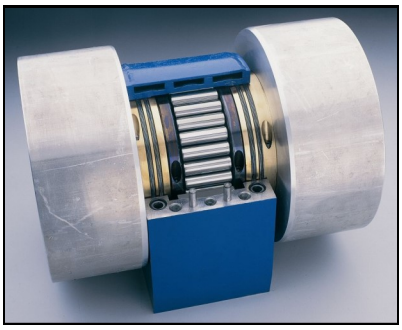
Assembly Instruction Manual for Eich Water Cooled Split Bearing Units

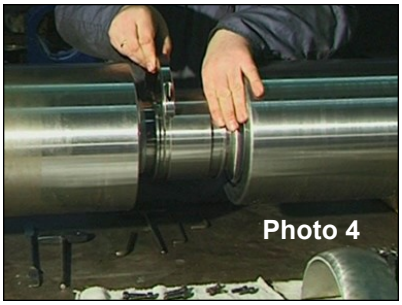


Installation: The following assembly instruction are intended as a guide to insure proper installation of the Eich bearing as well as the sealing system for Split Bearing Water Cooled Units. These bearings units are normally used in continuous casting equipment. The assembly is also available in a video format that shows step by step assembly.

Step 1 / Photo 1. Carefully remove the packaging material and inspect all bearing parts for damage. Components should be clean and free if nicks. It is also important not to mix up parts among other units. For instance housing caps and bases are to always be re-assembled as they are shipped. Check roll shaft diameters, roundness, and parallelism to the manufacturing specifications. The shaft must be lightly oiled to protect against corrosion. A light coat of oil will allow the inner race to slide onto the shaft easier during assembly.

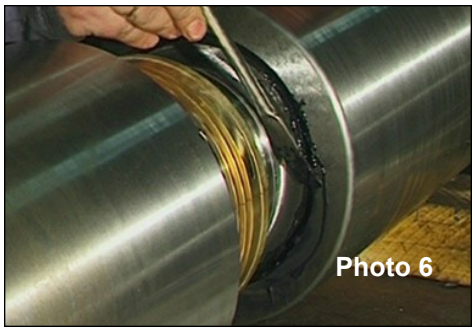
Step 2 / Photo 2. Note that Clamp rings, seal rings and inner and outer bearing races will separate for installation and are match marked at the split to facilitate re-assembly. Matches parts and are to remain as a pair when re-assembled. Do not attempt to assemble mis-matched parts.

Step 3 / Photo 3. Install both halves of the bearing inner race onto the shaft. Insure the inner race is assembled with match marks together.



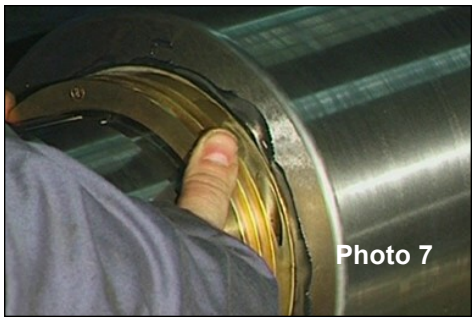
Step 4 / Photo 4. Position 1/2 of a clamp ring over one of the inner race joints. Tapping the clamp ring into the clamp ring groove will help keep the inner races held in place. This clamp ring will be removed in the following steps, as its being used as a temporary clamp.

Step 5 / Photo 5. Next, assemble one of the brass seal rings next to the bearing and opposite from side with the temporary clamp ring. Note the screws to clamp the seal halves together will be toward the outside edge or next to the roll and should eventually be approx 1/4 turn (90 degrees) from the race split. These brass rings will hold the laminar seals in later steps.



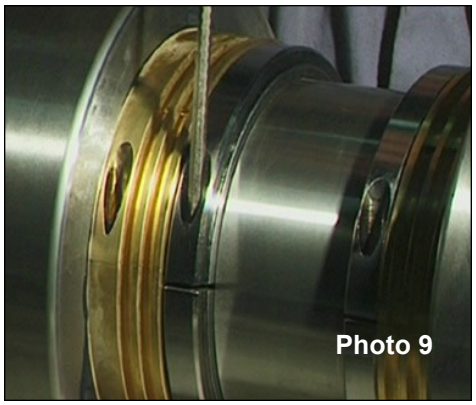

Weicon HT Silicon Sealant

Step 6 / Photo 6. Slip the brass seal ring toward the bearing center, so sealing compound can be brushed behind the seal cavity seal ring with sealing compound in the continuous caster roll groove. This is an important step to help insure the bearing is sealed. Apply a generous portion of Weicon High Temperature Silicon Sealant supplied with the units in tubes. The video shows a two part mixture, which works the same. The Weicon HT Sealant is a premixed silicon sealant in tubes is easier to apply.

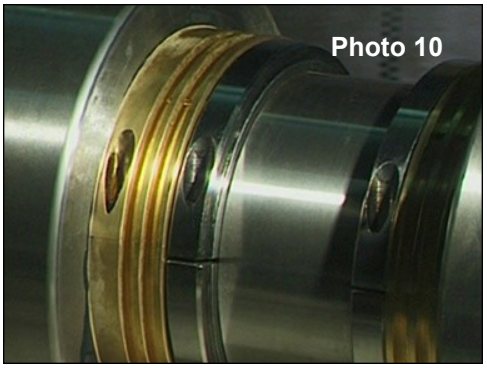


Step 7 / Photo 7. Slide the brass seal ring toward the roll cavity, twisting gently to spread the sealant behind the seal.

Step 8 / Photo 8. Install a clamp ring into the clamp ring groove that is next to the newly installed brass seal ring. Position the Seal ring and clamp ring split groove so they are approximately 90° degrees from the bearing race split. Lightly snug the screws in the clamp ring and seal ring. Final tightening will come later. Remove the first clamp ring half that was initially used to hold the bearing races temporarily.



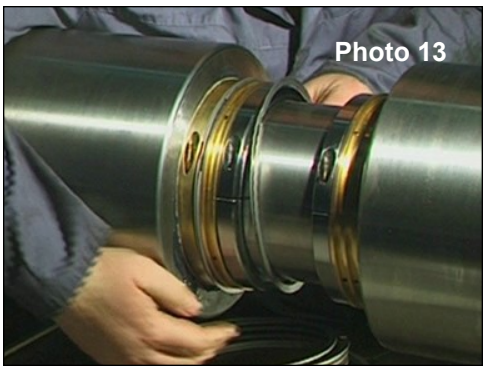
Step 9 / Photo 9. Next, install the second seal ring, lightly snug screws and place the end with clamp screws to the outside. Slide the seal ring toward the bearing races to allow for the sealant again behind the seal ring. Once sealant has been installed, slide the seal back toward the roll gently twisting the seal to spread the sealant uniformly. Re-install the clamp ring completely in the clamp ring grooves, finger snug the clamp ring screws. Position the seal and clamp ring splits as before, 90 degrees from the bearing race split. It may be necessary to use a soft mallet to tap the clamp ring into the clamp ring groove.



Step 10 / Photo 10. Check the alignment of the clamp ring and seal groove splits, making sure to also balance the splits on each side. This will insure a uniform pressure on the inner sleeves and a balanced unit.

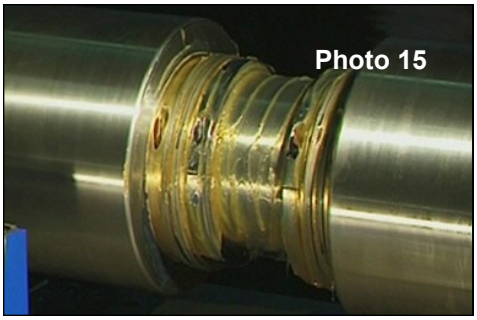
Step 11 / Photo 11. Tighten each screw alternately and evenly to help balance the split. Re-check all screws to insure each is fully tightened.

Step 12 / Photo 12. Assemble the laminar seals in the seal ring grooves. This is easily accomplished by winding the seal into the bearing raceway first then winding the laminar seal ring into the seal groove. In most seal rings, there are 2 groves. Some designs only have one groove. 2 laminar seals fit within each groove. In our example, as well as in the video, 2 grooves are shown with each seal. Each grove will accept 2 laminar seals.

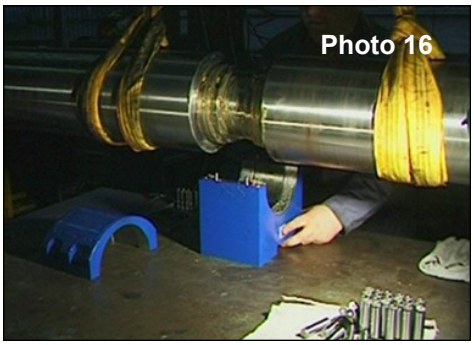


Step 13 / Photo 13. Each bearing requires 4 laminar seal rings. Carefully wind each seal into the seal grooves.

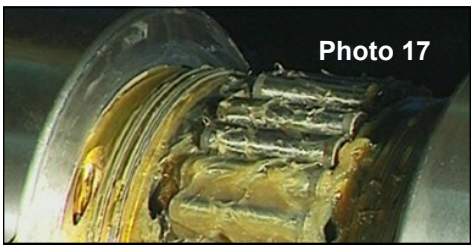
Step 14 / Photo 14. Grease the outer bearing race and gently place it into the housing base, carefully insure the outer race will misalign in the housing. This can be felt with light pressure on the race. Also fit the race so the joint edges align with the housing split.



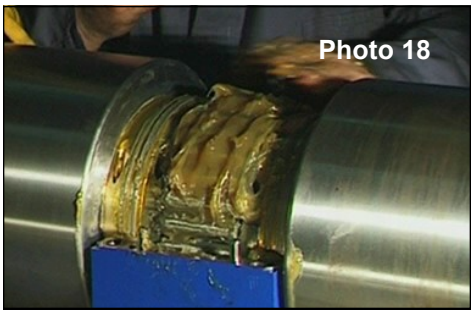
Step 15 / Photo 15 Generously grease the inner bearing races, seal grooves and laminar seal rings.



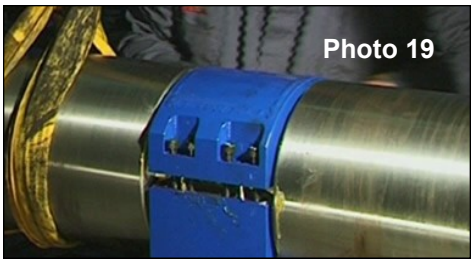
Step 16 / Photo 16 Carefully lower the supported shaft into the housing so the bearing rollers can be inserted. So the shaft will still need to be supported for roller insertion. So lower the shaft to the point where space still will allow rollers to be placed within the race way.



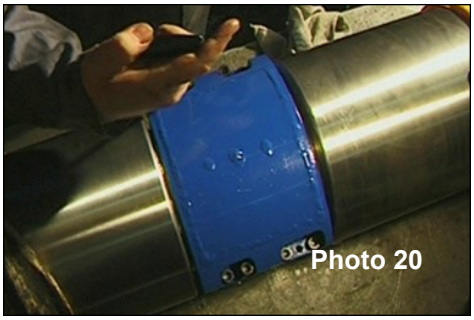
Step 17 / Photo 17 Grease each roller and install them one by one into lower half of the bearing races. Fill the void will rollers. Continue to grease and position the rollers on the upper race where the housing cap will eventually be positioned.



Step 18 / Photo 18 Hand pack the bearing with additional grease to insure all voids have been filled.

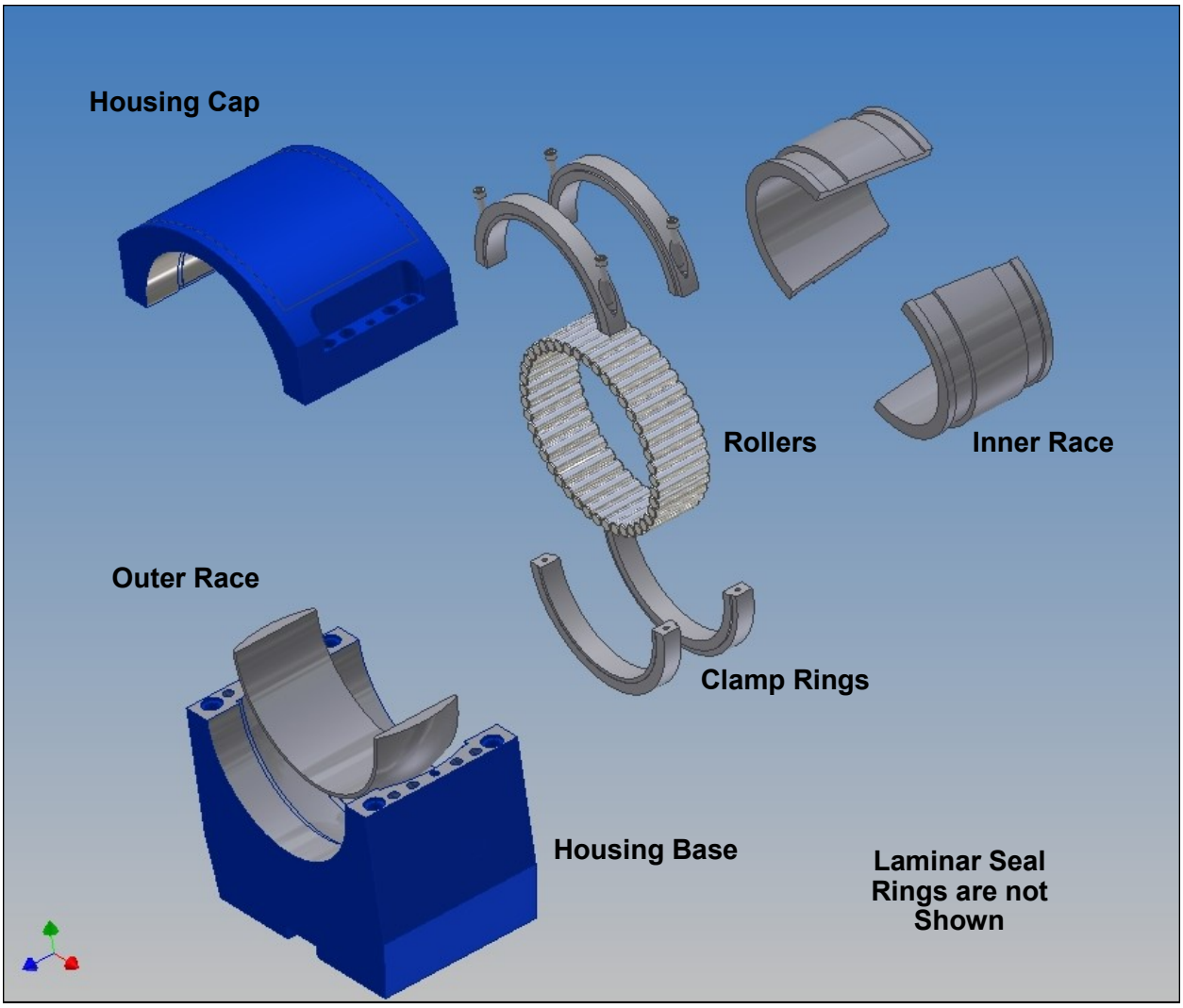


Step 19 / Photo 19 Carefully lower the housing cap into place over the rollers and insure the housing base and cap are aligned. Tighten the cap bolts alternating side to side until each is fully tightened.



Step 20 / Photo 20 Carefully check the full rotation of the housing while the roll is still supported. The bearing should rotate freely but with effort due to the housing weight.

The connections for the cooling water are in the base. Install the proper fittings for the cooling lines.



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