

**Installation and Leveling Instructions for
BMS Buttress Systems
For Minster® Inclined Shell
and Cupping Presses**

For BMS Models 13283, 13290, 13449, 13385,
13451, 13368, 13361, 13381, & 13360

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TECHNICAL BULLETIN: M/L-640

INSTALLATION AND LEVELING INSTRUCTIONS

Preparation

1. The concrete surface under the isolator must be clean, flat, and trowel finished. The maximum difference in floor elevation at the support points should not exceed 1/8 inch. 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.

Layout and Buttress Bracket Installation

3. Determine the desired location of the press and layout the press mounting hole positions on the floor as per Figure 1. Make sure the layout is square. See Table 1 in the Appendix for press base dimensions.
4. Position the buttress brackets on the floor so that they are centered along the press mounting holes centerlines (CL) left-to-right and centered front-to-back as per Figure 2. Make sure the brackets are square by measuring the diagonals to be sure the measurements are equal.
5. Using the buttress brackets as a template, mark all of the anchor bolt holes.
6. Remove the buttress brackets and core the proper anchor bolts diameter hole. For installations using Vibro/Dynamics anchoring assembly, Model ABS13630-01, a 2.5" diameter x 6.3" deep hole is recommended.
7. Install and grout anchors into place as per separate grout instructions. Allow grout to set per instructions.
8. Locate brackets into place over the anchors. If using Vibro/Dynamics ABS13630-01 anchors install the anchor bolts and washers per Figure 3 and equally tighten until all bolts make contact. Torque to 250 foot/pounds using a crisscrossing pattern.

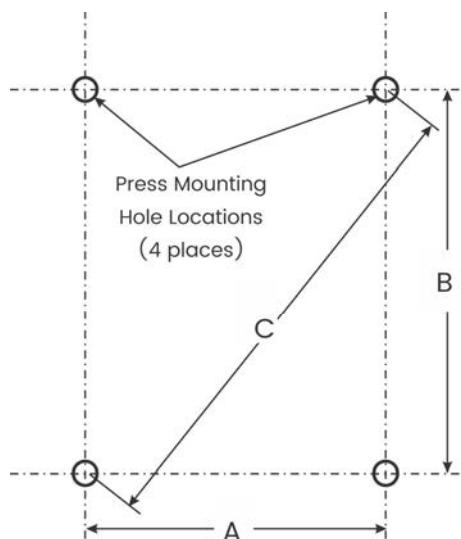


Figure 1

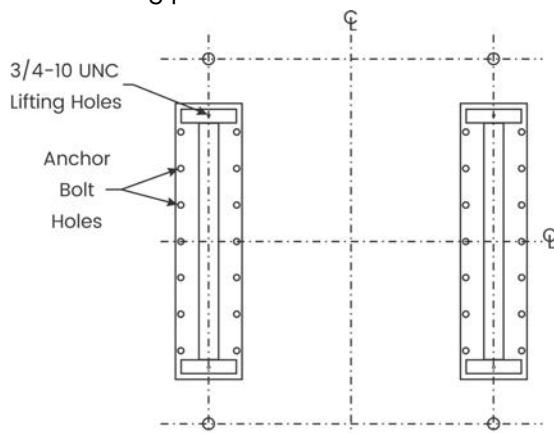


Figure 2

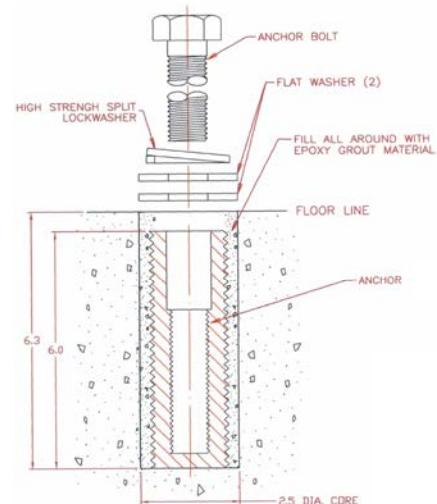


Figure 3

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Installation of Press on Buttress Brackets

9. Using rollers, overhead crane, etc., position the press over the buttress brackets so that the press mounting holes are centered left-to-right and front-to-back on top of the buttress brackets. See Figure 4 and Table 1 in Appendix for "D" reference dimension.
10. Lower the press directly onto the brackets and recheck position.

Installation of Buttress Isolators

11. Unpack and inspect the buttress isolators.
12. Inspect the adjustment screws and make sure the threads are free of nicks or dents.
13. Inspect the housing threads to make sure there is no debris in the housing threads.
14. Thread the adjustment screw into the isolator housing until it bottoms on the internal steel bearing plate. See Figure 5.
15. Mount the buttress isolators to the buttress brackets. Insert the buttress isolators into the clearance holes in the buttress brackets. Thread the lock nuts onto the adjustment screw, but leave loose at this time.

Note: Some buttress systems have four buttress isolators; others have eight. Installation procedure is the same.

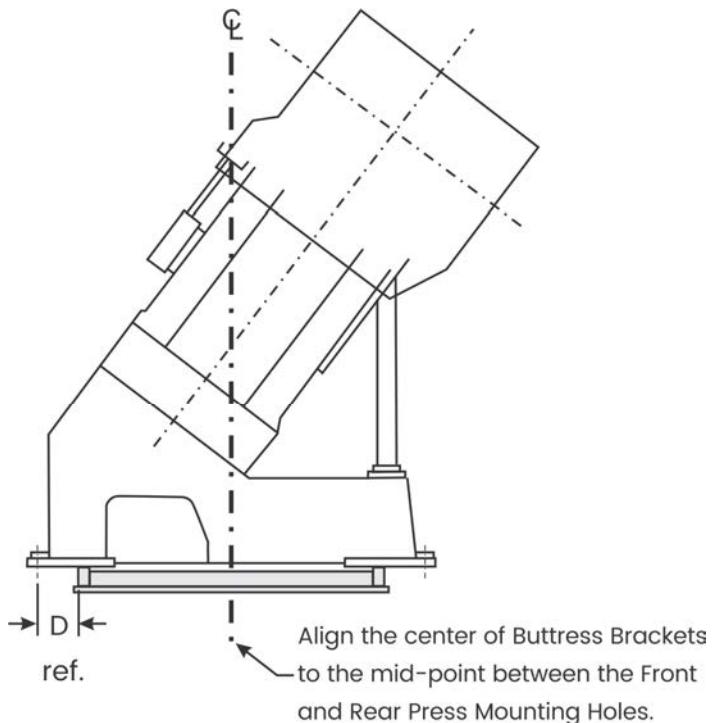


Figure 4

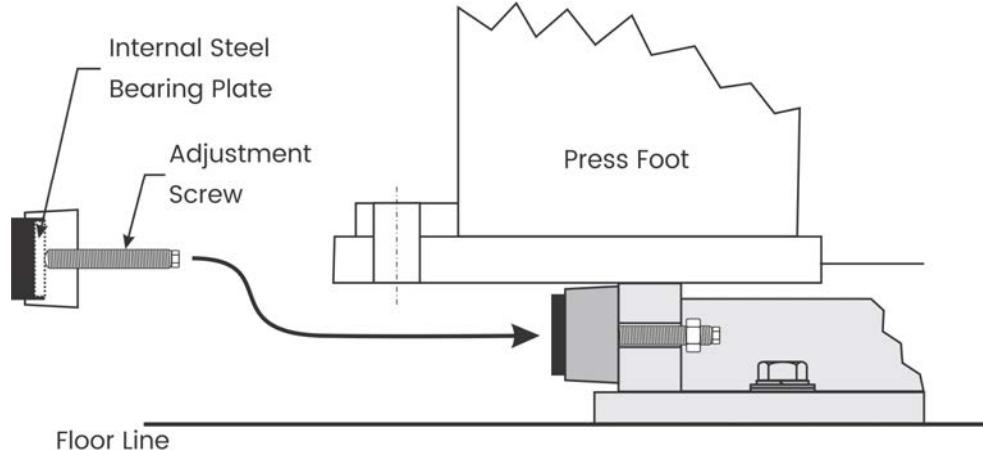


Figure 5

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Installation of Support Isolators

16. Unpack and inspect the support isolators.
17. Inspect the leveling screws and make sure the threads are free of nicks or dents.
18. Inspect the housing threads to make sure there is no debris in the housing threads.
19. Position each support isolator under the press foot so all three threaded holes in the isolator are concentric with the clearance holes in the press foot.
See Figure 6. Any contact between the leveling screw and socket head cap bolts and the inside surface of the press mounting hole can cause the leveling screw and bolts to jam.
20. Insert the socket head cap bolts through the press foot and thread into the isolator housing as per Figure 7. Once both bolts are fully threaded into the housing and loosely tightened, alternately torque each bolt to 325 foot-pounds.
21. Thread the leveling screw into the isolator by hand or with a small wrench. The leveling screw should turn easily into the isolator housing until it contacts the internal bearing plate. See Figure 8. If it does not, remove the leveling screw and check for proper clearance, damaged thread, or debris in the threaded hole.

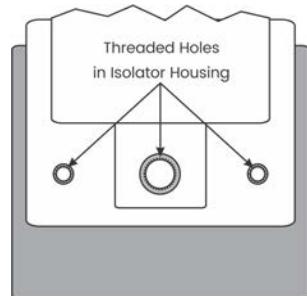


Figure 6

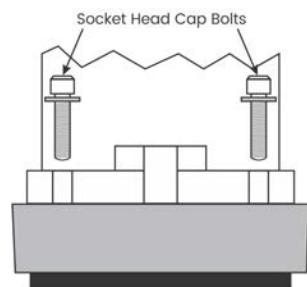


Figure 7

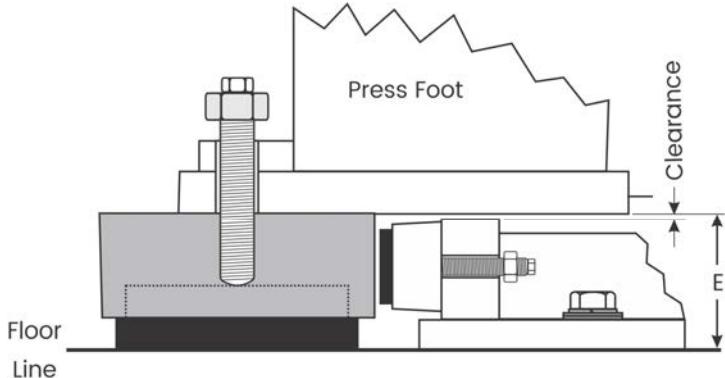


Figure 8

22. When the leveling screw contacts the bearing plate, turn the leveling screw three additional turns to raise the press foot off the buttress brackets. A hydraulic jack may be necessary to remove weight in order to turn the leveling screw. The approximate pre-leveled height of the support isolator is Dimension E listed in Table 1 of the Appendix.
Note: Do not use pipe extensions or a hammer to force the leveling screw to turn.
23. For proper isolator performance, there should be clearance between the isolator's elastomer and the inside surface of the isolator's support housing. The isolators are equipped with four Interlock/Indicator bolts or pins. These can serve as a quick check for centering the resilient cushion. The Interlock/Indicators should be centered side-to-side in the interlock slots as shown in Figure 9. If there is not clearance, lift the machine at that location and center the elastomer in the isolator housing.

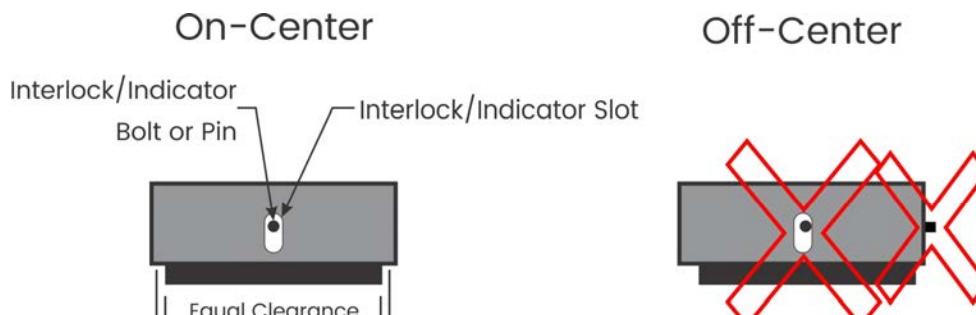


Figure 9

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Leveling

24. Loosen the support isolator's locknuts if tight.
25. Refer to the machine manual for the machine's leveling locations and tolerances. Given that this press is inclined, a precision parallel, long enough to span the leveling locations in the side-to-side direction, or a sine block bolted to the press bed will be required for side-to-side level readings. See Figure 10.
26. Using a precision machinists' level, electronic level, or laser, determine the machine's low side in the side-to-side direction.
27. Raise all of the support isolators on the low side an *equal* amount until the machine is level in that direction. Using a hydraulic jack will make the process easier on heavy machines.
28. Repeat procedure in the front-to-back direction.
29. Repeat the above Steps until the machine is level.
30. Isolators should not be over-adjusted to compensate for extreme out-of-level floor or foundation conditions. If a severe out-of-level condition exists, a spacer plate can be inserted between the isolator and the machine foot.
31. Tighten the locknuts. Use a wrench to hold the head of the leveling screw while tightening the locknut.

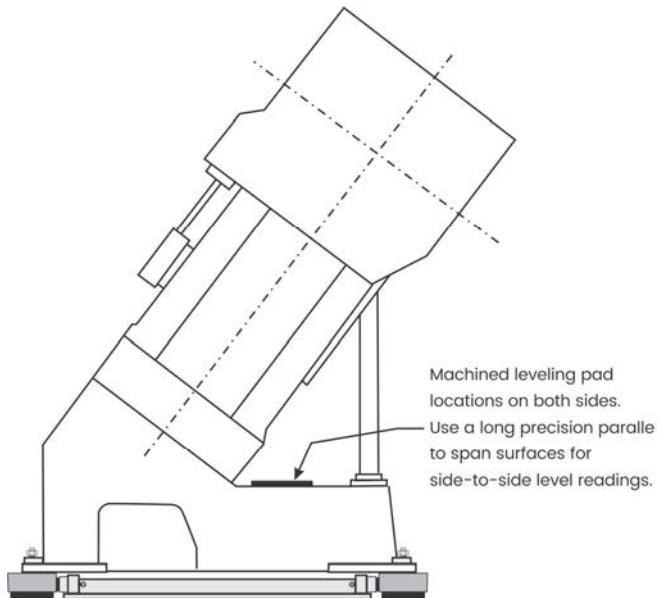


Figure 10

Adjusting the Buttress Isolators

For BMS Models 13283, 13290, 13449, 13385, 13451 and 13368 with four buttress isolators per bracket.

32. Turn each buttress isolator adjustment screw clockwise until the buttress isolator's elastomer comes into firm contact with the side of the support isolator. Do this for all buttress isolators.
33. Alternately torque each buttress isolator to 50 foot-pounds using small adjustments. This is best completed with two people making equal adjustments to buttress locations 1 and 2, and then 3 and 4 at the same time. See Figure 11.
34. Inspect the support isolators to make sure the elastomers are still centered as per Figure 9. Incorrect adjustment of buttress isolators can push the press over to one side potentially causing a twist.
35. Tighten the buttress isolator locknuts.
36. Installation is complete.

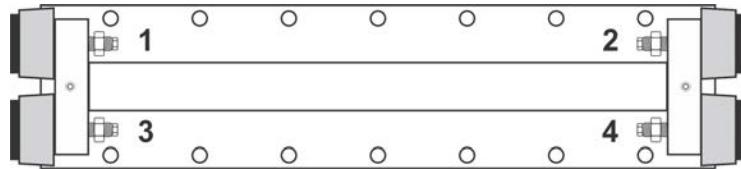


Figure 11

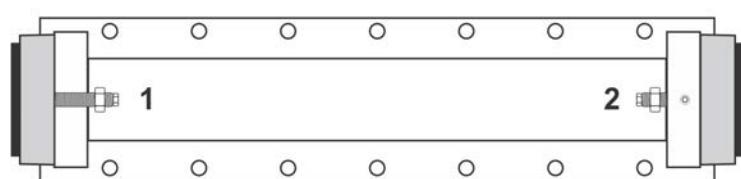


Figure 12

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For BMS Models 13361, 13381, and 13360 with two buttress isolators per bracket.

37. Turn each buttress isolator adjustment screw clockwise until the buttress isolator's elastomer comes into firm contact with the side of the support isolator. Do this for all buttress isolators.
38. Alternately torque each buttress isolator to 90 foot-pounds using small adjustments. This is best completed with two people making equal adjustments to buttress locations 1 and 2 at the same time. See Figure 12.
39. Inspect the support isolators to make sure the elastomers are still centered as per Figure 9. Incorrect adjustment of buttress isolators can push the press over to one side potentially causing a twist.
40. Tighten the buttress isolator locknuts.
41. Installation is complete.

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.

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APPENDIX

Buttress System Model Number	Description	A Distance between press mounting holes (Front-Rear)	B Distance between press mounting holes (Left-Right)	C Distance between press mounting holes (diagonally)	D See Figure 4	E Installed Height of Support Isolators
BMSI3283	37° Inclined press - 6 ¾" above the floor.	93 ½"	104"	139 7/8"	10 15/16"	6 ¾"
BMSI3290	37° Inclined press - 6 ¾" above the floor. (Retrofit)	93 ½"	104"	139 7/8"	10 15/16"	6 ¾"
BMSI3449	37° Inclined press - 7 1/8" above the floor.	93 ½"	104"	139 7/8"	10 15/16"	7 1/8"
BMSI3385	37° Inclined press - 7 1/8" above the floor. (Retrofit)	93 ½"	104"	139 7/8"	10 15/16"	7 1/8"
BMSI3451	37° Inclined press - 7 1/8" above the floor.	93 ½"	109 ½"	144"	10 15/16"	7 1/8"
BMSI3368	37° Inclined press - 7 1/8" above the floor. (Retrofit)	93 ½"	109 ½"	144"	10 15/16"	7 1/8"
BMSI3361	37° Inclined press - 12" above the floor.	93 ½"	104"	139 7/8"	10 15/16"	12"
BMSI3381	37° Inclined press - 12" above the floor. (Retrofit)	93 ½"	104"	139 7/8"	10 15/16"	12"
BMSI3360	37° Inclined press - 18" above the floor.	93 ½"	104"	139 7/8"	10 15/16"	18"