

Temperature Detector in Thrust Bearing Case Style B, Babbitt Method

Suggested installation procedure

NOTE: For easier installation, sensors may be purchased with babbitt tips already applied. See specification drawings for complete details.

1. Drill a 3/16" (4.75mm) diameter hole (axially) through the babbitt layer and bearing shoe in the desired location.
2. Counterbore a .255/.265" (6.50/6.7mm) diameter hole through the babbitt layer. Break or chamfer corners to remove sharp edges.
3. Mill a groove in back of the bearing shell 1/8" (3.20mm) wide by 3/16" (4.75mm) deep. The groove should extend from the 3/16" (4.75mm) diameter hole to where the leadwires exit the bearing. Terminal connection points must be located within the leadwire length of the temperature detector being installed.
4. Thoroughly clean machined surfaces so they are free of oil, chips, etc. Also, make sure the detector case is clean.
5. Insert the leadwires of the detector in the .255/.265" (6.50/6.75mm) diameter counterbored hole, then extend the leadwires through the 3/16" (4.75mm) diameter hole in the bearing shoe. Carefully draw the leadwires through the hole: make certain they are not kinked or damaged. **DO NOT** pull the leadwires to seat the detector case in the .255/.265" (6.50/6.75mm) diameter hole. Gently guide the detector into the hole and press into place. The case shoulder will seat on the bearing shoe when the detector is properly in place.
6. Fill the hole above the detector with shavings or small pieces of babbitt: use enough babbitt to cover the end of the detector case and extend slightly above the bearing surface after melting.
7. Use a small gas flame to heat and melt the edge of the babbitt layer surrounding the detector tip. **DO NOT** allow the flame to contact the detector case. **DO NOT** concentrate the flame in one place for any length of time. KEEP THE FLAME MOVING. The babbitt must be melted to fusion-bond to the detector case, but must not be heated to a temperature that will damage the detector. The detector may be exposed to temperatures as high as 572°F (300°C) for short periods of time. If necessary, add babbitt to fill the hole flush or slightly above the bearing surface.
8. Scrape off excess babbitt and dress to create a smooth, unbroken surface.

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9. Lay leadwires flat in the bottom of the milled groove in the bearing shell. Pot the leadwires in the groove using an epoxy or other suitable potting compound compatible with the bearing shell material, temperature, and service conditions.

NOTE: Although the illustration below depicts a thrust bearing, the above installation procedure can be used with other types of bearings, and also with equipment other than bearings.

