

WEG-IT  
Steel Top  
Table

SQ1  
Service

# SQ-1 ROOF TRUSS WEG-IT

# TABLE

Operators Manual

## **FOREWORD**

**This manual explains the proper maintenance of Square 1 Design Roof Truss WEG-IT Table as well as periodic inspection procedures.** Please read this manual thoroughly even though you may already be familiar with other Square 1 Design equipment, because it contains the most current information about the Square 1 Design Roof Truss WEG-IT Table. This manual has been based on the standard Square 1 Design Gantry Roller. If you have any questions on modifications to your equipment, please contact Square 1 Design., or your sales representative. Square 1 Design reserves the right to make any changes or modifications to this manual or its Roof Truss WEG-IT Table without giving notice and without incurring obligation.

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## BEFORE INITIAL OPERATION

- **Please read this manual thoroughly.** This will give you a better understanding of a Square 1 Design Roof Truss WEG-IT Table and permit you to operate it correctly and safely.
- **Identify and inform ALL employees who will operate or be near the Square 1 Design equipment of all concerns in this manual and on the production floor.** It is very important from both the employers and manufactures standpoint that employee's safety comes above all else. The employer should make sure any employee who either operates or works near the equipment has been properly trained and given written notice of any and all safety concerns on the production floor.
- **Always perform pre-operation checks and periodic maintenance.** This will help prevent sudden malfunctions (due to poorly maintained equipment), improve work efficiency and help insure safe working conditions.

## **GENERAL DESCRIPTION**

The Square 1 Design Roof Truss WEG-IT Table is a solid steel top. It is designed to be used in conjunction with a SQ-1 Intelligent Gantry and 2" Steel pucks or WEG-IT splice & table jiggling to increase the assembly speed of finished wood trusses. The standard Square 1 Design Roof Truss WEG-IT Table is a durable top, providing rapid, unencumbered use of manual jiggling. When used with the Square 1 Design Gantry Roller's heavy-duty design will allow it to press even the heaviest gauge plate very quickly and easily.

Any information that is needed can be obtained by contacting you sales representative or:

**Square 1 Design & Manufacture Inc.**

**1 Clark Road**

**Shelbyville, IN 46176**

**Phone: +1-866-647-7771**

**Fax: +1-866-646-5771**

**[www.Square1Design.com](http://www.Square1Design.com)**

**[Sales@square1design.com](mailto:Sales@square1design.com)**

## OPERATION OF THE ROOF TRUSS WEG-IT TABLE

The Square 1 Design Roof Truss WEG-IT Table is very simple to operate and maintain. Square 1 Design suggests that operation of Square 1 Design equipment proceed in the following manor:

1. Everyone near the machine read the manual so general safety guidelines can be identified.
2. Everyone near the machine identify the safety devices and how they operate.
3. Perform daily, weekly, and monthly safety and maintenance analysis.
4. Correct any problems before operation of the equipment is started.
5. Check the area before beginning to be certain no employees are near the machine.

## SAFETY AND MAINTENANCE

Employee safety is to key concern at Square 1 Design Manufacturing and should also be at your production facility. It is important to stress safety concerns around any type of production equipment because serious injury can occur without the proper training and supervision. Square 1 Design & Manufacture Inc. suggests that any employee who will operate or work around this equipment be given the opportunity to read this manual and receive training from qualified personnel at your facility. With the proper maintenance the equipment and work area become much safer. Square 1 Design & Manufacture Inc. has the following list of general safety and maintenance guidelines that should accompany any safety standards your company has established.

### SAFETY GUIDELINES

1. **Cleanliness:** The area surrounding the Square 1 Design Roof Truss WEG-IT Table must be checked daily for any obstructions such as loose lumber or plates that could jam any area of the machine.
2. **Operate new equipment with special caution:** People are sometimes overconfident that the new equipment will work just like old equipment. This is not always true and a special caution should be taken around the new equipment.
3. **Proper equipment use:** Individuals working on or near the Square 1 Design Equipment, to prevent injury, should wear the proper equipment. Loose fitting clothing that can be caught in the machine or on the associated Gantry itself should **NOT** worn. Safety glasses **MUST** be worn for the protection of the employees. Employees without the Proper equipment should not be allowed near the Square 1 Design Roof Truss WEG-IT Table. It is management's responsibility to enforce these guidelines, as well as the employees responsibility to make sure these guidelines are enforced.
4. **Safety Laser Scanners should be identified and proven to be in proper working order.** All employees who will be working on or near the Square 1 Design Gantry Roller should know how the safety features work and confirm the machine is operating properly. If any employee notices the equipment may be malfunctioning in any way, a supervisor is to be notified and the power to the equipment is to be locked down until the problem can be rectified.
5. **Disconnect and lock out all power sources before any maintenance or repair is to take place.** It is important for the equipment's power to be disconnected and locked out to prevent accidental start-ups whether by another employee or workers error.
6. **Follow the safety checklist Daily.** The following checklist should be followed daily to ensure employees safety and a safe work environment.

## **SAFETY CHECKLIST**

### **Daily on associated Gantry:**

- A. Check safety bars/Laser Safety Scanners on associated Gantry to assure they functioning as intended.
- B. Check to make sure the machine stops properly when the safety bars/laser safety sensors are activated.
- C. Check for unusual noised, overheating, oil leaks, or other unusual machine characteristics.
- D. Check bearings for wear.
- E. Visually inspect motors and gearboxes for excessive dirt, heat, or vibration.
- F. Check gearbox oil levels (fill as required)
- G. Check ventilation openings to assure they are not clogged by dirt or dust.
- H. Check the area around the machine and track for cleanliness.
- I. Check to be sure everyone around the machine is wearing the proper equipment.
- J. Perform daily maintenance
- K. Be sure area is clear of people when starting the machine.

### **Weekly on associated Gantry:**

- A. Check all bolts, nuts and set screws and tighten as require.
- B. Check drive train tension and adjust if necessary.
- C. Check oil level in drive unit and add proper amount if necessary.
- D. Use compressed air to remove sawdust and dirt build-up on the system and around the bearings.\*

**\*Wear eye protection when using the compressed air.**

## MAINTENANCE

As mentioned earlier, keeping the equipment well maintained makes the work environment safer and allows reliable production for many years. Maintenance of the Square 1 Design Roof Truss WEG-IT Table and associated Gantry consists of lubricating the machine and chain, then tightening the nuts and bolts. The following is a maintenance schedule MUST be followed.

**Motors:** The gearboxes on each motor have sight gauges for oil levels; insure that both motors are kept at the correct level.

**Chain:** A non-detergent petroleum based oil every 18 hours should be used.

**Greased Fittings:** General-purpose grease should be used every 8 hours or as needed.

**Nuts and Bolts:** All nuts and bolts must be checked and tightened before operation of the Gantry Roller.

**Air Lines:** All Air fittings and lines must be checked to provide the correct air volume.

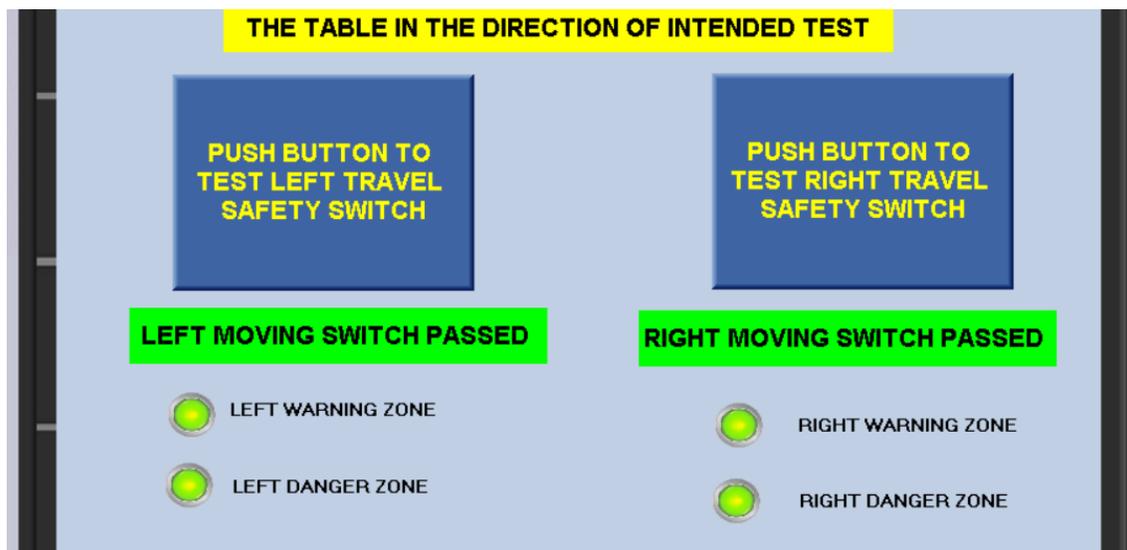
### General Operation

Operation of the Square 1 Design Gantry roller requires the operator to not only pay attention to his safety but to every other employee's safety as well. The entire work area must be inspected before operation of the machine.

After the safety inspection, the operator should review the functions of the control buttons. There are multiple buttons on the standard gantry that allow the operator to run the machine and operate the ejectors. They are as follows:

## PLC Operators Station

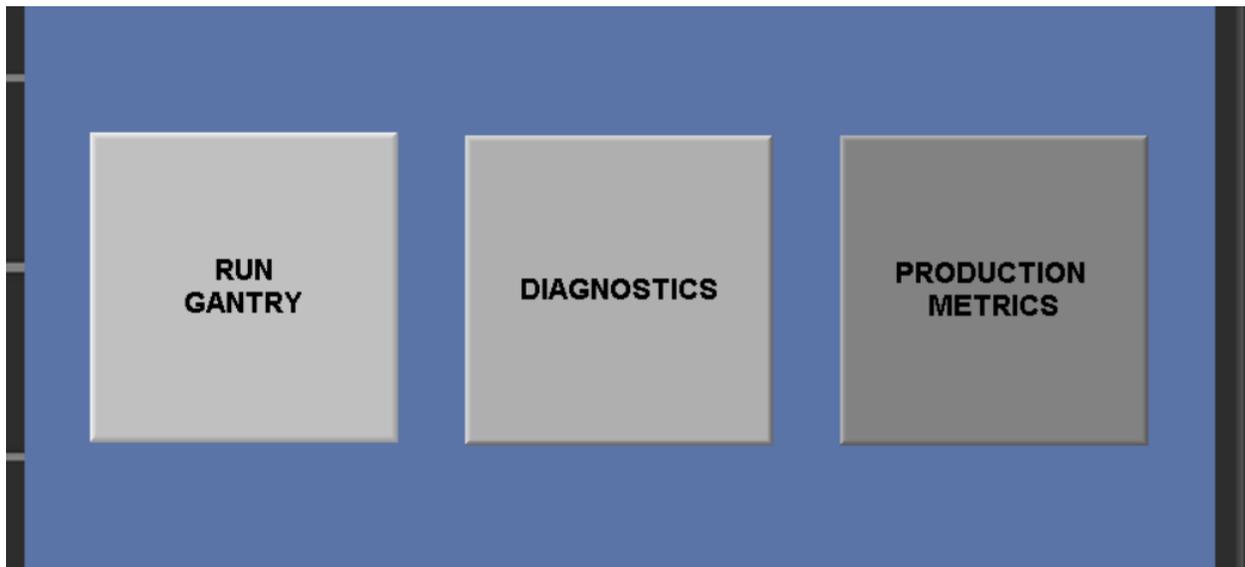
- After the safety inspection, the operator should review the functions of the control buttons. The operator will be prompted to perform a safety check in order to begin the operation of the Gantry.
- The Gantry is driven left and right by Push Buttons located on either side of the PLC Panel.
- Upon completion of the Safety Test of the Safety Laser Sensors the operator will be prompted to the next screen prior to beginning production. (Both Left and Right Warning and Danger Zone indicators will be Green)



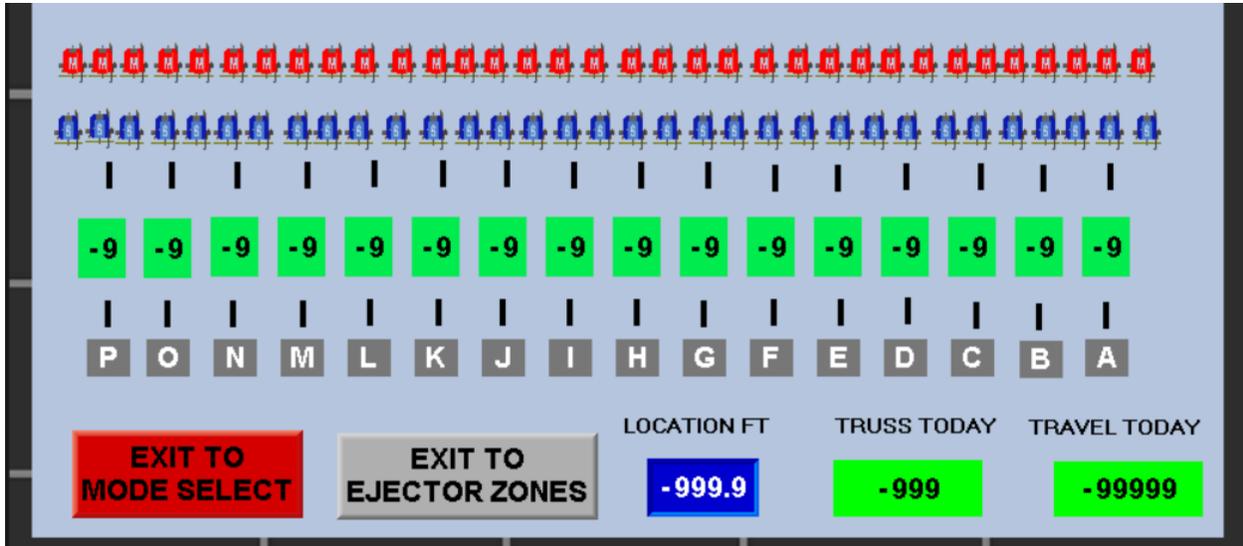
- The Operator will be required to Drive the Gantry to the designated HOME Position, using the control buttons located on the side of the Operators Station.



- This will lead to Selection Mode Screen, where you can select from Run Gantry, Diagnostics, or Production.



- In the Run Gantry screen, you can select which ejectors are required for the size of truss, or trusses depending on the number of Gantries and length of the table system. This screen will allow you to also track daily progress, location of multiple Gantries at the same time.



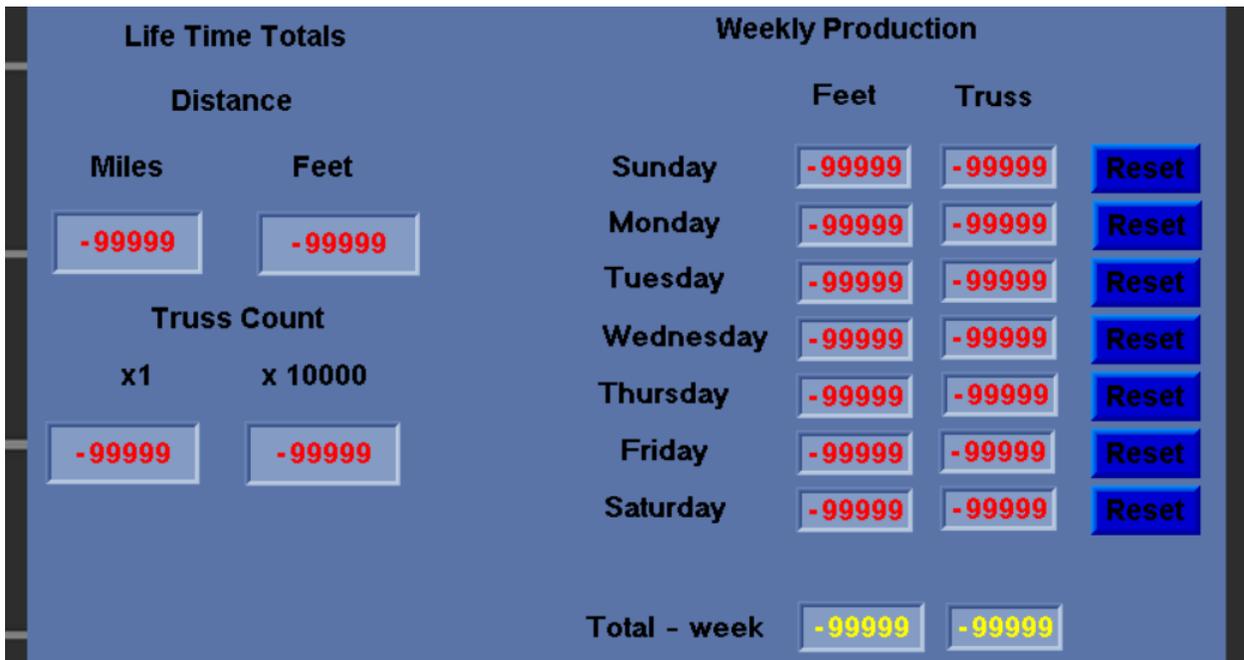
- The Ejector Zones Screen allows the operator to select which Zones are to be operated. Multiple Zones can be used simultaneously from the PLC Panel, located on the operator's station with a push button.



- In the Diagnostic screen it makes for quick reference for any potential problems.



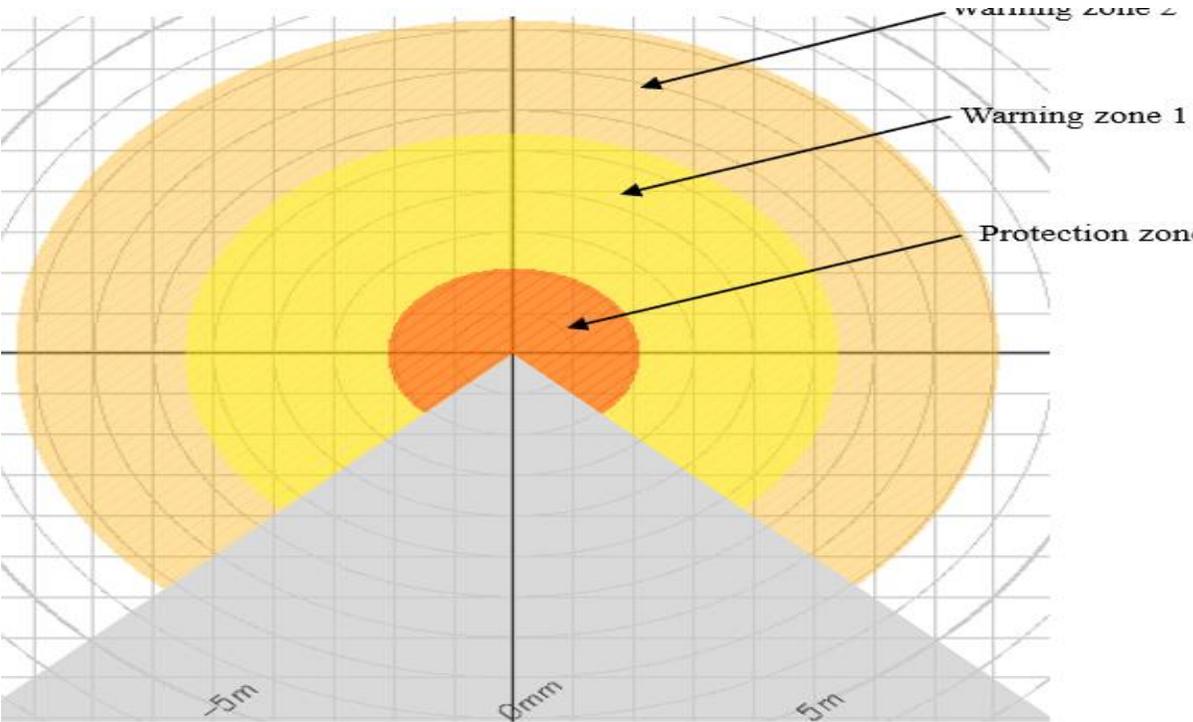
- The Production Metrics allows for Tracking per Truss, Daily, Weekly and over the lifetime of the System.



# SAFETY LASER SCANNERS

The Square 1 Design Intelligent Gantry System uses Laser Scanners located on both sides of the Gantry for protection of both the employee's and equipment. The laser are set in our shop in Shelbyville, Indiana and fine tuned onsite to their specific environment. The laser are set to 11" off the deck of the table and are programmed with 2 zones. Once the Intelligent Gantry notices something in its WARNING ZONE it reduces the speed of the motors to half and upon something entering PROTECTION ZONE the Gantry stops.

This eliminates the need for Safety Bars that could also be a trip hazard for operators moving off and onto the operator's station.



## **REPAIR AND REPLACEMENT**

In the case that a part of the machine is not working properly, this section lists how to remove and replace the correct part from Square 1 Design Gantry Roller. If parts are needed it is recommended that you contact Square 1 Design & Manufacture Inc. at the address listed below.

### **ELECTRICAL**

The following sections cover the electrical portions of the associated Square 1 Design Gantry Roller.

Exhibits listed throughout this section contain a parts list and breakout of each item. Replacement parts are available as individual components or as complete units. Square 1 Design machines use SO multi-conductor cable with sealed fittings. Any repairs should be done using the same materials.

### **SAFETY LASER SCANNER**

There are 2 Safety Laser Scanners on each machine. Safety Laser Scanners are available through Square 1 Design & Manufacture Inc. If they should need to be replaced contact Square 1 Design & Manufacture Inc. to make sure they are installed properly.

### **CONTROL PANEL**

This unit is available as a complete control panel, a starter, or component parts for starters. Refer to the Electrical Schematic provided for parts list, breakout, and schematic to determine the information needed.

### **ELECTRICAL TRACK**

The Square 1 Design Roof Truss WEG-IT Table and associated Gantry use a table mounted conductor rail. It provides a protected conductor arrangement with horizontal installation for minimal required space, a safe design do to covered connectors and fast economical mounting with clip-on hangers and several connecting options.

### **PNEUMATICS**

Air is stored in the table rails with rate of 112 gallons compressed air storage per 24' of table helping to eliminate a lack of volume for side or end ejectors. This also can allow for the integration of nail, staple or air gun connections to the table.

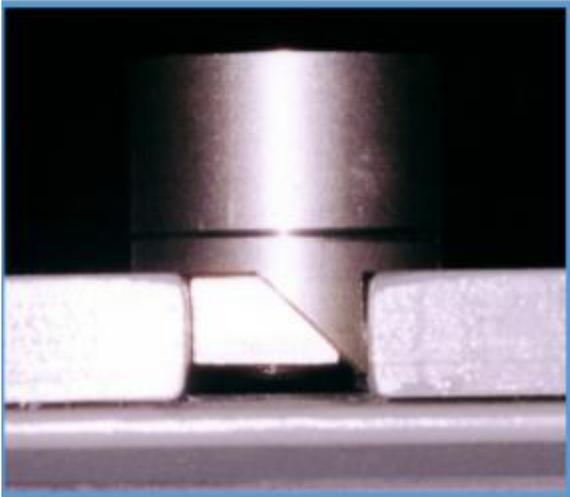
Side Ejectors raise the Truss up to 7" to transfer rollers or receiving arms.

End Ejectors raise the Truss up to 5" to immediately enter the finish roller.

# PUCKS AND JIGGING

## WEG-IT PUCKS

The WEG-IT pucks utilizes grade 5 hex head or socket head cap screws with hardened nuts. A quick turn locks them in position. The WEG -IT table provides open access to the entire table for 2" Steel Pucks.



## WEG-IT JIGGING

The WEG-IT Jigging is used in association with the WEG-IT pucks. The jigging allows for support for splices and joints.



## **WARRANTY**

Square 1 Design & Manufacture, Inc. warrants the equipment manufactured by it, to be free from defects in materials or workmanship for one (1) year from the date of delivery to the original purchaser. This is provided the equipment had been properly installed, operated, used, cared for, adjusted, cleaned and lubricated by the owner. All equipment claimed to be defective shall be returned to Square 1 Design & Manufacture, Inc. charges prepaid. All collect shipments will be refused. If upon inspection Square 1 Design & Manufacture Inc. determines to its satisfaction, that any part of the equipment is defective, Square 1 Design & Manufacture, Inc, at its option, correct the defect by repair or replacement.

This warranty shall not apply if the original equipment had been altered or modified by any person other than Square 1 Design & Manufacture Inc. This Warranty shall not apply to starters, motors, gear reducers, or microswitches that are component parts of the equipment. Those separate component parts are governed by separate warranties of the respective component manufacturers, which warranties of the respective component manufacturers which warranties may be shorter than or longer than the one (1) year warranty granted by Square 1 Design & Manufacture, Inc. upon request by the owner. Any repairs are available from Square 1 Design & Manufacture Inc. upon request by owner. Any repair or replacement of such component parts shall be governed solely by manufacturer, and it shall be owner's responsibility to enforce any warranty claims directly with such component part manufacturer.

**EXCEPTION FOR THIS WARRANTY AS EXPRESSLY STATED, SQUARE 1 DESIGN & MANUFACTURE, INC. MAKES NO OTHER WARRANT EXPRESSED OR IMPLIED. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS HEREBY DISCLAIMED.**

Square 1 Design & Manufacture Inc. shall not be liable for damages, direct, consequential, or incidental, or for delays, if such occur as a result of defects in material or workmanship.

## **SQUARE 1 DESIGN & MANUFACTURE INC.**

**PURCHASE DATE:** \_\_\_\_\_

**MODEL NUMBER:** \_\_\_\_\_

**SERIAL NUMBER:** \_\_\_\_\_

## **ORDERING REPLACEMENT PARTS:**

Replacement parts can be ordered by calling, emailing, or faxing:

**Square 1 Design & Manufacture Inc.**

**1 Clark Road**

**Shelbyville, IN 46176**

**Phone: +1-866-647-7771**

**Fax: +1-866-646-5771**

**[www.Square1Design.com](http://www.Square1Design.com)**

**[Sales@square1design.com](mailto:Sales@square1design.com)**

When ordering parts, you must include the serial and model #'s of your Square 1 Design Gantry Roller.