

**Technical Bulletin M/L – 701****Installation and Leveling Instructions
for WXL Micro/Level® Isolators**

Vibro/Dynamics Technologically Advanced Machinery Installation Systems are an investment in productivity and efficiency. To realize the full potential of your investment, familiarize yourself with these instructions and use them as a reference during the installation.

The way that your machine is installed has a significant effect on its performance. The four conditions required for a good machine installation and best performance are:

- machine bed in one plane (level)
- precise alignment and parallelism of machine structure
- proper support
- effective control of vibration.

Vibro/Dynamics Isolators make it possible to accomplish all of these steps to an ultra-high degree of precision and to do so very quickly. When the machine is fine-tuned and leveled, the machine will produce high quality parts with minimum wear and tear on dies and machine components. Downtime, noise, and vibration will be reduced, and productivity and efficiency will be increased.

INSTALLATION AND LEVELING INSTRUCTIONS

Preparation

1. See Vibro/Dynamics M/L Bulletin 688 for Foundation and Pit Design Guidelines.
2. The concrete surface under the isolator must be clean, flat, and trowel finished. There should not be any holes, cracks, or lumps directly under the isolator. Patch all holes and broken concrete.
3. Clean and inspect the machine feet and legs. Repair any cracks or damage. The bottom of the machine feet must be clean and flat where it contacts the top of the isolators. Clean any debris from the mounting holes.

Installation

WXL Isolators come equipped with a horizontal leveling adjustment screw. The isolator does not have to be centered about a machine's mounting hole and can be placed under the machine foot at a location that offers the best support.

WXL Isolators are supplied with anti-slip pads, for placement between the machine foot and the isolators, or as an option, with a hold-down bolt assembly for fastening the WXL Isolator to the machine foot.

Location of the hold-down bolt is determined at the time of the isolator quotation and selection and fixes the placement of the isolator under the machine foot. WXL Isolators equipped with hold-down bolts are designated with a trailing part number indicating the hold-down bolt size. *For example*, a "30WXL2882 – **1.5M12**" indicates a 30WXL2882 Isolator with a 1.5" diameter bolt, 12" long.

WXL Isolators are usually installed using one of the following methods:

- **One**, if a machine is already in place; the isolators can be slid under the machine feet.
- **Two**, if the machine is being rigged and the isolators are equipped with optional hold-down bolts; the isolators can be bolted to the machine base outside the pit, and then lowered into the pit as a unit.
- **Three**, the isolators are placed in the pit and then the machine lowered onto the isolators (*recommended*).

Method One

1. With the machine supported by cribbing, slide the isolator into position under the machine foot. Use steel pipe, round stock, or heavy wall PVC pipe as rollers.
2. The isolator has a swiveling capability that allows the housing to rotate on the bearing plate sub-assembly. Make sure that isolator housing is square with the bearing plate sub-assembly.
3. Insert the anti-slip material between the feet and the isolators.
4. For isolators supplied with hold-down bolts, position each isolator under the machine foot so there is uniform clearance between the threaded hole in the isolator and the inside surface of the mounting hole (see Figure 1). Any contact between the hold-down bolt and the inside surface of the mounting hole as it is turned into the isolator housing can cause the leveling screw to jam.
5. Lower the machine onto the isolators, making sure that no metal chips or debris fall into the isolator's threaded hole. This may cause the leveling bolt to jam.
6. Align the machine to feed line, scrap conveyors, etc.
7. Proceed to the Leveling Section.

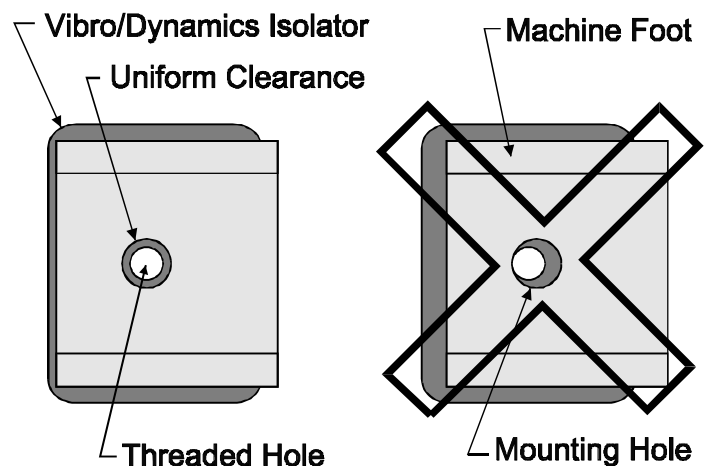


FIGURE 1

Method Two

1. Remove all packaging and strapping. Keep the isolator on its original shipping skid.
2. Insert the hold-down bolt into isolator with lock nut removed.
3. Use a forklift to lift the isolator to the bottom of the machine foot. As the isolator is raised, be sure to keep hold-down bolt centered in the machine's mounting hole to prevent thread damage.
4. Install and tighten the lock nut. Use a washer (*not supplied*) if mounting hole is too large for the lock nut.
5. Lift and position machine bed and isolators into pit.
8. The isolator has a swiveling capability that allows the housing to rotate on the bearing plate sub-assembly. Make sure that isolator housing is square with the bearing plate sub-assembly.
6. Align the machine to feed line, scrap conveyors, etc.
7. Proceed to the Leveling Section.

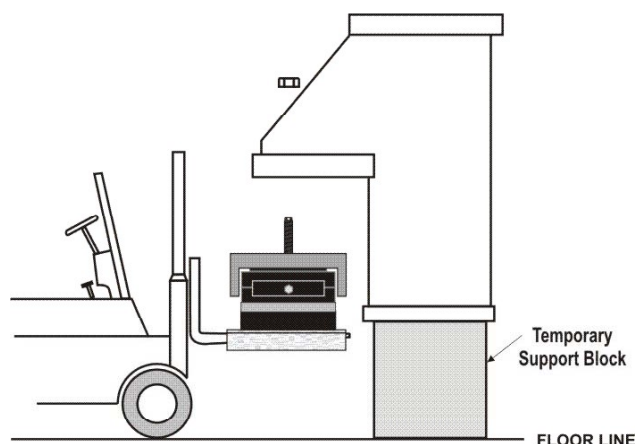


FIGURE 2

Method Three

1. Locate and position the isolators in the pit area.
2. The isolator has a swiveling capability that allows the housing to rotate on the bearing plate sub-assembly. Make sure that isolator housing is square with the bearing plate sub-assembly.
3. Apply the anti-slip material to the top of the isolators. If supplied, remove the hold-down bolts.
4. Carefully lower the machine into the pit and on top of the isolators.
5. Reposition the isolators under the machine foot if necessary.
6. Insert hold-down bolts and tighten lock nuts if applicable.
7. Align the machine to feed line, scrap conveyors, etc.
8. Proceed to the Leveling Section.

Leveling

1. Refer to the machine manual for the machine's leveling locations and tolerances.
2. Wedge Isolators are adjusted by turning the horizontal screw located on one of the short sides of the isolator. A six-pointed socket with an extension is recommended for making the adjustments. Turn the screw clockwise to increase isolator height. See the table below for wrench sizes, maximum torque values, and the amount of height adjustment for each full turn of the leveling screw. Hydraulic jacks should be used for torque values exceeding those shown in the table. See Step 3 and Figure 3.

Isolator Model	Wrench Size	Screw Torque (ft./lbs.)		Maximum Lifting Capacity (lbs.)	Height Adjustment for Every Full Turn of Leveling Screw*
		Lifting	Lowering		
30WXL & 31WXL	28 mm	300	170	52,000	.017" (0.42 mm)

Note: the isolator's elastomer compresses as weight is added, offsetting the height adjustment.

3. If the torque required for making a level adjustment exceeds the value shown in the table, then hydraulic cylinders are required to lift the machine off the internal wedge leveling mechanism. WXLs are design to accommodate internal hydraulic cylinder placement as shown in Figure 3. Two cylinders are required, one on each side located symmetrical about the isolator center.

This unique, patented feature keeps the isolator's elastomers loaded during the leveling process, making leveling adjustments faster, easier and safer. Locating the hydraulic cylinders within the isolator also lifts the machine in an area designed to support such loads – the bottom of the machine foot.

4. When lifting with internally placed hydraulic cylinders, only raise the cylinders enough to make a leveling adjustment. This prevents potential damage to the isolator's interlock system. See Figure 4.
5. Using a precision machinists' level, or laser, determine the machine's low side in the front-to-back direction. Raise all of the isolators on the low side an equal amount until the machine is level in that direction.
6. Repeat procedure in the left-to-right direction.
7. Repeat Steps 5 and 6 until the machine is level.



FIGURE 3

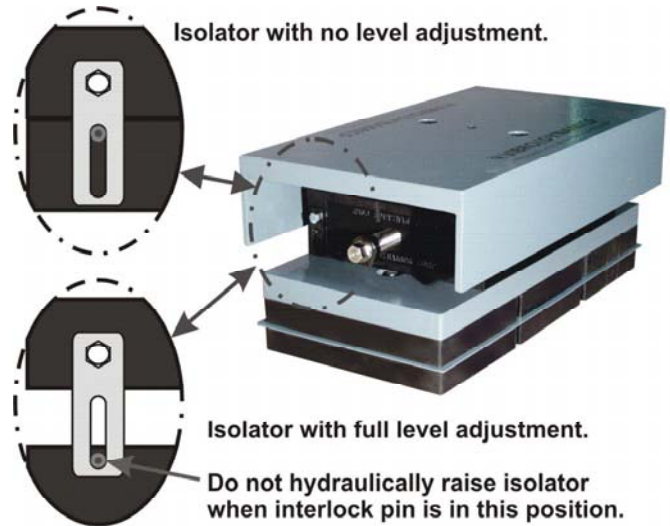


FIGURE 4

Elevation

WXL isolators may have as many as four layers of resilient members, depending on the vibration isolation requirements of the customer. The more layers an isolator has, the more time it will take the isolator to “settle out” and the machine elevation to stabilize. Addendum instructions and a chart showing “resilient cushion deflection vs. time” may be provided when the machine elevation is critical, such as installations with rolling bolsters. The machine elevation should be set high to offset settling when elevation tolerances tighter than ± 0.040 ” (± 1 mm) are required.

Note: Rolling bolster rails must *not* be rigidly fixed to the machine (see Additional Considerations on the next page) and should not be set until the final machine elevation is determined.

Additional Considerations

There should not be any solid connections between the machine and the foundation or building structure. Flexible connections are recommended for all plumbing and electrical conduit. Floor plates, walkways, railings, feeds, rolling bolster rails, etc. should *not* be attached to *both* the machine and the floor, foundation or building (See Figure 5). Hard connections will “short-circuit” isolation effectiveness.

Caution: Vibro/Dynamics Isolators do not bolt to the floor and should not be used to mount machines that depend on anchor bolts to keep them from tipping or collapsing.

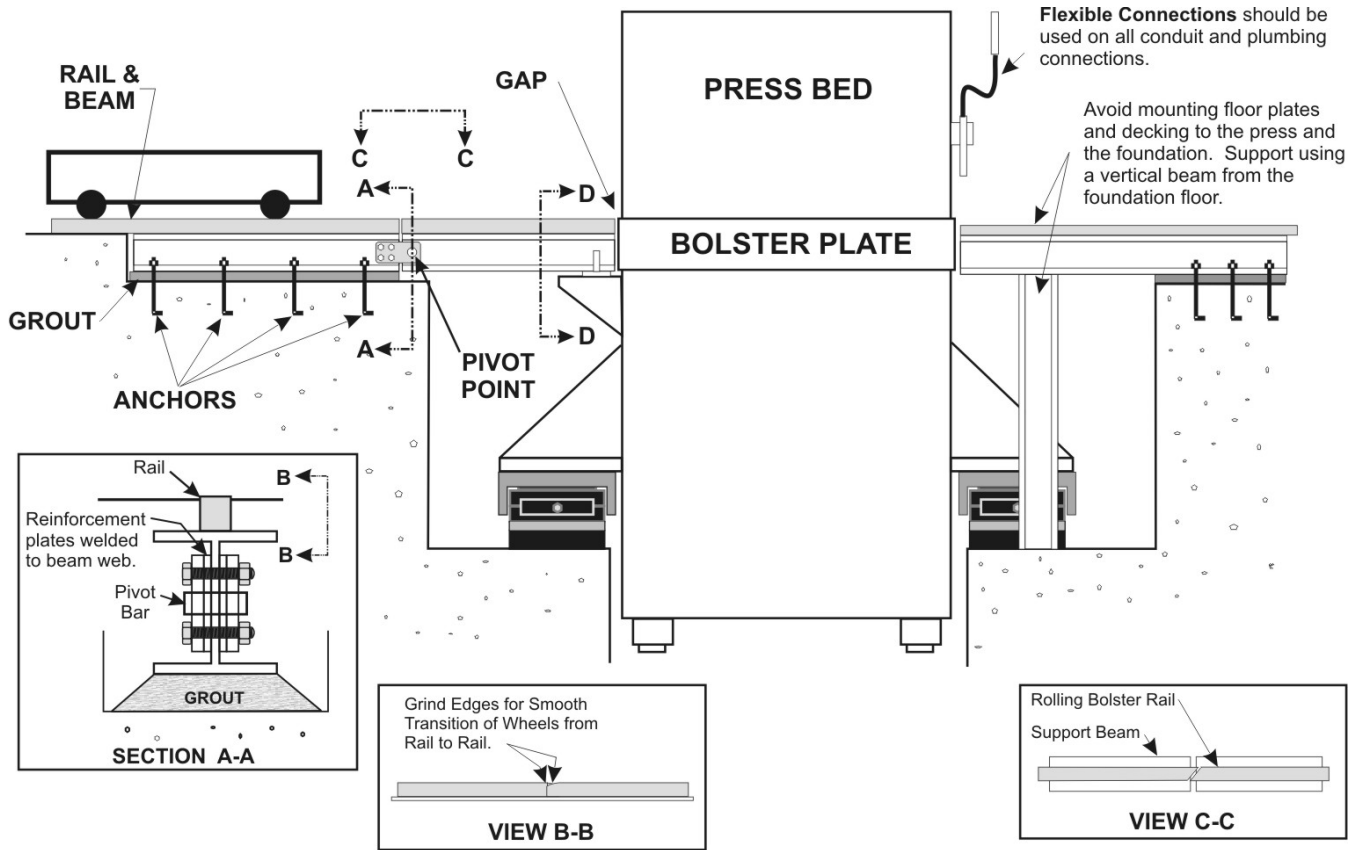


FIGURE 5

Call or write for assistance:

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