



## Replacing a Bearing

*Procedure Notes*

*Bulletin 57-05-22*

2017 Thelma Street | P.O. Box 3687  
Jacksonville, Florida 32206 U.S.A.  
Phone: (904) 355-5671  
Fax: (904) 355-0401  
[www.montgomeryindustries.com](http://www.montgomeryindustries.com)



## Replacing a Bearing

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### REMOVING AN OLD BEARING

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Due to the tight clearances between the rotor and the hog housing, it is almost impossible to remove an old bearing with the rotor still in the hog. We strongly encourage removing the rotor before attempting to replace bearings. The procedure for doing so varies based on hog type. See the maintenance manual for your specific model for further information on rotor removal.



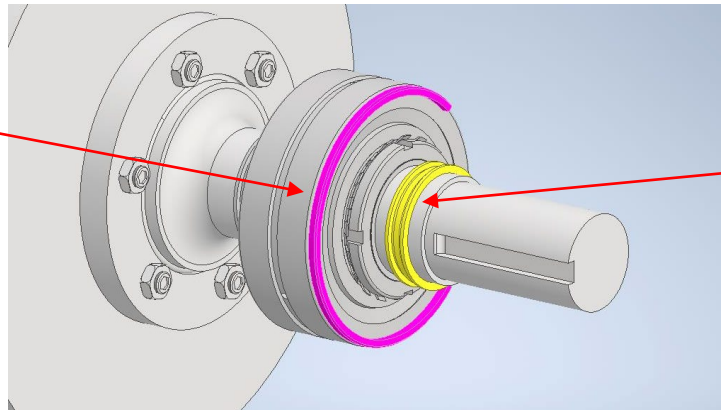
**STOP THE HOG BEFORE PERFORMING MAINTENANCE.**



**REMOVE THE ROTOR FROM THE HOG BEFORE ATTEMPTING TO REPLACE THE BEARINGS.**

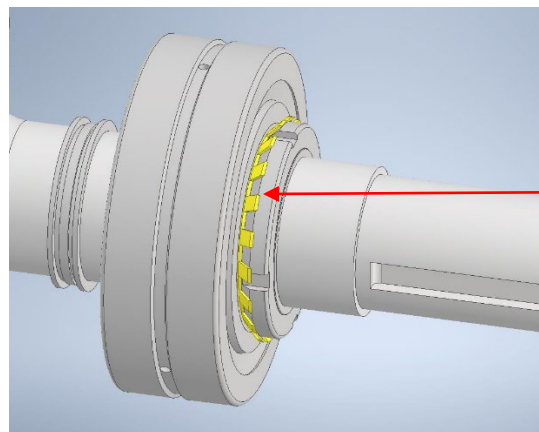
1. Remove the outer oil seal. If the bearing being removed is on the drive side of the hog, the stabilizing ring must also be removed.

Stabilizing Ring (Only on Drive Side) – Highlighted in Pink



Outer Oil Seal – Highlighted in Yellow

2. Bend out the locking washer on the lock ring to release the nut.



Bearing Locking Washer – Highlighted in Yellow

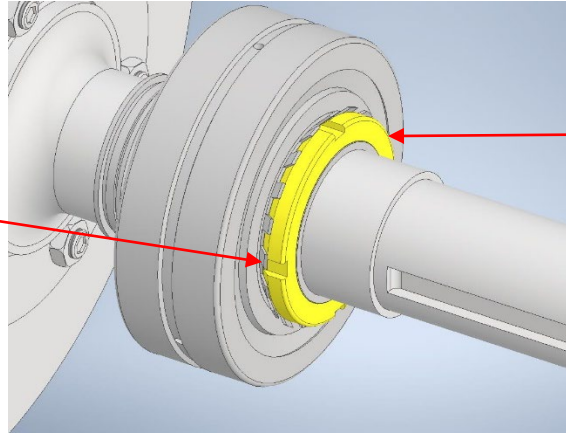


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3. Loosen the nut about two or three turns.

Hit the Locking Nut on indentations, moving in a circular pattern around the nut.



Bearing Locking Nut – Highlighted in Yellow

To loosen the nut, place a spanner wrench or heavy bar of brass or bronze against the nut. Use a heavy sledgehammer to hit the wrench or bar and keep moving around the nut with the wrench or bar. **Do not keep pounding in one place** as this will ruin the threads on the sleeve and nut.

4. Place a cylinder against the bearing unit locking nut (part of the adapter assembly). The cylinder should be slightly larger than the bearing journal of the hog shaft and long enough to clear the end of the shaft. An example is shown below.



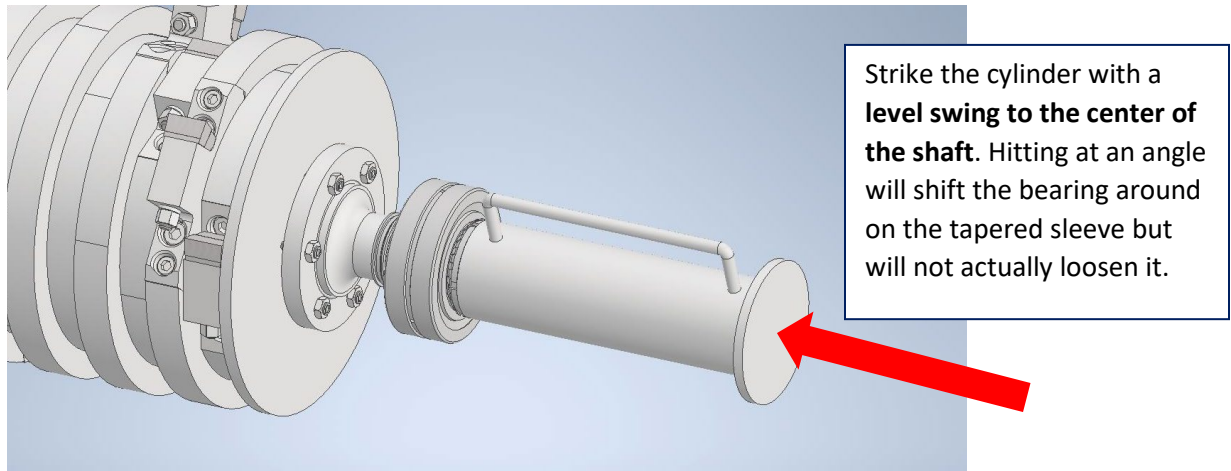


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5. Using a sledgehammer, strike the end of the cylinder **with a level swing to the center of the shaft** to jar the bearing loose from the tapered sleeve. Swinging at an angle will shift the bearing around on the tapered sleeve but will not actually loosen it.

If the bearing unit resists separating from the tapered sleeve, use wood blocks as a wedge behind the bearing unit so that it cannot move.



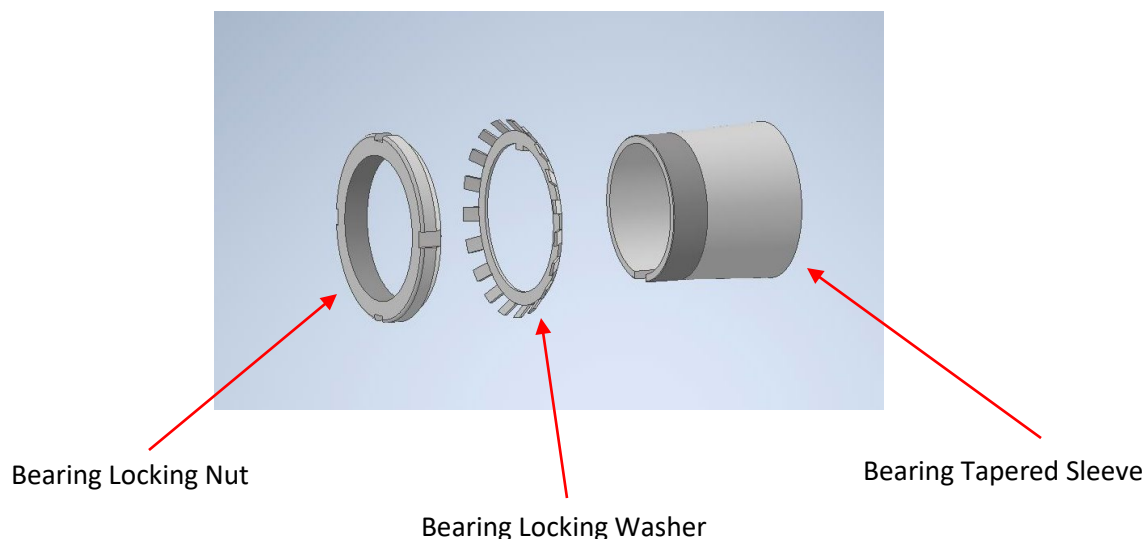
6. Once the bearing unit is loose, all the bearing components will easily slide off the shaft.

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## INSTALLING A NEW BEARING

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1. Clean the shaft thoroughly and remove any rough spots with either a file or an emery cloth.
2. Screw off the nut and remove the locking washer.

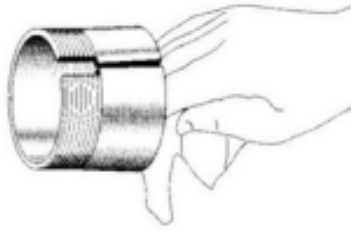




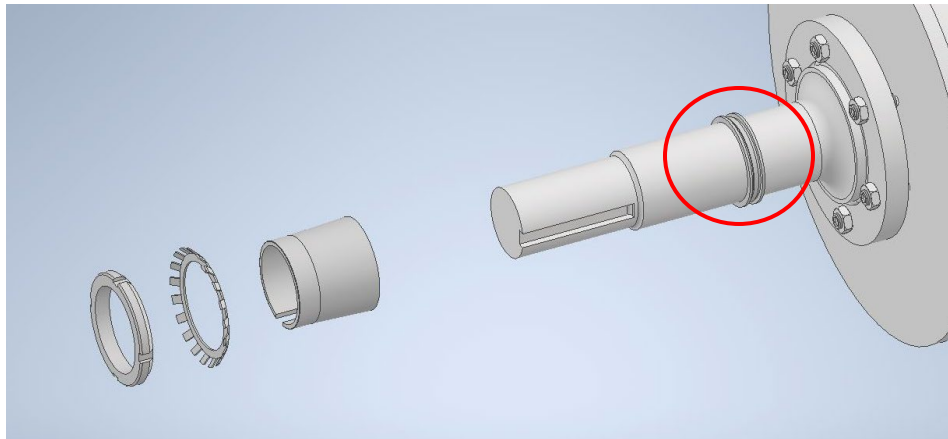
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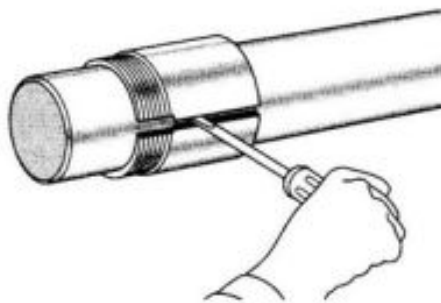
3. Wipe the preservative from the surface of the sleeve and then oil the bore surface lightly. Use a thin mineral oil.



4. Slide the inner bearing oil seal onto the shaft prior to sliding on the adapter.



5. Open up the sleeve by inserting a screwdriver into the slit. Then, slide the sleeve along the shaft to the correct position.

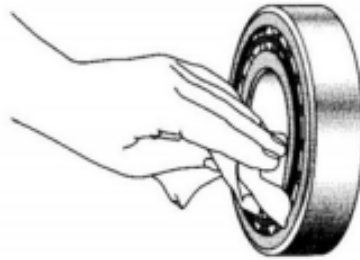




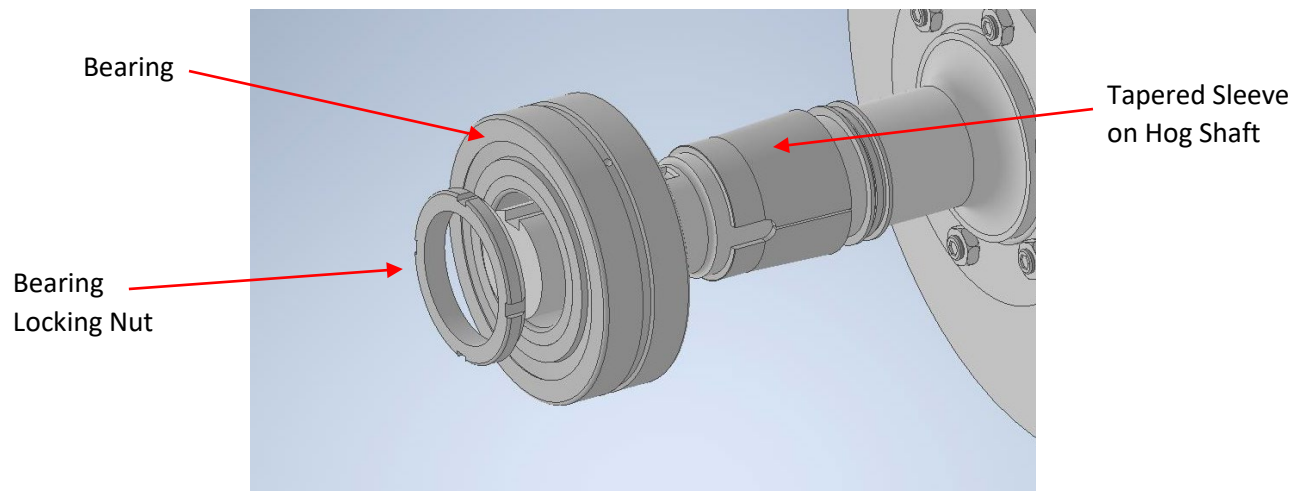
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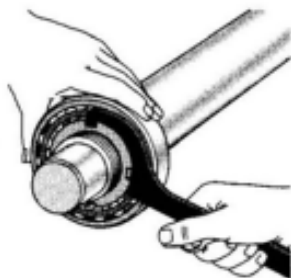
6. Wipe the preservative from the bore of the bearing and then oil the surface lightly. Use a thin mineral oil.



7. Place the bearing on the sleeve. Screw on the nut with its chamfer facing the bearing, but do not mount the locking washer. Do not push the inner ring up on the taper.



8. The bearing unit is secured on the shaft by tightening the lock nut with a spanner wrench or with a blunt chisel and hammer. Turn the nut sufficiently to ensure that the shaft makes proper contact (self-locking) with the sleeve, but do not drive the bearing any further up onto the sleeve until you begin checking the mounted clearance.



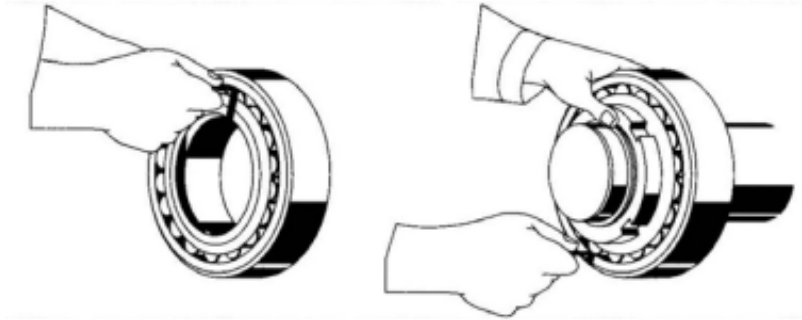




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9. While continuing to tighten the nut, keep checking the clearance between the top roller and outer race with a feeler gauge until the proper clearance is reached. Refer to the table below for clearance requirements, based on the bearing manufacturer's recommendations.

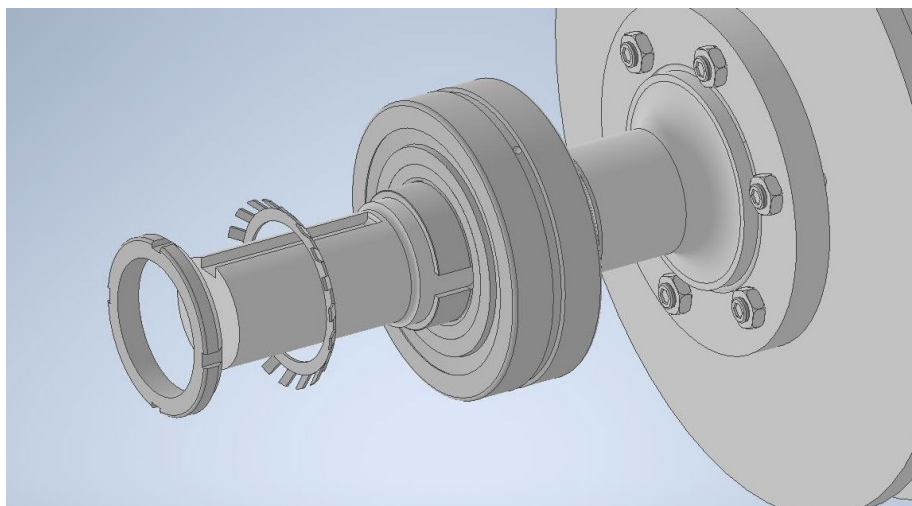


### Clearance Requirements for SKF Bearings

Shaft Journal	Bearing	Bore (mm)	Unmounted Clearance	Reduction in Internal Clearance	Mounted Clearance
2.9375	22217 CCK/C3W33	85	0.0043-0.0055	0.0018-0.0025	0.0025-0.0030
3.9375	22222 CCK/C3W33	110	0.0053-0.0067	0.0020-0.0028	0.0033-0.0039
4.4375	22226 CCK/C3W33	130	0.0063-0.0079	0.0025-0.0035	0.0038-0.0044
4.9375	22328 CCK/C3W33	140	0.0063-0.0079	0.0025-0.0035	0.0038-0.0044
5.4375	22232 CCK/C3W33	160	0.0071-0.0091	0.0030-0.0040	0.0041-0.0051

*\*Note: Values are in inches unless noted. The above clearances are based on a Class-3 fit.*

10. Once the proper mounted clearance is achieved, unscrew the nut, place the locking washer in position, and tighten the nut firmly again.

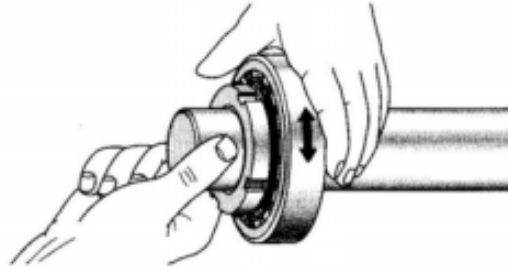




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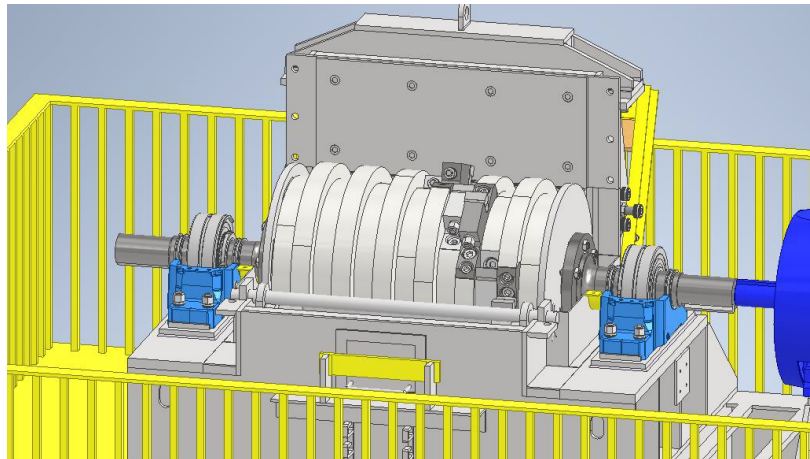
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11. Check that the shaft or outer ring can be easily rotated by hand.

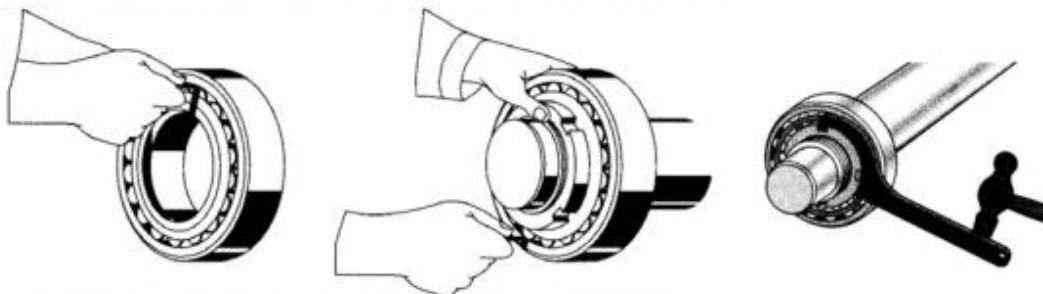


**CAUTION:** A loose adapter sleeve can lead to the inner ring turning on the adapter sleeve and/or the adapter sleeve turning on the shaft. To ensure that the nut is not excessively tight, make certain the outer ring of the bearing rotates freely. For a Class-3 fit bearing, the outer ring will swivel freely.

12. Allow rotor and bearing unit to rest in the bottom half of the housing for final tightening. An example is given below of a KC Model Hog, but the actual housing will vary based on the user's hog model.



13. Verify mounted clearance and tighten further as needed. Refer to the table above for clearance requirements, based on the bearing manufacturer's recommendations.



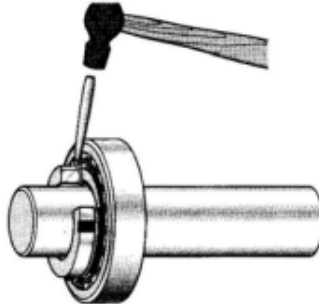




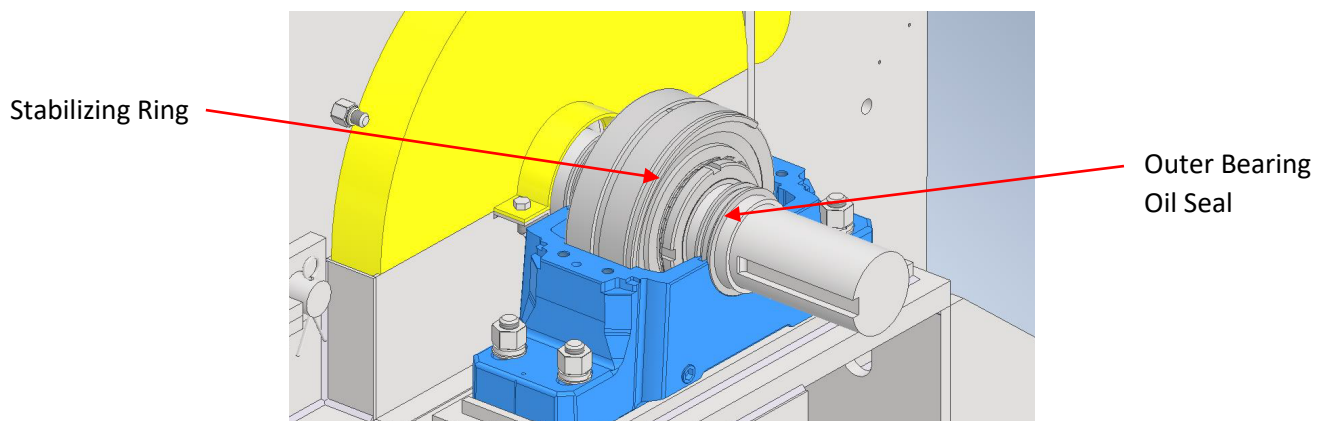
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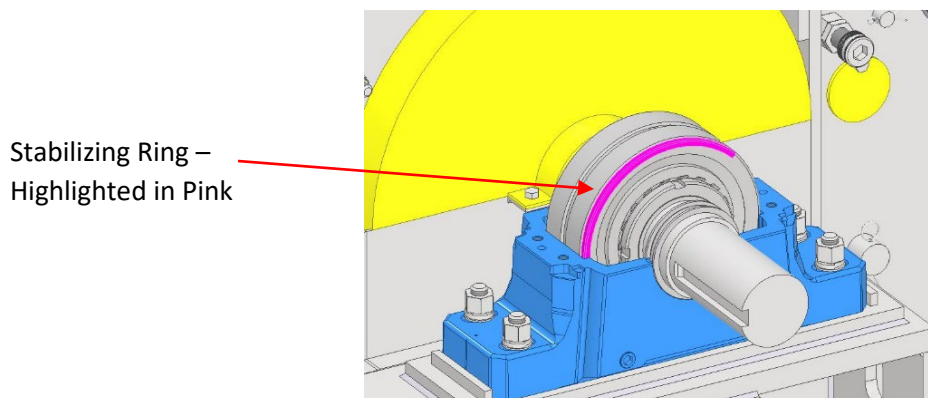
14. Lock the locking nut in place by bending one of the locking washer's tabs down into one of the slots in the nut. Do not bend it to the bottom of the slot.



15. Apply lubrication. Refer to the maintenance manual for your specific hog model for more information.
16. Slide the outer bearing housing oil seal onto the shaft and insert the stabilizing ring, if applicable.



The hog uses only one stabilizing ring per set of bearings, customarily installed on the drive end. The stabilizing ring is a partial ring that can be installed around the shaft and located inside the bearing housing after the bearing has been attached.

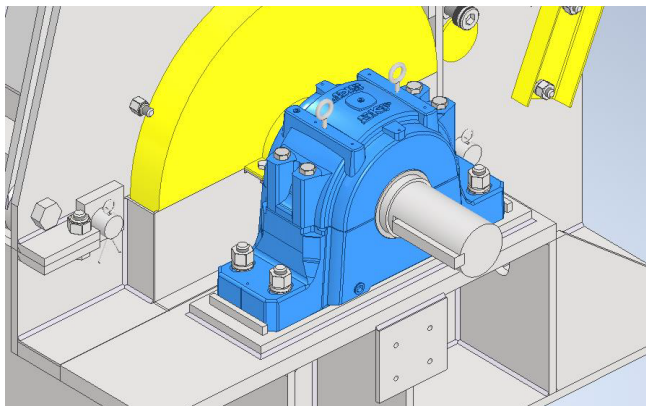




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17. Install the upper housing of the bearing.



**ENSURE ALL GUARD COVERS HAVE BEEN REINSTALLED BEFORE RUNNING THE HOG.**



**DO NOT RUN THE HOG WITH BEARING CAP BOLTS OR ANCHOR BOLTS LOOSE.**