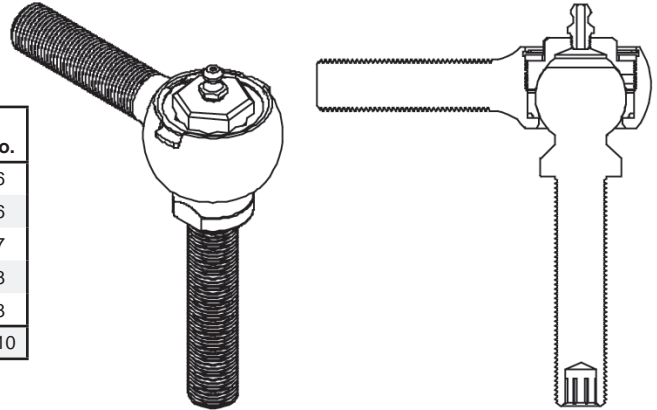




## HOWE QUICK BUMP TIE ROD END MAINTENANCE INSTRUCTIONS

Howe Part No.	Housing Style	Stud Style	Housing Part No.	Stud Part No.
23283	5/8"x18 LH Thread	3.00" (long, shouldered)	23247	23296
23284	5/8"x18 RH Thread	3.00" (long, shouldered)	23248	23296
23385	5/8"x18 LH Thread	1.50" (short, rack end)	23247	23297
23286	5/8"x18 RH Thread	3.00" (long, spindle end)	23248	23298
23287	5/8"x18 LH Thread	3.00" (long, spindle end)	23247	23298
2329610	Stud Only	4.00" (long, shouldered)	---	2329610



**Common Parts:** Grease Zerk **22328**, Cap **23236**, Retainer **23237**, Snap Ring **23238**, Race **23243**

**ATTENTION!:** The jam nut must be seated against a flat surface to hold. Rounded rack shafts will require modification or loctite to prevent the quick bump end from working loose.

### Installation

- 1) Assembled quick bump tie rod ends are shipped from Howe Racing Enterprises internally lubricated, adjusted and ready to install.
- 2) Apply Anti-Seize to the threads of the quick bump housing.
- 3) Run a jam nut onto the threaded end of the housing.
- 4) Install the quick bump end into the sleeve adjusting it to the desired position and then lock it in place with the jam nut.
- 5) Apply anti-seize to the threaded stud before installing into the spindle or rack to avoid galling on installation. Do not apply excessive torque when installing the threaded stud into the spindle. Threaded sleeve on spindle may need tapped for smooth installation.

### Adjusting Bump Steer

- 1) Loosen the jam nut on the threaded stud.
- 2) Using a 3/8" allen wrench turn the stud to move the quick bump end up or down as needed. Each turn is equal to .010".
- 3) When the desired setting is achieved hold the stud with the allen wrench and tighten the jam nut.

### Disconnecting from the Spindle or Rack

- 1) Place a jack stand under the lower A Frame for support.
- 2) Make sure the A Frame is near level and the threaded stud is centered in the housing. Then loosen jam nut.
- 3) Using a 3/8" allen wrench remove the threaded stud from the spindle or rack. Be sure the stud does not misalign so far that it begins to bind during removal.

### Maintenance

Grease after every 300 to 400 laps with low friction grease. We use Citgo MP Lithoplex 3 or Red Line CV2. Unlike conventional tie rods, a Howe quick bump will only accept grease until it is full (typically, one pump or less is required). Once the grease passages are full they will not vent, the pressure from the grease gun can make it difficult to remove it from the zerk. To relieve the pressure

work the stud around to vent grease onto the ball, if the quick bump end is on the vehicle, turn the steering back and forth for the same result. Disassemble annually or every 2000 laps to adjust the lash.

### Adjusting the Lash

The quick bump lash can be set attached to the car if the stud is free from the spindle or rack. If you choose to remove the quick bump end from the car, gently clamp a piece of threaded sleeve in a vise and thread your quick bump end into it to disassemble.

### Disassembly

- 1) Remove the snap ring and then the cap retainer.
- 2) With a 7/8" socket turn the cap counterclockwise to remove.
- 3) Clean moving parts to inspect for excessive wear. Replace any parts that are worn or damaged. The stud is concentric and should be checked for straightness. Install the quick bump stud upside down in the housing and spin the stud against the side of the housing with your fingers. If the stud is bent, you will see it wobble.

### Assembly

- 1) Install the quick bump end into a threaded sleeve and gently clamp the sleeve in a vise.
- 2) Install the race into the housing ungreased and push it down completely.
- 3) Install the quick bump stud into the housing without grease.
- 4) Dip the bottom lip of the cap in grease and apply a small amount to the threads of the cap, install and tighten the cap until it snugs down.
- 5) Set the lash on the ball by loosening the cap until the retainer fits over the hex. The retainer can be flipped if necessary to best capture the hex of the cap.
- 6) Install the snap ring over the retainer to finish assembly.
- 7) Using a grease gun, grease and rotate the quick bump stud by hand until the grease is visible on the bottom of the ball.