



# Turntable Manual

Revision C



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**E-PAK Machinery, Inc.**

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## 1.0 SAFETY

### 1.1 GENERAL SAFETY

E-PAK Machinery designs and manufactures all of its products so they can be operated safely. However the real responsibility for safety rests with those who use and maintain these products. The following safety precautions are offered as a guide that if conscientiously followed, will minimize the possibility of accidents throughout the useful life of this equipment.

Only those who have been trained and delegated to do so and have read and understood this operator's manual should operate the equipment. Failure to follow the instructions, procedures and safety precautions in this manual can result in accidents and injuries.

DO NOT modify the equipment except with written factory approval. Unauthorized equipment modifications will void the warranty.

Each day walk around the equipment and inspect for leaks, loose parts, missing or damaged components, and parts out of adjustment. Perform all recommended maintenance noted in this manual.

***EQUIPMENT SHOULD ALWAYS BE DE-ENERGIZED BEFORE MAKING MECHANICAL ADJUSTMENTS.***

### 1.2 ELECTRICAL SHOCK

- To avoid electrical shock hazard, make sure this equipment is properly grounded.
- Dangerous voltages are present within the electrical enclosures. DO NOT operate this equipment with electrical covers open or removed.
- Keep all parts of the body, hand held tools, or other conductive objects away from exposed live-parts of the electrical system. Maintain dry footing and stand on insulating surfaces. DO NOT contact any portion of the equipment when adjusting or making repair to exposed live parts of electrical system.
- Attempt repairs only in a clean, dry, well-lighted, and ventilated area.

### 1.3 CONTACT MATERIALS COMPATIBILITY

E-PAK endeavors to make all contact parts compatible with buyer's products, if known. Because of the wide variety of possible products, E-PAK Machinery cannot be responsible or liable for ensuring compatibility of contact material with the products. Evaluate material compatibility prior to machine use. Failure to follow this procedure can result in machine damage, fire, operator injury or death.

### 1.4 SAFETY COMPLIANCE LIABILITY

E-PAK endeavors to make machinery as safe to operate as possible. National, state and local laws related to safety in the workplace apply primarily to the responsibilities of the employer, and not the equipment manufacturer. The seller agrees to cooperate with the buyer in finding feasible answers to compliance problems. However, because E-PAK has little control of the many factors which may significantly affect the environment in which this equipment is installed, the seller does not warrant this equipment to be in compliance with OSHA or any like state or local laws or regulations. It is the buyer's responsibility to provide the modifications necessary to assure compliance with the laws and regulations at the point of installation. ***A complete inspection of product is necessary until the machinery is proven to produce acceptable results. This should also be performed after every changeover.***

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## 2.0 MACHINE FEATURES & SPECIFICATIONS

### 2.1 INTRODUCTION:

Loading turntables typically assist operators with round containers and can reduce labor costs. Accumulation turntables promote more efficient packing of finished goods into shipping cases. The E-PAK Turntable can dramatically improve the efficiency of a production line for a surprisingly low investment.

E-PAK turntables are available in a complete range of sizes, and configurations. They can be customized to fit your production needs. Standard construction materials include 304 Stainless Steel frames and housings. Standard bottle guide rails are constructed of stainless steel with an HDPE container contact surface. They are powered by variable speed DC drives.

### 2.2 FEATURES & BENEFITS

- Save Labor/Increase Efficiency**  
Loading turntables typically assist operators with round containers and can reduce labor costs. Accumulation turntables promote more efficient packing of finished goods into shipping cases
- Variable Speed DC Drives**  
Increases your ability to control the production line
- Easy Changeover**  
Simple mechanical adjustment for different bottle sizes. Quick to changeover, simple to use and easy to clean
- Robust**  
Stainless steel shells, frames, legs and housings, or heavy duty HDPE maximizes the working life of your machine, and minimizes maintenance costs and downtime
- Flexible**  
Versatility and Simplicity are intrinsic to the design. Many container sizes and shapes, and many products can be run on one machine

### 2.3 PERFORMANCE SPECIFICATIONS

**Speed:** Standard configuration up to 5.8 RPM

**Operating Temperature:** 32 to 122 Degrees F (0 to 50 Degrees C) / 10% to 95% RH (non condensing)

**Containers:** Loading Turntable: Typically round containers

Accumulating Turntable: Almost any flat-bottomed container

### 2.4 MECHANICAL DIMENSIONS

Table Diameter	Table Height	Base Depth	Base Width	Weight*
40" (1.02M) Top	32"-38"	39"	45"	200 lbs.
60" (1.52M) Top	32"-38"	39"	45"	320 lbs.

\*Weight varies considerably with options.

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## 2.5 ELECTRICAL SPECIFICATIONS & REQUIREMENTS

**Voltage AC:** 115VAC models are rated at 95-130 V, 50/60 Hz. Single Phase  
230VAC models are rated at 190-260 V, 50/60 Hz. Single Phase

**Power Consumption:** 6 Amps w/ 115VAC or 230VAC Series

**Electrical Enclosure:** NEMA 12/4/4X enclosure. (Enclosures for other electrical standards as appropriate)

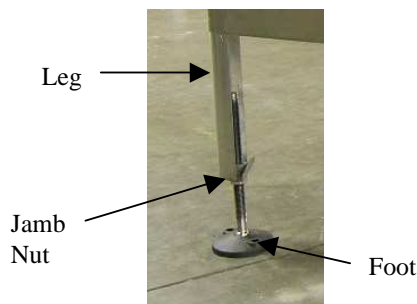
## 2.6 AIR SPECIFICATIONS & REQUIREMENTS

No air required

## 3.0 INSTALLATION & START-UP

### 3.1 INSTALLATION PROCEDURES

After clearing the desired area for your turntable move the turntable into position. Using a level, check the turntable to ensure it is level. Be sure the turntable is level both length and width. If the turntable is not level, adjust the leveling legs by loosening the jam nut and adjusting to the desired height. After adjusting, ensure that jam nut is re-locked.



**Figure 3-1**  
Leveling

For adjusting product guide rails see **Section 5.2**

### 3.2 START-UP & COMMISSIONING

This manual should be read completely before powering-up the Machine. Commissioning of the Machine should be performed by a trained technician only after complete understanding of the Machine, and with products that match samples indicated to E-PAK Machinery if supplied.

- Check the machine to see that guards are in place.
- Check the mechanical system for loose or missing parts.
- Check that all electrical connections are secure.
- Keep all personnel clear of machine when starting.
- Run turntable for 5 min. before running production.

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## 4.0 OPERATION

### 4.1 THEORY OF OPERATION

E-PAK Turntables are designed to load round bottles only, but can unload a variety of different shaped bottles or containers off of your production line.

The four assembly sections to this process you will need to become familiar with are as follows:

- Turntable Mechanical Bay
- Product guide rails
- Bottle sweep guide (if so equipped)
- Turntable Control Panel

### 4.2 TURNTABLE MECHANICAL BAY

The turntable mechanical bay houses the DC motor and gear reducer. In some cases, it is also where the turntable controls are located. The mechanical bay is accessed from the underside of the turntable.



**Figure 4-1**  
Mechanical Bay

### 4.3 CONTROL PANEL

The control panel, if not located in one of the other control boxes, will be located on one of the mechanical bay cover panels. This will include the DC control board, on/off switch, speed pot, and fuses. This is the power source of the machine and also controls the speed of rotation. One of the more commonly used drive boxes, the Reliance Drive, is shown in Section 7.2

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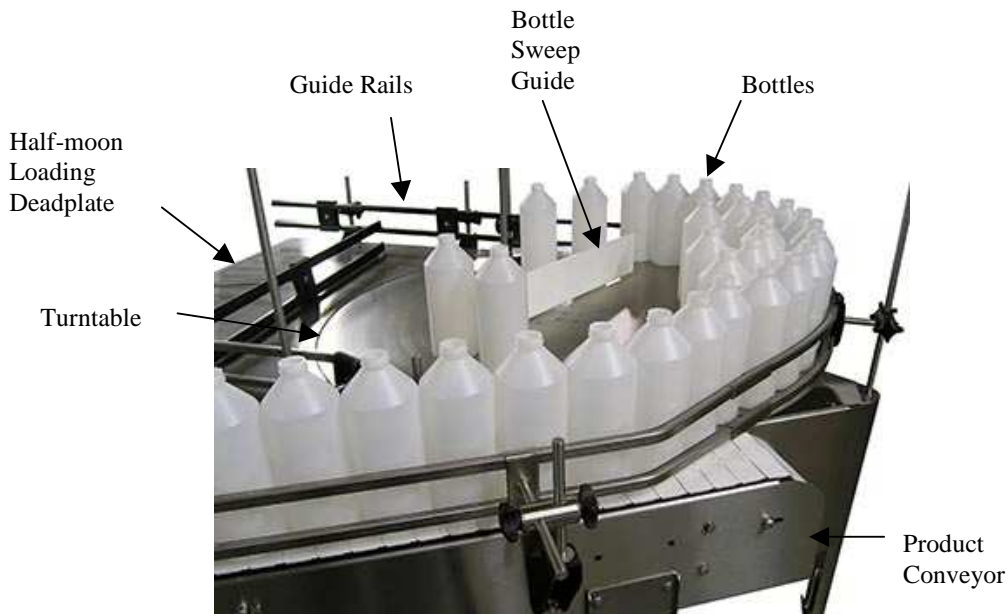
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#### 4.4 PRODUCT GUIDE RAILS

The product guide rails are used to guide and contain the product or container on the turntable and direct them onto and off the product conveyor. The rails are stainless steel with HDPE (High-Density Polyethylene) contact surface.



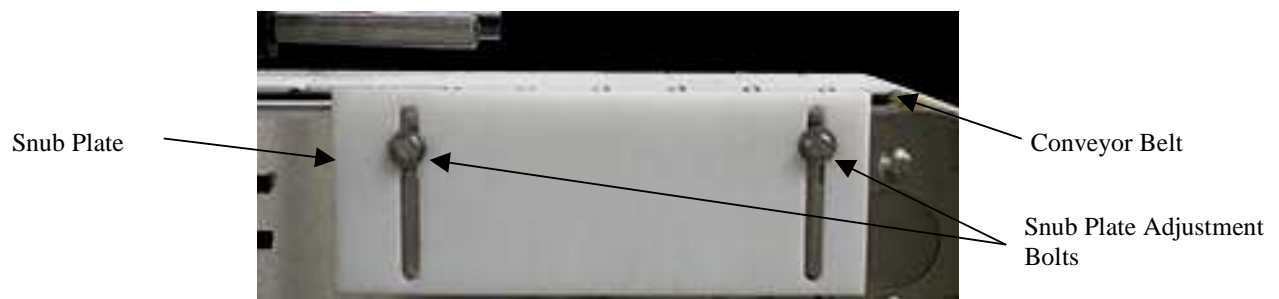
**Figure 4-3**  
Product Guide Rails

#### 4.5 BOTTLE SWEEP GUIDE (if equipped)

The bottle sweep guide is designed to direct bottles from the center of the turntable to the outer edge to aid in loading onto the product conveyor. This option is for loading only. This guide adjusts to accommodate many different heights and diameters of containers. To adjust the bottle sweep guide, loosen mounting block and adjust to desired setting then tighten the mounting block.

#### 4.6 SNUB PLATE

The snub plate is mounted to the conveyor as shown in Figure 4-4. This plate should be adjusted so the bottom of the turntable top rides smoothly along the top edge of the snub plate. The purpose of the snub plate is to help ensure smooth transition of containers as they load onto or exit the conveyor onto the turntable top.



**Figure 4-4**  
Snub Plate Conveyor  
Mount

## 5.0 MACHINE CHANGEOVER

### 5.1 CLEANING PROCEDURE

Wipe-down with mild detergent or a solution that will dissolve the product being packaged. Rinse turntable thoroughly without saturating electronic components. After cleaning use stainless steel cleaner for best results.

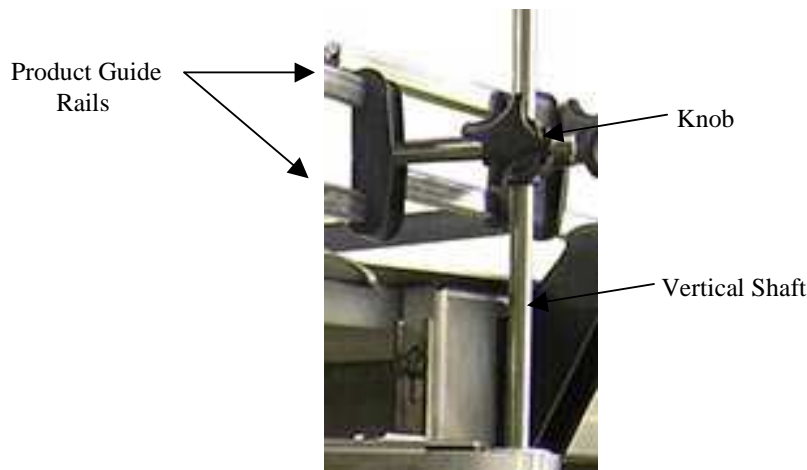
**WARNING: Before cleaning this machine, disconnect power at the source, turn breaker off, and disconnect power cord.**

### 5.2 MACHINE ADJUSTMENTS & PROCEDURES

When adjusting product guide rails you should start at the edge of the turntable that touches the conveyor. Using the container you intend to run or change over to, position the product guide rails so they contact the bottle in a position to ensure the containers do not tip or fall over. Set the remaining adjustment stations accordingly.

The following will explain how to adjust the product guide rails:

1. Loosen the knob on the turnbuckle that holds the vertical shaft.
2. Raise the product guide rails to the desired setting.
3. Tighten the knob on the turnbuckle that holds the vertical shaft.



**Figure 5-1**  
Guide Rail Adjustment



## 6.0 SERVICING

### 6.1 RECOMMENDED MAINTENANCE & SCHEDULES

Itemized below are simple guidelines for maintenance. Several parts of a turntable should be inspected regularly to ensure the longest wear life possible for the table and wear strips. The following points should be controlled at the inspection:

COMPONENTS	DAILY	WEEKLY
Clean rails to ensure containers move smoothly	X	X
Clean table top surface	X	X
Ensure that product guide rods are tight.	X	X
Clean machine thoroughly	X	X
Check that locking nuts on leveling legs are tight		X

### 6.2 MAINTENANCE PROCEDURE

The gear unit is shipped from the factory with sealed bearings, requiring no additional lubrication. For high ambient temperatures in excess of 100° F, special lubricants or derating of the gear motor may be required.

The motor brushes require periodic inspection and replacement as wear indicates. Different applications result in different rates of wear on the brushes. A 500-hour interval is recommended for inspection of the brushes until wear rate is established. Experience will indicate the proper interval for inspection. Examine the brushes to see they are not cracked, broken or excessively worn. Replacement brushes should be installed before old brushes wear out to 5/8" long, measured on the long side. After replacing brushes, run the motor near rate speed for a least 1/2 hour with no load to seat the new brushes. Failure to properly seat new brushes may cause commutator damage and rapid wear of the new brushes.

### 6.3 MAINTENANCE LOG

COMPONENT	REPAIR DETAILS	REPLACEMENT DETAILS	DATE

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**6.4 SPARE PARTS LIST(S)**

MODEL NUMBER	PART NUMBER
Gear reducer 301:1	1092-108
Motor DC 1/4 HP.	1212-196
Stainless Steel Product Guide Rail	1009-312
Turnbuckles	1011-443

**6.5 FACTORY TECHNICAL SUPPORT**

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**24/7 Customer Service/Technical Support at (888) 800-3646, Ext. 111**  
**Customer Service, Parts Dept. at (888) 800-3645, Ext. 186**

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## 7.0 CONTROLS

### 7.1 ELECTRICAL WIRING DIAGRAMS & SCHEMATICS

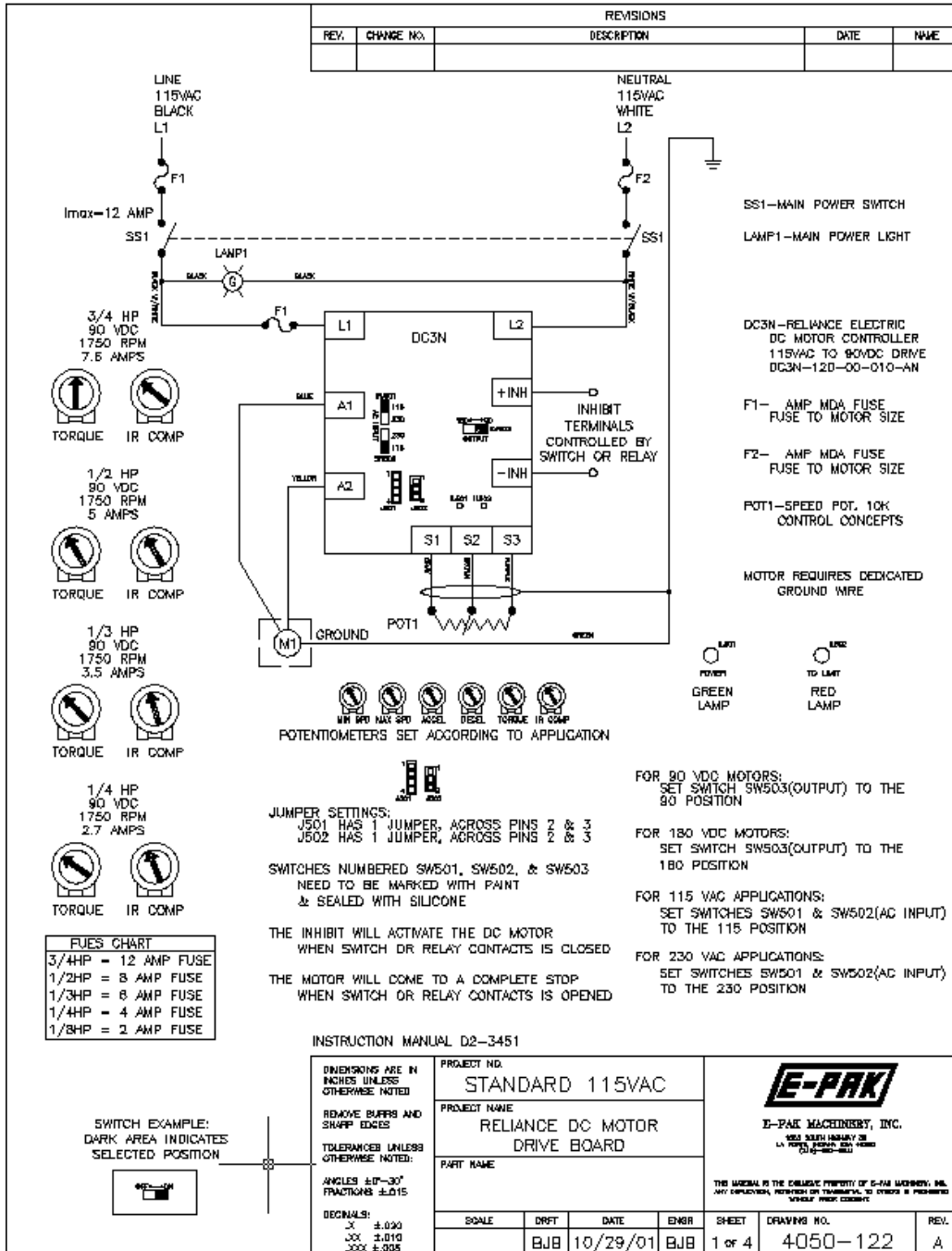


Figure 7-1  
115 VAC Schematic

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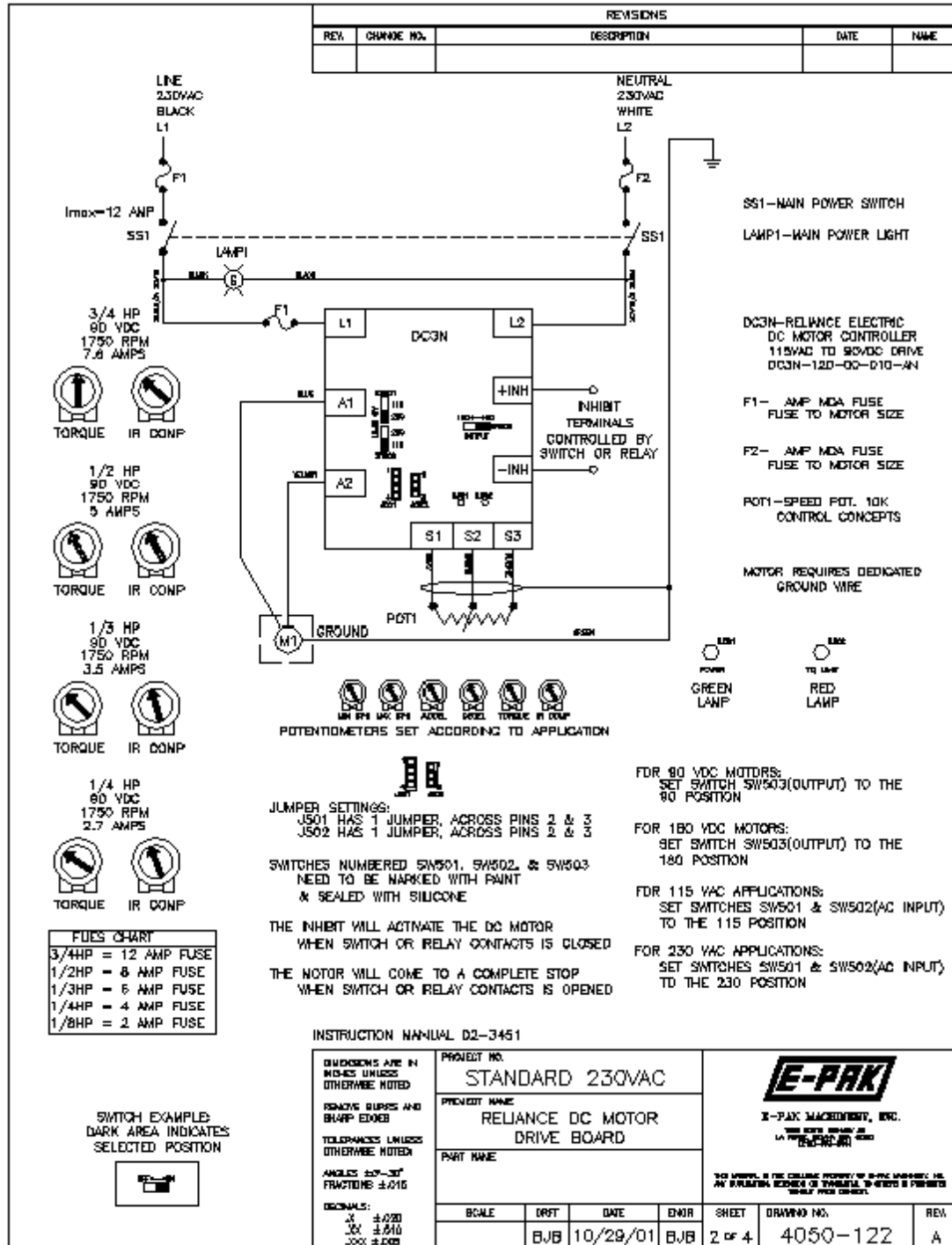


Figure 7-2  
230 VAC Schematic

## 7.2 Reliance Drive Panel



(outside)



(Inside)

## 8.0 TROUBLESHOOTING

### 8.1 TROUBLESHOOTING RECORD

To better assist you in troubleshooting, please record the following information with the model number from the frame, the problem that is occurring, speed of application, product characteristics (i.e. Wrap, Panel, or Special Variation).

Company Name: \_\_\_\_\_

Your Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

FAX Number: \_\_\_\_\_

Date: \_\_\_\_\_

CONTAINER	COLOR	SIZE	PROBLEM
<i>EXAMPLE: Glass</i>	<i>CLEAR</i>	<i>16oz.</i>	<i>Bottle keeps tipping over.</i>

**NOTES**

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