



SOME FAQ's COMPARING mPOWER's SPEEDLOC and JERGENS BALL LOCK

1. **Will the SpeedLoc fixture plate docking system work with ball lock?** The docking system works like this.....
 - a. The docking plates are installed in the face of the tooling column and docking studs are installed on the back side of the fixture plates.
 - b. To load a fixture plate, the machine operator simply hangs the plate on the face of the tooling column by setting the studs into the docking plate V pocket. He/She now has two hands free to secure the fixture plate to the face of the column.
 - c. In this position the centerline of the fixture plate mounting holes are about .015" below the centerline of the SpeedLoc receiver pockets.
 - d. The SpeedLoc locator design incorporates a High grade SHCS (socket head cap screw) which "floats" inside the locator body. This float (>.015") allows the SHCS to engage the threads at the bottom of the SpeedLoc receiver. As the SHCS is tightened, chamfered corners of the locator and receiver pocket mate and the locator PULLS the fixture plate into its final position.

The ball lock does not have a way to pull the fixture plate up off the docking plates so the operator would still need to wrestle the plate up off the docking plate for the holes to line up.

2. **Does the ball lock tighten faster than the SpeedLoc?** ----- **YES**, because of the ball bearing mechanism, it requires less than a full turn to secure the lock....IF everything is perfectly in place.
3. **Is this time savings meaningful?** ***Not in most applications.*** We have time studied a complete fixture plate changeover with the SpeedLoc and the total time to remove a fixture plate and secure a new one is less than 2 minutes (see page 4 of our brochure). Of those 2 minutes, about 60 seconds is actually tightening the locator. Even if the system is 60 seconds slower than ball lock, how meaning full is that compared to the advantage of our system (see the attached information shown above).

If you change a fixture plate once a week the “ball lock tightening advantage” would save about one hour per year. Even at \$100 per hour, the ROI is not justifiable when you consider:

- a. The overall loading time is actually slower (see #3).
- b. The cost of the ball lock is between 10% and 25% higher.
- c. The cost to install SpeedLoc is lower due to the threaded receiver design and the tolerance requirements.
- d. SpeedLoc is more “forgiving” on fixture plate thickness tolerances (don’t need to hold +/- .002” on fixture plate thickness).
- e. There are less moving parts, can’t lose ball bearing, no repair kits.
- f. The fastening device is more robust.....your machine operators are not likely to shear the SpeedLoc fastener (for a 20mm it’s a 3/8 grade 8+ SHCS) like they might a ball lock set screw (1/8” std. set screw).
- g. There are many other technical advantages to SpeedLoc.

4. **Overall, is the ball lock system faster than SpeedLoc in a Horizontal application?** ----- **NO, it is slower.** The time it takes to position the fixture plate (using Ball Lock) far exceeds the time saving for tightening.
5. **Is there any way to decrease the tightening time of the SpeedLoc system?** **Yes** but, unless you are using the system to load fixture plates off line (changing the fixture plate hourly or more vs. daily or weekly) it is probably not needed. We have customers that load off line and use Air Impact wrenches (with torque settings) to improve the fastening time of the SpeedLoc. One customer, who purchased about 100 16mm SpeedLocs, is using a simple cordless drill to do the job (see testimonial above).
6. **Are there other advantages of SpeedLoc that outweigh the “tightening” speed consideration?** **Yes, many**....see the attachment above.
 - a. The maximum hold down or “clamping” force is about twice that of the ball lock.
 - b. SpeedLocs cannot be easily disassembled by operators, allowing the internal parts to fall out.
 - c. No rubber O rings to become brittle, get cut by chips etc.....allowing the internal parts to fail.
 - d. No “relaxation” due to point contact denting. The ball locks are not a good fit with hydraulic circuiting fixture plate (leakage).
 - e. Price.
 - f. Ease of installation.
 - g. Uses less space.

- h. Compact head option (locator) that allows the locator to lie flush with the fixture plate and consume about ½ the space on the plate surface.
 - i. SpeedLocs are self extracting (the SHCS Pulls and locator in and pushes is out of the receiver pocket) while ball locks rely of the strength of the operator to pull the locator out of position. This feature becomes particularly important in Horizontal machining application.
7. **Can I retrofit my current Ball Lock system to the mPower SpeedLoc System?** **Yes**, we offer receivers that will fit directly in the pocket that holds your existing Ball Lock receivers and our Locators will fit the lined holes you already have in your fixture plates. For future systems our threaded receiver offers a smaller footprint and a significantly lower cost.