

Technical Service Bulletin

Bearing Adjustment

Operation: Torque Adjustment of Tapered Roller Bearings within Spindle/Hub Assemblies.

Objective: To achieve proper & consistent bearing adjustment. Target is .001” - .005” of end-play between spindle & hub.

Procedure:

1. Fully assemble end unit with Spindle, Hub w/Bearing Races (cones), Bearing Cups & Oil Seal, Castle Nut, and Washers (Flat washer, D- washer, Tang washer as specified in the BOM for the end unit).
2. With Spindle secured at axle mounting end, tighten & torque Castle Nut to 450 to 500 inch pounds while rotating or oscillating (rotating partially back & forth) the hub. A minimum of three (3) complete rotations of the Hub about the spindle is necessary while applying torque to the Castle Nut. This step fully “seats” and aligns the bearings’ rollers within the cones and cups.
3. Loosen the Castle Nut 1/6 of a turn (1 flat or 1 slot of the Castle Nut). Check that the Hub rotates on the spindle freely, with no obvious internal friction. If internal friction is felt, loosen the Castle Nut 1/6 of a turn more. Check that the cotter pin will pass through the Castle Nut slot and spindle drilling or that the Tang Washer is correctly oriented.

If a Castle Nut slot or flat does not align with the cotter pin hole or tang washer tab after loosening 1/6 turn, loosen the Castle nut a little more until it does.

4. Check end-play between the spindle & hub by pulling outward on the hub with both hands. There should be no movement detected. If movement is detected, repeat steps 2, 3 & 4.
5. Insert the cotter pin and bend the legs around the Castle Nut or Bend the Tang Washer Tabs to lock the Castle Nut.
6. If an end unit assembly exhibits end play movement after the second adjustment attempt set it aside for Quality Control to check end-play with a dial indicator.