

INSTALLATION INSTRUCTIONS

3.0 Installation Instructions

Introduction

The purpose of this section is to provide information for the installation of the S Series Semi-Automatic Stretch Wrapping System. It is recommended to read the entire section and become fully acquainted with the basic components and their functions before beginning installation.

NOTE: Refer To Section 7.0 “Optional Features” For Installation Instructions For Optional Equipment.

NOTE: Complete Each Step Before Proceeding To The Next Step!

If a problem is encountered during the installation of this machine, the information contained in Section 6 “Troubleshooting” can be used to assist in identifying and solving the problem. In order to receive the best long-term service from your machine, it is recommended that the instructions contained in Section 5 “Maintenance” be followed, and that an adequate supply of spare parts and stretch film be kept on hand to minimize downtime.



WARNING

This Machine Has Been Designed To Include Numerous Safety Features, And Is Safe When Operated In The Proper Manner. Failure To Operate The Machine In A Safe And Proper Manner May Pose A Safety Hazard To The Operator Or Others Nearby. It Is Also Important To Observe All Safety Signs During Normal Operation. Power Should Not Be Applied Until All Aspects Of The Installation Are Complete.

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3.1 Installation Preparation

3.1.1 Area Preparation

The minimum space requirements for the standard S Series Semi-Automatic are listed below. Additional space may be required depending on machine options.

<u>Machine Wrap Height</u>	<u>Space Required</u>
80" (203cm) Wrap Height	134"W x 172"L x 122" H (381cm x 437cm x 310cm)
110" (279cm) Wrap Height	134"W x 172"L x 152" H (381cm x 437cm x 386cm)

NOTE: When locating the machine, the operating space of the machine should be a minimum of 30" (76cm) from walls or other structures.



CAUTION

These requirements **DO NOT** reflect OSHA, local or other regulatory standards or requirements.

3.1.2 Floor Requirements

The S Series Stretch Wrapping System will need to operate on a flat, level surface. If the floor is not completely level, shims may be used under the support leg base plate and outriggers. Shim instructions are included in the Machine Assembly section.



WARNING

The S Series Stretch Wrapping System requires a concrete floor thickness of at least 6" (15cm) and 3000-PSI (211 kg/cm²) load capacity. Anchor bolts shall not be located within 10" (25cm) of a crack or expansion joint.

NOTE: If these concrete floor requirements cannot be met, contact your Lantech representative for assistance.

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3.1 Installation Preparation (Cont'd)

3.1.3 Electrical Requirements

The standard S Series machine requires a dedicated single phase grounded electrical supply. The standard machine requirements are:

- ⇒ 115Volts AC
- ⇒ 20 Amps
- ⇒ 1-Phase
- ⇒ 60 Hertz

Refer to the machine identification tag located on the main control enclosure or the electrical drawings for specific electrical requirements.



CAUTION

**DO NOT USE EXTENSION CORDS WITH THIS MACHINE.
The Use Of Extension Cords Or Any Alterations May Result In Damage To
The Electrical Circuits And/Or Affect Machine Performance And Void The
Machine Warranty.**

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3.2 Personnel, Equipment and Tools

The following lists include personnel, equipment, and tools required for the installation of the S Series System. These lists are minimum requirements and may require additional resources, depending on machine complexity.

Personnel

- 1 Forklift Operator
- 2 Mechanical Technicians
- 1 Electrical Technicians

Equipment

- 1 Forklift with 4000 lbs (1815kg) capacity and at least 15' (457cm) Lift
- 1 Personnel Safety Cage (For Forklift) Or Work Platform
- 1 Ladder

Tools

- Metric And Standard Size Wrenches And Sockets
- Allen Wrenches
- Torque Wrench
- Impact Wrench
- Hammer Drill
- 11/16" Masonry Drill Bit – 6" (76cm) Long
- 18mm Masonry Drill Bit – 6" (76cm) Long (Use With Expansion Type Anchors For Cold/Freezer Application)
- 1 Lifting Chain
- 2 – 10' (305cm) Long Lifting Straps – 2000 lbs (907kg) Capacity
- 2 – 2000 lbs (907kg) Shackles
- Leveling Equipment

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3.3 General Machine

The S Series System is completely tested prior to shipment. When the final testing is complete, the machine is crated on one (1) pallet with the machine separated into three (3) main sections for shipment.

1) Support Leg With Main Control Enclosure

Approximately 11' to 15' (335cm to 457cm) long and 8 5/8" (219mm) diameter steel tubing.

(Minimum schedule 40) and bolt on floor supports (outriggers). The main control enclosure is mounted to the support column.

2) Wrap Arm Assembly with Roll Carriage (Film Delivery System)

Includes the film delivery system and the roll carriage lift drive.

3) Top Frame Assembly

A welded frame assembly with Ring Bearing

3.3.1 Installation Hardware

Assembly hardware is provided for the S Series Stretch Wrapping System. The assembly hardware shall be used to assemble the machine and shall be tightened to the listed torque values for specific sized fasteners.

Anchor Bolts are provided for the Support Leg and Outriggers only.

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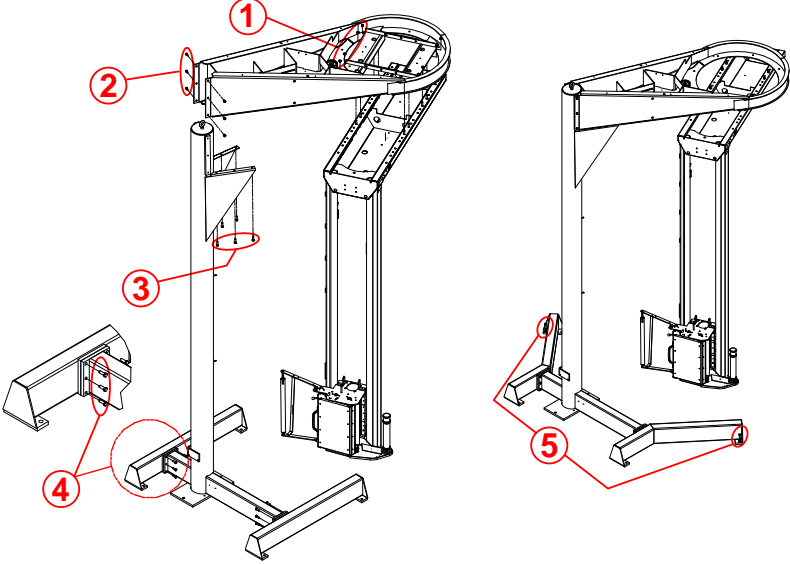
3.3 General Machine (Cont'd)

3.3.2 Torque Reference Charts

Metric Fasteners Torque Reference Chart		
Fastener Size	Property Class	Torque ft-lbs (Nm)
6mm	8.8	10 (14)
8mm	8.8	18 (24)
10mm	8.8	35 (47)
12mm	10.9	75 (102)

WARNING

Do Not Over Torque Bolts. Too Much Torque Can Stretch Or Damage The Threads Or The Bolt Which Could Cause The Fastener To Loosen Or Fail. Use An Appropriate Torque Wrench Where Applicable And The Described Method To Tighten Specific Fasteners.



1	Quantity 8: M12-1.75 Hex Nuts Class 10.9	Tighten to 75 ft/lbs. (102 Nm)
2	Quantity 6: M12-1.75 x 20mm Long Flanged Head Bolts – Class 10.9	Apply LocTite to both male and female threads and tighten to 75 ft/lbs. (102 Nm)
3	Quantity 6: M12-1.75 x 40mm Long Flanged Head Bolts – Class 10.9	Apply LocTite to male threads only and tighten to 75 ft/lbs. (102 Nm)
4	Quantity 12: M12-1.75 x 35mm Long Flanged Head Bolts – Class 10.9	Apply LocTite to both male and female threads and tighten to 75 ft/lbs. (102 Nm)
5	Leveling Bolts Quantity 2: M12-1.75 x 55mm Long Flanged Head Bolts – Class 10.9	

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3.3.2 Torque Reference Charts (Cont'd)

Anchor Bolts Torque Reference Chart		
Anchor Size	Grade/ Property Class	Torque ft-lbs (Nm)
5/8"	(GR) 8	75 (102)
12mm	(PC) 10.9	60 (81)

NOTE: All Anchor Bolts are 316 Stainless Steel.

- The 5/8" anchor bolts are the standard epoxy type anchors for the S Series Stretch Wrapper System.
- The 12mm anchor bolts are expansion type anchors and are intended for use in cold/freezer environments only.

3.3.3 Anchor Bolt Adhesive Cure Time Chart

Anchor Bolt Adhesive Cure Time	
Concrete Temperature	Cure Time
23° to 32° F (-5° to 0° C)	5 Hours
33° to 50° F (1° to 10° C)	1 Hour
51° to 68° F (11° to 20° C)	30 Minutes
Above 68° F (Above 20° C)	20 Minutes



WARNING

Do not use the adhesive anchoring system if the concrete floor temperature is less than 23° F (-5° C).

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3.4 Machine Assembly

The S Series Stretch Wrapping System should be assembled using the steps listed in this section. These steps should be completed in the order they are listed.

NOTE: Complete each step before proceeding to the next step.

NOTE: The illustrations used are for reference purposes only and may not reflect the specific machine.

3.4.1 Step-By-Step Assembly

Step 1:

Move machine to the setup area.

Move the shipping skid, with the machine still secured to the skid, to the area where the machine is to be installed.

Step 2:

Remove packing material.

Remove all packing and banding materials. Remove any lag bolts, brackets and boards used to secure the machine to the shipping skid.

Step 3:

Remove the support leg from the shipping skid and raise the leg to the upright position.

Use a forklift to remove the support leg from the shipping skid and remove the shipping brackets. Attach a chain or other suitable lifting device to the eyebolt on the top of the support leg and secure to the forklift. Slowly raise the leg until it is in the upright (standing) position. Move the support leg to the installation location and leave forklift attached to the support leg.

WARNING

Do Not Remove The Lifting Chain/Strap Until The Floor Supports (Outriggers) Have Been Attached To The Support Leg. The Support Leg Is Unstable And May Fall Over.



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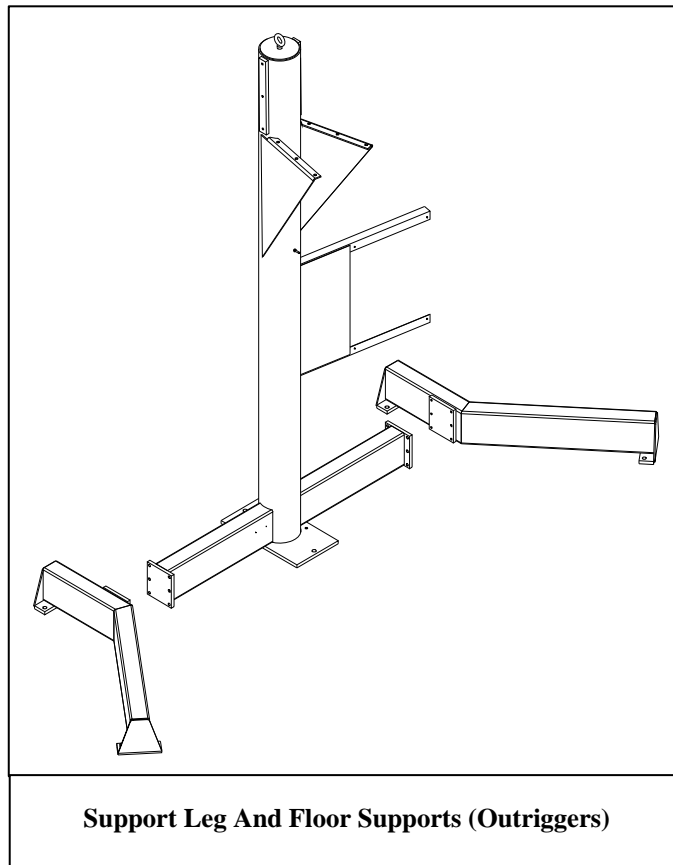
3.4.1 Step-By-Step Assembly (Cont'd)

Step 4:

Attach the floor supports (outriggers) to the support leg.

Attach the floor supports using the 12 - M12 x 35mm flanged head bolts. Tighten the bolts per the Torque Reference Chart. Once the bolts are tightened, the lifting chain can be removed from the support column.

NOTE: Step 5 Includes Installation Instructions For Both Adhesive Anchors And Expansion Anchors. Adhesive Anchors Are The Standard Anchoring System For The S Series Machine. Expansion Anchors Are Used For Cold/Freezer Environments Only.



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3.4.1 Step-By-Step Assembly (Cont'd)

Step 5:

Set the support leg in place and install the floor anchor bolts.

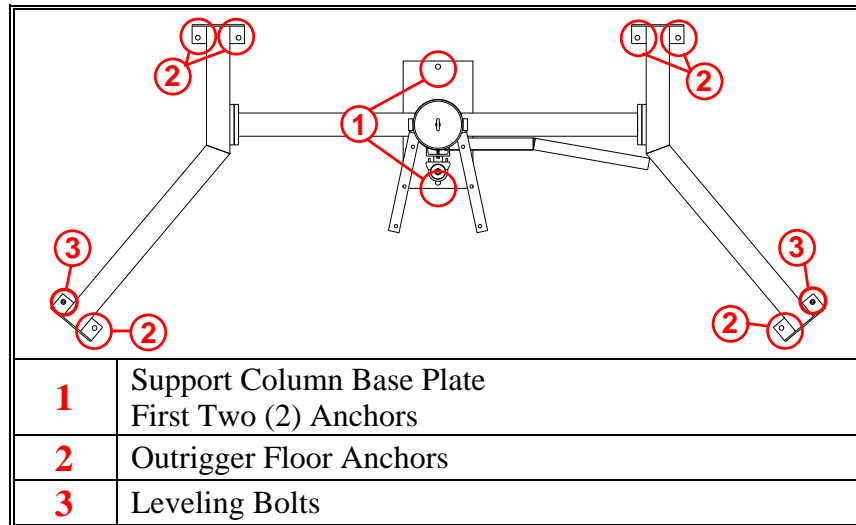
Adhesive Anchors

Drill holes in the concrete floor for the first two (2) anchor bolts. The holes should be 11/16" diameter and 5" (127mm) deep. If the hole is drilled more than 5 1/4" (134mm) deep or the concrete breaks through the bottom of the hole as the 5" (127mm) depth is reached use a wooden plug or other suitable material to reinforce the bottom of the hole. The hole must have a solid bottom in order to hold the adhesive in place while it cures. Once the holes have been drilled, use a vacuum or compressed air to remove any dust or debris from the holes.

Drop the adhesive cartridge into the anchor hole. Jam two (2) nuts, with a washer between them, together at the top of the anchor bolt. Use an impact wrench with socket to drill the anchor bolt into the adhesive cartridge. The purpose is to thoroughly mix the adhesive by drilling the anchor bolt through the adhesive cartridge to the depth band on the stud.

Complete the anchor installation using the floor supports as a template to drill the remaining six (6) holes and installing the anchors.

NOTE: Allow The Adhesive To Cure Before Proceeding With The Next Step. See Anchor Bolt Adhesive Cure Time Chart.



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3.4.1 Step-By-Step Assembly (Cont'd)

Step 5: (Cont'd)

Expansion Anchors (Cold/Freezer Environment)

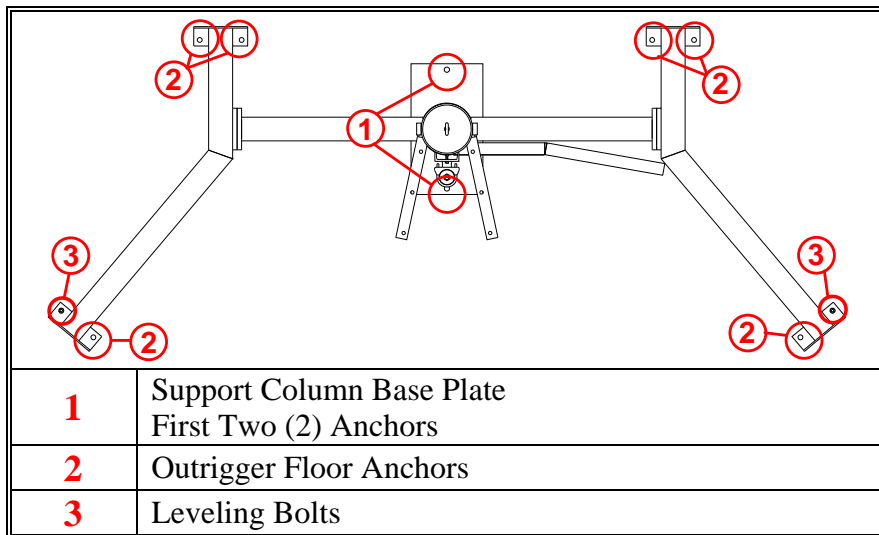
Drill holes in the concrete floor for the first two (2) anchor bolts. The holes should be 18mm diameter and 4" (102mm) deep. Once the holes have been drilled, use a vacuum or compressed air to remove any dust or debris from the holes. Insert anchor sleeve into the hole.

Complete the anchor installation using the floor supports as a template to drill the remaining six (6) holes and installing the anchors.



DANGER

Only Use The Anchors Supplied By Lantech To Anchor The Machine To The Floor. The Use Of Anchors Other Than Those Supplied By Lantech May Cause A Hazardous Situation Or Injury And May Also Void The Machine Warranty.



Step 6:

Install and hand tighten the floor anchors

Once the anchors have been installed (the adhesive anchors are cured or the anchor sleeves inserted), start and tighten all the anchors.

NOTE: Do Not Torque The Anchors At This Time.

INSTALLATION INSTRUCTIONS

3.4.1 Step-By-Step Assembly (Cont'd)

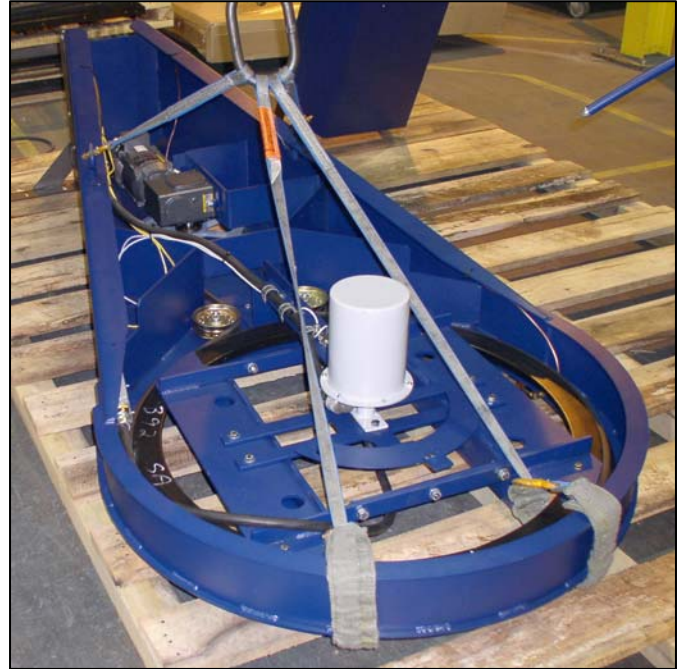
Step 7:

Mount Top Frame Assembly To Support Leg

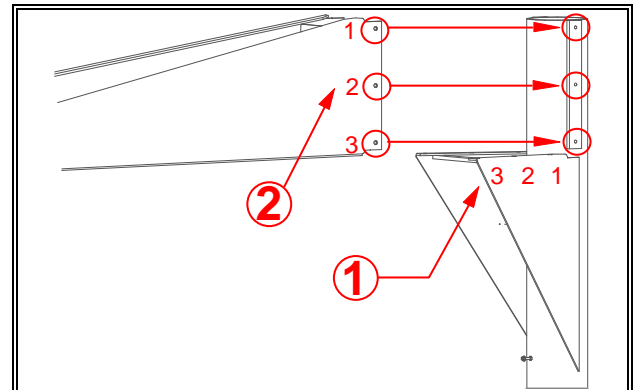
Loosen the wrap arm rotation drive mounting bolts and belt tensioner assembly until the wrap arm saddle can be rotated by hand. This will aid in wrap arm mounting, leveling the machine and painting the floor for the wrap arm path.

Attach lifting straps to the top frame assembly as shown. Slowly lift the top frame assembly to the top of the support leg. Align the side mounting holes, then start and hand tighten the top two (2) M12 x 20mm flanged head bolts. Align the lower mounting holes, then start and hand tighten the six (6) M12 x 40mm flanged head bolts. Start and hand tighten the remaining four (4) M12 x 20 mm flanged head bolts on the side of the leg. Tighten the six (6) bottom bolts first, starting with the bolts closest to the leg, to the specified torque and then tighten the side bolts, starting at the top, to the specified torque. Refer to the Torque Reference Chart (Section 3.3).

NOTE: When lifting the top frame, care should be taken to avoid damaging the conduits, cables, and grease line on the inside and underside of the top frame assembly.



Typical Lifting Configuration



Top Frame To Support Column Mounting

1	Tighten Bottom Bolts First
2	Tighten Side Bolts Last

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3.4.1 Step-By-Step Assembly (Cont'd)

Step 8:

Mount the wrap arm assembly to the top frame.

Attach a lifting strap to the wrap arm and to the forks of the forklift. Carefully lift the wrap arm into place. Alignment decals have been placed on the wrap arm as well as on the wrap arm saddle on the top frame assembly. Use the alignment decals to locate the wrap arm. The wrap arm has 8 – M12 studs installed to attach to the saddle. Line up the studs on the wrap arm saddle and secure with lock washers and nuts. Attach the quick connect plug from the slip ring assembly to the receptacle in the wrap arm assembly.

NOTE: Remove shipping bracket on roll carriage before installing the wrap arm. Refer to label on roll carriage.



Wrap Arm Balance Point - Mounting The Wrap Arm



Typical Quick Connect In Wrap Arm



Typical Shipping Bracket



Wrap Arm Mounting And Alignment

INSTALLATION INSTRUCTIONS

3.4.1 Step-By-Step Assembly (Cont'd)

Step 9:

Level the machine and shim the machine base.

Once the wrap arm is installed, loosen the wrap arm drive belt to allow the wrap arm to be rotated by hand. Measure the distance between the bottom of the wrap arm and the floor. The machine base must be shimmed so the wrap arm is a uniform distance to the floor throughout the full wrap arm rotation. This dimension should be approximately 1 – 1 ½" (25-38mm) after shimming. This assures the machine will wrap consistently and uniformly at the bottom of the load.

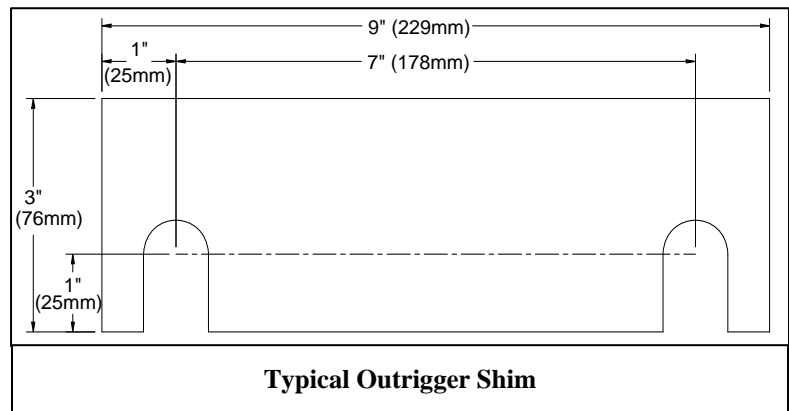
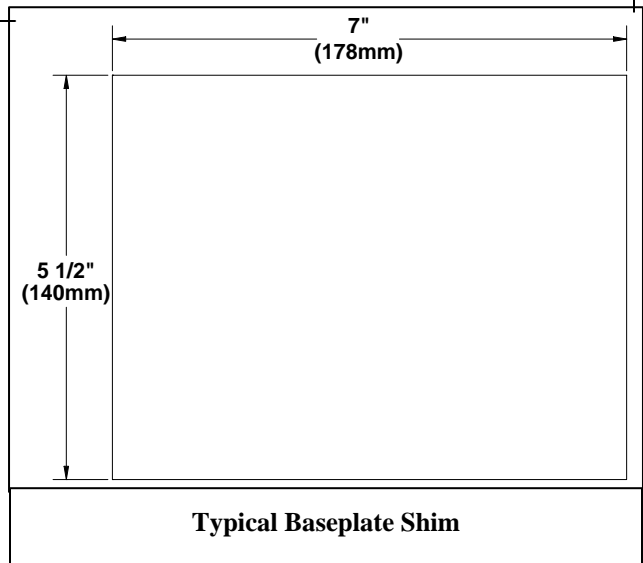
NOTE: Use a bubble level to check the wrap arm for level at the same points where the wrap arm is measured to the floor.

The outrigger pads are equipped with leveling bolts to assist in leveling the machine.

Shims have been provided for the leg base plate and for the outrigger pads. Each shim is 1/16" (2mm) thick and a quantity of 20 have been provided for the base plate and 20 have been provided for the outrigger pads.



Measurement Between Wrap Arm And Floor

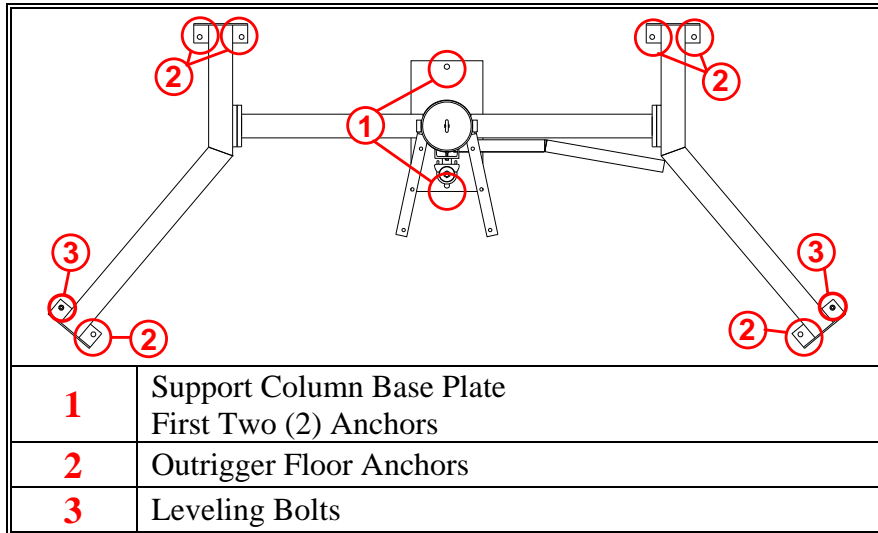


INSTALLATION INSTRUCTIONS

3.4.1 Step-By-Step Assembly (Cont'd)

Step 9: (Cont'd)

Use the leveling bolts on the outrigger pads to level the machine and insert shims where necessary. Once the machine has been leveled, tighten the anchor bolts (**Do Not torque bolts at this time**) and verify the wrap arm to floor dimension. Once the machine has been leveled, re-tension the wrap arm drive belt.



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3.4.1 Step-By-Step Assembly (Cont'd)

Step 10:

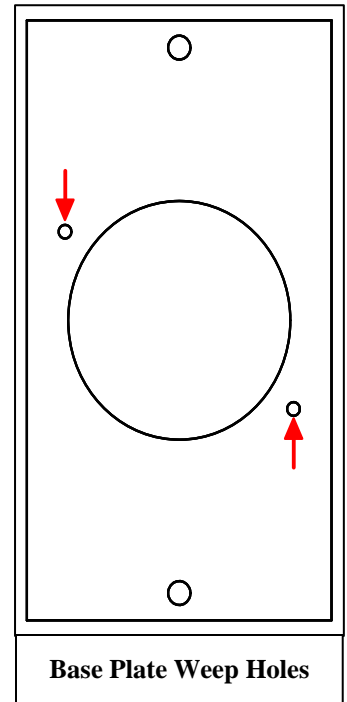
Grout the machine base plate.

Shimming the base plate will create a void under the machine base plate. Grouting the base plate will provide a solid base and will prevent foreign matter from being trapped under the base plate. Using the caulk provided, completely seal the gap between the machines base plate and the floor all the way around the base plate. Caulk thoroughly to ensure grout does not leak out. Allow the caulk to dry to touch before proceeding to the next step (Approximately 2-3 hours).

NOTE: The outrigger pads will not be grouted.

Mix the grout according to the manufacturers directions. Remove the eyebolt located at the top of the support leg. Using a funnel or similar device, slowly pour the grout mixture into the hole at the top of the leg. The grout will fill the voids under the support leg base plate.

The base plate has a “weep” hole on each side of the support leg. Monitor these holes in the base plate to ensure grout is visible in both holes. Grout should be poured until both holes have been filled with grout. Allow the grout to cure before proceeding to the next step. See Grout Cure Time Chart.



Grout Cure Time	
Temperature	Cure Time
60°F (16° C)	1.5 Hours
70°F (22° C)	1 Hours
80°F (27° C)	40 Minutes
90°F (33° C)	30 Minutes

NOTE: If using in a cold environment, grout should be prepared outside the cold environment. Do not use grout if temperature is below 25° F (-4° C). The cure time will be extended due to cold temperatures. When using grout at 25° F (-4° C), the cure time required will be 16 to 24 hours.

Step 11:

Torque the anchor bolts

Once the grout has cured, tighten the anchor bolts to the recommended torque using the Anchor Bolt Torque Reference Chart.

INSTALLATION INSTRUCTIONS

3.4.1 Step-By-Step Assembly (Cont'd)

Step 12:

Extend the wrap arm bumper and check the safety switch.

Extend the wrap arm bumper. Check that the wrap arm bumper safety switch activates when the bumper is compressed and when the bumper breaks at the pivot point. Also check the safety latches.

Step 13:

Route and connect the electrical connector from the control enclosure to the top frame.

Route and connect the electrical connector from the control enclosure on the support leg to the receptacle on the underside of the top frame at the support leg.



1	Safety Latches
2	Safety Switch



Safety Bumper Switch – Bumper Extended



Electrical Connector And Beacon

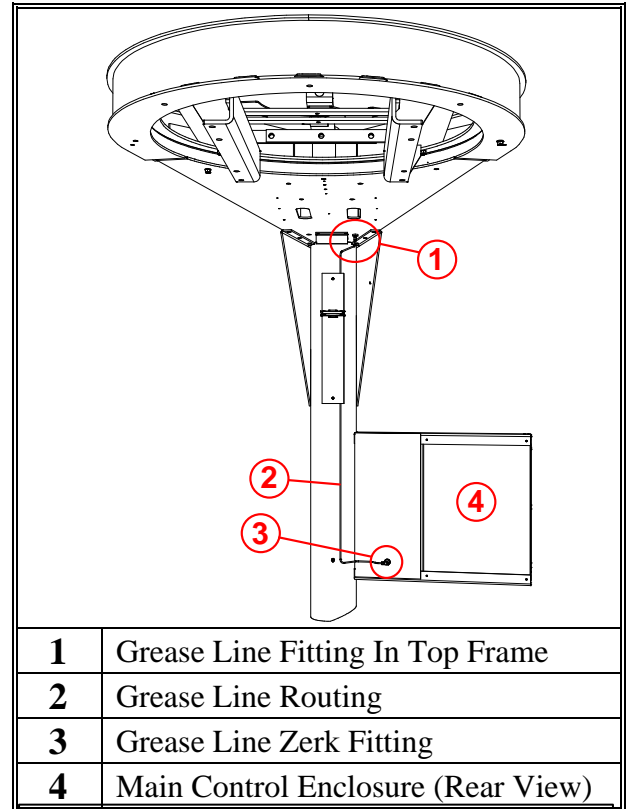
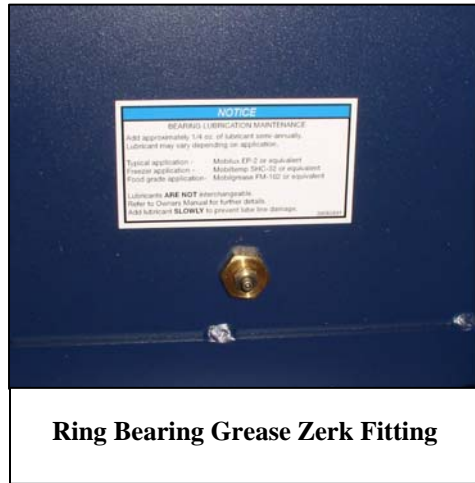
INSTALLATION INSTRUCTIONS

3.4.1 Step-By-Step Assembly (Cont'd)

Step 14:

Attach the ring bearing grease line between the top frame and the zerk fitting.

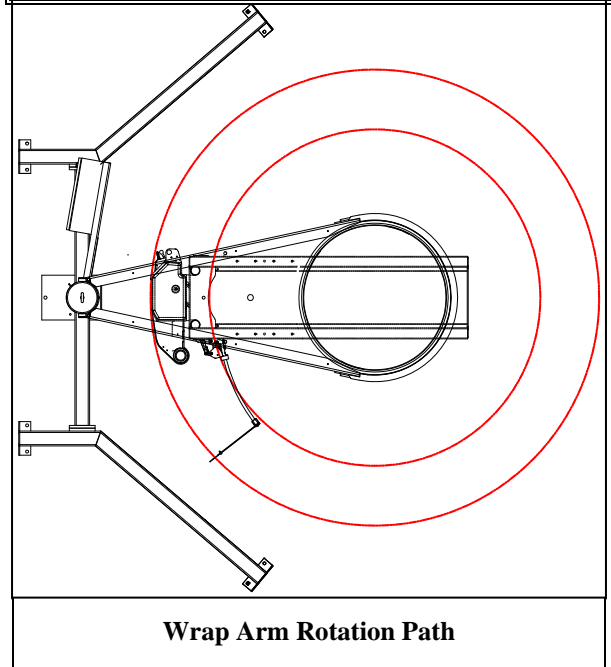
Attach the supplied ring bearing grease line to the fitting in the top frame and route to the zerk fitting adjacent to the control enclosure.



Step 15:

Attach the paint roller to the wrap arm bumper and paint the floor to show the wrap arm path.

The purpose of this step is to mark the floor to show the inside and outside arcs of the wrap arm path. Marking the floor to show the wrap arm path will assist in load placement and wrap arm safety clearance. A paint roller kit is included to for painting the circles of the wrap arm path on the floor. Refer to the paint roller kit drawings.



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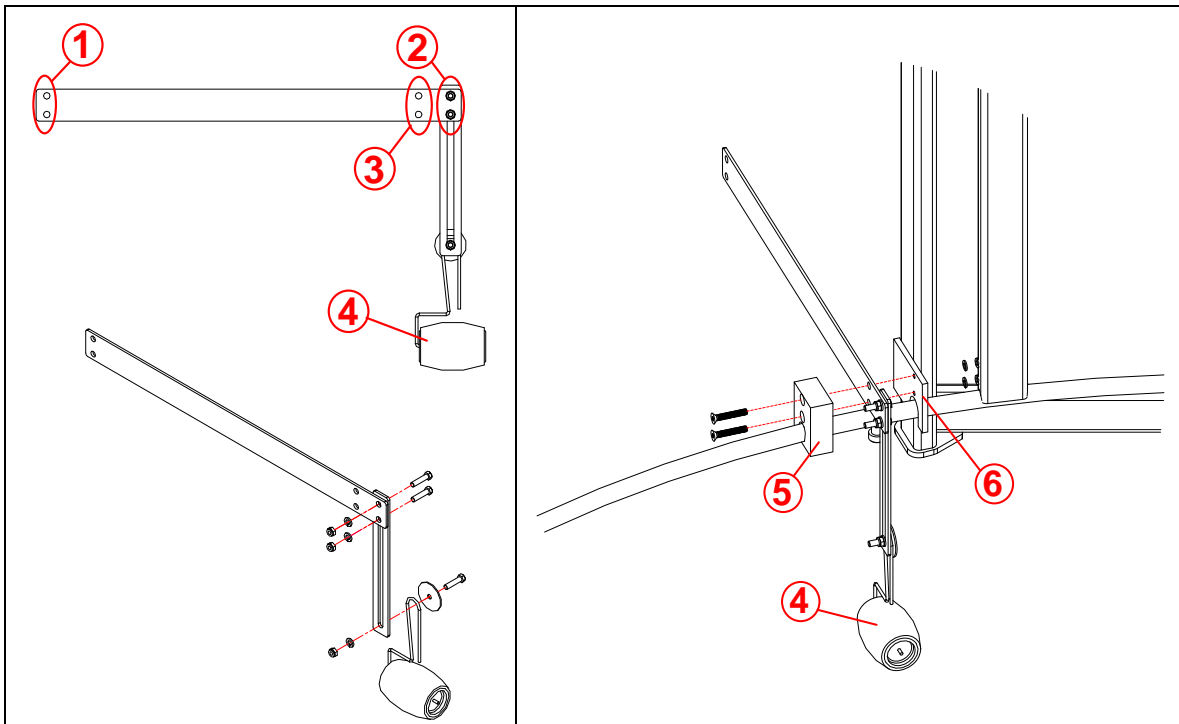
3.4.1 Step-By-Step Assembly (Cont'd)

Step 15: (Cont'd)

Assemble the paint roller kit. Refer to the paint roller kit drawings. Attach the paint roller assembly to the wrap arm safety bumper assembly by removing the mounting bolts on the lower bumper guide block and inserting the paint roller assembly between the guide block and the guide block mount on the wrap arm. Refer to the paint roller kit drawings.

Adjust the paint roller to contact the floor and tighten bolts. Apply paint to the roller and slowly rotate the wrap arm until the entire circle is complete.

Move the paint roller to the outside path mounting location and paint the outside circle. Remove the paint roller assembly and remount the guide block. Check the bumper for smooth movement through the guide block.



1	Paint Roller Mounting – Outside Rotation Path
2	Paint Roller Mounting – Inside Rotation Path
3	Guide Block Bracket Mounting
4	Paint Roller
5	Guide Block
6	Guide Block Mount

Note: An alternative method is to attach a marker to the inside and outside of the safety bumper to mark the floor then paint along the marked circles.

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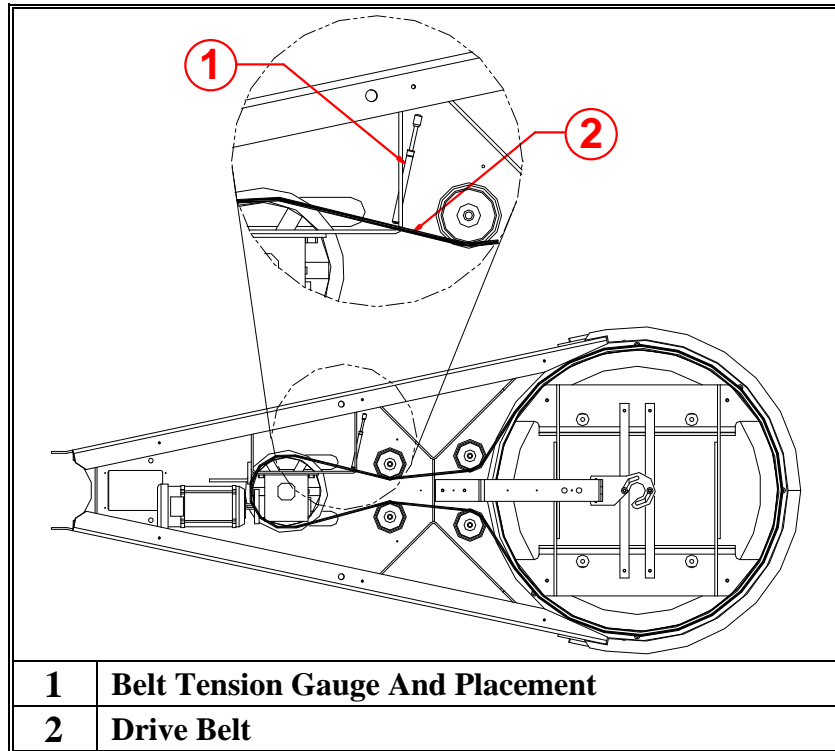
3.4.1 Step-By-Step Assembly (Cont'd)

Step 16:

Tighten the wrap arm rotation drive belt and tighten the drive mounting bolts.

Tighten the wrap arm rotation drive belt tensioner assembly. Use a tension gauge to check and set the correct tension on the drive belt. Use the illustration and table below to adjust the drive belt to the proper tension.

NOTE: The Drive Belt Tension Should Be Checked And Adjusted After The First 100 Wrap Cycles.



Wrap Arm Rotation Drive Belt Tension			
New Belt		Used Belt	
Deflection	Force	Deflection	Force
7/32" (5mm)	17 lbs. (7.7 kg)	7/32" (5mm)	12 lbs. (5.4 kg)

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3.4.1 Step-By-Step Assembly (Cont'd)

Step 17:

If additional options require installation, refer to Section 7 “Optional Features” for installation instructions before proceeding.



CAUTION

Do Not Apply Power To The Machine Until A Lantech Certified Technician Has Approved The Installation.

Step 18:

Connect the power cord to the electrical supply.

The machine is equipped with a 12' (366cm) power cord. The electrical service outlet must be within 12' (366cm) of the machine (**Do Not use an extension cord**). The power cord has a 20-amp plug and must be used with a 20-amp receptacle.

Step 19:

Place a roll of film on the roll carriage to begin running the machine.

Once the electrical supply has been connected, the machine is ready to begin wrapping. Refer to Section 4 “Operator Instructions” for film loading and operating the machine.

ATTENTION

- **The Exposed Metal Parts Of This Machine Have Been Treated With A “Heavy” Rust Preventative Substance Prior To Shipment.**
- **The Rust Preventative Can Be Removed Using Mineral Spirits Or Similar Cleaner.**
- **If The Heavy Rust Preventative Is Removed, The Exposed Metal Should Be Treated Using A “Light” Rust Preventative Substance Prior To Operating The Machine.**

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