

Chapter 7. Oscillation and Noise level for Gear

7.1 Cause and solution for noise and oscillation

During operation of machine, make sure that gearing sound can be heard. 500 to 5,000 Hz is comfortable sound frequency for humans. Even if it is not loud, depending on the frequency component or the environment where the gears are used, such sound may feel unpleasant. Occurrence of noise is often blamed on the gear. However, noise problems are not solely from gear but may also include causes from designing error to lubrication. Refer to Fig. 1 for cause and solution.

Refer to Fig. 1 to reduce the noise level by following solutions.

1) Improve the accuracies of gear and gear assembly. → (Preventing at source)

2) For gear, axis and gearbox, provide suitable material and design to reduce noise. → (Reduce the cause of noise level)
(avoid resonance and quick attenuation)

3) Provide a sealed type of gearbox to shut in the noise. → (Shield and cover)

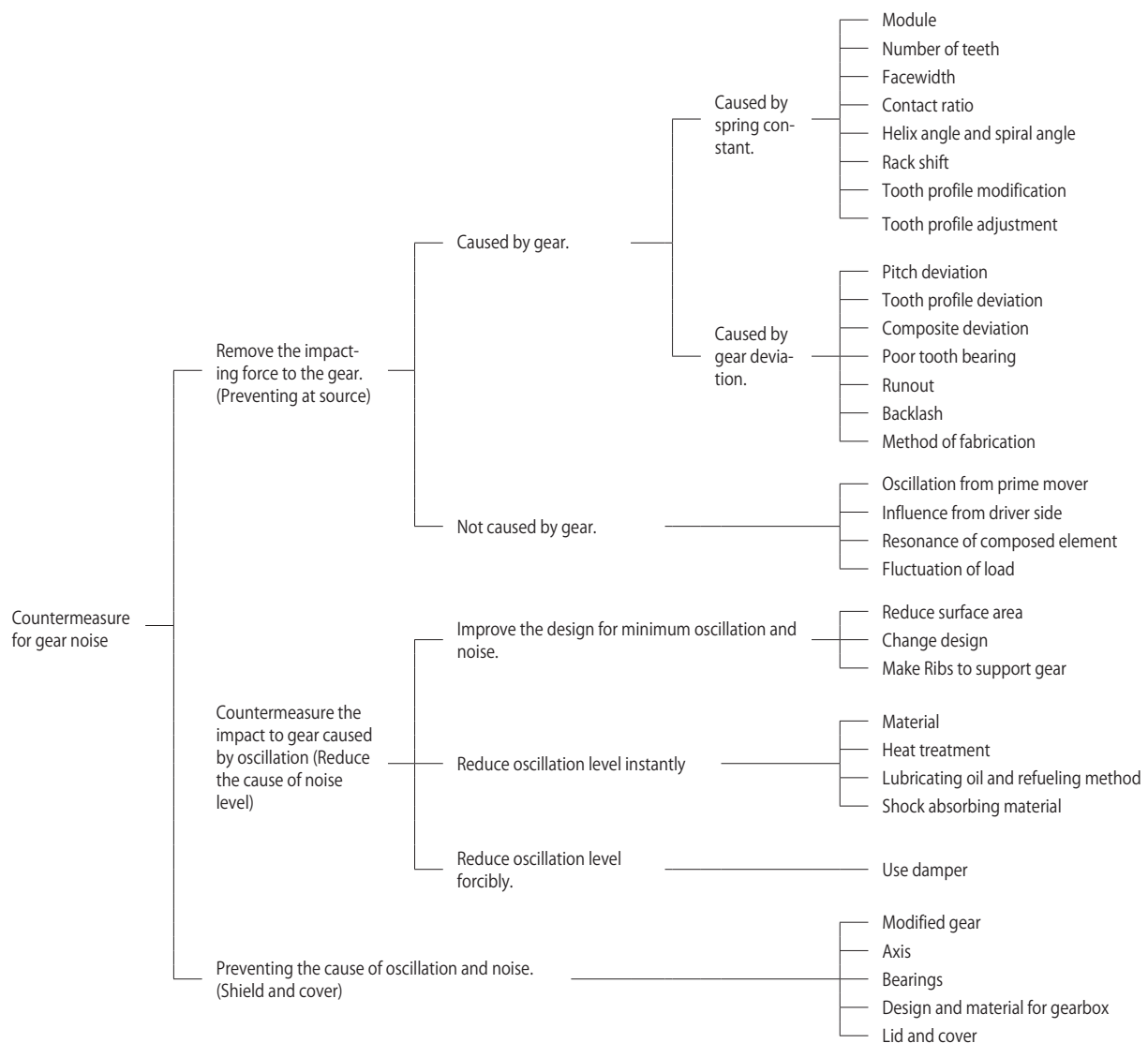


Fig. 1 Cause and solution for gear noise