

# SERT ELEKTRİK TEKNİK BİLGİLER

## What is thrust load?

THRUST load is load parallel to the **shaft** of the gear. It is produced by helical gears because the helix angle, not the pressure angle. It is not produced by **spur gears**, which have straight teeth that are parallel to the shaft axis.

RADIAL load is the load that tends to separate the gears. It acts perpendicular to the shaft. This is what is produced by the pressure angle. Both spur gears and helical gears produce this kind of load.

Spur gears do not have any substantial thrust load, but they are noisy. Helical gears, by comparison, can be much quieter and potentially longer-lived, but they are more expensive to manufacture and you must provide thrust bearings to handle the substantial thrust load.

When the gears mesh the angle of the teeth create thrust load, pushing the gear against the housing. The best thrust load bearing is a Kings-berry, it can handle more thrust load than any other bearing known. In layman's terms, thrust load is when one object pushes on another, forcing it to move.

In all gearing, torque is generated by the engagement of the teeth; this is how power is transmitted.

But the teeth do not engage tangentially to the pitch circle, but at an angle. That angle is called a pressure angle.

Thrust load is the component of the pressure angle that is acting towards the center of the gear. This is a force generated by the gears that tends to want to separate the gears as they transmit torque. When designing a gear train, these forces must be supported by axle sizes and bearing mounts in addition to any other reactionary forces.

If you have to choose a bearing, keep in mind that some are for axial loads, other for trust load (sideway) and some for both (angular trust). The bearing might fails way faster than it should if not used in the right situation.