

# BRONZE BUSHING UPGRADE

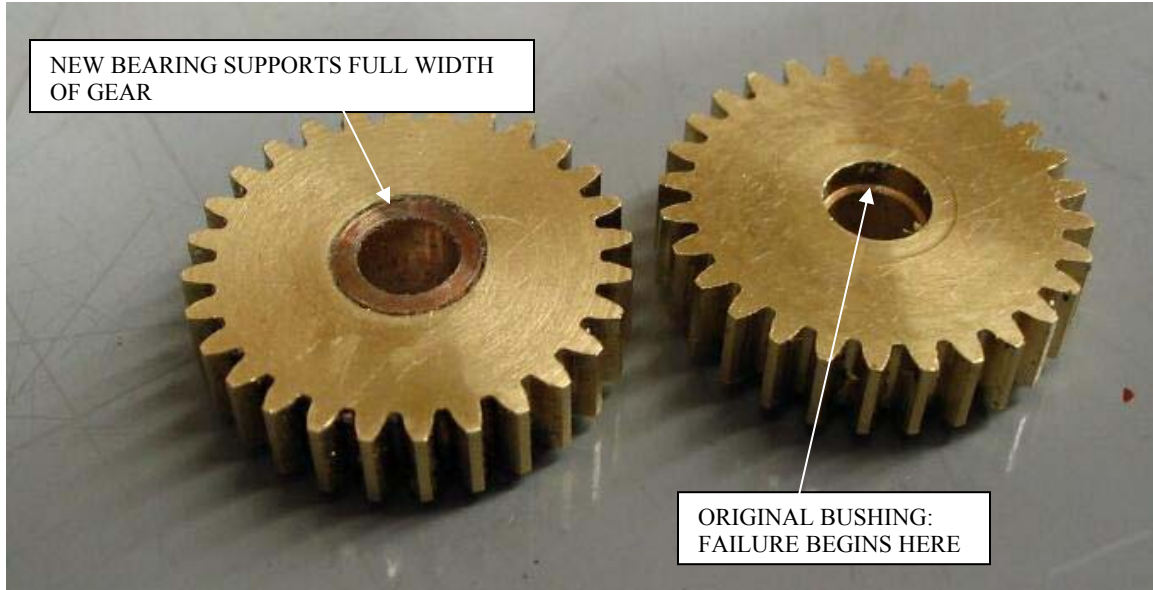
THIS KIT CORRECTS BUSHING DESIGN FLAW IN THE CURRENT STYLE  
TAMIYA TANK GEARBOX FINAL DRIVE GEAR



This is the Bronze Bushing Upgrade. On the Tamiya gearboxes with the plastic covers, the brass final drive gear tends to fail prematurely. This is due to an improperly supported final drive gear. During the running of the tank, stress during use will allow the gear to wobble and create a condition where excessive wear will occur to the bushing.

In the picture above, the bushing on the right is the original bushing from Tamiya. On the left is the Bronze Upgrade Bushing. Note the width of each. The original bushing only supports about 2/3 of the width of the brass final drive gear. The remaining 1/3 of the gear is unsupported and this will cause wobble and subsequent gear wear and finally total failure. The brass final drive gear must have full bearing support across the entire width on the gear in order to prevent unwanted wobble of the gear. Premature wear can occur very quickly even if grease is applied regularly.

Replacement gears for the Tamiya tanks are very difficult to obtain, if at all, and so the first step to avoid replacing the gears or the gearboxes is to repair the bushing that causes the primary failure in the first place.



The same Bronze Bushing Upgrade is shown on the left, and the original Tamiya bushing is on the right in the above picture. This time, the bushings are shown in the brass final drive gear. On the left, you can see the Bronze Bushing Upgrade extends the full width of the gear. It is also a closer tolerance fit on the shaft in which these gears ride upon. This type of rework normally requires a machine lathe and machinist skills. The Bronze Bushing Upgrade is designed to give you the basic tools and instructions to fit this precision bronze bushing without the need for a machine shop. This design concept allows a quality repair for what is normally an expensive proposition. The increased life expectancy from an upgrade gear is considerable.

You must make sure that your existing gears are in good condition. The profile of the above gears is “new”. If your gears have sharp edges, (sharp peaks at the tips of the gear tooth), then you may need new gearboxes, and fit the bushing upgrade to a new set of gears.

If you have a new tank, this upgrade will provide much added life expectancy to the gearboxes and your investment in the model project. Especially in tanks that are subject to constant or aggressive turning, the final drive gear is subject to rapid wear.

This upgrade is used on all Tamiya gearboxes that have the black plastic covers, except for the “Pershing” gearboxes. It does not require this upgrade.

With this upgrade you get two bronze bushings, a special file, and full instructions for doing the work. It is not hard but does take some time. The end result will save you time and money as your gearboxes will then have a serious design flaw corrected and they will last longer. This is vital for those who drive their tanks extensively.