

LP FINAL ASSEMBLY & INSTALLATION

The positioner provides a means for aligning and indexing the rigid lancing machine from tube to tube. It has an X and Y motion, along a straight line in either direction. It can be remotely operated, allowing further separation of the operators from the waterjets.

The first step is to assemble the positioner as described below; continue with the assembly of the lancing machine.

Vertical Installation:

A vertical setup requires scaffolding to support the positioner. Typically, the scaffold bars are passed thru the scaffold weldments (loops). The positioner supports the lancing machine. No rear support is used. As in horizontal lancing, the cross motion of the positioner should be aligned with the tube rows, so moving from tube to tube only requires moving one axis. The scaffolding must be rotated to achieve this. Since it is very difficult to perfectly align the tube rows with the machine, occasional adjustments must be made on the other axis. The weight of the positioner, scaffolding and lancing machine counter the jet thrust.

Horizontal Installation:

Begin with the placement of the lance positioner. For lancing rails 15 feet or shorter, the lance positioner may be used as the only support for the lancing machine. The lance positioner should be placed back from the tube bundle face at 5 to 7 feet. If the bundle is on rollers, it should be positioned so the tube rows are horizontal. It is recommended that the positioner be placed on jacks for stability instead of on the wheels. Use the leveling jacks to further align the horizontal axis of the positioner with the tube rows. Connect the support rods between the bundle and the positioner. Next, set up the rear support, in line with the positioner where the rear of the lancing machine will be located. If the lance or lances are not in the lancing machine, they should be installed now. Place the lancing machine (with lances) on the positioner and attach the rear support chain hook to the eye on the rear of the machine. Attach the high pressure hose to the swivel inlet or the manifold on multiple lance machines. Flush the system at this point; water should be coming through the lances. Once flushed, properly prepare the lance ends and attach the nozzle tips. These should be right handed threads so the tip will be tightened by the rotation of the lance when in operation. Slide the lancing machine toward the tube sheet, until the front splash guard is within 1 to 2 inches of the tube sheet face. Tighten the clamps holding the lancing machine to the positioner.

Step 5: Install the (2) Upper Corner Assys into the Cross Tie using (2) Wedge Bolts. Note Wedge orientation.

Step 6: Install the upper Cross Tie assembly into the vertical rails and install (2) Wedge Bolts. Note Wedge orientation.

BRUD 145 (2) Brace

UD 060 (2) C Clamp

Note expansion in vertical direction for vertical rails.

Note expansion in horizontal direction for horizontal rails.

LP 094-L (2) Corner Assy

Step 1: Install the (2) Lower Corner Assys into the Cross Tie and install the (4) Leg Options using (6) Wedge Bolts to form the base. Note Wedge orientation.

LP 330-XXX Leg Options See Detail

Step 2: Assemble Carriage. See detail on the following page.

Airmotor for Left/Right movement

Airmotor for Up/Down movement

LP 078-X (2) Cross Tie

LP 110 (2) Assy, Brace Clamp

Step 7: Install Brace Clamp Assys onto Cross Beam and install braces into Clamp as shown.

LP 094-U (2) Corner Assy

BR 008 (12) Wedge Bolt

LP 076 (2) Rail, Slotted Vt

Step 4: Position Vertical Rails thru carriage rollers and start gears into rail slots. Using air power, drive the Vertical Rail over the corner insert and into the seated position. Install (2) Wedge Bolts. Note Wedge orientation.

Step 3: Allow the bottom edge of both Side Plates on the Carriage Assembly to rest on the top surface of the lower Cross Beam and center the carriage between corner inserts.

MOUNTING LP 200 WHEEL KIT STEERING/TILT

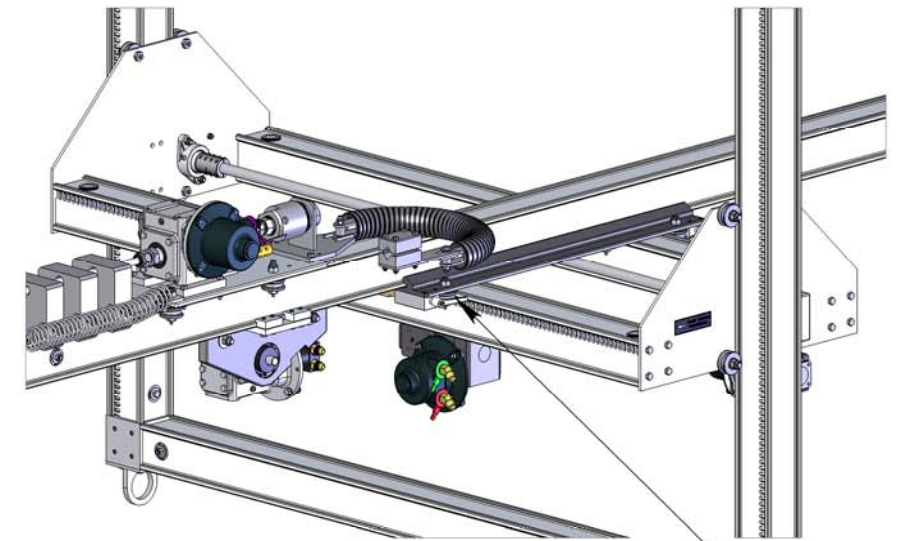
LP 162 Steering Axle Assy or LP 140 Channel Jack Assy

LP 098 Corner Post for mounting wheel kits

Corner Assy will require LP 098 Corner Post to mount wheel kits

Install over mounting post and bolt in place.

LP 097 SCAFFOLD WELDMENT



TO INSTALL LANCING MACHINE ON CARRIAGE:

Loosen both handles on Carriage Assy, slide Rail in between angled clamping plates on Carriage and re-tighten handles.

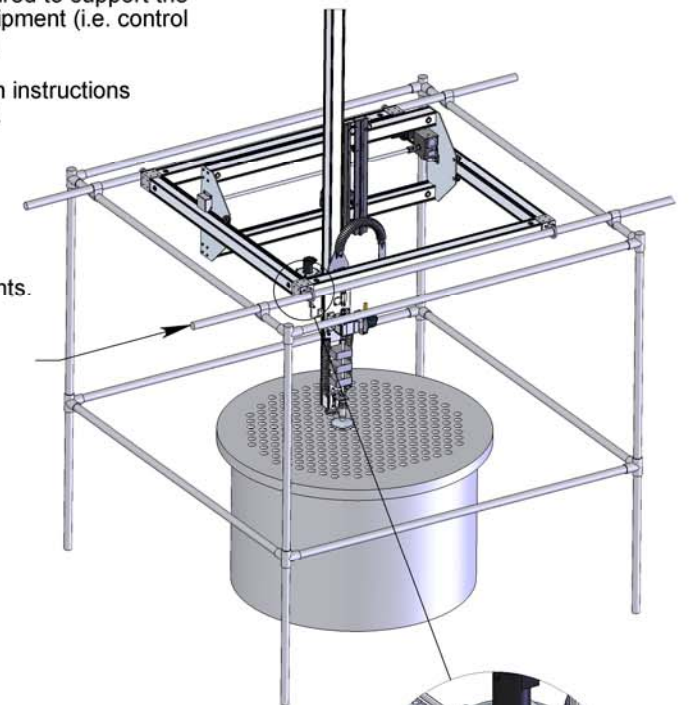
FOR VERTICAL INSTALLATION:

Proper scaffolding will be required to support the operator(s) and additional equipment (i.e. control box, dump valves, hoses, etc.)

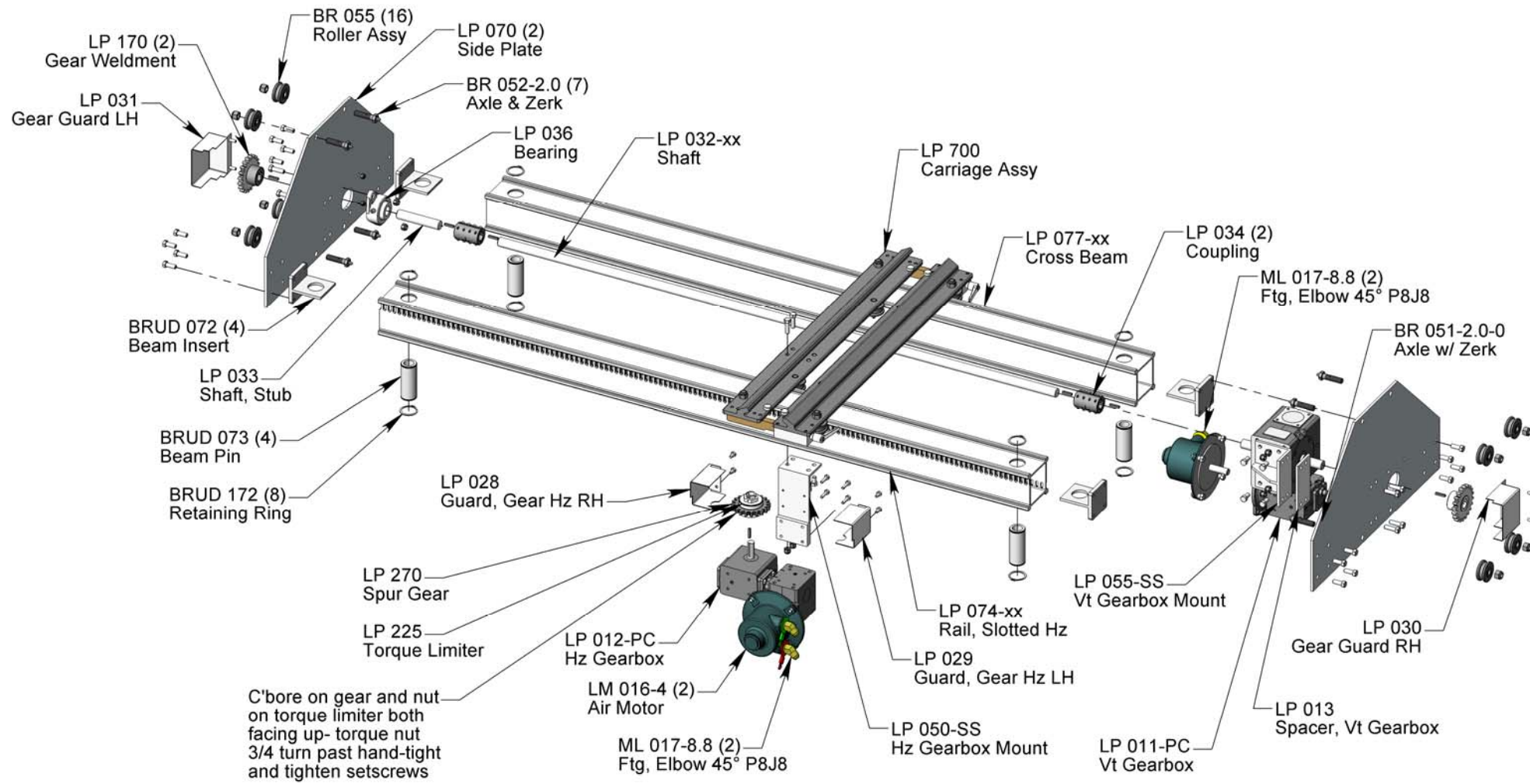
Follow the same LP installation instructions as in the horizontal orientation.

1) Remove wheel kits from the LP Frame

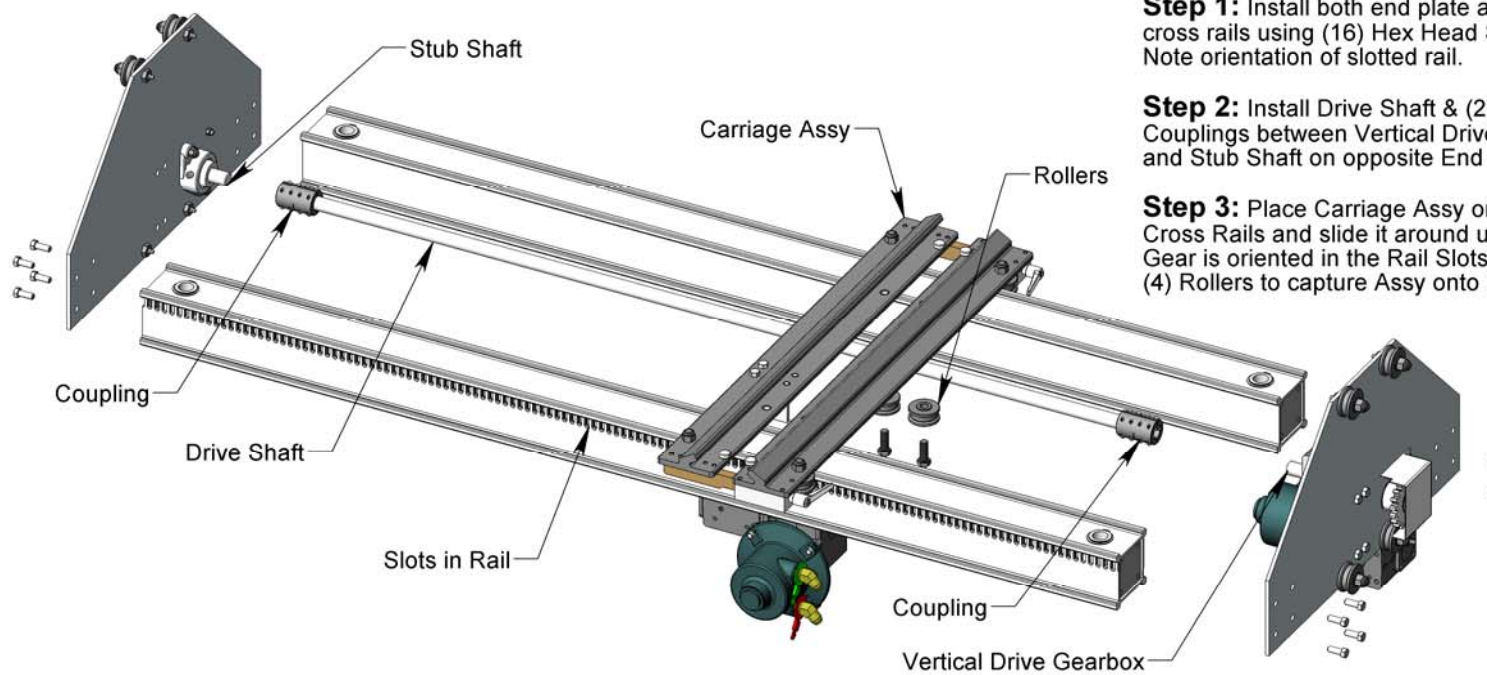
2) Insert 2" Ø scaffolding through both scaffold weldments. Both of these pipes should be supported by scaffolding. By supporting in this manner, the LP assembly can be moved about on the scaffolding to the desired position.



LP SUBASSEMBLY PARTS LISTS



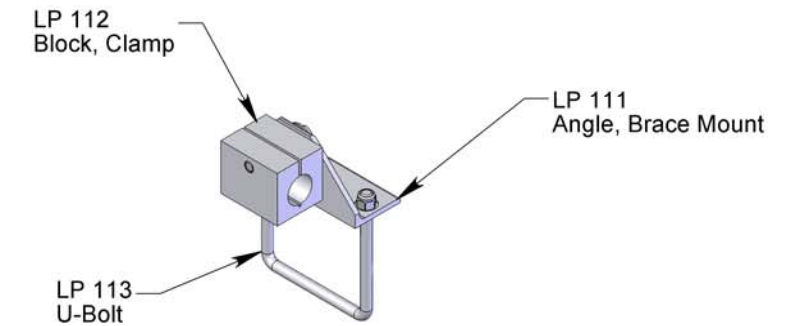
CARRIAGE ASSEMBLY DETAIL



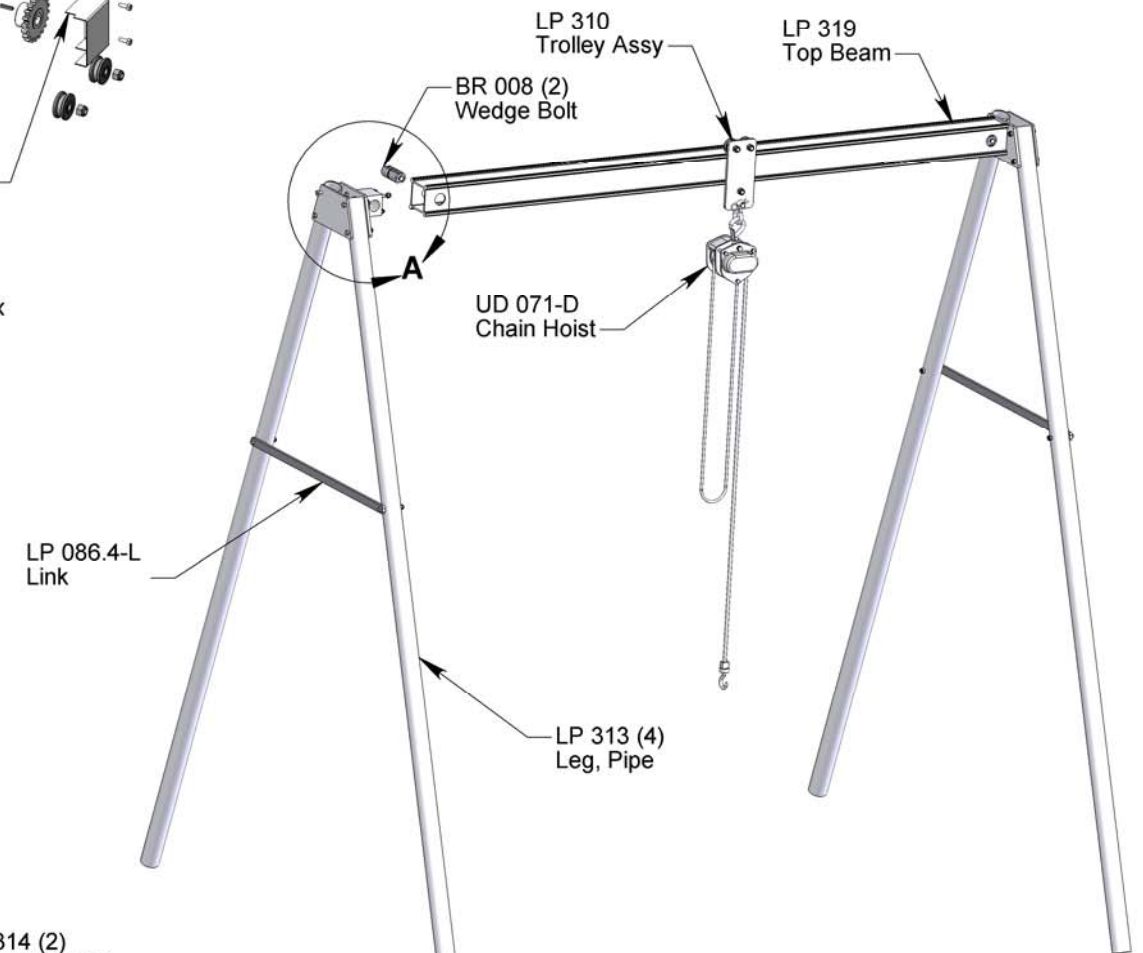
Step 1: Install both end plate assys onto cross rails using (16) Hex Head Screws. Note orientation of slotted rail.

Step 2: Install Drive Shaft & (2) keyed Couplings between Vertical Drive Gearbox and Stub Shaft on opposite End Plate.

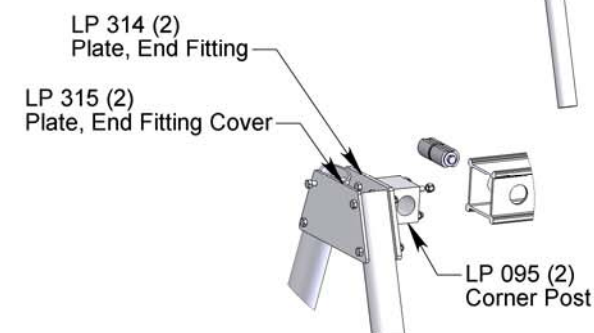
Step 3: Place Carriage Assy onto top of Cross Rails and slide it around until the Gear is oriented in the Rail Slots. Install (4) Rollers to capture Assy onto Rails.



LP 110 BRACE CLAMP ASSEMBLY



LP 320 REAR SUPPORT



LP SUBASSEMBLY PARTS LISTS

