

Gear cutting tool design

The intention with this project is to develop software to be used for design of gear hob geometry and dresser design for gear grinding.

For new gears we must design the hob to achieve correct gear geometry after gear grinding also considering machining tolerances, grinding allowance, heat distortion, manufacturing deviation etc.

We also need to design the grinding wheel dresser to achieve a smooth gear root that does not interfere with the hobbled geometry causing notches or other effects in the root area reducing the gear root fatigue strength.

Gear tooth micro modifications as tip relief, profile crowning etc., must be considered.

We also want to go the opposite way to check if an existing tool can be used for a new gear.

This is a very interesting project as we have not found any commercial software handling those demands.

The work can be done at the University or at Swepart.

