

Why perform this upgrade? You may not need to do it - your 90-degree chuck may work just fine. A lot depends on the manufacturer of the tire valve stem. Some valve stems have English Schrader threads, some have metric threads. Some are fully threaded, others have short threads and a solid body. Some stems are thicker than others.

In the case of BMW TPMS valve stems (and a few others) we received reports that the air chuck could “twist to one side”, which made it difficult to get an airtight seal. A connection can still be made but it can be tricky.

We conducted an engineering study of BMW’s valve stems and our 90-degree air chuck. We discovered that the depth of the “socket” of the chuck made a difference on how the chuck gripped the stem. If the valve stem doesn’t go into the “socket” far enough, the chuck could “cantilever” to one side and the end result could be a leaky seal. This problem seems to be related to BMW’s design - customers with other stems reported no issues.

The fix for all this is simple: add an O-ring spacer between the end section of the chuck and the main body. The O-ring is only 1.5mm thick (0.06”), but it makes a big difference. It allows the valve stem to fit deeper into the socket of the chuck. That O-ring also reduces the amount of pressure needed to seal the end of the valve stem against to the O-ring inside the chuck body.

BestRest doesn’t consider the upgrade to be a warranty issue, instead it’s a new product improvement; it’ll be featured on all new 90-degree air chucks.

Before you complain that this O-ring should’ve been included from Day 1, think of it this way: If you bought a new motorcycle today, the manufacturer would’ve made some updates from your old bike’s design. You wouldn’t expect them upgrade to your old bike for free and bring it up to the same specs as a

new bike. But if you send a SASE (Stamped- Self-Addressed-Envelope) we’ll send you an O-ring so you can do it yourself.

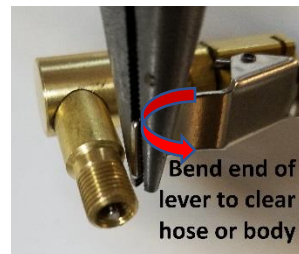
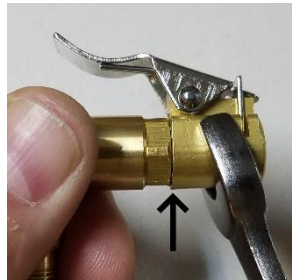
If you’re technically challenged, send us your CyclePump or EZAir Gauge or 90-degree Clip-On air chuck, and we’ll do the work for you. The cost is \$10 per air chuck, which covers labor and return shipping. US addresses only, for international customers contact us for costs.

**Tools needed:**

- Needle nose pliers
- 13 mm wrench
- Dental pick or a stiff pin
- Wire brush
- Thread locking compound, (medium strength) Permatex penetrating grade #29000, or Loctite 29031 290 Green Wicking Grade are recommended)

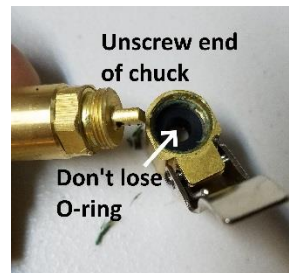
**Procedure:**

Grip the main body of the chuck in one hand, then unscrew the last section of the chuck. A 13mm wrench may be needed.



If the locking lever hits the body of the chuck or the air hose, use needle nose pliers

to gently bend the end of the lever so it clears.

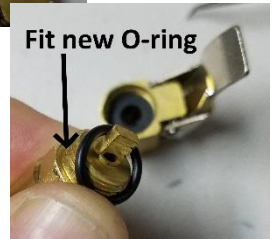


Unscrew the parts, being careful NOT to lose the rubber O-ring inside the end.

Use a wire brush to remove any old thread compound from the threads of the chuck. A dental pick is useful. Clean threads carefully.

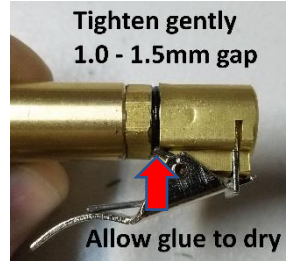


Slip the new O-ring onto the nipple portion of the chuck, down past the threads.

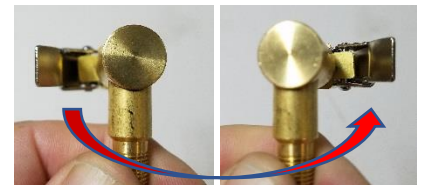


Apply 2 drops thread locking compound to the O-ring, then thread pieces together.

Tighten until the O-ring is gently compressed between the two brass pieces. If you tighten too much the O-ring may be damaged.



The locking lever was originally positioned to the left of the hose. Because of the added thickness of the O-ring, that lever will now be to the right of the hose (or straight).



Original configuration / new config.

Allow the thread locking compound to harden before use. (10-15 minutes)

Now when you fit the air chuck onto the valve stem, the stem will fit deeper into the socket of the chuck. The pressure needed to create a seal with the internal O-ring will be reduced, and the chuck will make a better airtight seal.