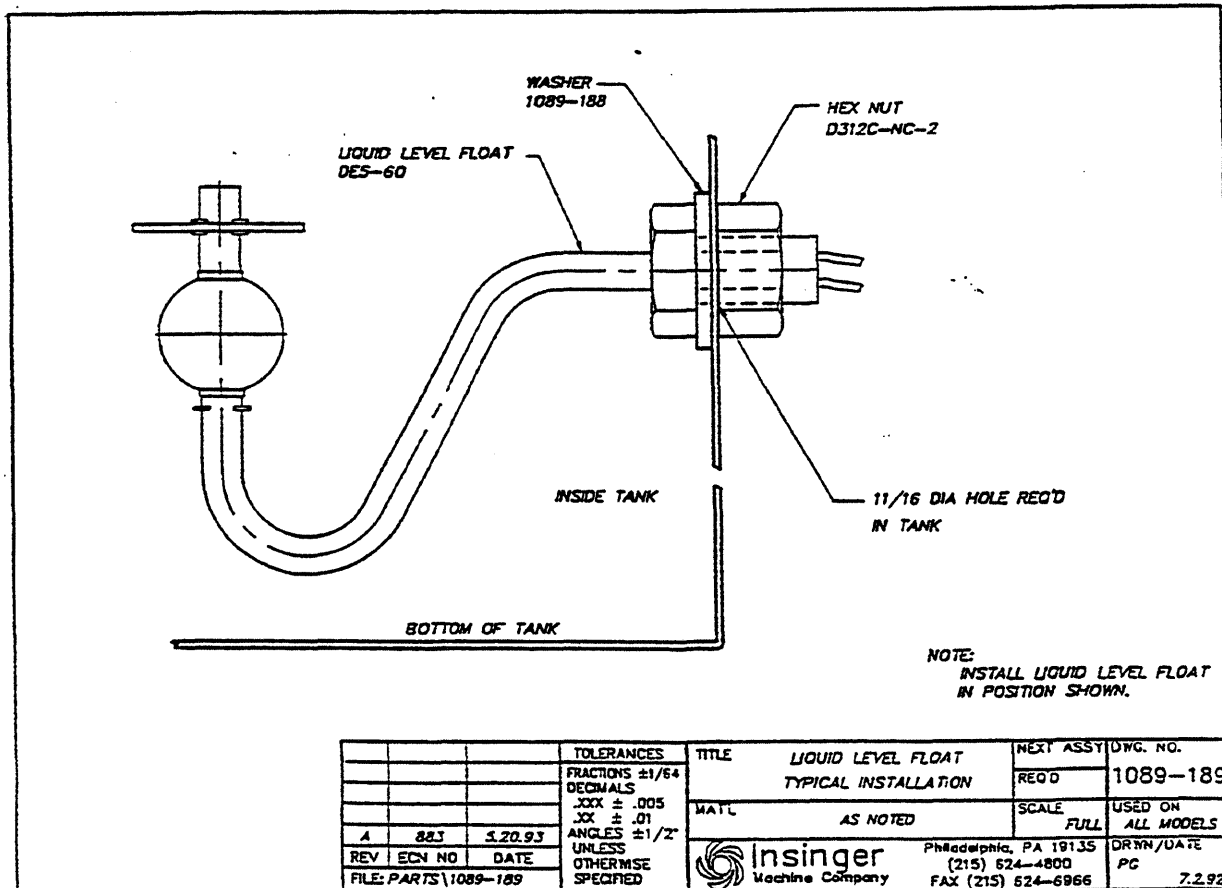
- (ITEM #1) ADD SUFFIX "NM" FOR NON-MAGNETIC MACHINES.
- (ITEM #19) USE PART NO. D-2396 AS STANDARD AND PART NO. D-2301 WHEN LOW TEMP. CUT-OFF IS SPECIFIED.
- FACTORY WIRED AND PIPED TO WAREWASHER (WHEN ORDERED WITH WAREWASHER)

| TOLERANCES | | | TITLE | NEXT ASSY | DWG. NO. |
|----------------------------|--------|----------|--|-----------------------------------|---------------------|
| F | 2048 | 11.8.05 | FRACTIONS ±1/64 | STEAM BOOSTER ASSEMBLY (70' RISE) | 1394-7 |
| E | 1916 | 2.14.02 | DECIMALS .XXX ± .005 | | |
| D | 1826 | 11.16.00 | .XX ± .01 | | |
| C | 979 | 1.17.94 | ANGLES ±1/2° | | |
| UNLESS OTHERWISE SPECIFIED | | | MAT'L | AS NOTED | SCALE 1=4 |
| REV | ECN NO | DATE | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966 | | |
| FILE: PARTS\1394-7 | | | | | DRWN/DATE PG 7.8.93 |

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-trial 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.

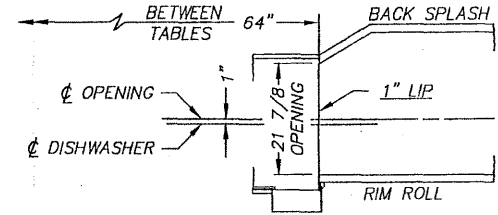
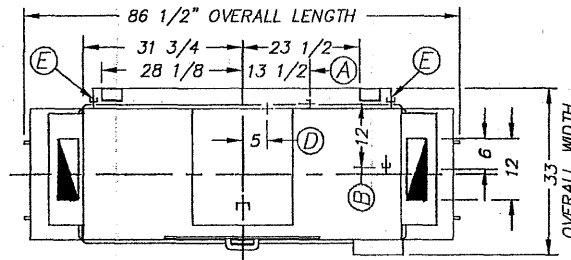
Infra-Red Burner -

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.

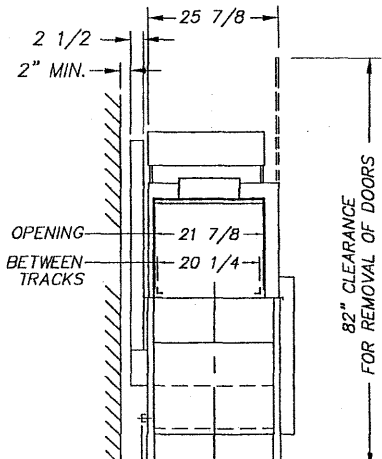
Excess Air - burner may be difficult or impossible to light; will not generate sufficient heat.

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

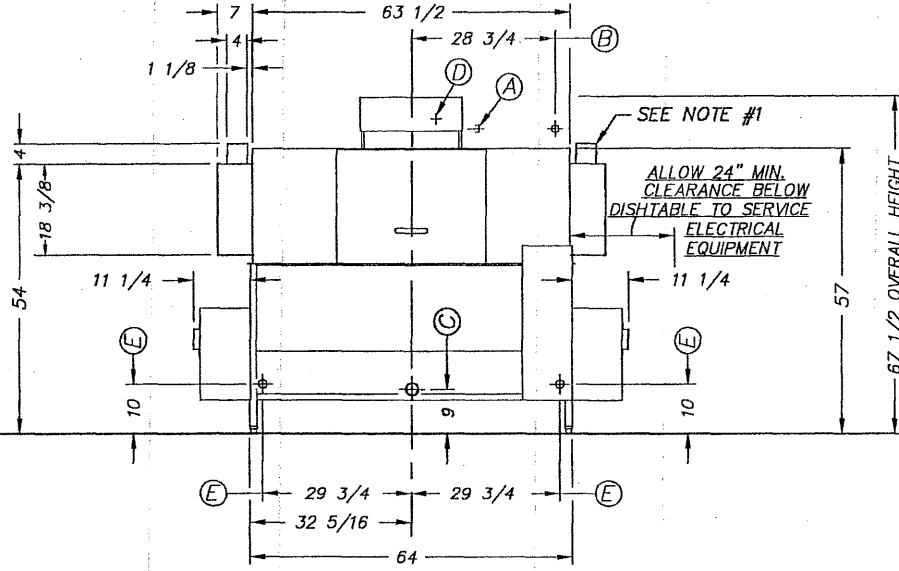
INSTALLATION AND LAYOUT DETAIL



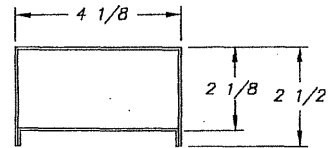
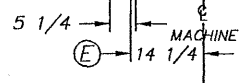
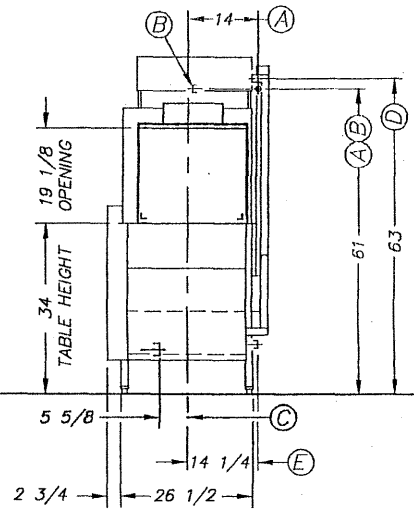
TYPICAL TABLE CONNECTION



82" CLEARANCE FOR REMOVAL OF DOORS



SEE NOTE #1
ALLOW 24" MIN. CLEARANCE BELOW DISH TABLE TO SERVICE ELECTRICAL EQUIPMENT



VIEW A
SCALE: 1=8

LEFT TO RIGHT 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.

| INSTALLATION CONNECTIONS | | |
|--------------------------|--------------------------------------|----------|
| LTR | 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 |

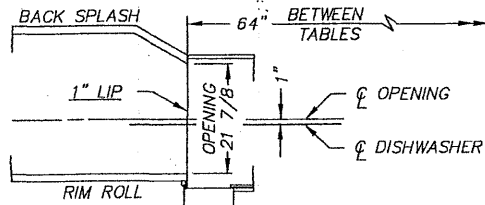
SPEEDER 64 GAS
DOUBLE TANK CONVEYOR TYPE DISHWASHING MACHINE

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

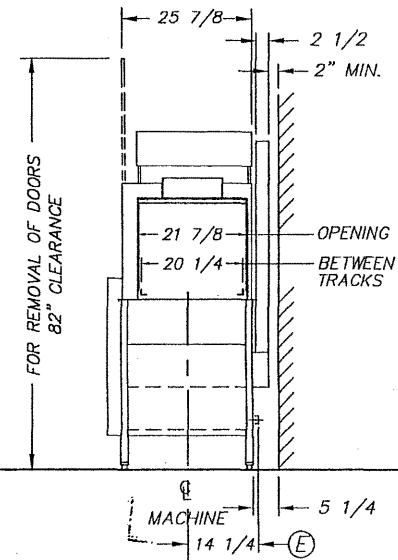
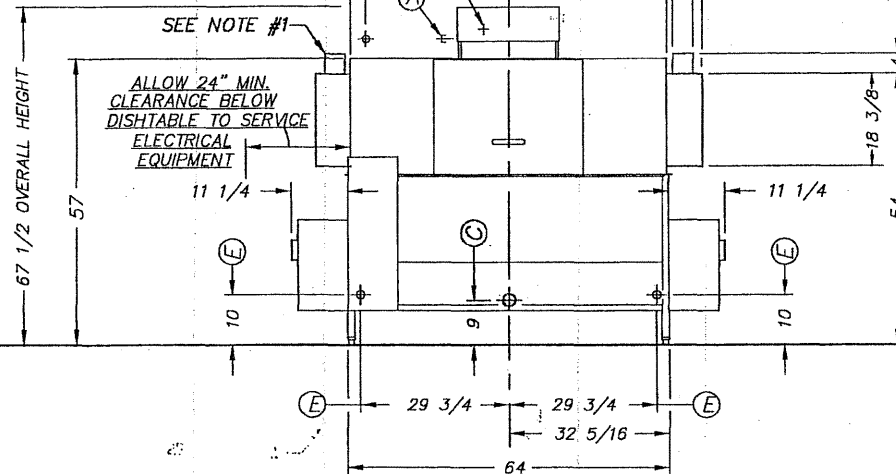
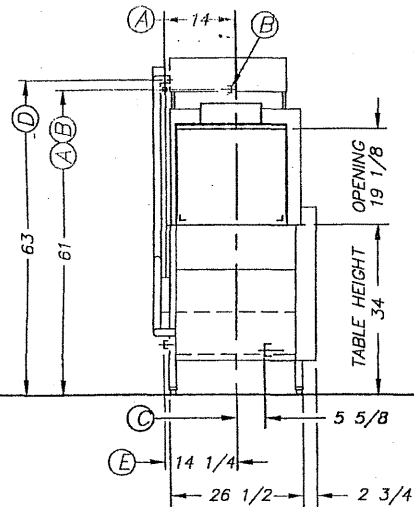
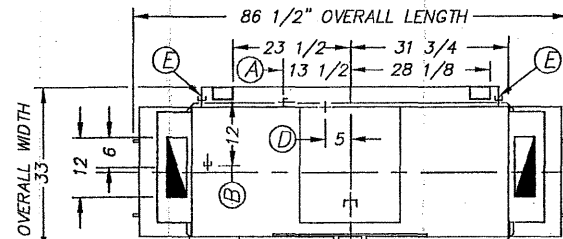
Insinger

| | | | | |
|-------------------|----------|-----------|----------|-----|
| DRWN: EMM | 12.29.94 | SCALE | DWG. NO. | REV |
| REV: CES | 12.26.01 | 1/2" = 1' | SP-64GL | D |
| FILE: STD/SP-64GL | | | | |

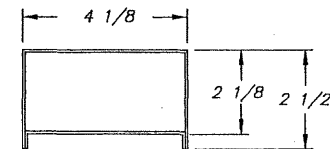
INSTALLATION AND LAYOUT DETAIL



TYPICAL TABLE CONNECTION



RIGHT TO LEFT FEED

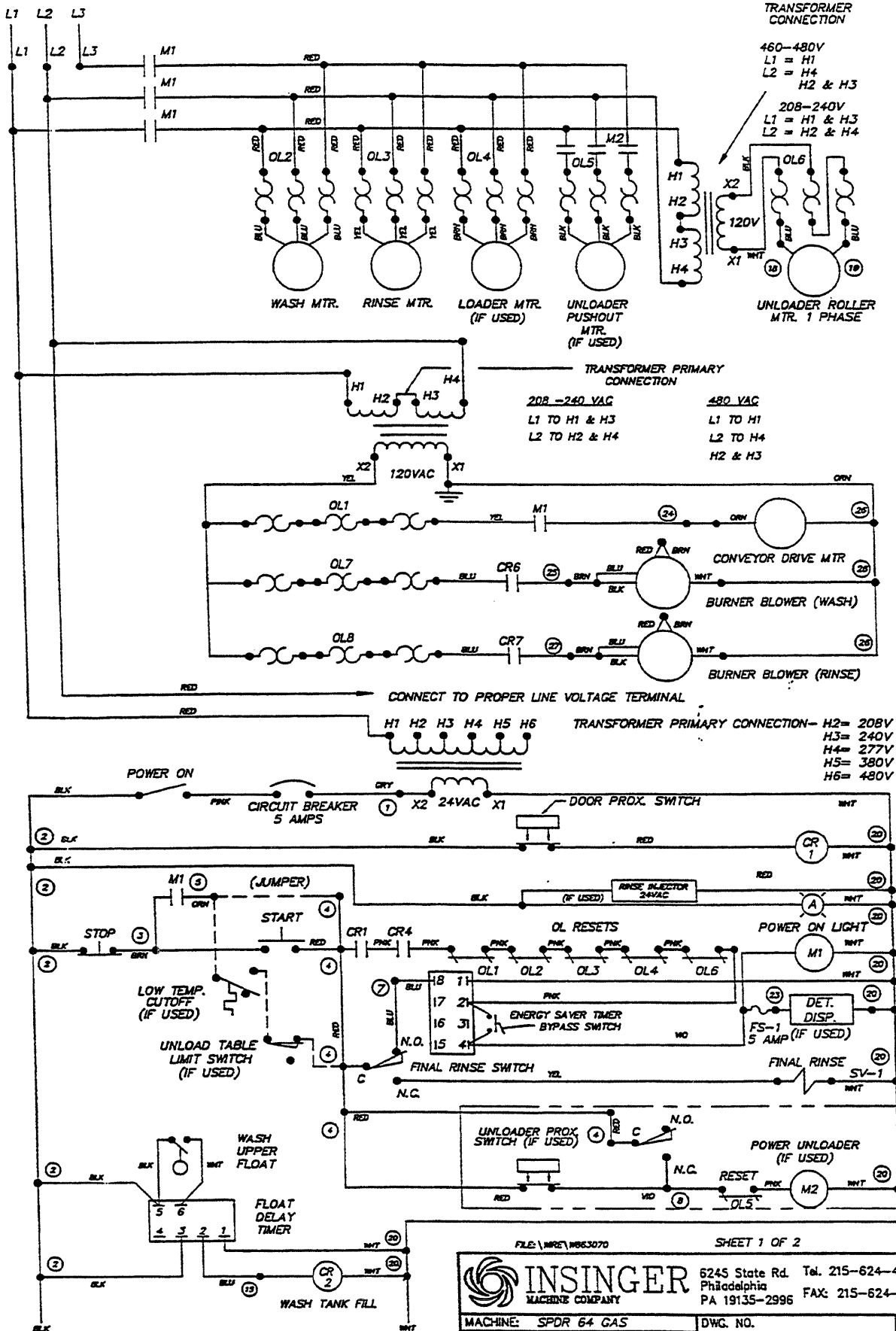


NOTES:

- 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.

| INSTALLATION CONNECTIONS | | |
|--------------------------|--------------------------------------|----------|
| LTR | 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) 624-4800 FAX (215) 624-6966 | |
| DRWN: EMM | 3.16.95 | SCALE | DWG. NO. |
| REV: CES | 12.26.01 | 1/2" = 1' | SP-64GR |
| FILE: STD/SP-64GR | | | REV D |



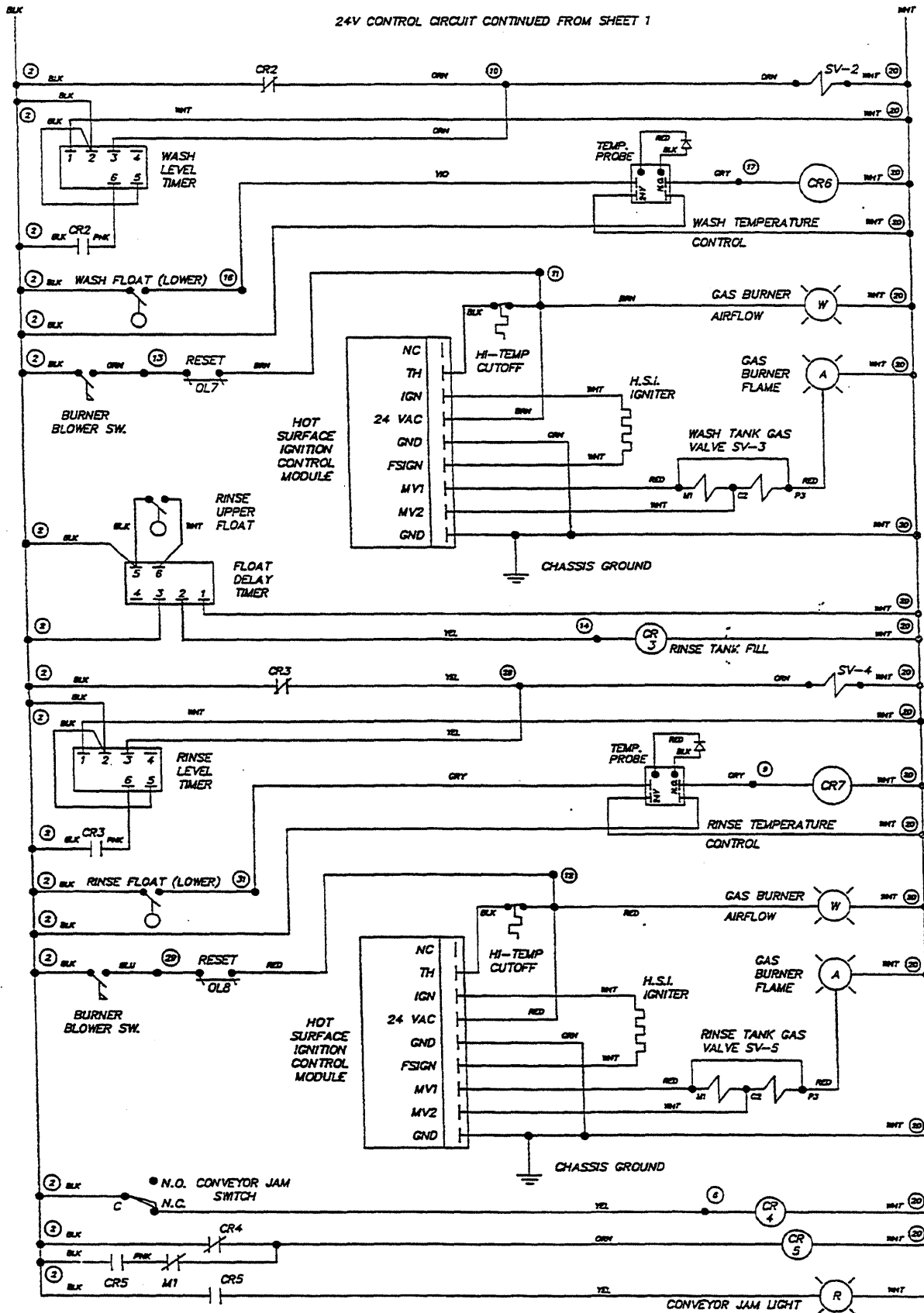
FILE: \INRE\W863070 SHEET 1 OF 2

INSINGER
MACHINE COMPANY

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

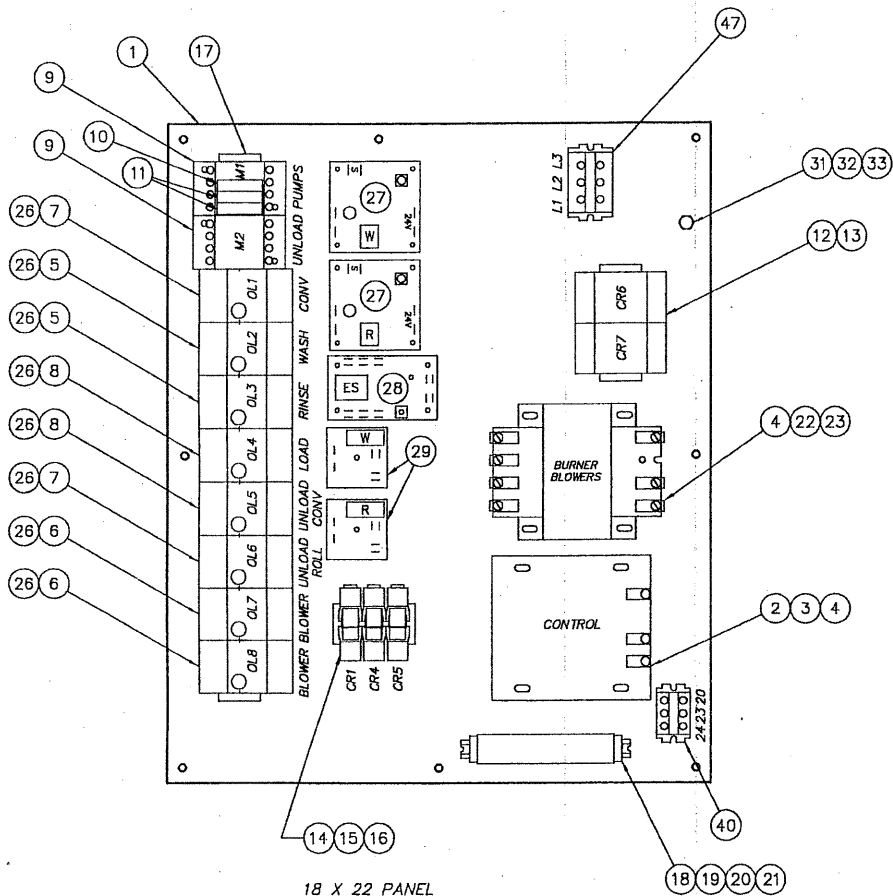
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|----------------------|-----------|
| MACHINE: SPDR 64 GAS | DWG. NO. |
| DRAWN: CES 2.14.95 | W863070 - |
| APPROVED: RICH | |

24V CONTROL CIRCUIT CONTINUED FROM SHEET 1



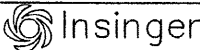
SHEET 2 OF 2

| | | | |
|----------------------|--|--|--|
| | | 6245 State Rd. Tel. 215-624-4800 Philadelphia PA 19135-2996 FAX: 215-624-6966 | |
| MACHINE: SPDR 64 GAS | | DWG. NO. | |
| DRAWN: CES 2.14.95 | | W863070 - | |
| APPROVED: RICH | | - | |



| 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 FNQ-R-1.8 | DE9-169 | |
| | 380 V FNQ-R-2 | DE9-170 | |
| | 220 - 230 V FNQ-R-3.5 | DE9-174 | |
| | 208 V FNQ-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 (1/15 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 | |
| 8 | OVERLOAD RELAY (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 | |

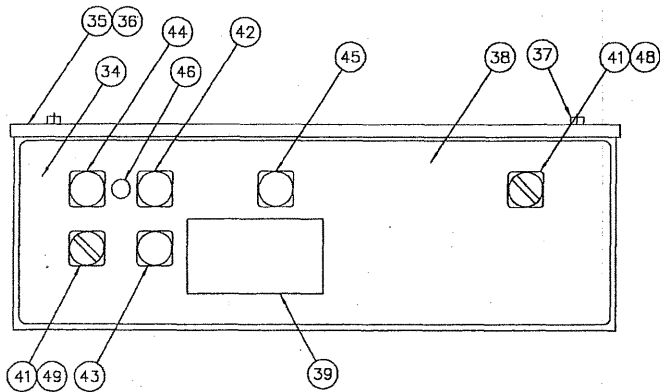
SHEET 1 OF 2

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

| ITEM | DESCRIPTION | PART NO. | QTY | ITEM | DESCRIPTION | PART NO. | QTY | ITEM | DESCRIPTION | PART NO. | QTY |
|------|------------------------------------|----------|-----|------|---------------------------------|-------------|-----|------|---------------------------|----------|-----|
| 9 | CONTACTOR, MOTORS SP4 | DE1-93 | AR | 25 | | | | 40 | TERMINAL BLK ASSY | DE3-9 | 1 |
| 10 | AUXILIARY CONTACT, NC | DE1-61AE | 1 | 26 | OVERLOAD BASE | DE2-60 | AR | 41 | SELECTOR SWITCH ASSY | DEB-58 | 2 |
| 11 | | | | 27 | TEMPERATURE CONTROL BOARD | DE9-251 | 2 | 42 | PUSHBUTTON ASSY, START | DEB-64 | 1 |
| 12 | RELAY BASE | DE3-25 | 2 | 28 | TIME DELAY BOARD (ENERGY SAVER) | DE7-28 | 1 | 43 | PUSHBUTTON ASSY, STOP | DEB-65 | 1 |
| 13 | RELAY | DE2-12 | 2 | 29 | TIMER (LIQUID LEVEL) | DE7-35 | 2 | 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-4G | 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) | | 1 | 38 | DECAL | SK-3700 | 1 | | | | |
| | 230 & 460 V | DE6-10 | | 39 | DATA DECAL | SK-3715 | 1 | | | | |
| | 208 & 380 V | DE6-21 | | | | | | | | | |
| 23 | FUSE BLOCK KIT (250 VA XFMR) | DE9-164 | 1 | | | | | | | | |
| 24 | | | | | | | | | | | |

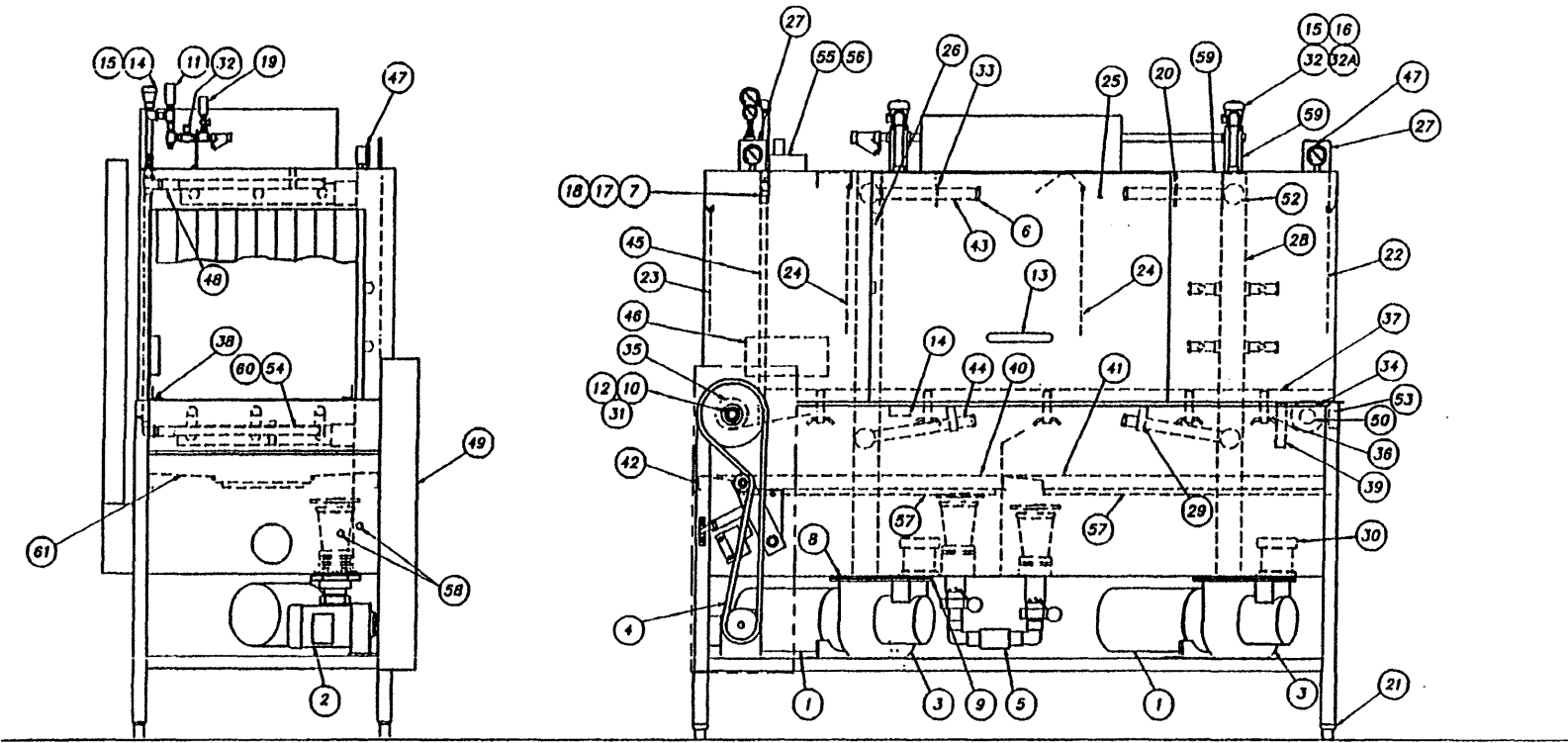
NOT SHOWN

| | | |
|--------------------------|---------|---|
| 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

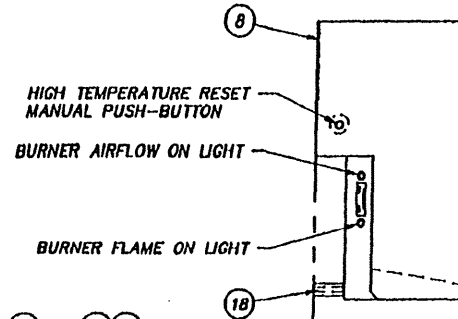
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| TITLE | | SPEEDER 64 | | DRWN/DATE | |
| | | GAS HEAT CONTROL PANEL LAYOUT | | MFJ 6.1.95 | |
| Insinger | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-8966 | | FILE: SKETCH\SK-3670 | |
| G | 1986 | 8.1.03 | SCALE | DWG. NO. | |
| F | 1857 | 2.15.01 | 1=4 | SK-3670 | |
| REV | ECN NO | DATE | | | |



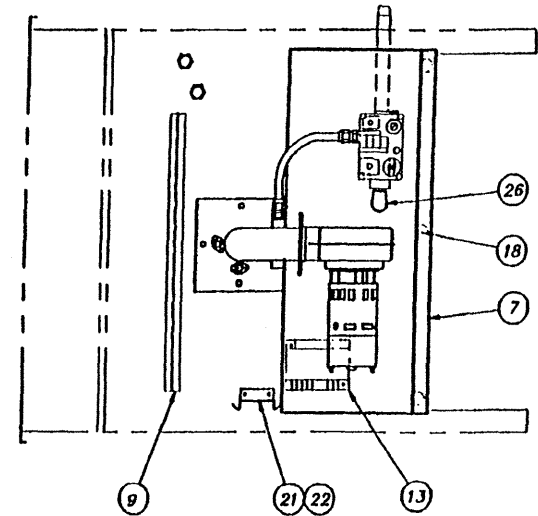
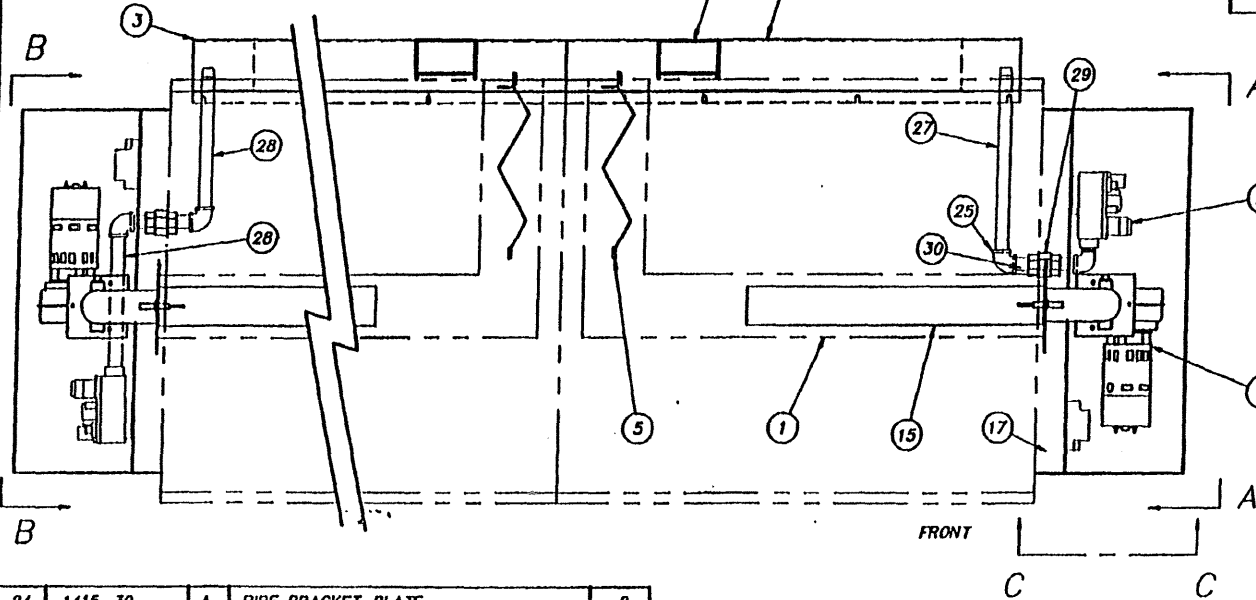
SHEET 1 OF 2

| | | | | | | | |
|-----------------------|---------------|-------------|----------------------------|-----------------------|-------------------|------------------------|--------------------|
| | | | TOLERANCES | TITLE | PARTS LIST | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | SPEEDER 64 GAS | | REQ'D | SK-3668 |
| | | | DECIMALS | MATL | | SCALE | USED ON |
| | | | .XXX ± .003 | | | 1:12 | SPDR 64 GAS |
| | | | .XX ± .01 | | | | DRWN/DATE |
| | | | ANGLES ±1/2° | | | | CES |
| REV | ECN NO | DATE | UNLESS OTHERWISE SPECIFIED | Insinger | | Philadelphia, PA 19135 | |
| | | | | Machine Company | | (215) 624-4800 | |
| FILE: SKETCH\SK-36681 | | | | | | FAX (215) 624-6968 | |
| | | | | | | 12.8.94 | |

| ITEM | PART NO. | SIZE | DESCRIPTION | QTY. |
|------|-------------|------|-------------------------------------|------|
| 13 | D2827 | A | HOT SURFACE IGNITION MODULE | 2 |
| 14 | D2789 | - | FLEX S/S GAS LINE | 2 |
| 15 | D2790 | 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 | D317F-D2-D6 | - | MALE CONN 45' FLARE-1/2 T X 1/2 MPT | 2 |
| 20 | D2788 | - | GAS VALVE | 2 |
| 21 | 1415-33 | A | HIGH TEMP LIMIT SWITCH MTG BRKT | 2 |
| 22 | DE5-65 | A | HIGH TEMP LIMIT SWITCH | 2 |
| 23 | 1415-29 | A | PIPE BRACKET-ANGLE | 2 |



| 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 |



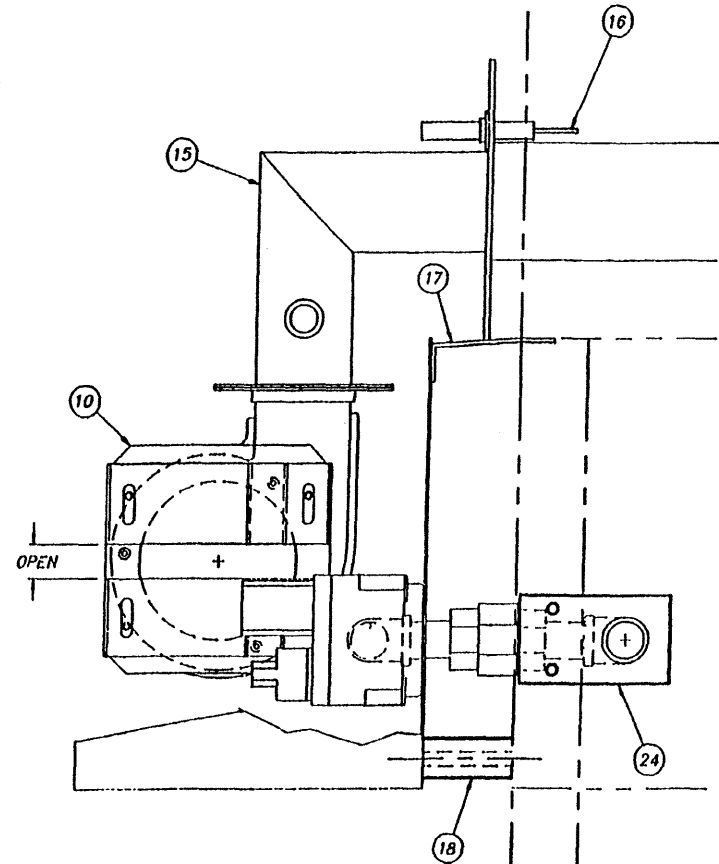
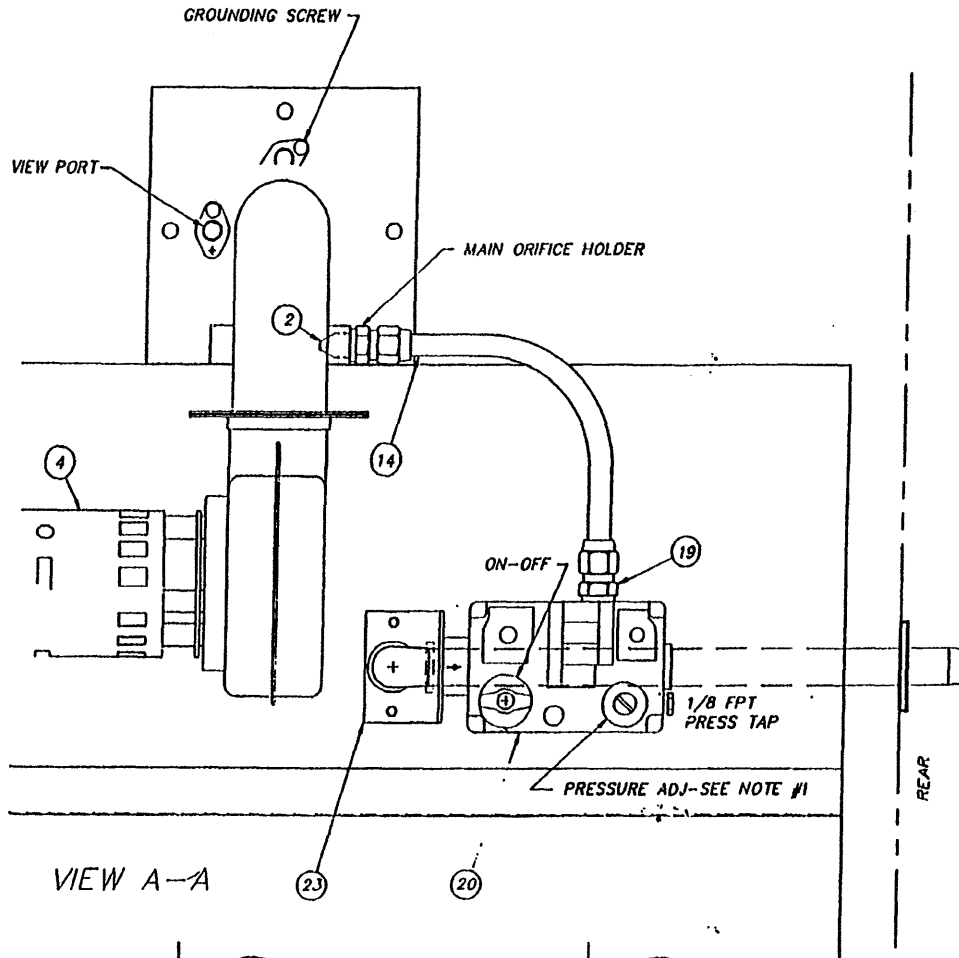
| | | | | |
|----|-------------|---|---------------------------------|---|
| 24 | 1415-30 | A | PIPE BRACKET-PLATE | 2 |
| 25 | D316B-D1-D1 | - | 90° ELBOW 1/2 IPS-BLACK | 3 |
| 26 | D316B-D1-D2 | - | 90° STREET ELBOW 1/2 IPS-BLACK | 1 |
| 27 | D314B-DS-96 | - | NIPPLE 1/2 IPS X 12 LG-BLACK | 1 |
| 28 | D314B-DS-72 | - | NIPPLE 1/2 IPS X 9 LG-BLACK | 2 |
| 29 | D318B-D1 | - | UNION 1/2 FIPS-BLACK | 2 |
| 30 | D314B-DS-12 | - | NIPPLE 1/2 IPS X 1 1/2 LG-BLACK | 4 |

| REV | ECN NO. | DATE | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
|-----|---------|------|----------------------------|--------------------------|-----------|------------|
| | | | FRACTIONS ±1/64 | INFRA-RED BURNER | REQ'D | 1430-1 |
| | | | DECIMALS | GENERAL ARRANGEMENT | 1 | |
| | | | .XXX ± .005 | MATL | SCALE | USED ON |
| | | | .XX ± .01 | SEE ABOVE | 1=8 | SPD 64 GAS |
| | | | ANGLES ±1/2° | | | DRWN/DATE |
| | | | UNLESS OTHERWISE SPECIFIED | | | CES |
| | | | | Insinger Machine Company | | 2.10.95 |

SHEET 1 OF 3

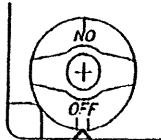
PhD@dphila, PA 19135
(215) 624-4800
FAX (215) 624-8868

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

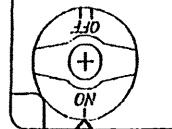


SHEET 2 OF 3

GAS VALVE
OFF POSITION

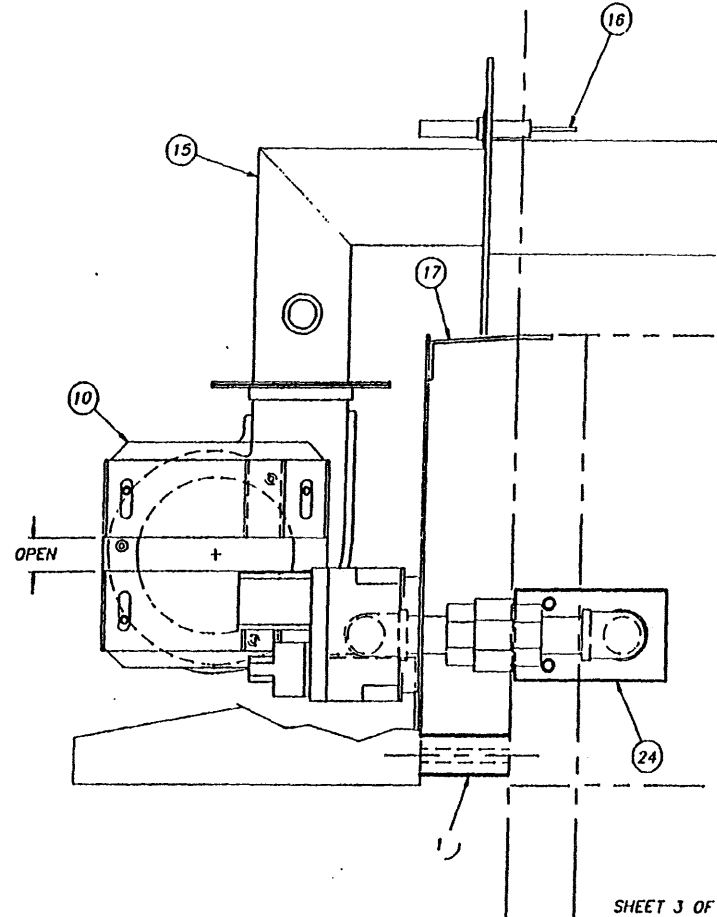
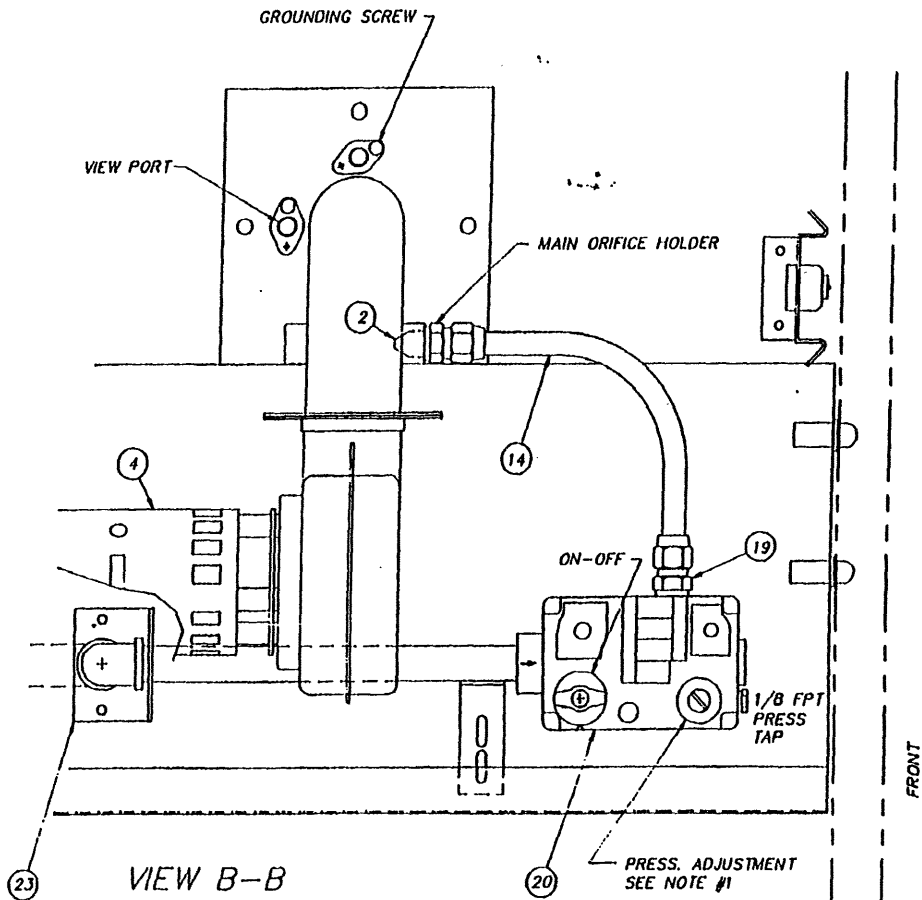


GAS VALVE
ON POSITION



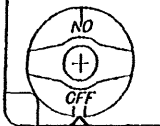
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|--------------------|--|-------------------|--|----------------------------|--|-----------------------|--|-----------------|--|
| | | TOLERANCES | | TITLE | | NEXT ASSY | | DWG. NO. | |
| | | FRACTIONS ±1/64 | | INFRA-RED BURNER | | REQ'D 1 | | 1430-1 | |
| | | DECIMALS | | GENERAL ARRANGEMENT | | SCALE | | USED ON | |
| | | .XXX ± .005 | | MAT'L - | | 1=B | | SPDR 64 GAS | |
| | | .XX ± .01 | | UNLESS OTHERWISE SPECIFIED | | Phildelphia, PA 19135 | | DRWN/DATE | |
| | | ANGLES ±1/2° | | Insinger Machine Company | | (215) 624-4800 | | CES | |
| REV | | ECN NO | | DATE | | FAX (215) 624-6866 | | 2.10.95 | |
| FILE: PARTS\1430-1 | | JY | | | | | | | |

NOTE: 1) FOR PROPANE (L.P.L. GAS), REMOVE CAP & INSTALL CONVERSION KIT D279J
(SPRING + LABELS), ADJUST TO 11" WC & REPLACE CAP
2) USE MAIN ORIFICE SIZED FOR PROPANE

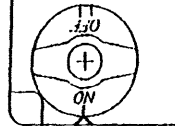


SHEET 3 OF 3

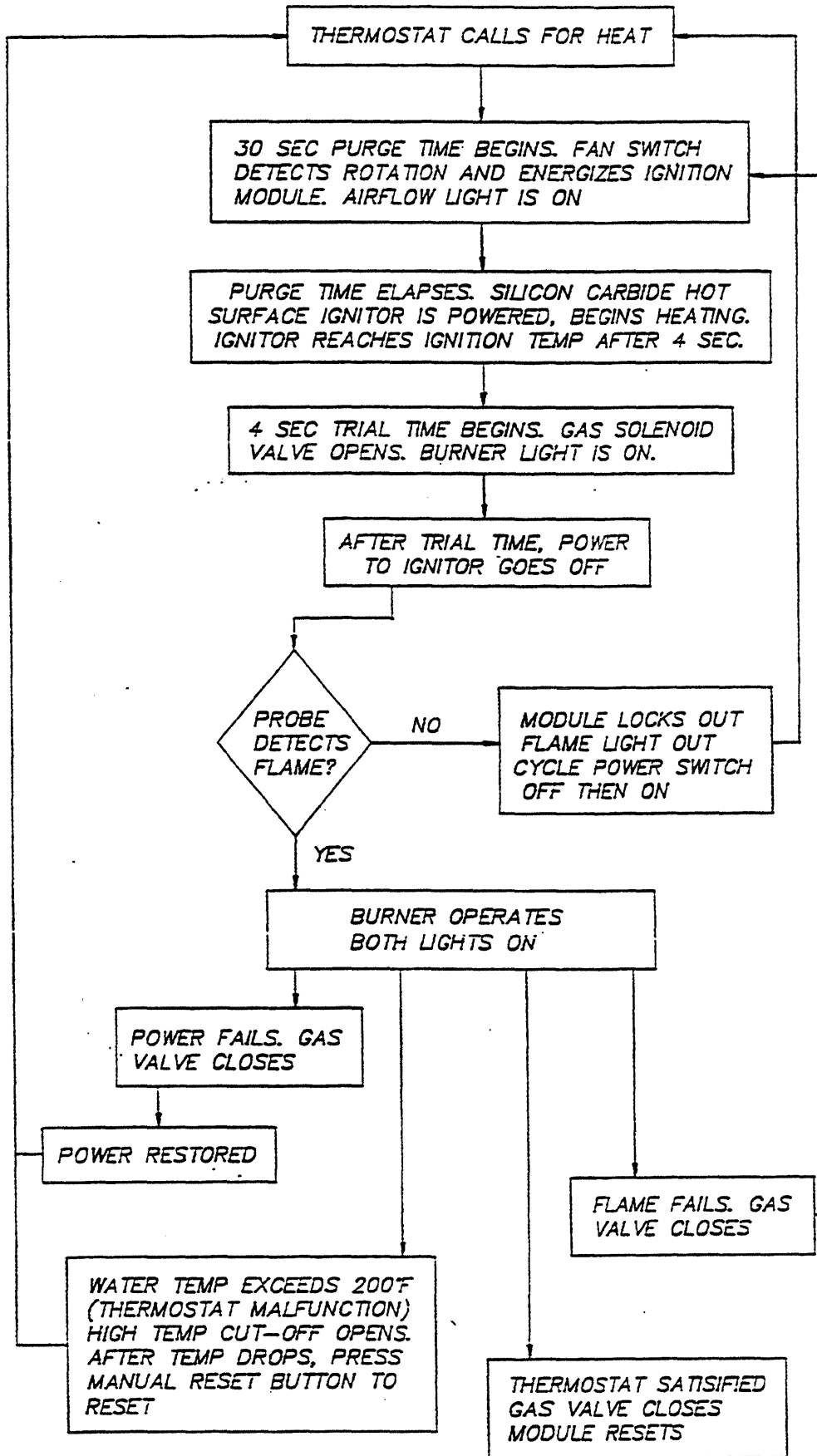
GAS VALVE
OFF POSITION




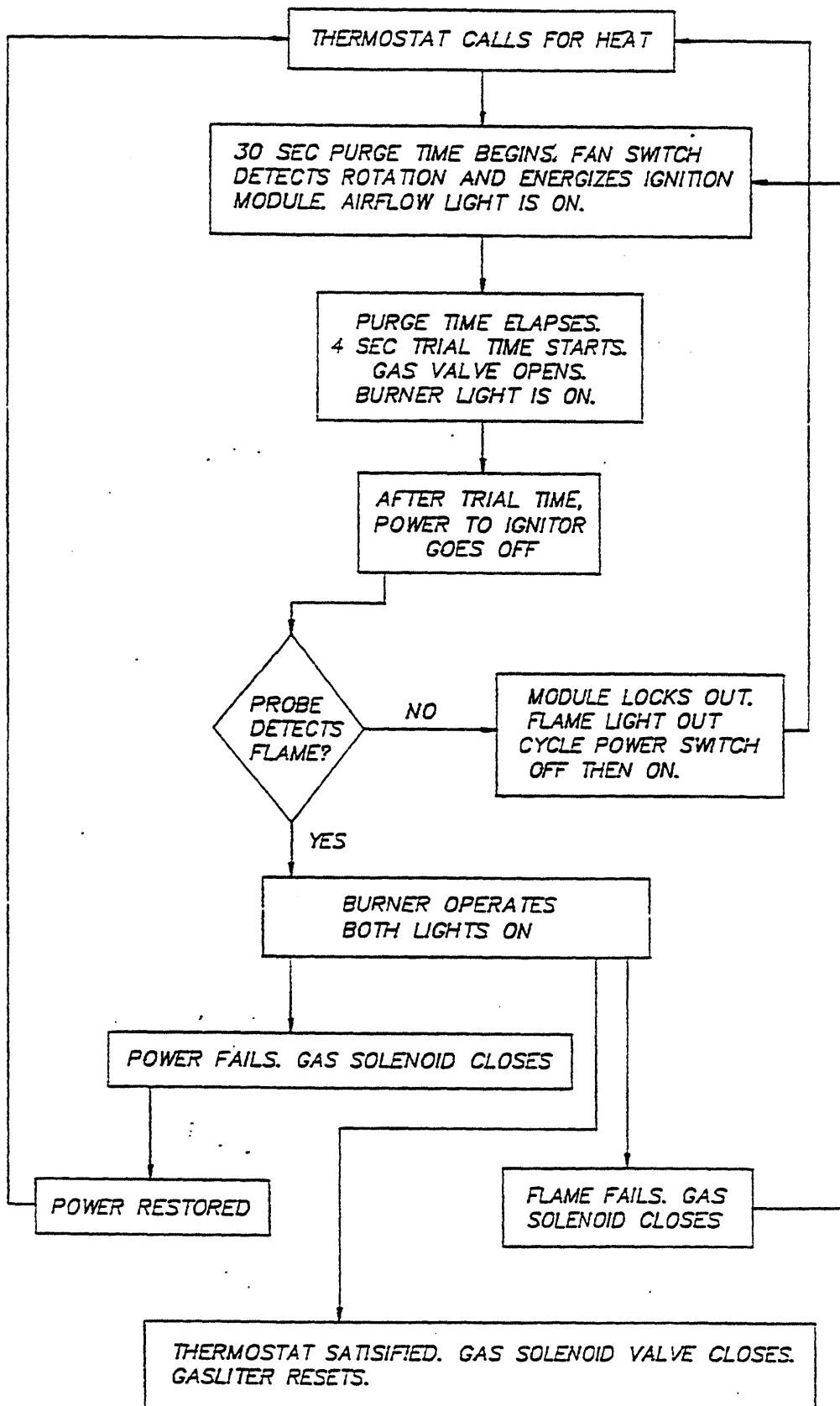
GAS VALVE
ON POSITION



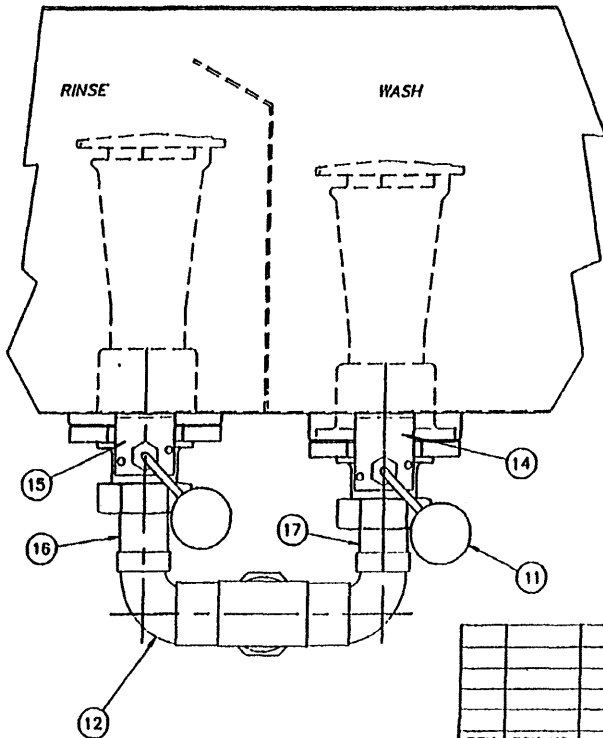
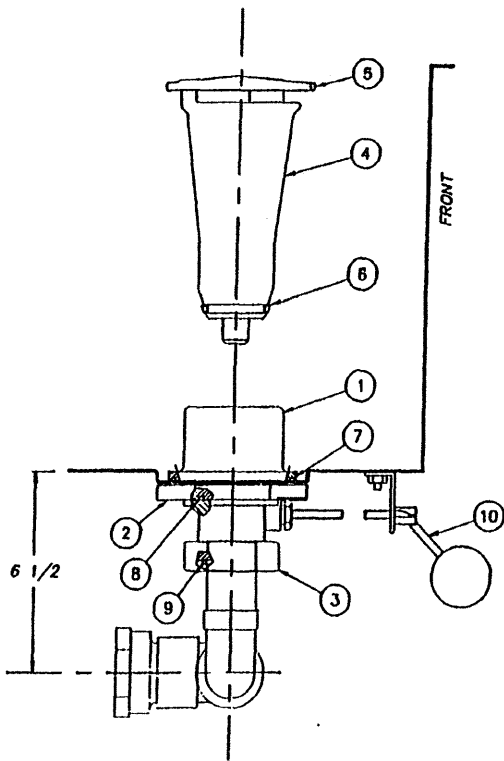
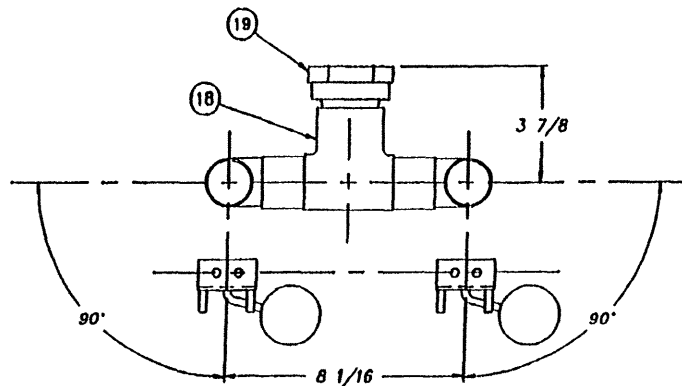
| | | | | | | |
|--------------------|---------------|-------------|----------------------------|----------------------------|------------------------|------------------|
| | | | TOLERANCES | TITLE | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | INFRA-RED BURNER | REQ'D 1 | 1430-1 |
| | | | DECIMALS | GENERAL ARRANGEMENT | SCALE | USED ON |
| | | | .XXX ± .003 | MATL | 1=8 | SPDR 64 GAS |
| | | | .XX ± .01 | | | |
| | | | ANGLES ±1/2° | | | |
| | | | UNLESS OTHERWISE SPECIFIED | Insinger | Philadelphia, PA 19135 | DRWN/DATE |
| REV | ECH NO | DATE | | Machine Company | (215) 624-4800 | CES |
| FILE: PARTS\1430-1 | | | | | FAX (215) 624-6986 | 2.10.95 |



| | | | |
|----------------------------|-------|---|---------|
| NEXT ASSY DWG. NO. | | SK3695-1 | |
| REQU'D | SCALE | USED ON | ADM GAS |
| | FULL | | |
| TITLE | | DRWN/DATE | |
| SEQUENCE OF OPERATIONS | | CES | |
| HOT SURFACE IGNITION | | Philadelphia, PA 19135 | |
| MATT | | (215) 624-4800 | |
| | | FAX (215) 624-6966 | |
| | |  Insinger Machine Company | |
| TOLERANCES | | FILE: SKETCH/A \ SK-3695 | |
| FRACTIONS ±1/64 | | REV | ECN NO |
| DECIMALS .XXX ±.005 | | | DATE |
| .XX ±.01 | | | |
| ANGLES ±1/2° | | | |
| UNLESS OTHERWISE SPECIFIED | | | |



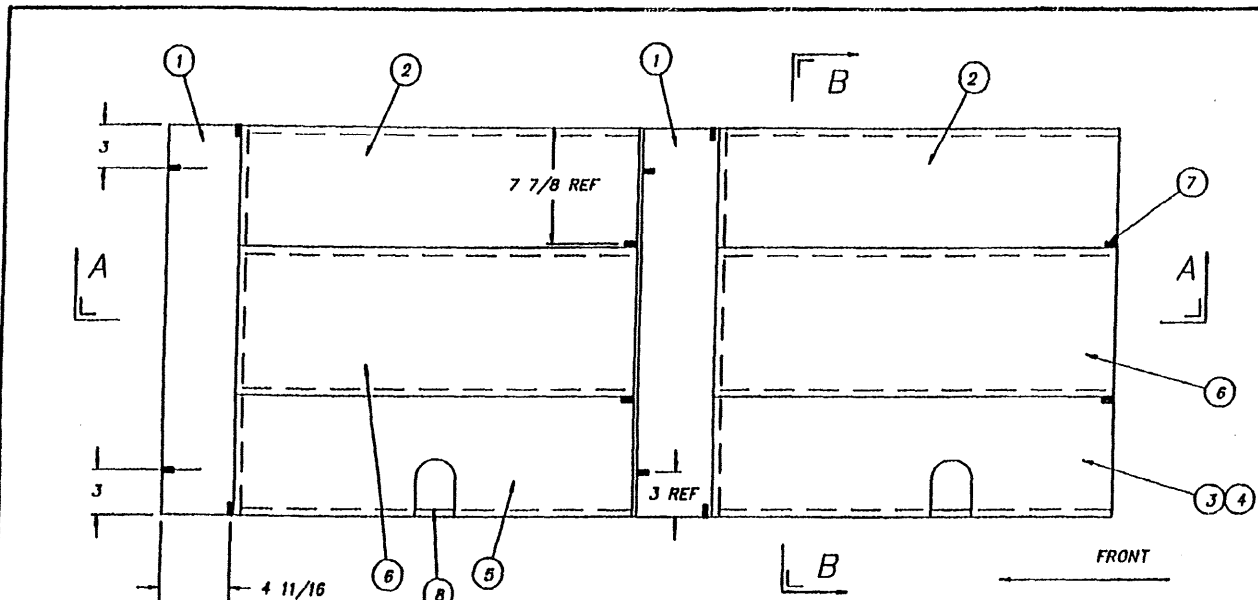
| | | | |
|----------------------------|--|--------------------------|-----------|
| NEXT ASSY DWG. NO. | | SK3695--2 | |
| TITLE | | SEQUENCE OF OPERATIONS | DRWN/DATE |
| MATT. | | DIRECT SPARK IGNITION | CES |
| TOLERANCES | | REQ'D 1 | ADM GAS |
| FRACTIONS ±1/64 | | SCALE FULL | USED ON |
| DECIMALS .XXX ± .005 | | PA 19135 | |
| .XX ± .01 | | (215) 624-4800 | |
| ANGLES ±1/2° | | FAX (215) 624-6966 | |
| UNLESS OTHERWISE SPECIFIED | | Insinger Machine Company | |
| REV | | ECN NO | DATE |
| FILE: SKETCHA\SK-3695 | | | |



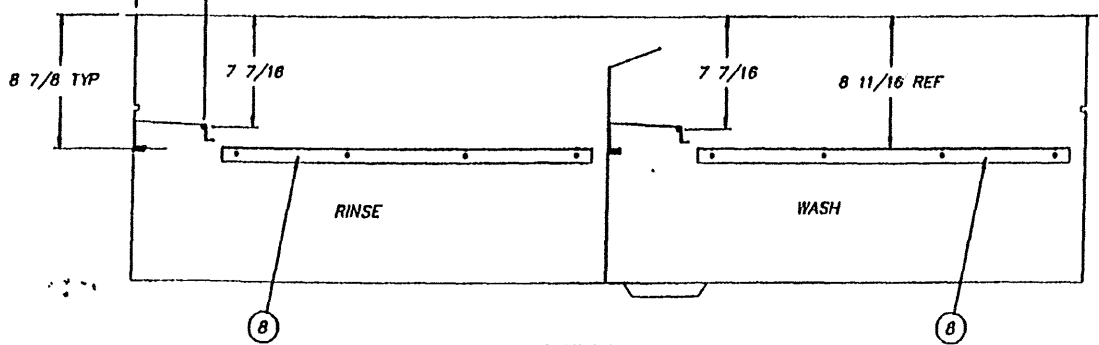
| ITEM | PART NO. | SIZE | DESCRIPTION | QTY. |
|------|--------------|------|---------------------------------|------|
| 1 | 954-50A | A | UPPER BODY | 1 EA |
| 2 | 954-50B | A | LOWER BODY | 1 EA |
| 3 | 954-50C | A | NUT | 1 EA |
| 4 | 1169-179D | B | OVERFLOW TUBE 1 INCH LONGER | 1 EA |
| 5 | D-19J | 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 | DJ16A-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 | DJ20A-H3H3J3 | - | TEE 1 1/2C X 1 1/2C X 2C | 1 |
| 19 | DJ17A-J4-J1 | - | ADAPTER 2 FIG. X 2 FPS | 1 |

L.H. SHOWN - R.H. OPPOSITE

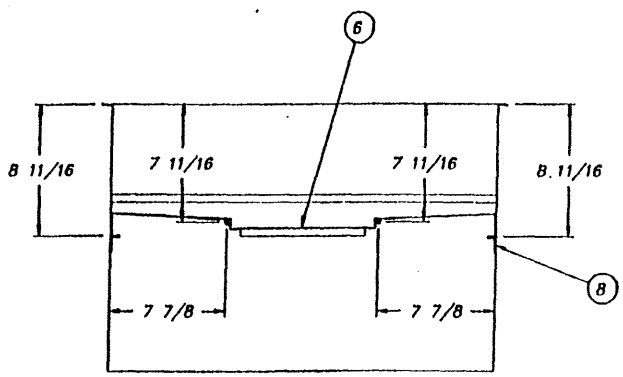
| | | | | | | | |
|---------------------|---------|------|------------------------------------|----------|---|-----------|-------------|
| | | | TOLERANCES | TITLE | DRAIN | NEXT ASSY | DWG. NO. |
| | | | FRACTIONS ±1/64 | ASSEMBLY | | REQ'D 1 | 1430-27 |
| | | | DECIMALS | | | SCALE | USED ON |
| | | | .XXX ± .005 | NOTED | | 1=4 | SPDR 64 GAS |
| | | | .XX ± .01 | | | DRWN/DATE | CES |
| | | | ANGLES ±1/2° | | | | 12.12.94 |
| | | | UNLESS OTHERWISE SPECIFIED | | | | |
| REV | ECN NO. | DATE | Insinger Machine Company | | Phila., Pa. 19135 (215) 624-4800 FAX (215) 624-6966 | | |
| FILE: PARTS\1430-27 | | | | | | | |



| 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

| | | | | | | |
|----------------------------|--------|------|---------------------------|--------------------------|--|-------------|
| TOLERANCES | | | TITLE | SCRAP SCREEN ARRANGEMENT | NEXT ASSY | DWG. NO. |
| FRACTIONS ±1/64 | | | MAYL | | REQ'D | 1430-5 |
| DECIMALS | | | NOTED | | SCALE | USED ON |
| .XXX ± .005 | | | | | 1=8 | SPDR 64 GAS |
| .XX ± .01 | | | | | | DRWN/DATE |
| ANGLES ±1/2° | | | | | | CES |
| UNLESS OTHERWISE SPECIFIED | | | Insingher Machine Company | | Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6886 | |
| REV | ECN NO | DATE | FILE: PARTS\1430-5 | | | |



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