

How to cure gear lever play by Norbert Welter

Remove all the grease, move the gear lever up and down to check for play. In most cases, making a new gear lever is enough to take up the play. I bought some ball bearings of 1 inch and 11.5mm diameter, plus a stainless steel bar 10mm dia. I heat the balls to red heat, then let them cool down and drill them in a lathe. Then I machine the stainless rod to a tapered shape on both ends. Finish by polishing. I fix the two balls by silver soldering them onto the rod. Mill a slot in the large ball and cut a thread for the gear knob and that's it.

Only once in six rebuilds has that not been sufficient to solve the problem, then I do the following: On a mill, I machine a ring out of the main extension (not the turret) and resurface the extension where the turret is fixed. Remove enough material so that the turret can be shimmed later. From a bar of good quality aluminium I machine an insert, similar to a valve insert but with a spherical seat instead of tapered. I machined it with a 1 inch ball cutter. The ring is made a close fit and Loctite is used to glue it in place.

