

## Bent shaft checking tutorial

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There's a few threads right now about helicopter vibration, so here's two methods of checking for bent main rotor shafts.

The first method doesn't require removing the shaft from the heli. It only requires removing the head.

You hold a screwdriver against the main shaft, and run up the main motor. Hold the base of the screwdriver shaft against the main rotor shaft, and then watch the tip of the screwdriver. If the tip of the screwdriver is vibrating then the main shaft is bent.

This works because the screwdriver acts as a lever and amplifies the motion of the main rotor shaft.



The second method requires removing the main rotor shaft from the heli.

Place it on a flat surface (like a sheet of glass, or I use the back of a walnut plaque) and lift up the side of the surface just a little until the shaft starts to roll very slowly.

If it rolls smoothly then it's not bent.

If it speeds up and slows down as it rolls and makes a kathunk-kathunk-kathunk sound, then it's bent.

If you have to raise the edge quite a bit until it starts to roll, then it rolls at a high speed, then it's probably bent. This is because the bend prevents it from starting to roll easily. If you raise the edge just a little then push the shaft to start it rolling, then it should roll slowly and unevenly.



