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Series I

Installation Instructions

For a long trouble-free life, it is essential that all hinge pin centerlines be collinear with each other during the installation process. Since precision hinges are required to have tight running clearances when assembled with roller bearings, they basically are rigid bodies; therefore, even the slightest deviation in alignment can induce secondary stresses causing reduced bearing life and premature failure.

The actual method employed for assuring hinge alignment will depend on several variables: installation in the field or a fabrication shop, welded or bolted, full mortise or full surface or the preferred method by the door manufacturer or contractor.

These instructions are not intended to choose one method over the other* but to illustrate the critical datum surfaces that are required to assure collinearity in 2 geometric planes when mounting a set of precision hinges. The datums shown on the sketches match the fixture hard stops of our CNC machines.

*Common precision alignment tool methods: CNC machine, straight edge, string/wire line, plumb bob, laser beams

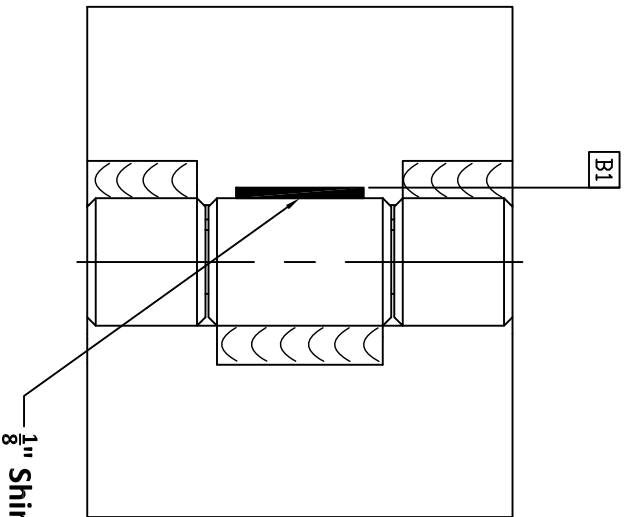
SERIES I Blank or Welded (Sketch 1):

- For non-machined mounting surfaces (that may be not flat), datums A1 and A2 may require shimming under the hinges to assure alignment.
- Using one of the alignment methods, determine the highest hinge in the set. Shim all low hinges as required to bring them into the same A1 and A2 planes.
- Using one of the alignment methods, place a 1/8" shim or feeler gauge against the center barrel of one of the hinges as indicated. Align all hinges against the B1 datum.
- Check each hinge at the center barrel to assure the 1/8" gap is maintained.
- Tack-weld each hinge on 3 sides making sure the hinges do not move.
- Check alignment of all hinges in the B1 plane after welding is completed.

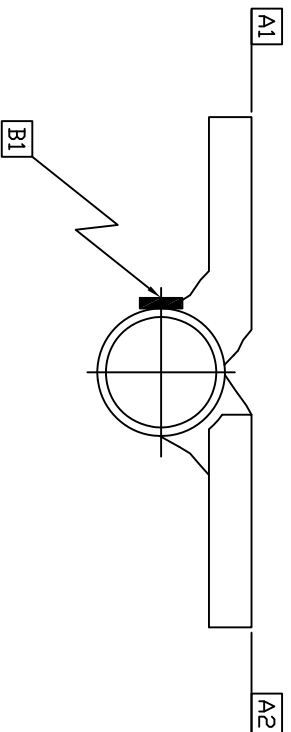
SERIES I Mounting Holes (Sketch 2):

- For non-machined mounting surfaces (that may be not flat), datums A1 and A2 may require shimming under the hinges to assure alignment.
- Using one of the alignment methods, determine the highest hinge in the set. Shim all low hinges as required to bring them into the same A1 and A2 planes.
- If mounting holes have already been drilled and tapped into the door and frame and alignment has been confirmed, secure the hinges with mounting bolts per specifications.
- If the hinges are to be used as a mounting template, scribe a line across the centerline of each set of mounting holes.
- Use one of the alignment methods to locate the B1 or B2 datum centers that represent where the mounting holes will be positioned along the length of the door. Make sure to raise the line just slightly above the hinge leaf thickness.
- Slide each hinge under the B1 or B2 line, until all hinge scribe lines are aligned with their respective datums. Secure each hinge by temporarily tack-welding or clamping.
- Remove alignment tool.
- Centerpunch each hole with the exact size center punch (hole size + 1/32").
- Remove all hinges.
- Using a magnetic drill press, drill and tap each mounting hole using feeds and speeds to assure the drills do not walk.
- Mount all hinges and secure all mounting bolts per specifications.

**Series I Blank or Welded
Installation Datums
(for Full Surface and Full Mortise)**



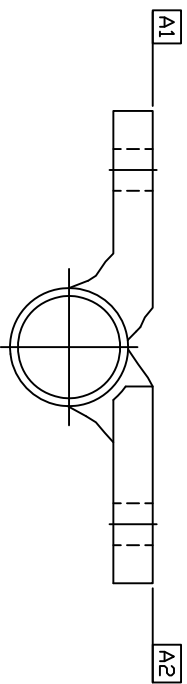
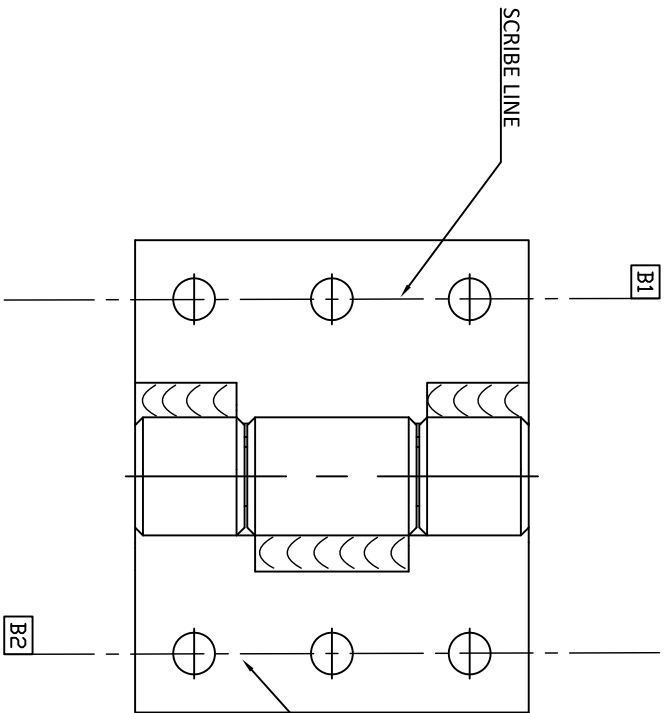
$\frac{1}{8}$ " Shim or Feeler Gauge



(DO NOT SCALE DRAWING)

Sketch 1

**Series 1 Mounting Holes
Installation Datums
(for Full Surface and Full Mortise)**



(DO NOT SCALE DRAWING)

Sketch 2