

BUSHNELL

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Instructions for installing your new Bushnell eccentric chain tension adjuster.

1. Before installing your bicycle bottom bracket into the eccentric, remove the retaining rings (photo 1), clean and liberally grease all the aluminum surfaces that will be touching each other. Grease the wedges, bolt, the outside of the eccentric, and the threads with high-quality grease (figure 2 and 3). Then grease the inside surfaces of the frame's bottom bracket area (figure 4). When reassembling the eccentric, make sure the rounded edges of both wedge pieces mate with the rounded edges of the internal surfaces.

2. One side of the eccentric has right hand threads, and the other has reverse (left hand) threads. Reinstall the retaining rings and insert the eccentric into the frame with the **reverse threaded side on the right side (drive side) of the frame**. This is important and must be installed properly or you will not be able to install your bicycle's bottom bracket correctly. On a tandem, make sure that the 4mm adjustment bolt on the eccentric is on the right side (drive side) of the bike. On a single bike, the 4mm adjustment bolt should be accessible on the non-drive (left side) of the bike.

3. Once in the frame, position the eccentric to be centered from side to side and with the eccentric adjustment bolt in the 3 o'clock position (when viewed from the drive side of the bike) (see photo 5). Cinch the eccentric adjustment bolt to snug using a 4mm allen wrench.

4. Grease the threads in the eccentric and the bicycle bottom bracket cups. Now install your bottom bracket cups according to the manufacturer's instructions. (Note: the eccentric must be firmly secured in frame to be able to properly tighten the cups.)

5. After installation of the drive train is complete you can adjust your chain tension. Loosen the eccentric 4mm adjusting bolt completely with a 4mm allen wrench (see photo 7). The eccentric will not rotate

freely unless the wedges are loosened all the way. As you loosen the bolt, it will immediately feel like it's loose (that's the first wedge breaking free). As you continue to loosen, it will become difficult once again to turn the wrench. This is because the second wedge has not broken free. Keep loosening until it feels loose once again. Now both wedges have broken free and the eccentric should turn.

Use a pin spanner-type wrench in one hole of each wing to rotate the eccentric (see photo 8). Using a bottom bracket adjustment tool to rotate the eccentric is another option as long as the bottom bracket has been securely tightened into the eccentric (see photo 9). If you want to use a bottom bracket adjustment wrench, it may be necessary to remove a crank arm (obviously the one without the chain ring on it).

6. With the chain installed, rotate the eccentric until the chain is tight, then back it off just slightly. If you spin your pedals backwards, you may notice the chain gets loose in one spot and tight at another spot. Find the perfect medium point where the chain is not too loose or too tight, then cinch the 4mm hex wedge bolt to 75-90 inch lbs (8.5-10 Nm). This would be tight, but no reefing or you'll strip it out. The chain has loose and tight spots because the chain rings and/or cogs are often not perfectly round. This is no problem as long as you find that happy medium.

7. Side to side eccentric adjustments can be made to correct chain line errors, as long as the eccentric does NOT protrude from the frame.

8. Recheck the eccentric bolt and chain tension frequently, adjust and lubricate as necessary throughout the lifespan of your bike.

