



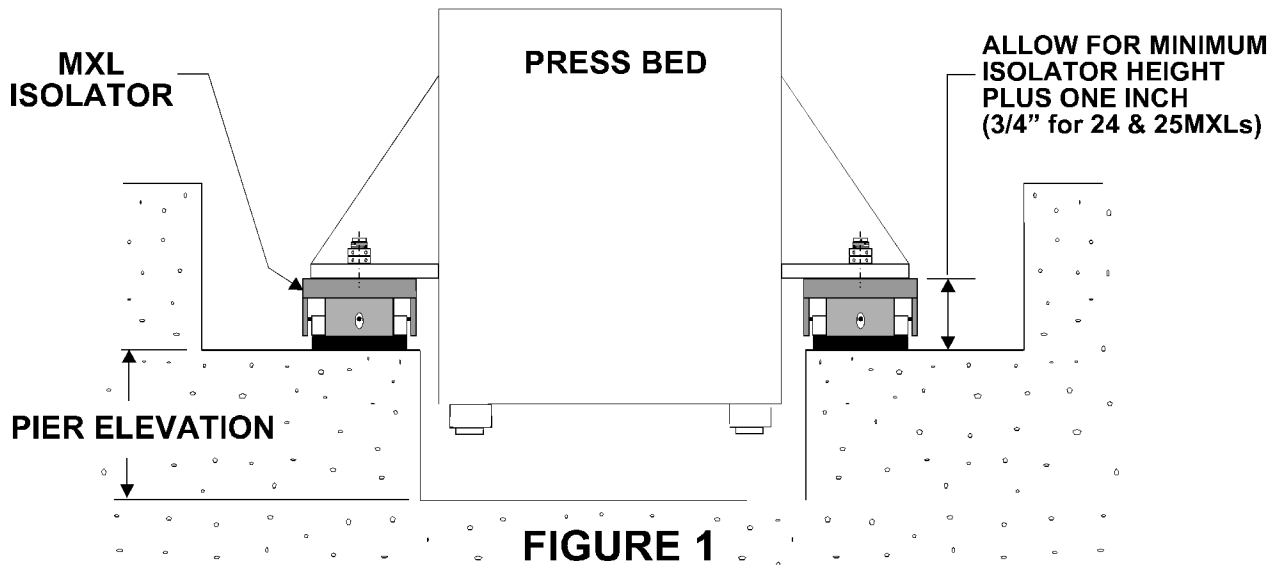
TECHNICAL BULLETIN M/L- 688

**FOUNDATION and PIT DESIGN GUIDELINES
FOR MXL & HXL MICRO/LEVEL® ISOLATORS**

Incorporating the following information early into your foundation design allows you to take full advantage of the productivity and efficiency enhancing capabilities of Vibro/Dynamics Machinery Installation Systems.

A. DETERMINING PIT OR FOUNDATION DIMENSIONS

- 1) Foundation piers must be poured so that the press is at its desired elevation. Isolator height must be taken into account. See Isolator Specification Sheet for dimensions.
 - ▶ To determine the installed isolator height:
 - Calculate that the isolator's target installation height, which is its minimum loaded height plus half of its leveling adjustment range.
 - For example, if the MXL isolator adjustment range is two inches, add one inch to the isolator's minimum loaded height to determine its target installation height. (See Figure 1.)



- 2) The concrete surface under the isolator should be *level* and have a *trowel* finish. The foundation pier should be large enough so the isolator does not overhang. There should not be any holes, cracks, or lumps in the area directly under the isolator. Remove all loose concrete, grout, chips, oil, grease, and water from the press foot and concrete surface that will support the isolator.

- 3) The difference in elevation between foundation piers should not exceed 0.25 inch (See Figure 2). The leveling feature in Vibro/Dynamics Isolators will compensate for any remaining difference.

- 4) The slope of the foundation pier level under the isolator should not exceed 2° (0.42 inch/foot or 35mm/m).

- 5) The flatness of the foundation pier under the isolator should not exceed ±1/16 in. (±1,6mm).

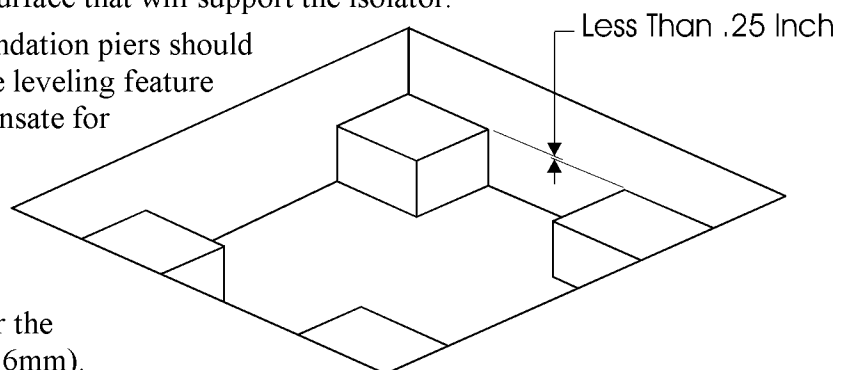


FIGURE 2

6) Clearance should be provided in either the X or Y direction to allow for the installation and removal of the isolators. See Figure 3 and Table 1.

Note: It may be possible to remove the isolator by moving it toward the center of the press and then into a pit, but providing clearance around the isolator is the preferred method.

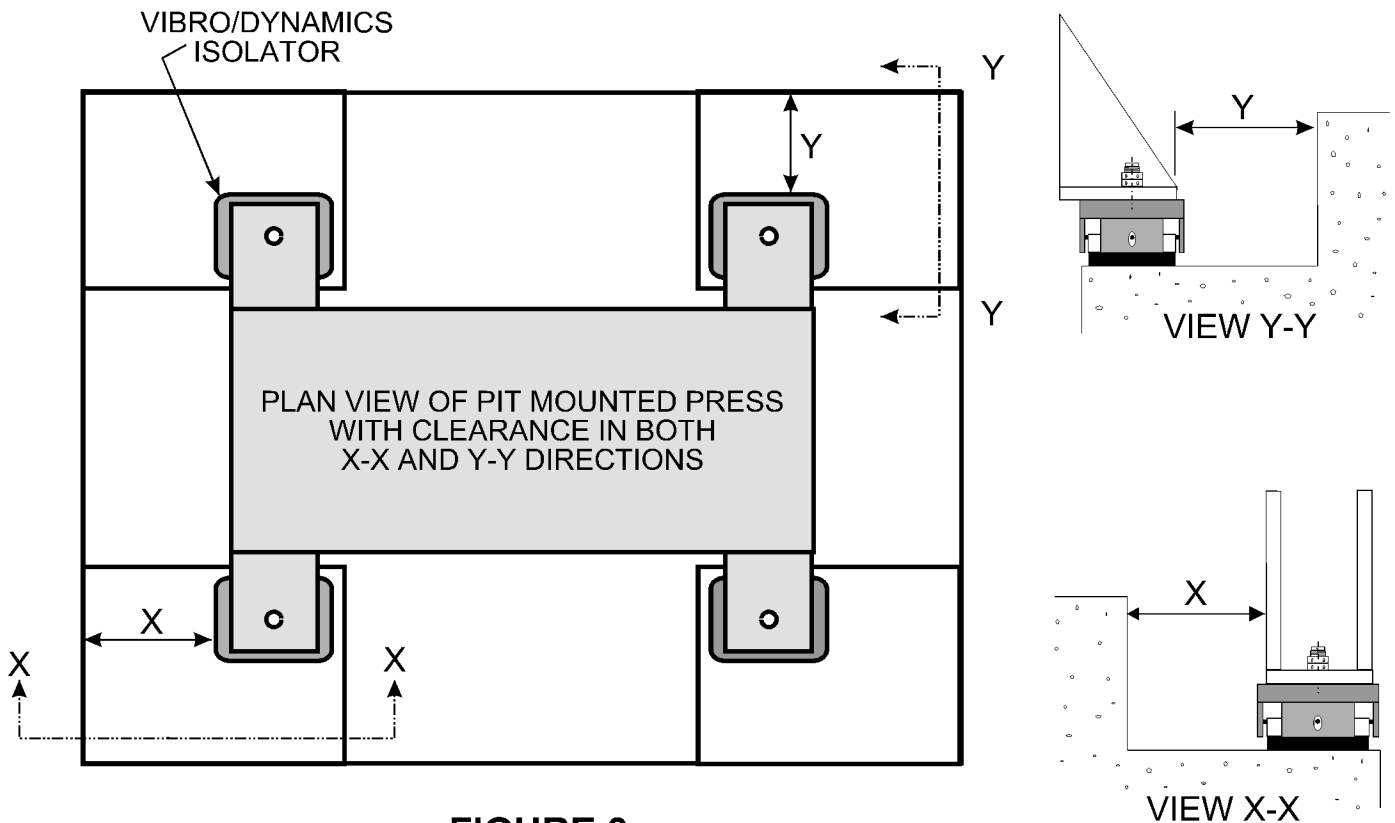


FIGURE 3

TABLE 1

ISOLATOR MODEL*	DIMENSION "X" (Minimum)	DIMENSION "Y" (Minimum)	LIFTING HOLE SIZE
24MXL & 24HXL	31" (790 mm)	25" (635 mm)	3/4-10 UNC
25MXL & 25HXL			
30MXL & 30HXL	35" (889 mm)	18" (458 mm)	1-8 UNC
31MXL & 31HXL			
33MXL & 33HXL	32" (810 mm)	41" (1040 mm)	1-8 UNC
34MXL & 34HXL			
35MXL & 35HXL	41" (1040 mm)	43" (1090 mm)	1-8 UNC
36MXL & 36HXL			
48MXL & 48HXL	46" (1170 mm)	60" (1530 mm)	1.5-6 UNC
50MXL & 50HXL			

* For isolator models numbering beginning with the following prefix.

Note:

All MXL & HXL isolators have lifting holes in the side of the isolator housing. The number of holes and location vary depending on the isolator model.

Hoist rings, or eyebolts of sufficient strength, are to be supplied by the customer.

B. ADDITIONAL PREPARATION FOR PRESSES WITH ROLLING BOLSTERS

If the press is going to be equipped with a rolling bolster, special consideration should be given to the installation of the support beams/rail that span between the floor and the press bed. Rigid connections will cause the transfer of vibration and shock into the surrounding area, causing a “short-circuit” in isolator effectiveness. Also, make sure that the foundation floor and *not* the press structure supports all floor plates and decking.

One of the following methods, shown in Figures 4 & 5, should be used. Either method will allow the press to move slightly up and down during operation and not restrict leveling adjustments.

1) METHOD ONE (Figure 4)

- ▶ Cantilevered rolling bolster beams/rails are bolted and grouted into the floor across from the press bed and bolster plate. They span the distance from the edge of the foundation pit to the edge of the press bed. The cantilever length should be as short as possible. There should be a gap (1/16” min.) between the cantilevered beam and the edge of the bed and the cantilevered beam and the supporting shelf to eliminate any rigid contacts.
- ▶ As the rolling bolster rolls over the cantilevered beam, it deflects slightly until the shelf below supports it. The elevation of the beam/rail should be adjusted accordingly.
- ▶ The end of the beam/rail can also be supported by a vertical beam supported by the foundation pit or floor similar to the floor plate and decking recommendation shown in Figure 4.
- ▶ Beams connected to the foundation and *not* the press should be used to support all decking and floor plates.

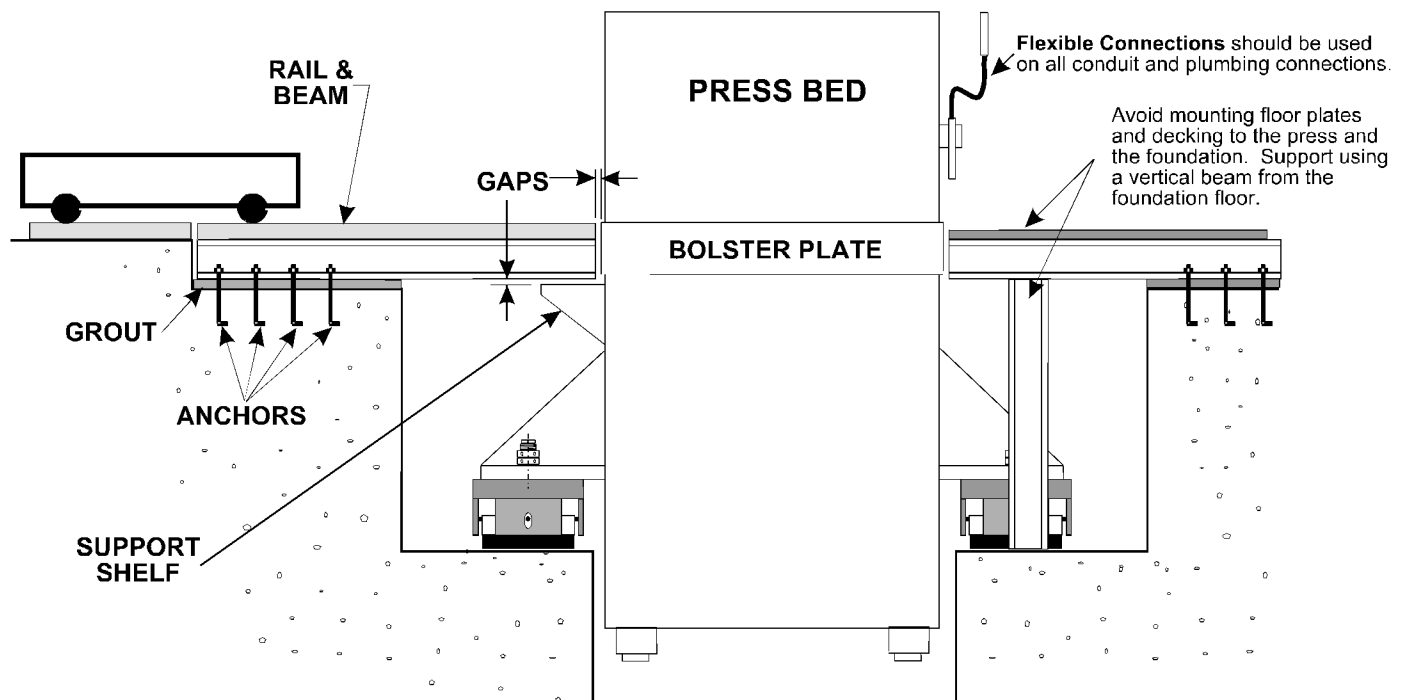


FIGURE 4

2) METHOD TWO (Figure 5)

- ▶ In this method, each rolling bolster beam is divided into two. One section is anchored to the floor and the other is designed to float with the press. The ends of the floating sections are supported by pivot points located at the edge of the pit and on the press bed as shown in Figure 5. The beam/rails are restricted from moving horizontally using guide pins and clearance holes or stops welded on the support shelf to contain the sides of the beam/rails.
- ▶ The mating ends of the rails are diagonally cut (see View C-C) to minimize the gap as the rolling bolster wheel travels across the split.
- ▶ All floor plate and decking should be supported by the foundation and *not* by the press.

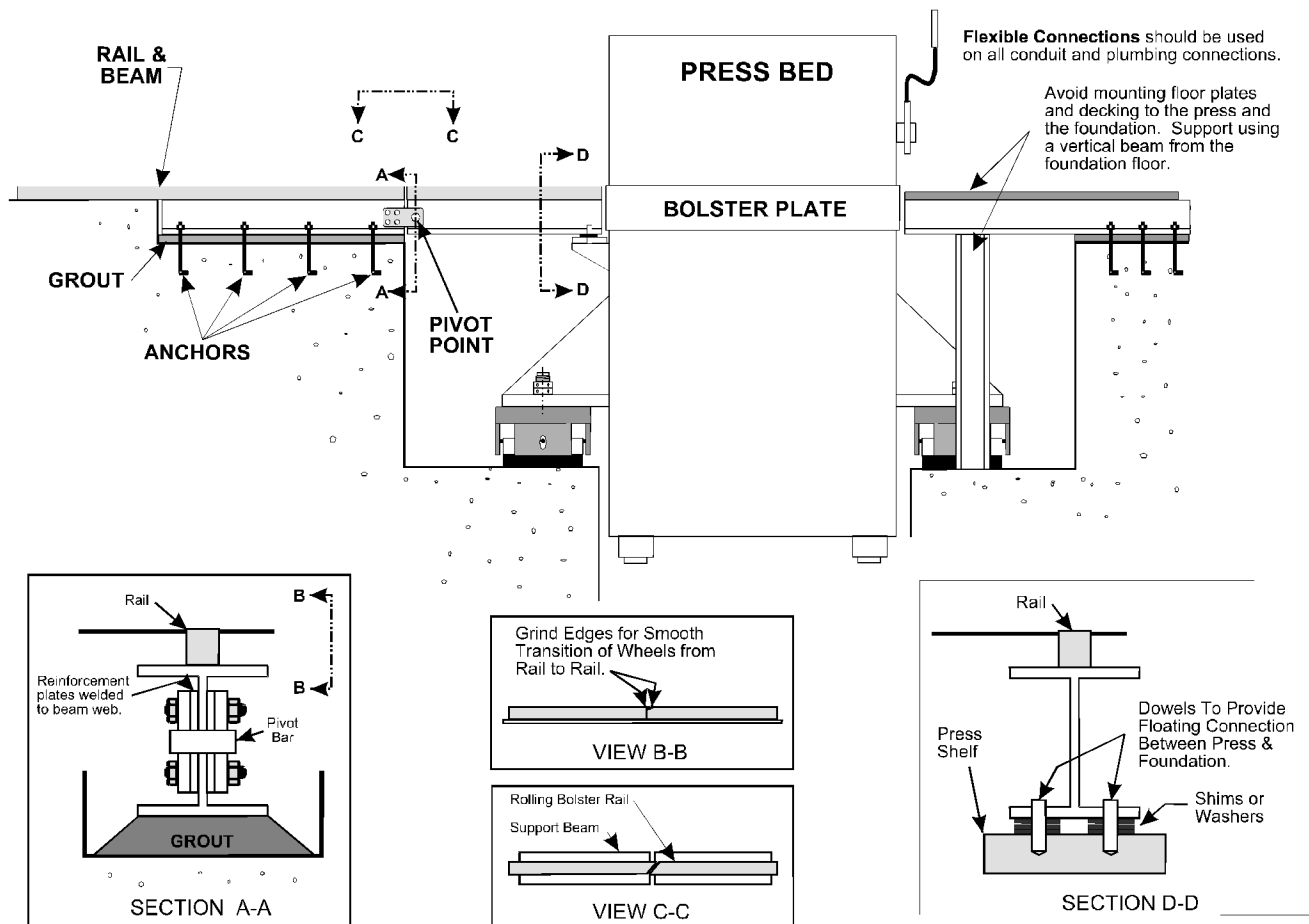


FIGURE 5

C. FINAL NOTES

To achieve maximum noise and vibration reduction, make sure that all plumbing and electrical connections have flexible connections. Also, make sure that the isolator housings are not rubbing against foundation walls.

Call or write for assistance:

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ML-688-2004.07 HR

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