Micro/Level® Isolator Leveling Instructions for Machines with Six (6) Symmetrically Arranged Mounting Points

This Technical Bulletin Is Designed To Be Used With The Leveling And Installation Instructions For Vibro/Dynamics' Elastomeric Cushion Type Isolators Shown Below

Vertical Leveling Screw Isolators

For Isolator Models beginning with the following prefixes:

2L, 6L, 6M, 6K, 7L, 7M, 7AL, 7AM, D7L, D7M, 8L, 8M, 8K, 9L, 9M, 9K, 10L, 10M, 10K, 16L, 16M, 16K, 210L, 210M, 210K, 216L, 216M, 216K, LCM, BFM, HLM, SR, MXL, and HXL.

Wedge Style Isolators

For Isolator Models beginning with the following prefixes:

10W, 10WN, 16W, 16WH, 16WN, 24WH, and 24WN.

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Preparation

1. 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.
2. 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

Installation of Vibro/Dynamics' Isolators is specific to the Isolator Model being used. Refer to the *Installation Section* of one of the following Installation and Leveling Instruction sets for the isolator type being used.

- Technical Bulletin – M/L 674 *Installation and Leveling Instructions for Micro/Level Isolators*
- Technical Bulletin – M/L 683 *Installation and Leveling Instructions for MXL and HXL Micro/Level Isolators*
- Technical Bulletin – M/L 685 *Installation and Leveling Instructions for Micro/Level Wedge Style Isolators*
- Technical Bulletin – M/L 607 *Installation Instructions for Heavy Presses using BFM, HLM, MXL and HXL Series Micro/Level Isolators*

Leveling

Machines with six symmetrically arranged mounting points will have either a *Front-to-Rear* or *Left-to-Right* mounting point arrangement. See Figure 1 for Foot and Isolator location numbering.

When leveling a machine with six symmetrically arranged mounting points, Vibro/Dynamics has found that the best approach is to level the machine using the four corner Isolators (#1, #2, #4 & #5), and then raising the center Isolators (#3 & #6) until they are properly loaded without affecting the machine's level and alignment. This method works well with *most* machines.

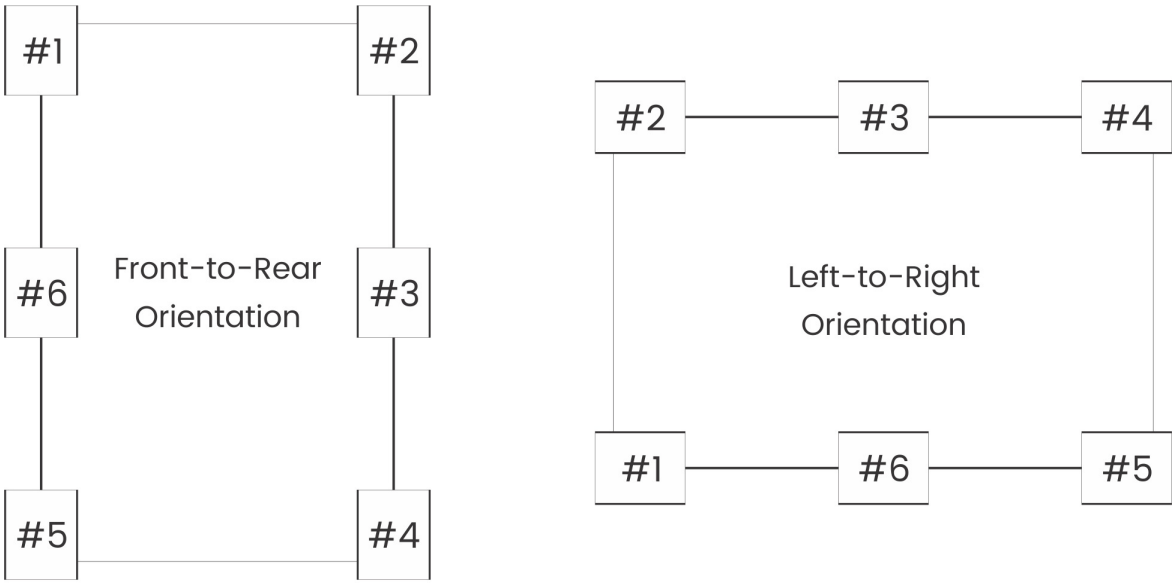

Figure 1

Depending on the rigidity of the machine structure, the middle Isolators may be loaded slightly to reduce sagging as long as forthcoming leveling adjustments are not adversely affected. If the middle Isolators are adjusted too high, the machine may pivot back-and-forth, making it difficult to understand the cause and effect of leveling adjustments at particular leveling locations.

1. Refer to the machine manual for the machine's leveling locations and tolerances.
2. Using a precision machinists' level, electronic level, or laser, determine the machine's low side in the left-to-right direction. Raise the corner isolators on the low side an *equal* amount until the machine is level in that direction. Using a hydraulic jack will make this process easier on heavy machines.
3. Repeat procedure in the front-to-back direction.
4. Repeat Steps 2 and 3 until the machine is level.

Loading the Middle Isolators

5. Raise the middle Isolators (#3 and #6) until they come in contact with the bottom of the machine foot.
6. *Equally* raise the middle Isolators to a point where they just begin to affect the level and alignment of the machine.
7. Inspect all of the Isolator's Elastomeric Cushions and determine the amount of bulge for each. Holding a straightedge against the side of the Elastomer makes it easy to see the amount of bulge. See Figure 2.
8. The amount of bulge gives a rough indication of the amount of load being supported by that isolator. The middle Isolators should never have Elastomers that bulge more than the corner Isolators. If they do, reduce the height adjustment on the middle Isolators.

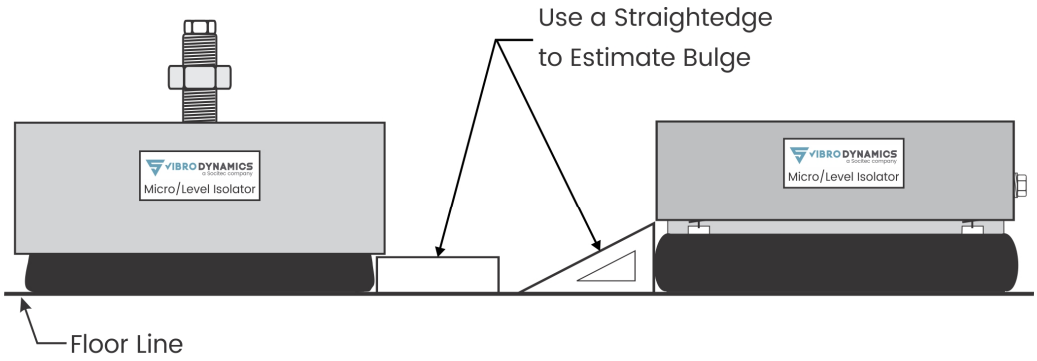

Figure 2

Final Checks

9. Recheck machine level and alignment in all relevant directions. Make all necessary leveling adjustments.
10. Run the machine and check for excessive motion.
11. Determine which Isolators need to be adjusted, by observing which ones move more than the others, and then make only slight adjustments.
12. Excessive rocking will occur if the middle isolators are adjusted too high. Equally lower the middle two Isolators in small amounts to reduce rocking.
13. Recheck machine level and alignment in all relevant directions. Make all necessary leveling adjustments.

14. Observe machine motion. If machine still moves excessively, repeat Steps 10-13 until motion is acceptable. If excessive motion persists, call Vibro/Dynamics for assistance at 1 800 842-7668.
15. Tighten all Locknuts if supplied with your type of Isolator. Use a wrench to hold the Leveling Screw while the Lock Nuts are being tightened.

Fine/Tuning™ Process for Light Punch Presses that Produce Significant Inertia

For light punch presses that generate a high degree of inertia, use the following Fine/Tuning Procedure to reduce excessive motion if present.

1. Run the press at full speed and observe the amount of vertical motion at each support point.
2. Using a short-handled wrench, apply torque to the leveling screw of the isolator that appears to be moving the most.
3. If the leveling screw turns easily, it should be noted and returned to its original position. The leveling screw turns easily because the isolator is not carrying enough support and is unloading as the press rocks from corner to corner. The screw will turn in a step-like sequence with the rocking of the press.
4. If the screw turns hard, it should be noted and left at its original position.
5. Continue the process until all isolators have been checked, results recorded, and a complete picture of the press' fine-tune support condition is developed.
6. Check your findings with the press's estimated weight distribution and make a determination, if any, on which isolator needs adjustment.
7. If adjustment is determined to be necessary, continue with the following steps. If not, tighten the Lock Nuts and end the process.
8. Return to the isolator whose screw turned the easiest and make a *small* adjustment while observing the effect of the adjustment on the press motion.
9. If press motion is reduced, record the amount that the leveling screw was turned and proceed to Step 11.
10. If press motion was unaffected, return the leveling screw to its original position and check the isolator that had the next greatest amount of motion. Repeat Step 9 until all isolators have been checked and then proceed to Step 11.
11. Recheck the press' level.
12. If press level is not level, turn the diagonal isolator of the one that was adjusted, an equal amount or return all isolators to their original level positions.
13. Recheck the press' level.
14. If press is level and motion reduced to a satisfactory amount, proceed to Step 15. If not, repeat Steps 2 to 13 or call Vibro/Dynamics for assistance at 1 800 842-7668.
15. End Process and tighten the Lock Nuts.

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.
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.

Please Call For Assistance If You Have Any Questions.