

Installation Manual



Auto Roll[™] Finish Press

Installation Manual

Auto Roll[™] Finish Press



U.S. and other patents pending.

*Manual applies to U.S. and
International equipment.*

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Approved By	M. Kanjee
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Legal Notice

Patents

Made and sold under one or more of the following patents:

U.S. 4,986,052	U.S. 5,837,014	U.S. 6,219,975
U.S. 5,385,339	U.S. 5,854,747	U.S. 6,260,263
U.S. 5,493,834	U.S. 5,873,567	U.S. 6,317,980
U.S. 5,568,862,	U.S. 5,884,448	U.S. 6,389,762
U.S. 5,630,697	U.S. 5,885,731	U.S. 6,401,422
U.S. 5,636,494	U.S. 5,906,264	U.S. 6,412,246
U.S. 5,638,658	U.S. 5,934,866	U.S. 6,418,601
U.S. 5,640,832	U.S. 5,947,460	U.S. 6,539,615
U.S. 5,655,399	U.S. 5,987,828	U.S. 6,666,367
U.S. 5,678,395	U.S. 5,996,303	U.S. 6,702,269
U.S. 5,702,095	U.S. 6,048,165	U.S. 6,758,022
U.S. 5,707,204	U.S. 6,112,968	U.S. 6,817,392
U.S. 5,735,087	U.S. 6,134,775	U.S. 6,834,470
U.S. 5,810,341	U.S. 6,170,688	U.S. 6,907,820
U.S. 5,819,412	U.S. 6,205,637	Other patents may apply
U.S. 5,833,222	U.S. 6,212,849	

Return Goods Policy

Return goods cannot be accepted without prior authorization and are subject to a restocking charge. The Seller certifies the articles specified herein were produced in compliance with all provisions of the Fair Labor Standards Act of 1938, as amended, including Section 12.—Rev. 6/98

Reporting Errors and Recommending Improvements

To report errors or recommend improvements to this manual, please complete the Document Evaluation Form in the appendices. Mail or fax the form to:

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Safety (English)



For safety information in another language, contact your sales representative.

Safety Indicators: Signal Words

The following signal words and colors are used throughout this document to indicate safety hazards. Pay careful attention when you see them. The level of severity differs for each signal word and color.

Signal words are accompanied by graphics showing what personnel should or should not do. The graphics are called safety symbols and are defined on page 13, but more specific text is provided every time a graphic is used throughout the manual. Everyone near the machine must be trained on how to read these safety indicators.

Failure to comply with the instructions accompanying each signal word may result in property damage, personal injury, or even death. Personnel must follow all safety procedures and practices to ensure the safest possible operation of this equipment. However, at no time is this document a substitute for common sense. Personnel must ensure that the work environment is safe and free of distractions.

DANGER

Indicates an imminently hazardous situation which, if not avoided, is likely to result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury.

CAUTION

When CAUTION is used **with** the safety alert symbol shown here, it indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

When CAUTION is used **without** the safety alert symbol shown here, it indicates a potentially hazardous situation which may result in equipment damage.

NOTICE

Calls attention to information that is significant to understanding the operation at hand.

ENVIRONMENTAL

Applies to conditions that may affect the environment but do not have an immediate, direct effect on personnel or equipment.

General Equipment Safety Rules

Because it is impossible to anticipate every circumstance that might involve a hazard, the safety information provided in this equipment manual and on the machine is not all-inclusive. If this machine is operated or serviced using a procedure not specifically recommended by the manufacturer, the procedure shall be approved by a professional engineer to ensure it will not render the equipment unsafe. Use extreme caution and common sense at all times!

Know Your Equipment



- Read this manual completely before using or maintaining the equipment. Do not operate this machine unless you have a thorough knowledge of the controls, safety devices, emergency stops, and operating procedures outlined in this manual.
- Read and follow all safety notes. Failure to comply with these instructions may result in economic loss, property damage, and/or personal injury including death.
- Refer to the lockout/tagout guidelines on the following pages to safely perform maintenance and troubleshooting of this equipment.
- Observe and obey all safety labels. Replace worn labels immediately.
- Use this equipment solely for the purpose described in this manual.
- Only qualified personnel should attempt to operate or perform maintenance on this equipment. “Qualified personnel” is defined as:

...a person or persons who, by possession of a recognized degree or certificate of professional training, or who, by extensive knowledge, training, or experience, has successfully demonstrated the ability to solve problems relating to the subject matter and work—ANSI B30.2-1983

...one who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training on the hazards involved—NEC 2002 Handbook

Personal Safety

- Always wear safety glasses and hearing protection in an industrial environment.
- Utilize a filtering face piece (dust mask) when working near sawdust.
- Wear proper clothing and appropriate personal protective equipment. Do not wear loose clothing or jewelry. Confine long hair by tying it back.
- Use caution when lifting heavy parts or material.

Installing the Equipment

- Follow installation instructions completely.
- This equipment is not for use in a residential area.

Lockout/Tagout

- Before performing maintenance on the pneumatic or hydraulic systems, bleed the lines to eliminate pressure.
- Lockout/tagout all energized systems before performing maintenance on them. Refer to the *Lockout/Tagout Guidelines* section on page 4.

Keeping a Safe Environment

- Keep children away. All visitors should be kept a safe distance from the work area. Hazards may not be apparent to individuals unfamiliar with the machine.
- Keep work areas well lit.
- Keep the work area clean and free of any trip or slip hazards.
- Do not use the equipment in damp or wet locations, or expose it to rain or snow.

Operating and Maintaining the Equipment

- Ensure that all people, tools, and foreign objects are clear of the restricted zones before operating this equipment. The restricted zones are shown on page 11.
- Perform safety tests to ensure all E-stops are working properly before operating the equipment at the initial startup, after performing any maintenance, and in accordance with the maintenance schedule.
- In case of machine malfunction, stop the machine immediately using an E-stop and report the malfunction to a supervisor.
- Never leave the machine running unattended. Turn power off! Do not leave until all parts have come to a complete stop and all electrical power has been shut off.
- Check for worn or damaged parts regularly. Repair or replace them immediately.
- Keep the hydraulic, pneumatic, and electrical systems in good working order at all times. Repair leaks and loose connections immediately. Never exceed the recommended pressure or electrical power.
- Check that all safety devices are in working order before each shift starts. All protective guards and safety devices must be in place before and during use of the machine. Never disconnect or bypass any safety device or electrical interlock.
- Only qualified maintenance personnel shall remove or install safety devices.
- Periodically inspect the quality of the finished product.

Electrical Safety

- Do not use any liquids in the interior of electrical cabinets.
- When using solvents on and around the machine, remove power to the machine to eliminate the chance of sparking, resulting in explosion or fire. Wear a respirator approved for use with solvents. Wear protective clothing, gloves, and safety glasses.

Lockout/Tagout

Lockout/Tagout Guidelines

All lockout/tagout guidelines must be met according to OSHA 29 CFR 1910.147. A specific procedure should be included in your company's energy control program. This manual is not intended to replace your company's de-energizing or lockout/tagout procedure required by OSHA, but merely to provide general guidance.

The term "lockout," as used in this manual, means placing a lockout device on any and all energy sources to ensure that the energy isolating device and the equipment being controlled cannot be re-energized or operated until the lockout device is removed. The photos on the next page show where the electrical disconnects are located for this machine.



- Energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- In the case of electrical energy sources, the main power and control power to the machinery must be turned off and physically locked in the "off" position.
- A lockout device is usually a keyed padlock.
- If more than one person is working in a restricted zone, use a group lockout device that will allow each person to use a lock that can be removed only by the person performing the maintenance.

"Tagout" means that a prominent warning is securely fastened to an energy-isolating device to indicate that the equipment shall not be operated.

Electrical Lockout/Tagout Procedures



When Working on a Machine Outside the Machine's Main Electrical Enclosure



If working on the electrical transmission line to the machine, follow the procedure on page 7.

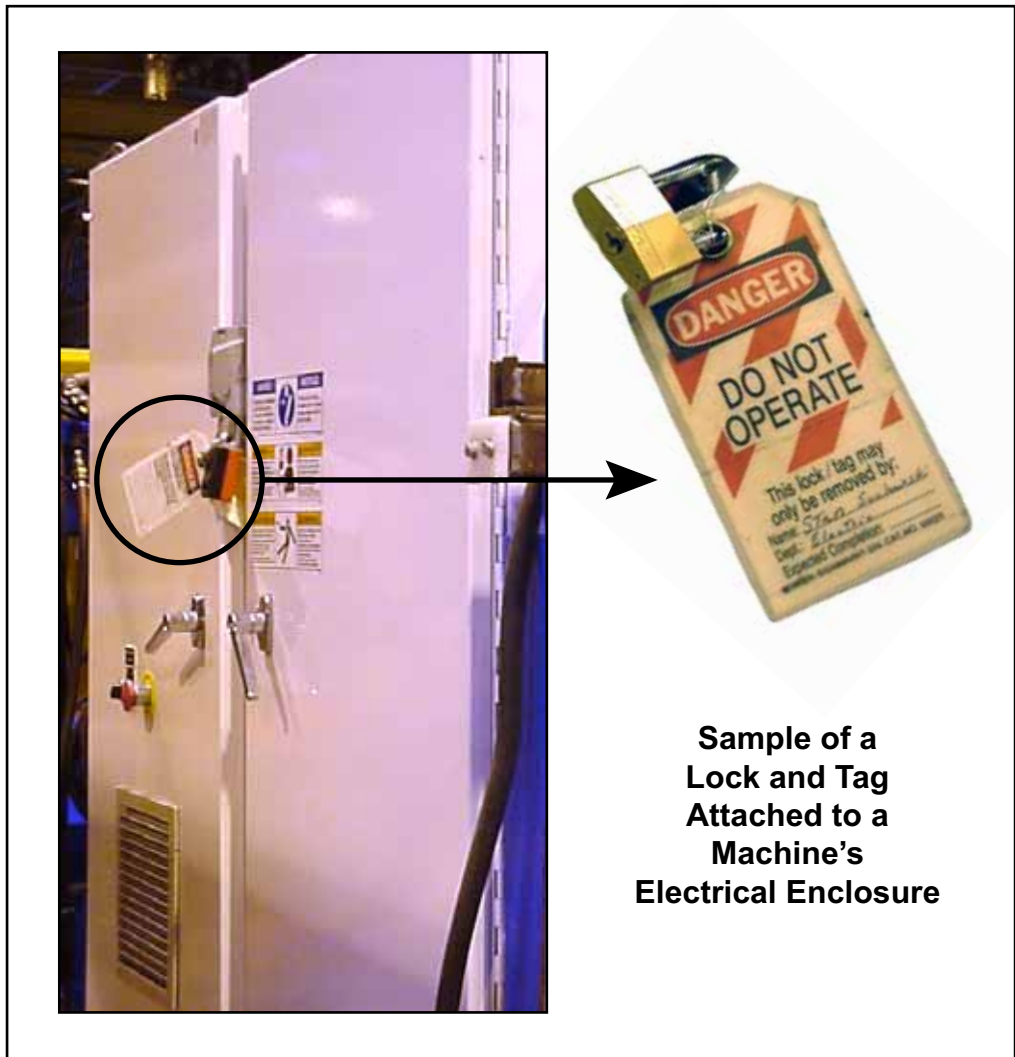
Before performing maintenance on any machine with electrical power, lockout/tagout the machine properly. When working on a machine outside of the machine's main electrical enclosure, not including work on the electrical transmission line to the machine, follow your company's approved lockout/tagout procedures which should include, but are not limited to the steps here.

1. Engage an E-stop on the machine.
2. Turn the disconnect switch handle to the "off" position. See Figure 2-1.

	 WARNING
	<p>ELECTROCUTION HAZARD.</p> <p>When the disconnect switch is off, there is still live power within the disconnect switch's enclosure. Always turn off power at the building's power source to the equipment before opening this electrical enclosure!</p>

3. Attach a lock and tag that meet OSHA requirements for lockout/tagout.
4. Restrain or de-energize all pneumatic components, hydraulic components, and other parts that could have live or stored power.

Figure 2-1: Sample of a Lockout/Tagout Mechanism on an Electrical Enclosure



When Working on a Machine Inside the Machine's Main Electrical Enclosure or in the Electrical Transmission Line to the Machine

Before opening the main electrical enclosure, or attempting to repair or replace an electrical transmission line to the machine, lockout/tagout the machine properly. Follow your company's approved lockout/tagout procedures which should include, but are not limited to the steps here.

1. Engage an E-stop on the machine.
2. Shut the power to the machine off at the machine's power source which is usually an electrical service entry panel on the facility wall. One example of a locked-out power source panel is shown in Figure 2-2.
3. Attach a lock and tag that meets OSHA requirements for lockout/tagout.
4. Open the door to the enclosure in which you need access, and using a multimeter, verify that the power is off.

Figure 2-2: Sample of a Lockout/Tagout Mechanism on a Power Source Panel





Troubleshooting With an Energized Machine

Only a qualified electrician, using the personal protective equipment and following the procedures recommended in NFPA 70E should ever attempt service or repair of or near an energized area or component of the machine.



Whenever maintenance is performed while the equipment is electrically energized, there is a potential electric arc flash hazard. Refer to NFPA 70E for the personal protective equipment required when working with electrically energized components. Pneumatic and hydraulic components may move unexpectedly if not de-energized. Physically restrain any components capable of movement when working on or near those components.

Safety Test

 WARNING	
	<p>CRUSH HAZARD.</p> <p>Perform the safety tests described before operating the equipment at the initial startup, after performing any maintenance, and in accordance with the maintenance schedule.</p> <p>Do not operate the press if any safety device or indicator is not functioning correctly.</p>

The test procedure **MUST** be performed by qualified personnel at startup and after ANY maintenance, adjustment, or modification. Testing ensures that the safety system and machine control system work together to properly stop the machine.

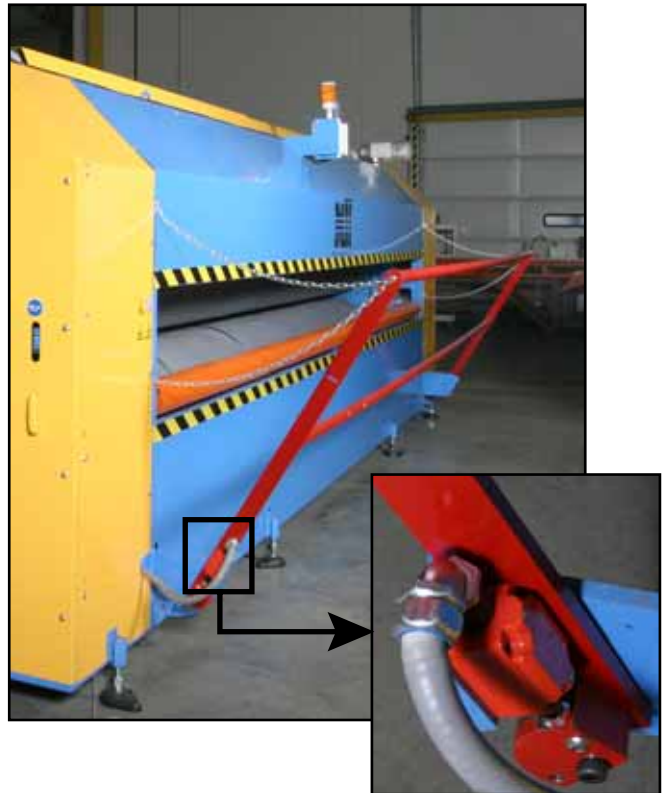
Pushbar Test

	 WARNING
	<p>CRUSH OR CUT HAZARD.</p> <p>Do not stand directly in front of or behind the machine when conducting these tests. Follow this procedure exactly as described.</p>

The pushbars must be tested daily to ensure that they turn off the finish press.

1. Press the **START** button to turn on the control power.
2. Press and release the **FWD** button to start the rollers turning.
3. Activate the pushbar using a board or long pusher to push it toward the machine.
4. Check the following items, and correct them if necessary:
 - a) Make sure the machine shuts down.
 - b) Make sure the pushbar travels freely until it touches the sheet metal shielding of the *Auto Roll*.
5. Repeat the procedure on the second pushbar.
6. Correct any failures before operating the equipment.

Figure 2-3: Pushbar and Limit Switch



E-Stop Pushbutton Test

1. Press the START button to turn on the control power.
2. Press and release the FWD button to start the rollers turning.
3. Press the E-stop pushbutton.
4. Ensure the machine shuts down.
5. Repeat the procedure on any additional or interlocked E-stop pushbuttons.
6. Correct any failures before operating the equipment.

E-Stops on Interlocked Equipment

If any other remote or interlocked E-stops exist, test them daily.



Communication Tests

1. Inspect the beacon light to ensure it is on when the machine is running in forward or reverse.
2. Ensure the warning horn is working during each of these situations. It should emit sound when:
 - a) The FWD button is pressed (stops after 3 seconds)
 - b) The REV button is pressed (continuously)
 - c) When a truss enters the machine in forward (stops after 3 seconds).
 - d) When a truss enters the machine in reverse (stops after 3 seconds).
3. Correct any failures before operating the equipment.

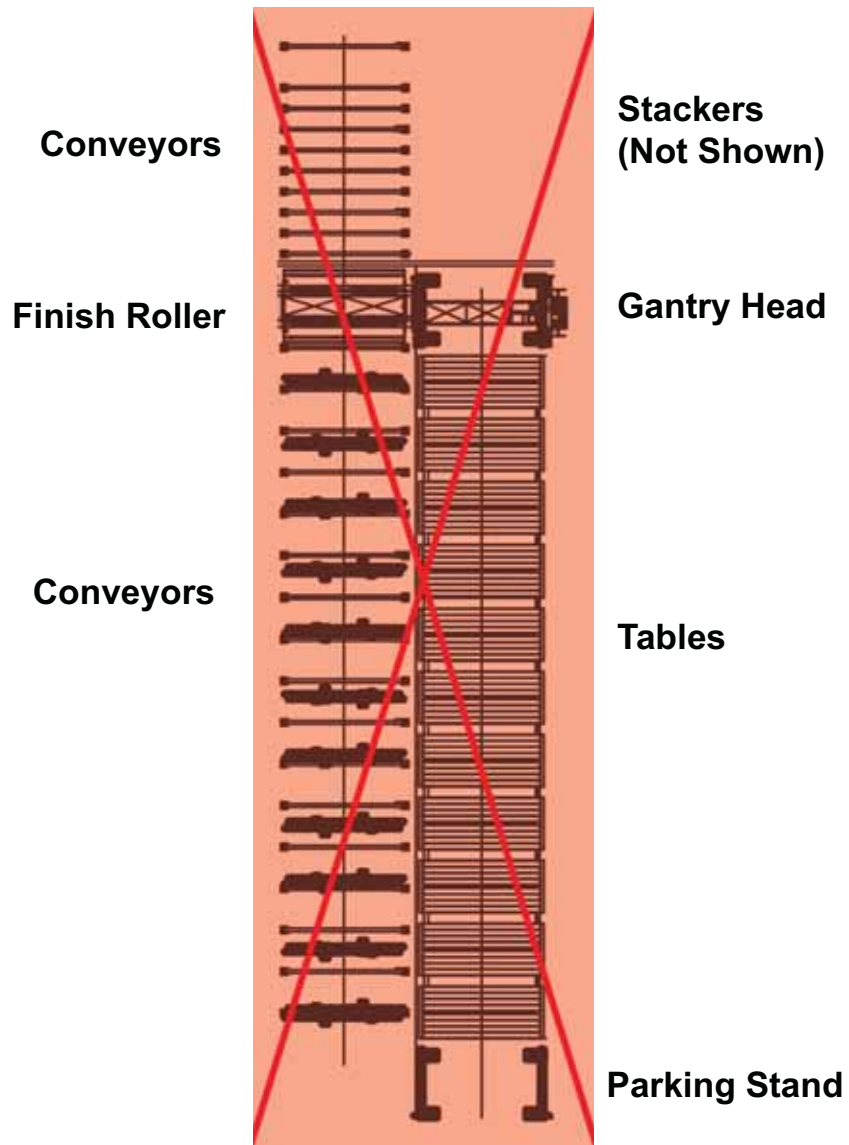
Inspecting Guards

Check that all guards are securely in place before operating equipment.

Restricted Zone

	 DANGER
	<p>Stay out of the restricted zone when equipment is in use. Serious injury or death may result if personnel are in the restricted zone.</p> <p>Always look for personnel in the restricted zone before operating equipment.</p>

Know the Restricted Zone



Marking the Restricted Zone








The restricted zone must be marked so everyone near the equipment can clearly see the area where danger may exist.









- PN** MiTek offers Restricted Zone Tape that is easy to apply and has text in English and Spanish. Some equipment comes with restricted zone tape. If your machine did not come with restricted zone tape, you may order it from MiTek Machinery Division Customer Service, part number SB181.








Instructions for where and how to apply restricted zone tape can be found in the *Installation* chapter in the Installation Manual or by ordering Service Bulletin Kit 181 (part number SB181).








Safety Symbol Definitions








The safety symbols shown in this section can be found throughout the manual to indicate hazards that are related to this equipment. All personnel expected to operate or maintain this equipment should become familiar with these safety symbols and what they mean.







	<p>This is the Electrical Hazard Symbol. It indicates that there are dangerous high voltages present inside the enclosure of this product. To reduce the risk of fire or electric shock, do not attempt to open the enclosure or gain access to areas where you are not instructed to do so. Refer servicing to qualified service personnel only.</p>
	<p>This is the user caution symbol. It indicates a condition where damage to the equipment resulting in injury to the operator could occur if operational procedures are not followed. To reduce the risk of damage or injury, refer to accompanying documents, follow all steps or procedures as instructed.</p>
	<p>Power sources - This product should be operated only from the type of source indicated on the manufacturer's identification label. Installation should be in compliance with applicable sections of the national electric code. Consult your local building code before installing.</p>
	<p>Operation of this equipment may result in flying debris and excessive noise. To reduce the risk of injury, wear only approved PPE.</p>
 	<p>Crush hazard! Keep hands clear.</p>
	<p>Keep hands away from moving parts.</p>



	<p>Do not use sling equipment rated for less than 15,000 lb/6,803 kg when lifting this equipment.</p>
	<p>Crush hazard from above</p>
	<p>Trip hazard! Pay attention when walking in this area.</p>
  	<p>Keep hands and body clear.</p>
	<p>Warning! 2-man lift required to safely move this equipment. Refer to Installation Manual.</p>
	<p>Warning! 3-man lift required to safely move this equipment. Refer to Installation Manual.</p>

    	<p>The operation of this equipment requires the use of PPE. Do not operate without wearing required protective clothing.</p>
 	<p>Refer to manual- After installation, read the user's guide carefully before operating. Follow all operating and other instructions carefully.</p>

	<p>Circuits are live -lockout/tagout the upstream disconnecting means prior to opening for service.</p>
	<p>Lockout in a de-energized state</p>
  	<p>Lift Point - In order to reduce the likelihood of damage to the equipment, use only the lift points indicated in the manual.</p>
	<p>Read all safety warnings and instructions before proceeding.</p>
	<p>No lifting point. Do NOT lift here.</p>

	<p>STOP! Do not enter. There is an unsafe scenario that could occur if you enter or touch this area.</p>
	<p>Hazardous moving parts are located behind this access panel. Do not operate this equipment without all guards and covers in place.</p>
 	<p>Do not place containers with liquids such as coffee, water, sodas, etc. on this unit.</p> <p>Do not operate this equipment in a wet environment.</p> <p>Do not expose to water</p>
	<p>Use of fork lift equipment when moving this equipment will result in serious equipment damage. Refer to installation procedures.</p>
	<p>Do not use non-approved lubricants in this machine.</p>
	<p>Do not operate without guards and covers in place</p>

	<p>Do not weld</p>
	<p>Do not discard into municipal waste stream</p>
	<p>oil drop</p>
	<p>Do not use compressed air inside the electrical enclosures! It may force contaminants into the electrical connections. Use a vacuum to clean inside electrical enclosures.</p>
	<p>Automatic cycle - MII PN 691373 This label is used to refer to AUTO when using the MAN/AUTO selector switch</p>
	<p>Manual Control - MII PN 691374 This label is used to refer to MANUAL when using the MAN/AUTO selector switch</p>

	<p>Off for part of the equipment - MII PN 691372</p> <p>This label is used to refer to OFF when using the ON/OFF selector switch</p> <p>The label is used to denote that when the selector switch is OFF part of the equipment is still energized. Only the 120V control wiring is OFF.</p>
	<p>On for part of the equipment - MII PN 691371</p> <p>This label is used to refer to ON when using the ON/OFF selector switch</p> <p>The label is used to denote that when the selector switch is ON, the switch is controlling the part of the electrical circuit. It is the counterpart to the above symbol.</p>

Declarations of Conformity for CE Compliance



EU DECLARATION OF CONFORMITY WITH COUNCIL DIRECTIVE 2006/42/EC CE DECLARATION DE CONFORMITE AVEC DIRECTIVE 2006/42/EC	
Date of Issue:	20 JAN 2010
Directive:	Machinery Safety Directive, 2006/42/EC
Conforming Machinery:	Auto Roll™ Model No: 30650-501-400V S/N: As Stamped on Nameplate
Manufacturer:	MiTek Industries, Inc. 301 Fountain Lakes Industrial Drive St. Charles, MO 63301 USA
Authorized Representative	Syd Griffiths Managing Director Europe MiTek Industries Limited MiTek House Grazebrook Industrial Park Peartree Lane Dudley, West Midlands DY2 0XW England Ph: (44) 1384 451400
Harmonised Standards Referenced or Applied:	BS EN 12100-1:2003, BS EN 12100-2:2003, BS EN 13857:2008, BS EN ISO 13850:2008, BS EN 60204-1:2006, BS EN ISO 14121-1:2007, BS EN 349:1993+A1:2008, BS EN 953:1997 +A1:2009, BS EN 1037:1995+A1:2008, BS EN 60529:1992. BS EN 614-1:2006+A1:2009
Specifications with which Conformity is Declared:	Essential Health and Safety Requirements of Annex 1 of the Machinery Directive
We hereby certify that the machinery described above conforms with the essential health and safety requirements of Council Directive 2006/42/EC on the approximation of the laws of the Member States relating to the safety of machinery.	
Signed:	
Signatory:	Printed Name Manish Kanjee Title Engineering Manager Company Name MiTek Industries, Inc.
Technical File Reference Number	SF10773A1.MII



Notes Concerning Harmonized Standards Referenced or applied:

BS EN ISO 12100-1:2003	Safety of machinery. Basic concepts, general principles for design.
BS EN ISO 12100-2:2003	Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles - /A1
BS EN 60204-1:2006	Safety of machinery. Electrical equipment of machines. General requirements.
BS EN ISO 13857:2008	Safety of machinery. Safety distances to prevent hazard zones being reached by upper and lower limbs.
BS EN 349:1993+A1:2008	Safety of machinery. Minimum gaps to avoid crushing of parts of the human body.
BS EN 953:1997 +A1:2009	Safety of machinery. Guards. General requirements for the design and construction of fixed and movable guards.
BS EN 1037:1995+A1:2008	Safety of machinery. Prevention of unexpected start-up
EN ISO 13850:2007	Safety of machinery — Emergency stop — Principles for design.
BS EN 60529:1992	Specification for degrees of protection provided by Enclosures (IP Code).
BS EN ISO 14121-1:2007	Safety of Machinery – Risk Assessment – Part 1: Principles
BS EN 614-1:2006+A1:2009	Safety of machinery — Ergonomic design principles —. Part 1: Terminology and general principles

Declaration of Noise Emission



Declaration of Noise Emission

The MiTek[®] Industries, Inc. Model 30650-501-400V Auto Roll[™] noise emission levels per ISO EN 11202 are as follows:

Work place noise level (Idle)	51.7 dB (A)
Auto Roll [™] Work place noise level (Work Cycle)	69.6 dB (A)

Ambient Correction Factor K3A calculated according to ISO EN 11204 Appendix A.	4 dB (A)
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Difference between extraneous background noise and normal operation: $\Delta = 17.9$ dB (A)
Measurements were made at a height of 1.5 m and 1 m from the machine.

The difference between the extraneous noise level and the sound intensity level at each measuring point is > 6 dB (A)

The figures quoted are emission levels and are not necessarily safe working levels. While there is a correlation between the emission and exposure levels this cannot be used reliably to determine whether or not further precautions are required.

Factors that influence the actual level of exposure of the workforce include characteristics of the work room, the other sources of noise, etc. such as the number of machines and other adjacent processes. Also, the permissible level of exposure can vary from country to country.

This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.





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Industrial Drive
St. Charles, MO 63301
USA



Purpose of Chapter

This chapter explains how to navigate through the equipment manual and how to contact MiTek.

Introduction to the Manual

 WARNING	
	<p>Read this manual completely before using this equipment!</p> <p>Do not operate this machine until you have a thorough understanding of all controls, safety devices, emergency stops, and operating procedures outlined in this manual.</p> <p>All hazard instructions must be read and observed. Failure to do so may result in economic loss, property damage, and/or personal injury.</p> <p>This manual must always be available to personnel operating and maintaining this equipment.</p>

Purpose and Scope of This Equipment Manual

In order for this equipment manual to be useful, the manual must be kept in a location where operators and maintenance personnel have easy access to it. The equipment manual is structured so the Operation Manual can be kept at the machine and the Maintenance and Installation Manual can be kept somewhere accessible to maintenance personnel only.

This manual addresses the most recent versions of the equipment as of the creation or revision date on the title page. For earlier revisions, contact MiTek Machinery Division Customer Service. The part number is listed on the title page, but the revision you require depends on the date your equipment was manufactured.

This manual can be a valuable tool for training.

- The *General Information* chapter in the Operation Manual contains information on truss terminology and provides basic information about the equipment.
- The Operation Manual teaches operators how to efficiently operate the machine.

- The Maintenance Manual is written specifically for maintenance personnel.
- The appendices provide valuable training materials and technical information to keep your equipment running.

Understanding This Manual

The Equipment Manual (Manual Set)

This equipment manual is a set of three (3) books. The part number for the entire set is 001113 Rev. A. The manuals listed in Table 3-1 are all part of the equipment manual (also called the manual set).

The page numbers include a prefix so it is clear in which book a page can be found when using cross-references. The Safety and Introduction sections have their own prefix because they are found in all three books.

Table 3-1: Manual Set

Manual Title	Page # Prefix	Description	Part #
Book 1: Operation Manual	OP	Includes operation procedures and defines the control user interface	001113-OP
Book 2: Maintenance Manual	MT	Includes preventive maintenance, repair maintenance, troubleshooting, parts list, drawing set list, and glossary	001113-MT
Book 3: Installation Manual	IN	Includes requirements prior to installation, installation procedures, and startup procedures.	001113-IN

Review the table of contents to understand the structure of the chapters and appendices.







The Drawing Set

The drawing set is included with this manual set. A list of the drawings can be found in the Maintenance Manual. The actual drawings are either in a separate 11x17 book or in the back of the Maintenance Manual.

Navigation

The graphics in Table 3-2 are used throughout the manual to quickly communicate a specific type of information.

Table 3-2: Navigational Tools Used Throughout the Manual

Graphic	Explanation
	Important safety note!
	Indicates that you must lockout/tagout at the disconnect switch located on the equipment using approved methods described in OSHA 29 CFR 1910.147 and/or local regulations before continuing with the procedure.
	Indicates tools required before beginning a procedure.
	Gives additional information to the steps or text.
	Indicates how to get to or from the item discussed.
	Refers reader to another section, table, graphic, or drawing for further explanation.
	<i>It's a hyperlink!</i> Indicates that the part number is listed in the <i>Parts List</i> appendix. If viewing the Maintenance Manual on CD-ROM, click the icon to see the part number in the appendix.

Web Site

Visit the MiTek Web site at www.mii.com for up-to-date information on all MiTek equipment. View the latest revision of this manual and all Service Bulletins, or order parts on-line through our *eStore*™.

Contacting Us

For technical assistance or to order parts, contact the Machinery Division Customer Service Department using one of the methods listed in Figure 3-1.

Figure 3-1: Contacting MiTek

MiTek Machinery Division
Customer Service Department
301 Fountain Lakes Industrial Drive
St. Charles, MO 63301

Parts Orders (with part number)
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Purpose of Chapter

This chapter covers what you must consider or complete before this equipment can be installed.

MiTek Responsibilities

Prior to Installation

MiTek will provide the following items and information prior to the installation date:

1. A Prior to Installation package that:
 - Outlines this chapter and requests a signature of agreement.
 - Gives dates to expect shipment, delivery, and installation.
 - Explains the number of people required to help with installation.
 - Provides guidelines on providing an electrician, welder, and other specialists.
 - Describes payment information.
2. A layout showing how the customer has indicated that the equipment should be arranged within the building.

During Installation

Upon request, a MiTek Customer Service Technician (CST) can be present to oversee the installation of the equipment.

Customer Responsibilities

Before the installation of the equipment, the items and procedures in this chapter must be arranged, purchased, or assembled. Table 2-1 provides an overview of these items. Each topic listed in the table is explained in detail in the text following the table.

If these requirements are not satisfied before the scheduled installation date, it may be necessary to reschedule the installation. Any additional cost may be the customer's responsibility.

Table 2-1: Summary of Customer Responsibilities

Space Requirements	This equipment requires enough space to allow for the machine dimensions listed in Table 2-2, plus additional working space for operation and maintenance. Space should have adequate lighting.
Location Requirements	Reinforced concrete, a minimum of 6 in. thick 5,000 psi (15.25 cm thick, 344.7 bars), is required to support the weight of the equipment. The equipment discussed in this manual must be used in dry conditions under a roofed area.
Electrical Requirements	The standard electrical requirements are shown in Table 2-3. Contact your MiTek representative immediately if custom power specifications need to be accommodated.
Shipping Requirements	See Table 2-4 for shipping weights.
Customer-Supplied Items	The customer is responsible for having the supplies listed in Table 2-5 available at the time of installation.
Local Codes: Power, Anchoring, etc.	The customer must be familiar with all local codes that apply and ensure the equipment is installed in a way that meets these codes. See page IN-32 for more details.

Space Requirements

Refer to these guidelines when planning your space allocation. MiTek can provide help with plant layout and space utilization upon request.

Space for the Equipment

It is the customer's responsibility to provide adequate space for the installation, operation, and protection of the equipment. The physical dimensions of the equipment are shown in Table 2-2. Additional space is required for operation, maintenance, and optional equipment.

Table 2-2: Approximate Equipment Dimensions

	Length	Width	Height
16' Auto Roll With Power Adjust (Accepts up to 4.88 m truss height)	245" (6.2m)	105" (2.7m)	90" (2.28m)

Space for Operation and Maintenance

Additional space must be allocated for operation and maintenance. Operation space should provide safety, freedom of movement, storage space, and free flow of raw and finished materials. There must also be adequate space for safe handling of the raw and finished materials throughout the process. Refer to your layout for recommended space required.

Electrical enclosures and distribution panels must have the required amount of space clear in front of them. In the United States, regulations usually require 3 ft, but check your local regulations.

The space required is dependent on your maintenance and operating processes.

Location Requirements

Floor Structure

A level and structurally sound concrete slab must be provided for the installation of the equipment. This slab should be designed and installed in accordance with local building code requirements. Reinforced concrete should be a minimum of 6 in. thick. 5,000 psi concrete is recommended. Refer to the equipment layout drawing.

Environment



The equipment must be used in dry conditions under a roofed area according to Type 12 electrical enclosure requirements. Type 12 is a U.S. designation indicating the machine is for indoor use only, primarily to provide a degree of protection against circulating dust, falling dirt, and dripping non-corrosive liquids.



Under no circumstances should the electrical enclosures be sprayed with a hose.

Lighting should be adequate for safe operation and maintenance. A minimum of 108 Lux (10 foot-candles) is recommended.

Electrical Requirements

	 WARNING
	<p>ELECTRICAL HAZARD!</p> <p>All electrical work must be performed by a qualified electrician.</p> <p>Follow approved lockout/tagout procedures (OSHA 29 CFR 1910.147).</p>

The standard electrical requirements are shown in Table 2-3.

It is the customer’s responsibility to abide by the following guidelines and all regulations that apply at the location the machine is installed.

- The power supply circuit must have a lockable disconnect switch, separate from the disconnect switch on the machine.
- The incoming power conductor should be sized according to the National Code of the country in which it is installed. Refer to the Voltage and Ampere rating of this equipment, as noted on the Manufacturer’s Identification Label.
- The supply conductors should be routed within conduit in a manner that does not allow it to be stepped on, tripped over, subject to damage, or exposed to excessive moisture.
- You must indicate what voltage is available at the machine’s proposed location when placing the order. Depending on the voltage available, revisions to the electrical system or a transformer may be necessary.

Table 2-3: Minimum Electrical Requirements for This Equipment

Voltage	400 VAC
FLA Plus Control Amperage	18.7 Amperes
Equipment Disconnect Protection	25 Amperes
Cycles (Frequency)	50 Hz
Phases	3-phase

Shipping Information

When the equipment arrives, you must have the proper transport and lifting equipment available to remove it from the truck and place it in your facility. Table 2-4 lists the weight of the individual components of a typical system.


	<div style="background-color: red; color: white; padding: 2px; text-align: center; font-weight: bold;"> DANGER </div> <p>Transport and lifting equipment such as forklifts and cranes must be designed and rated for the load and application. The weight of each major component is given in Table 2-4.</p> <p>Inadequate transport equipment may result in property damage, personal injury, or death.</p>
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Table 2-4: Shipping Information

Contents of Shipment	Approximate Weight
<i>Auto Roll Finish Press: 16' w/Power Adjust</i> (Accepts up to 4.88 m truss height)	15,000 lb (6,803 kg)

Customer-Supplied Parts

The customer must supply the parts shown in Table 2-5. Some must be installed before installation of the equipment and some must be available for use at the time of installation.

Table 2-5: Customer-Supplied Parts

Item	When Needed	Description
Electrical Equipment		All electrical requirements to provide power to the disconnect enclosure on the machine are the customer's responsibility.
Transport Equipment		A heavy-duty forklift or truck wrecker is required to move the equipment during unloading and placement of the machine. All transport and lifting equipment must meet the requirements given in the <i>Shipping Information</i> section.
Tools That May Need to be Rented		Industrial hammer-drill and 1/2-in. (12.7 mm) drill bit (if anchoring to floor) Hydraulic jacks (2)

Local Codes and Regulations

The customer must be familiar with all local codes that apply and ensure the equipment is installed in a way that meets these codes. The following list identifies some, but not all, of the items that should be discussed with local authorities.

- Equipment should be stable under all conditions of use, including seismic events
- Fuse and disconnect regulations
- Grounding regulations
- Emissions regulations
- Space required
- Personal protective equipment required
- Inspections required

Training Provided

If MiTek is overseeing the installation of your equipment, the MiTek representative trains the operators and maintenance personnel on the proper operation and maintenance of the equipment. The representative explains the warranty policy, gives an overview of the equipment manual, and requests the signature to verify the understanding of everything discussed.

If a MiTek representative is not required to be present, it is your responsibility to ensure all necessary personnel read the Equipment Manual and address all guidelines and safety instructions given.

Purpose of Chapter

This chapter describes the entire installation process in detail. The instructions assume that the prior-to-installation requirements are satisfied.

Responsibilities During Installation

If MiTek is Not Present

If purchased alone, this machine does not typically require a MiTek representative present at installation. If purchased as part of an assembly system, a MiTek representative (or MiTek partner) can be requested to supervise the installation.

If MiTek is Present

If requested, MiTek will provide installation supervision to ensure that the system is installed properly and operates correctly. We will also provide operating and maintenance training at the time the equipment is installed. The customer is responsible for providing all labor and equipment needed to complete the installation. These requirements are explained in the *Prior to Installation* chapter.



All customer responsibilities before and during installation are described in the *Prior to Installation* chapter!

Delivery


Checking for Damage

All shipments from MiTek are covered with tarps. When the shipment arrives, check to ensure that the tarps are in place. Displaced tarps might indicate a potential problem.

After removing the tarps, inspect the shipment for water/moisture, debris, and damage. Report any findings as required by the transport company. Document any findings by taking photographs or a video. Note any and all damage to the equipment on the bill of

loading to ensure proper documentation for insurance claims. Without this note, any damage in transit is the responsibility of the customer to repair.

Notify MiTek Machinery Division Customer Service of any unacceptable findings discovered during the receipt inspection. Although your findings might not appear to be a problem, they might cause premature failure of components, poor performance, or erratic performance.



Refer to...

Table 2-4 on page 31 for the weight of each component




Unloading & Lifting Instructions

Transportation Equipment Needed

Refer to the *Prior to Installation* chapter for information regarding preparing for the delivery.

Even if a MiTek representative is present, it is the responsibility of the customer to provide equipment and labor for unloading, placement, and wiring of the equipment. A heavy-duty forklift or truck wrecker is required to move the equipment during unloading and placement of the machine. The lifting equipment must be rated appropriately for the weights shown in Table 2-4 on page IN-31.

Exercise extreme caution to avoid damage or misalignment during unloading. Do not apply pressure on any moving parts or fittings.

 WARNING	
 	<p>CRUSH HAZARD.</p> <p>Failure to lift the equipment in the prescribed manner may cause serious injury, including death.</p> <p>Personnel not involved in the off-loading or moving shall remain clear of the area.</p> <p>Transport and lifting equipment must be designed and rated for the load and application.</p> <p>Do not place forklifts at center of machine. The frame will bend.</p> <p>Do not lift the machine by the rollers.</p> <p>Do not position the leveling pads on a fork.</p> <p>Check for personnel before moving the forklift.</p>

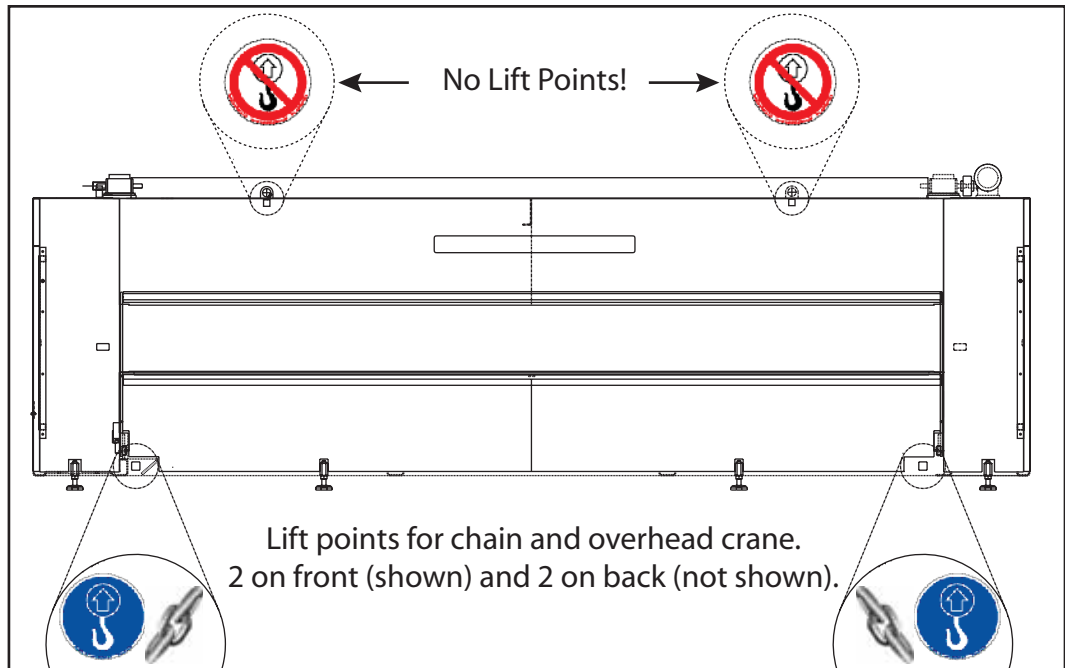
Using Lift Points and Crane



The preferred method of lifting is with an overhead crane and chains that are rated appropriately for the weight. Refer to Figure 3-1 for the proper lifting method.

Note the location of the main control panel on the end of the machine and put the machine in place with the control panel in the desired location.

Figure 3-1: Lift Points Using Crane, Front View of Machine



Using a Forklift



An overhead crane is the only safe way to remove the machine from an enclosed shipping container, and by far the best tool for the job. When a shipping container is not a restriction and an overhead crane is not available, an appropriately-sized forklift may be used instead.

2 C-clamps, fork caps, or wedges


Forklift rated for 15,000 lb


1. Slide the forks on the forklift to the widest position.
2. Position the forklift at the center of the machine, on the front or back side.
3. Level the forks and raise the forks to the height of the opening between rollers on the *Auto Roll*.
4. Ensure all personnel are out of the area, then drive forward so the forks are between the top and bottom roller.
5. Place fork caps or C-clamps or wedges to keep machine from sliding off forks.

6. Slowly raise the machine.
7. Ensure all personnel are out of the area, and travel to the machine location, driving slowly and carefully.
8. Note the location of the control panel and place the machine in its proper location with the control panel on the correct end.
9. Remove the clamps, fork caps, or wedges, and move the forklift.

Equipment Layout

Refer to your layout for machine placement. The exact location depends on your workflow and integrated equipment. The MiTek representative will provide this layout before the equipment is installed.

	 CAUTION
	<p>TRIP HAZARD!</p> <p>Secure or cover all hoses, power lines, and conduit so they are not trip hazards.</p>

	NOTICE
	<p>Do not hook up power until all welding is complete. Welding on tables with electrical and communication lines hooked up could cause serious damage.</p>

Machinery Location



The *Auto Roll* Finish Press is typically located within a powered conveyor system and is positioned inside the building next to the wall. The machine is positioned so that the outfeed barrier guards are butted up against the inside wall. This eliminates any access points directly behind the finish press. The barrier guards are to be removed for maintenance only.

A slot is cut through the wall in order to let the truss exit the building. Windows must be placed in the wall to allow the operators a clear view of the exit side of the machine in order to operate the machine safely. Refer to the installation drawings for recommended machine placements and associated safety requirements.

Do not install the finish press in a location which will render the safety devices ineffective. Additional safety devices, control circuit modifications and emergency stop circuit interlocks may be required in some applications.

Refer to the installation drawings for recommended machine placements and associated safety requirements.

No walk-through or personnel access should be allowed upstream or downstream of the finish press for 60' (16 m) or for the maximum length of truss built, whichever is longer, unless the finish press is locked-out.

	 WARNING
	<p>CRUSH AND CUT HAZARD!</p> <p>The operator who starts the machine must have a clear view of the path of the truss ahead of and behind the finish press before starting it.</p>

Infeed/Outfeed Conveyor Spacing

The maximum distance between the first roller of the infeed and outfeed conveyors and the finish press guide roller is 48 in. If the distance is greater than 48 in. (1.2 m), an individual idle roller must be installed in order for the truss to travel properly.

Protection From the Environment

Refer to page IN-29.

Safety Factors With Associated Machinery

Emergency Stops Required



The *Auto Roll* is typically installed in conjunction with other machinery such as the *Auto Press 14LT* or the *Roof Gantry 14RT*. Provision is made for the finish press Emergency Stop Circuitry to be interlocked with the emergency stop circuits of other truss machinery. Interlocking the emergency stop circuits, allows one set of Emergency Stop button stations located around the perimeter of the assembly machines, conveyors and truss stackers to stop all of the machines simultaneously. The remote Emergency Stop button stations are hard wired into the electronic safety module to provide a Category 1 emergency stop function for the *Auto Roll* finish press. For information on installing and operating other equipment used in conjunction with the *Auto Roll* finish press, refer to those machine's equipment manuals.

Additional emergency stop buttons may be installed at each jig station within immediate reach of the workers.

Interlock finish press control circuit to utilize the emergency stop buttons and circuitry of other assembly machinery if required.

Drive Feed Speed

If the finish press is to be placed between a powered infeed and outfeed conveyor, the conveyor speed must be synchronized with the speed of the finish press in order to prevent damage. Never increase the preset feed speed, as the increase stopping distances will defeat the safety pushbars.



	 WARNING
	Do not install any auxiliary START stations. The finish press must be started from its main control panel only to ensure safety.

Installation Instructions

1. Place the finish press in the desired location. Read the *Equipment Layout* section on page IN-36.
2. Level the machine.
 - a) Use hydraulic jacks to lift the machine off the floor high enough so the leveling pads can turn. See Figure 3-2.
 - b) Adjust the leveling pads so the top of the lower roller is at the desired height. The top of the lower roller should be even with the conveyor and truss stacker systems which is normally at 30" (.76 m).

Figure 3-2: Leveling Pad



	 WARNING
	<p>CRUSH HAZARD!</p> <p>Do not position the jack or forklift on a leveling pad.</p> <p>Check for personnel and obstructions before lowering machine back to the ground.</p>



- c) Lower the machine back to the ground.
3. Check the pressing height setting at both ends of the finish press. If adjustment is required, repeat step 2.
4. It is not necessary to anchor the machine to the floor, but if you prefer to anchor it, use 1/2-in. concrete anchors (not supplied) through the leveling pads.
5. Install the barrier guards shipped with the machine.
6. Cut the ties holding the pushbars, and pull the pushbars to their extended position.


Electrical System

Checking Existing Wiring

Heavy gauge wire can work loose during shipping and handling. Before power is connected to the machine, conduct a pull test on all pre-wired connections inside the electrical enclosures.

Connecting Power to the Equipment

	 DANGER
	<p>ELECTRICAL HAZARD!</p> <p>All electrical work shall be done by a qualified electrician and shall conform to all regulating codes. In the event that information in this manual conflicts with local code requirements, please contact MiTek Machinery Division Customer Service.</p> <p>Do not turn on electrical power until you have read the startup procedure. Follow approved lockout and tagout procedures in accordance with OSHA 19 CFR 1910.147 or the governing regulations at your location.</p>

	NOTICE
	<p>Do not hook up power until all welding is complete. Welding on tables with electrical and communication lines hooked up could cause serious damage.</p>

Review the *Prior to Installation* chapter before installing any of the electrical system.

All electrical work is the responsibility of the customer and must be performed by a qualified electrician. The machine design addresses electrical components starting with the disconnect enclosure. Installation and maintenance of all electrical requirements up to the disconnect enclosure are the responsibility of the customer. Provide power from a circuit-protected disconnect switch within your facility power source to the disconnect switch on the machine. A MiTek representative can provide guidance regarding when the electrical power will need to be available during the installation.

To connect power to this machine:

1. Remove both finish press end shields.
2. Permanently wire the 3-phase power into the main control panel. The power must meet the voltage and amperage requirements listed on the machine nameplate. Fuses or circuit breakers must protect this supply line.
3. If auxiliary beacons are required, install them now.

Electrical Power

The customer must have a permanent electrical power service brought to the machine which meets the voltage and amperage requirements listed on the machine nameplate.

- Typically, power is brought to the machine from a circuit breaker panel in the plant.
- The main power is brought to the control end of the machine using a rigid conduit. It is connected directly to the main control panel inside the machine.
- Provision is made for the finish press emergency stop circuitry to be interlocked with the emergency stop circuits of other truss machinery. Refer to electrical schematic for proper interlock points.
- For safety, the finish press must be started only from the main control panel on the machine itself. By having the operator directly in control of the finish press, he can ensure that the truss is transported through the machine safely and properly.
- Do not install auxiliary START stations.
- Ensure both pushbars are aligned and working properly.

Marking Restricted Zone

Marking Area on Your Own

The restricted zone must be marked so everyone near the equipment can clearly see the area where danger may exist.

MiTek offers Restricted Zone Tape with text in English and Spanish. If your equipment did not come with restricted zone tape, you may order it from MiTek Machinery Division Customer Service. The part number is listed in the *Parts List* in the Maintenance Manual.

You may choose to mark the restricted zone using alternative means.

Using MiTek's Restricted Zone Tape

Cleaning the Floor

Before installing the restricted zone tape, you must clean the floor thoroughly to ensure the adhesive properly sticks to the floor.

1. Sweep the floor around the machine where the tape will be applied. Refer to the layouts included at the end of this Service Bulletin for tape locations.
2. Mop the floor where the tape will be applied.
3. Wait for the floor to dry completely before continuing the procedure.



If layouts are included at the end of this document that cover your equipment, refer to the layouts for a visual representation of tape location.

If a layout does not exist for your equipment, read the instructions here carefully.

Marking Tape Location

1. Beginning at a corner of the machine on one end, measure outward 3 ft (.9 m).
 - If marking around a stacker, measure outward 3 ft (.9 m) from the back of the stacker arms if the stacker arms are down, or 18 ft (5.5 m) with them up. Measure outward to each side 3 ft (.9 m) beyond the end of the longest truss you intend to build.
 - If marking around a gantry, run the gantry to one end of the line and mark outward 3 ft (.9 m) from the gantry platform.
 - If marking around a piece of equipment that does not have a layout included at the end of this Service Bulletin, mark outward 3 ft (.9 m) from the machine.
2. Make a mark on the floor at the proper location.
3. Repeat steps 1 and 2 for each corner of the machine.

- Using a chalk line, make a line on the floor that connects the marks made in steps 2 and 3.






The person pressing the tape to the floor may want to wear gloves.

Placing the Tape

- Peel the backing off of the end of the tape.
- Place the end of the tape with the wording facing out at an outside corner of the chalk line.
- Press the tape firmly onto the floor. Ensure all bubbles and wrinkles are out to get the best adhesive retention.
- Continue to remove the backing, unroll the tape and press it firmly onto the floor until the entire perimeter has been marked with tape.
- Remove the lockout/tagout devices and restart the machine.
- Train all employees who work in the facility to stay outside the tape when the machine is operating.

I



 DANGER	
 	<p>ELECTROCUTION, CRUSH, AND CUT HAZARDS!</p> <p>Do not attempt to start the system without a MiTek representative present!</p> <p>Serious injury and/or equipment damage may result.</p>

Purpose of Chapter

This chapter describes the procedures required before operating your equipment.

Startup Procedure

1. Check for proper rotation of the rollers by pressing the FORWARD button on the main control panel. The rollers should turn in a manner that will feed a truss from the front to the back of the press. The finish press should run continuously in this direction and the beacon should be on. If the finish press is running in the opposite direction, have the electrician reverse two of the three main power phases at the top of the magnetic starter.
2. By pressing and holding the REVERSE button, the rollers will feed a truss from the back to the front of the press. The press should run backwards only when the REVERSE button is held in and the REVERSE warning beacon and horn should be energized.
3. Ensure all safety labels are in place.
4. Perform the safety tests described beginning on page SAFETY-8 at the beginning of this manual. They include:
 - a) Checking pushbars
 - b) Checking E-stop buttons
 - c) Checking communication devices and guards

	 WARNING
	<p>Do not install any auxiliary START stations. The machine must be started from its main control panel.</p> <p>The operator who starts the machine must have a clear view of the path of the truss ahead of and behind the finish press before starting it.</p>

Safety Tests

Refer to page SAFETY-8 for detailed safety tests. Perform these safety tests before operating the equipment at the initial startup, after performing any maintenance, and in accordance with the maintenance schedule.

Installation and Startup Checklist

- Check that machine is level and at the correct height.
- Check all safety devices: E-stop pushbuttons, pushbars, horn, beacon.
- Check that all safety administrative controls are in place.
- Check that truss enters and exits machine correctly.
- Check that all operating controls are working correctly.
- Secure or cover all hoses, power lines, and conduit

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