

REMOVING & INSTALLING BALL BEARINGS W/ECCENTRIC LOCKING COLLARS

REMOVAL:

Inspect the locking collar of the bearing to locate the setscrew and loosen it. Then find the drilled hole in the collar which will be near the setscrew. Determine the direction in which the shaft rotates during normal operation of the machine. Angle a suitably sized punch into the drilled hole of the collar and strike the punch firmly with a hammer to rotate the collar opposite the direction of shaft rotation. The collar should turn while the shaft and bearing remain stationary. After rotating about ¼ turn the collar should be unlocked and you will be able to slide it away from the bearing and off the shaft. If it refuses to rotate or barely turns then try driving it the other direction in case the previous installer mistakenly locked it in the wrong direction. After removing the collar there should be nothing else holding the bearing to the shaft (except years of corrosion and maybe some scoring if the bearing has spun on the shaft). Remove the burr on the shaft caused by the setscrew with a file prior to trying to pull the bearing over top of it. Remove the outer flange which clamps the outer race of the bearing in place and, with luck, the bearing will come off the shaft with some gentle tapping. If the bearing is stubborn there may be room to make use of a puller. In extreme cases the outer race of the old bearing can be smashed with a punch or chisel and the balls allowed to fall away, leaving only the inner race on the shaft which can then be pulled, heated or split with a torch or grinder to free it up for removal.

INSTALLATION:

Clean up all shaft surfaces removing any burrs or rust. Make sure a good or new flange is in place for behind the bearing. Slide the new bearing onto the shaft with the eccentric extension of the inner race facing the proper direction – usually toward the nearest end of the shaft. Slide or tap the bearing snugly against the inside flange. Install the outer flange but only snug the nuts or bolts securing it for the time being. Slip the new collar over the shaft with the recessed face toward the bearing. Gently push and rotate the collar until it seats over the eccentric inner race of the bearing. Continue to rotate the collar in the same direction as normal rotation of the shaft until finger tight. Angle a punch into the drilled hole of the collar and drive the collar the same direction using moderate force until it is firmly seated. Tighten the setscrew securely. Rotate the shaft a turn or two to allow the bearing to self align in the flanges then tighten the nuts or bolts securing the flanges which had previously only been lightly snugged.