

BBT Reset-Type Ball Bearing Steering Gear Adjustment & Installation Manual

Note:

Our steering gearbox is pre-adjusted to factory specifications and normally requires no additional adjustment. If inspection or fine adjustment is necessary, follow the procedures below.

1. Input Shaft (Part 3) Axial Clearance Adjustment

- 1) Completely loosen the lock nut (Part 1) at the lower end of the input shaft. Rotate the large rear adjustment nut with four round holes (Part 2) to adjust the worm shaft clearance. The shaft should rotate freely without any axial (up-and-down) movement.
- 2) Tighten the lock nut (Part 1) clockwise until all clearance is eliminated. The input shaft (Part 3) should rotate smoothly by hand with slight resistance but without binding.

Important: If you are not familiar with steering gearbox adjustment procedures, it is strongly recommended that the work be carried out by a professional technician experienced in steering system calibration.

2. Steering Free Play Adjustment at the Center Position

- 1) Rotate the input shaft (Part 3) by hand fully to one side until it stops. Then rotate it to the opposite limit and record the total number of turns. Turn the shaft back exactly half of the total turns so that the steering gear remains at its center position.
- 2) Use a wrench to loosen the lock nut (Part 4) by turning it counter-clockwise.
- 3) Using a flathead screwdriver, turn adjustment screw (Part 5) clockwise until it bottoms out. Then rotate it back approximately 30 degrees counter-clockwise. Hold Part 5 in position with the screwdriver to prevent movement. While holding it, turn the input shaft (Part 3) left and right by hand. It should rotate smoothly with slight resistance.

Repeat the adjustment process until the input shaft (Part 3), when positioned at the center of its rotation, moves smoothly left and right with slight resistance and without free play.

- 4) After the correct clearance is achieved, hold Part 5 firmly with the screwdriver and tighten the lock nut (Part 4) clockwise until securely locked.

3. Operational Check After Adjustment

After installation and adjustment, the input shaft (Part 3) should rotate smoothly. When positioned at the midpoint of its total rotation (steering center), the shaft should have slight resistance but no noticeable free play.

After turning more than 90° away from the center position to either side, the torque required to rotate the shaft should gradually decrease compared with the center position. This design ensures improved directional stability when the vehicle is traveling in a straight line.

4. Break-In Period

During the initial operation period the steering may feel slightly heavier than normal. This condition will gradually diminish as the steering gear completes its running-in period. After a short period of use, the steering response will become smoother and more precise.

5. Wheel Alignment Requirement

The BBT reset-type ball bearing steering gearbox is more sensitive to wheel alignment than the original factory steering system. After installation, precise wheel alignment must be performed by a qualified automotive technician.

6. Lubrication

The steering gearbox is pre-filled with standard lubricating grease at the factory and is ready for direct installation (plug-and-play).

If replacement grease is required, use No.3 lithium-based grease.

