The following are instructions for measuring the radial internal clearance of a spherical roller bearing using feeler or thickness gauges.

1. Be sure to perform this procedure in a clean, low-humidity environment.
2. Leave the bearing in its protective wrapping until ready for measurement.
3. Gather all necessary tools before starting:
   - Feelers gauges
   - Clean, lint-free gloves (i.e., powder-free latex or nitrile)
   - Bearing stand to hold the bearing in an upright, vertical position (i.e., a “V” block or ring)
4. Remove bearing from wrapping and place it on the stand in an upright position.
5. Rotate the inner ring and rollers several times
6. Press down on the bore and oscillate the inner ring to properly seat the inner ring and rollers.

7. Align the two rows of rollers such that the roller pairs are parallel with each other.

8. Align the outer and inner ring faces so that they are parallel with each other.
10. Pinch the two rows of rollers together so that they are in full contact with the center guide ring and the inner ring raceways.

11. Measure the radial internal clearance at the top of the bearing (12 o'clock position) where the rollers are unloaded.

12. Select the blade thickness near the bottom of the specified clearance range.
13. Slide the blade of the feeler gauge between one pair of rollers and the outer ring, close to one side of the rollers.

Slide the blade between roller & outer raceway and up close to one side of the rollers

14. Be sure that the blade covers the full length of both rows of rollers at the same time.

Make sure that the blade covers the full length of both rows at same time

Choose blades that are long enough to cover full length of both roller rows at the same time

15. Rotate the inner ring slightly to drive the roller up onto the center of the blade.
16. Do not roll past the center of the pinched blade.

17. Once the blade is properly aligned over the rollers, pull the blade out towards you while holding the bearing firmly in place.

18. Repeat steps 12-16 with progressively larger gauges until they can no longer be pulled easily through the bearing.

19. The thickness of the largest gauge that can be pulled through is the measurement of internal radial clearance.

20. Repeat this process at 2 or 3 different positions on the bearing to verify results.

For any questions about bearing installation or applications, please contact Dodge Engineering Support by phone at 864-284-5700 or by e-mail at DodgeEngineering@abb.com.