



## Chirping GT6 Throw Out Bearing

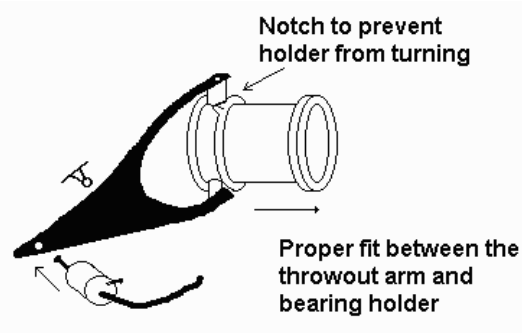
This is about the search for a chirping throw out bearing in a '70 GT6+. I had installed a rebuilt gearbox after mine blew up (actually froze) at speed. When the new gearbox was installed and the rest of the car assembled, the TO bearing chirped loudly. Slight pressure on the clutch pedal would make it change pitch; with enough pressure the noise would even stop.

I was given several different theories about what was causing the noise. The clutch arrangement on a GT6+ (at least in 1970) is different from that of a TR. The TO bearing is supposedly in constant contact with the finger springs, so the technical description on the Buckeye Triumph website doesn't really apply other than the possibility of a tight TO bearing. [Editors note: *The TO bearing in the TR250 & TR6 is also designed to be in constant contact with the pressure plate spring fingers. When the stiffer KOYO TO bearing is substituted for the OEM bearing, the force between the TO bearing and pressure plate is insufficient to keep the bearing spinning so it squeals or chirps. Many have modified the system to pull the KOYO TO bearing away from the spring fingers using components from the TR3/TR4. When this is done, it only squeals when the clutch pedal is pressed.*] Nigel at Spitbits said that in their experience this was usually caused by worn or missing pins on the throw out arm. Regardless of the cause, I had to remove my newly-installed gearbox to do something about it.

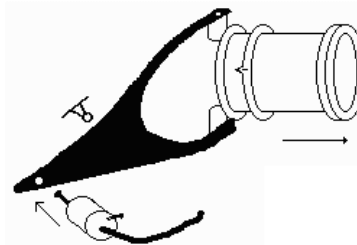
So I pulled everything apart, expecting to find something visibly wrong. When I had finished re-assembling everything, I drove around the neighborhood a bit. I heard no strange noises, and the chirping seemed to have gone away completely. I did not find anything wrong with the clutch other than the pressure plate bolts being easier to remove than I would have expected.

So I've been trying to imagine what might have been causing the noise. I can think of two possibilities. One is that one or more of the pressure plate bolts really had loosened up. The result would have been uneven finger springs. This might make only one or two fingers be in contact with the TO bearing, or it might have put uneven pressure on the TO bearing. I don't know if this would cause chirping. (This time when I re-assembled everything, I torqued them VERY carefully.)

The other possibility is that the TO bearing holder and arm may have become dislodged from each other when I installed the gearbox the first time. The TO bearing is pressed onto a brass holder. Two pins on the TO arm are supposed to fit into a slot between two flanges on the holder. A notch in one of the flanges prevents the mount from turning. If the pins are worn so much that they allow the notch to slip past, the entire mount rather than just the bearing will spin. This was the possibility suggested by Nigel at Spitbits. However when I took mine apart I found little or no wear on the pins. There was no way that the holder could spin more than halfway around.



When I re-installed the gearbox, I moved the TO arm once or twice out of curiosity. Two "bad" things happened. First, since I hadn't pushed the bell housing fully up to the engine block, the arm pushed the holder much farther along the input shaft than it would normally be able to move. In fact, it moved the holder so far that the pins slipped out of the slot between the flanges. When I tried to return the arm and bearing to a more normal position, the arm moved but didn't pull the holder back because the pins had lost their purchase on the rear flange. The entire system may still have worked with the pins pushing on the rear flange instead of the front one. However there would have been no pins between the flanges and thus nothing to grab the notch and stop the entire holder from spinning. Since the clutch would still have worked and the bearing's position would still have been within the range of motion of the slave cylinder and arm, I might not necessarily have noticed a problem other than noise.



The second bad thing is that the arm became dislodged. The arm pivots on a pedestal on the bell housing, this pedestal acting as a fulcrum. The arm is held to the pedestal by a spring clip. It will come off the pedestal fairly easily if given enough "encouragement". Of course, when it comes off one notices the problem immediately. With the help of a small mirror I looked through the hole where the arm protrudes through the bell housing, and noticed how the pins had lost the flanges on the bearing holder. Working through the hole I was able to re-attach the arm correctly, with the pins between the flanges correctly.

I still don't know what caused the noise I was hearing. But the lessons are clear. Torque the pressure plate carefully, and don't dislodge the TO arm when installing the gearbox.