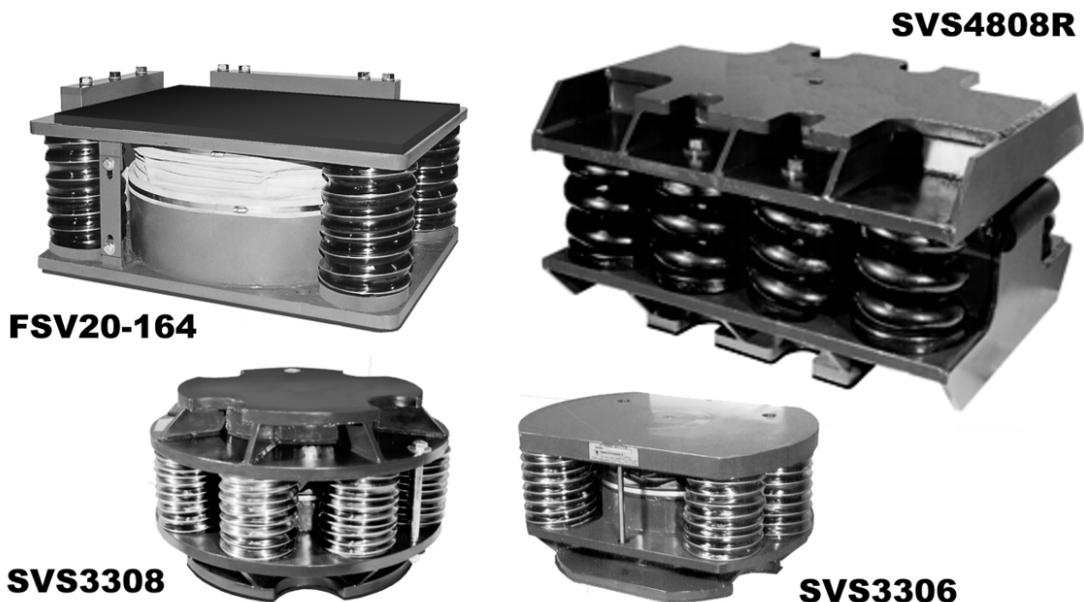




Technical Bulletin M/L – 686

**Installation Requirements and Instructions
for Vibro/Dynamics® Spring Isolators
without Integral Leveling Feature
(Isolator Models SVS, SMS, VSV, & VSM)**



Vibro/Dynamics' Technologically Advanced Machinery Mounting Systems are an investment in productivity and efficiency. To realize the full potential of your investment, familiarize yourself with these instruction requirements to insure a successful installation.

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INSTALLATION REQUIREMENTS

1. The concrete surface under the isolator must be clean and meet the flatness and minimal slope tolerances shown in the Table below. There should not be any holes, cracks, or lumps under the isolator. Pier heights should be within 1/4" (8 mm).

ISOLATOR TOLERANCE TABLE				
The flatness and slope of the supporting surface under the isolator must not exceed the tolerances below. Uneven loading of the coil springs occurs when the isolator is tilted, causing excessive stress. Sole or Grout Plates are required for supporting surfaces exceeding the tolerances shown below.				
Isolator Model	Flatness tolerance		Slope Tolerance	
	inches	mm	inches/foot	mm/meter
SVS1604	± 0.03	± 0,8	0.06	5,1
SVS1606	± 0.03	± 0,8	0.05	4,5
SVS3304	± 0.03	± 0,8	0.08	6,3
SVS3306	± 0.03	± 0,8	0.06	4,9
SVS3308	± 0.03	± 0,8	0.06	4,9
SVS3310	± 0.03	± 0,8	0.06	4,9
SVS4806R	± 0.03	± 0,8	0.04	3,4
SVS4808R	± 0.03	± 0,8	0.03	2,3
SVS4810R	± 0.03	± 0,8	0.02	1,7
VSM & VSV	± 0.03	± 0,8	0.19	15,6
FSV	± 0.03	± 0,8	0.09	7,9

2. Grout plates are required if the above surface and slope tolerances cannot be met. The grout plate must be anchored and grouted in place. The surface must be flat and have a 125 Blanchard ground or shot-peened finish.
3. If a feed is rigidly attached to the press, then it must be totally supported by the spring mounts as shown in Figure 1. It cannot be partially supported by the press and the foundation or isolator performance will suffer. The weight of the feed must be taken into account at the time of the isolator selection and recommendation.
4. There should not be any **solid connections** between the machine and the foundation or building structure. Flexible connections are recommended for plumbing and electrical conduit. Floor plates, walkways, railings, etc. should not be attached to both the machine and the floor, foundation or building. Hard connections will "short-circuit" isolation effectiveness.
5. If rolling bolster plates or die carts are going to be used, they have to be installed in accordance with Figure 2. Since spring isolators are soft, they will deflect during loading and unloading of the die. The first method shown is preferred since rolling bolster beam floats with a changing press elevation, negating any alignment problems. Vibro/Dynamics spring isolators can also be equipped with an optional Lift/Lock™ feature that hydraulically prevents press tilting during this operation.

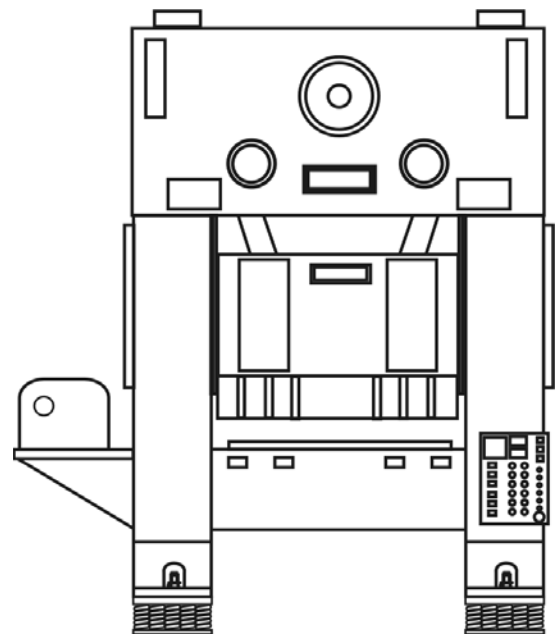


Figure 1



REQUIREMENTS FOR ROLLING BOLSTER RAIL CONNECTIONS

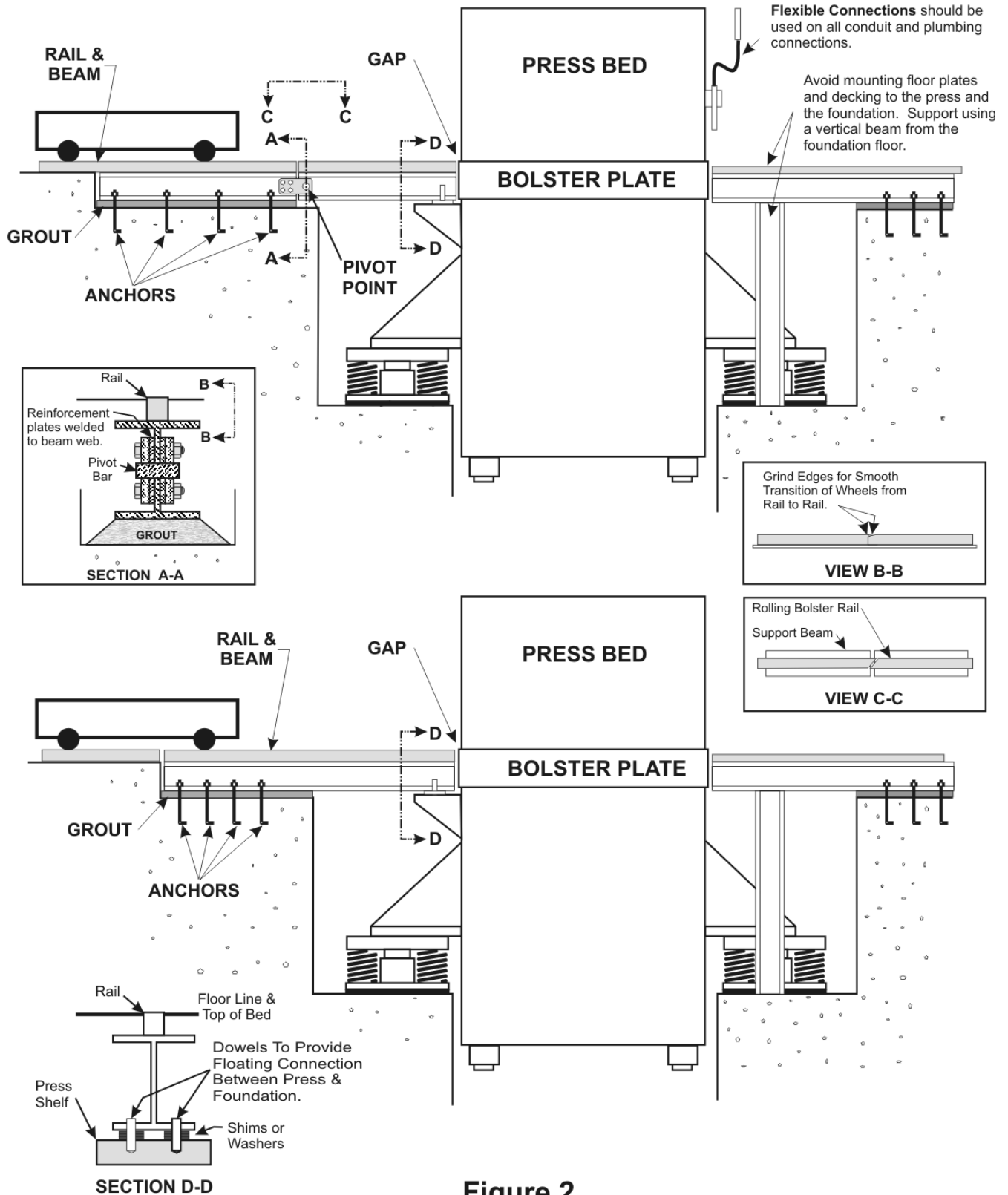


Figure 2



MACHINE INSPECTION

6. Clean and inspect the machine feet and legs. Repair any cracks or damage. The bottom of the machine feet/base must be clean and flat where it contacts the top of the isolator.
7. Clean debris from the mounting holes for installations using hold-down bolts.

ISOLATOR INSTALLATION

8. Position each isolator under the machine foot or base.
9. For isolators equipped with hold-down bolts, position the isolator under the machine foot so the tapped hole in the isolator is concentric with the machine's mounting hole as per Figure 3. *(Some isolators may have more than one tapped hole. Use the one that offers the best isolator positioning under the machine foot and the best access to the hold-down bolt.)*
10. Lower the machine onto the isolator. *(For isolators equipped with hold-down bolts, insert the hold-down bolt through the hole in the machine foot and thread into the tapped hole in the top of the isolator.)*

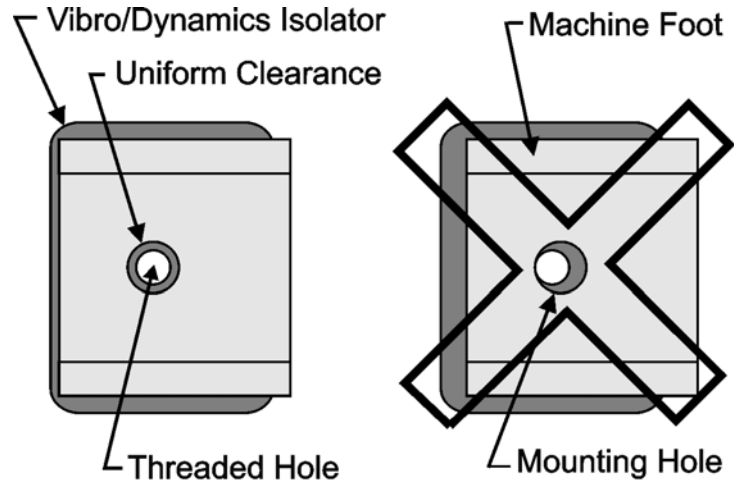
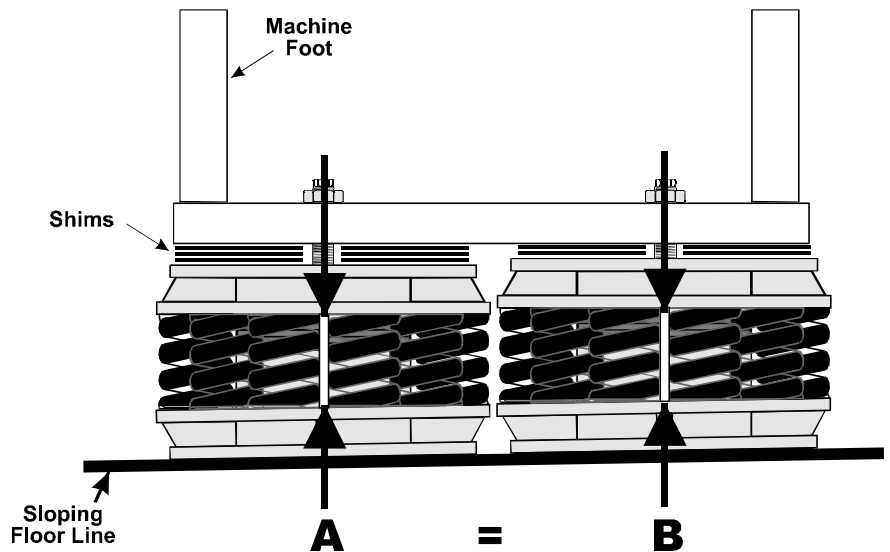


Figure 3

11. Some installations may require multiple spring isolators installed under the same foot. It is important that the spring compression of each isolator be measured to ensure uniform loading of each isolator under the foot. If the supporting surface under the spring isolators is sloped, the spring isolators will not be equally loaded.

Measure and compare the average spring height in each isolator as shown in the Figure 4. Simply measuring the height of the middle spring (or middle two springs) in each isolator gives the average. If the average isolator heights are not equal, apply shims to the higher isolator until the average heights are within 0.1" (2.5mm). This should be done prior to making any leveling adjustments.



Insert Additional Shims on top of Isolator A so that the Average Spring Height of Isolator A = Isolator B

Figure 4



LEVELING

- 12. Refer to the machine manual for the machine's leveling locations and tolerances.
- 13. For non-leveling Spring Isolators, Jute material is provided for leveling. The shims can be placed between the machine foot and the isolator or between the isolator and the foundation.
(For installations using hold-down bolts, there will be two stacks of shims supplied with each isolator, allowing the shims to be placed in equal stacks on both sides of the hold-down bolt as per Figure 5).
- 14. Using a precision machinists' level, or laser, determine the machine's low side in the front-to-back direction.
- 15. Apply an equal amount of shims to all isolators on the low side until the machine is level in that direction. Make sure that Step 11 was completed prior to adding additional shims.

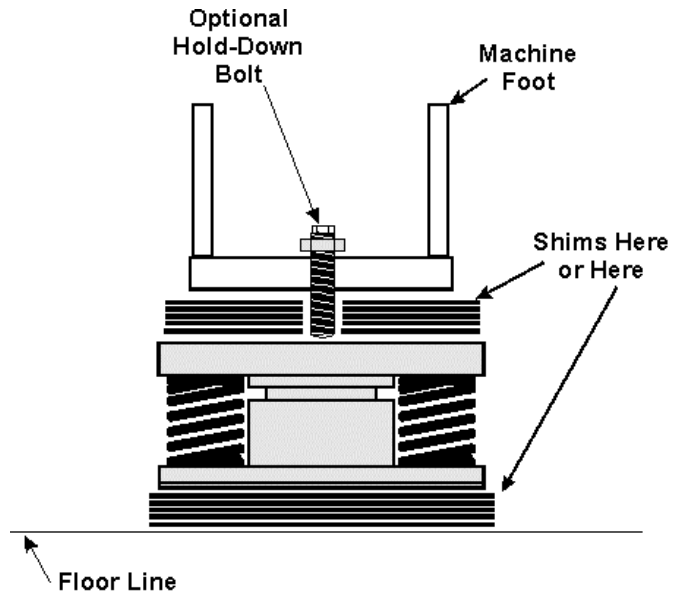
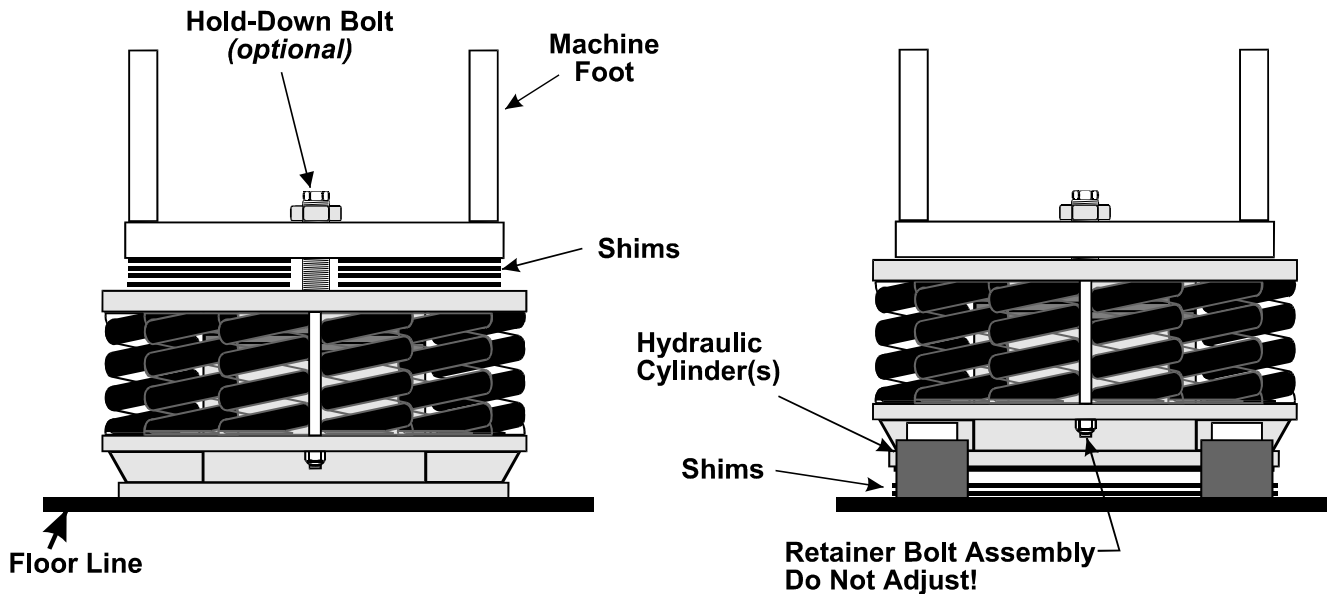


Figure 5

(Some larger SVS isolator models have hydraulic cylinder pockets per Figure 6. Hydraulic cylinders can be inserted into all four pockets, to lift the isolator off the floor for shim insertion. Floor/Foundation loading capacity should be checked to insure that the cylinders do not overstress the concrete. Grout plates may be required to spread the load of the hydraulic cylinders over the concrete surface).



Caution:

- > For isolator models without hydraulic cylinder pockets, Vibro/Dynamics strongly recommends that the machine be lifted using an overhead crane to prevent the machine from tipping over.
- > An isolator may deflect up to 2.5 inches (64 mm) when loaded. The machine will have to be lifted high enough to overcome this deflection to insert shims.
- > Do not adjust or tighten the Retainer Bolt Assembly Shown in this figure. The bolts are designed to become loose once the isolator is loaded.

Figure 6

- 16. Repeat procedure in the left-to-right direction.
- 17. Repeat Steps 14 to 16 until the machine is level.