

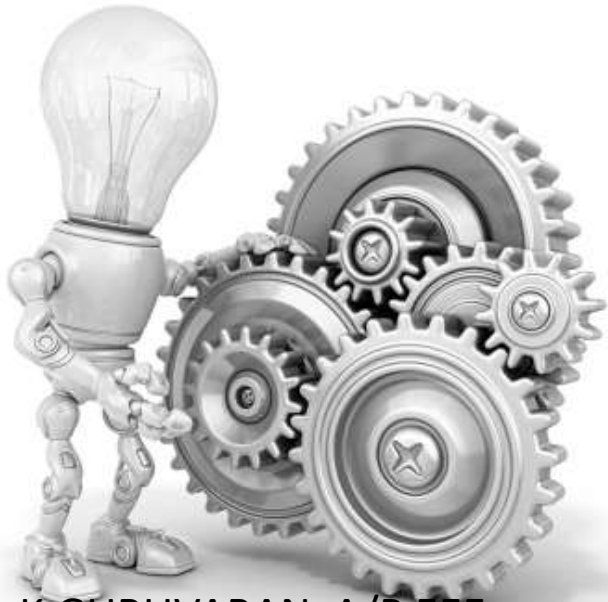


SNS COLLEGE OF TECHNOLOGY



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Topics : types of gear units



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19EET303 EMRA



What is gear ?



Gears are mechanical parts with cut teeth designed to mesh with teeth on another part so as to transmit or receive force and motion.





Types:



External Gears:

It have teeth on the outside surface of the disk or wheel.

Internal or Annual Gears:

The Gears have teeth on the inside surface of a ring or cylinder.

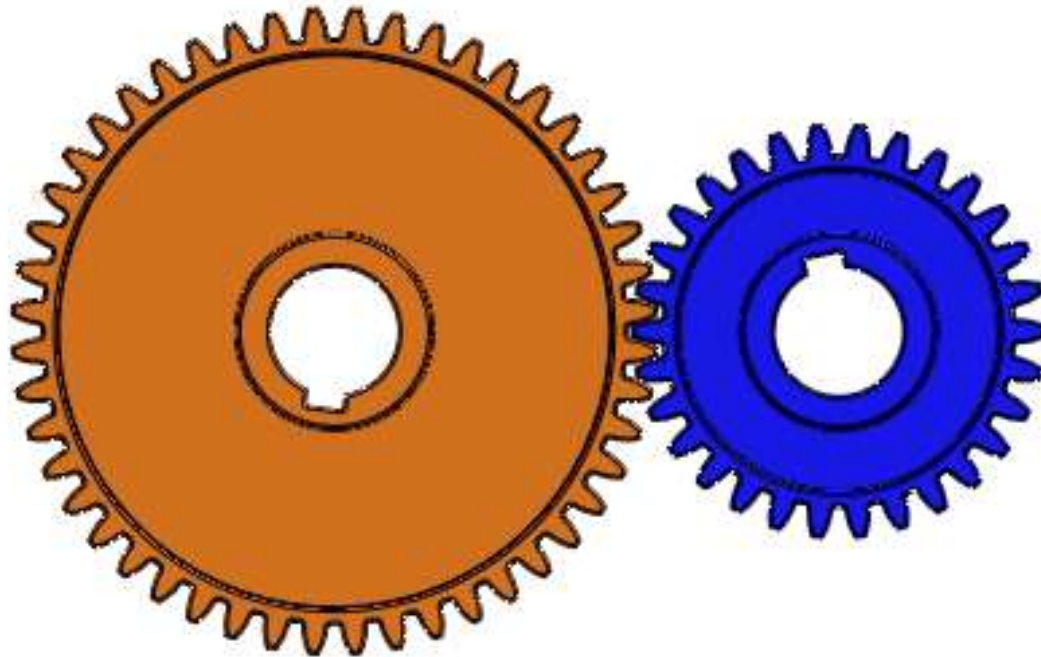




SPUR GEARS



- There are cylindrical external gears with teeth that are cut straight across the edge of the disk or wheel parallel to the axis of rotation.
- The spur gears are the simplest gears.
- They normally translate **rotating motion between two parallel shafts.**
- An internal or annual gear, is a variation of the spur gear except that its teeth are cut on the inside of a ring or flanged wheel rather than on the outside.



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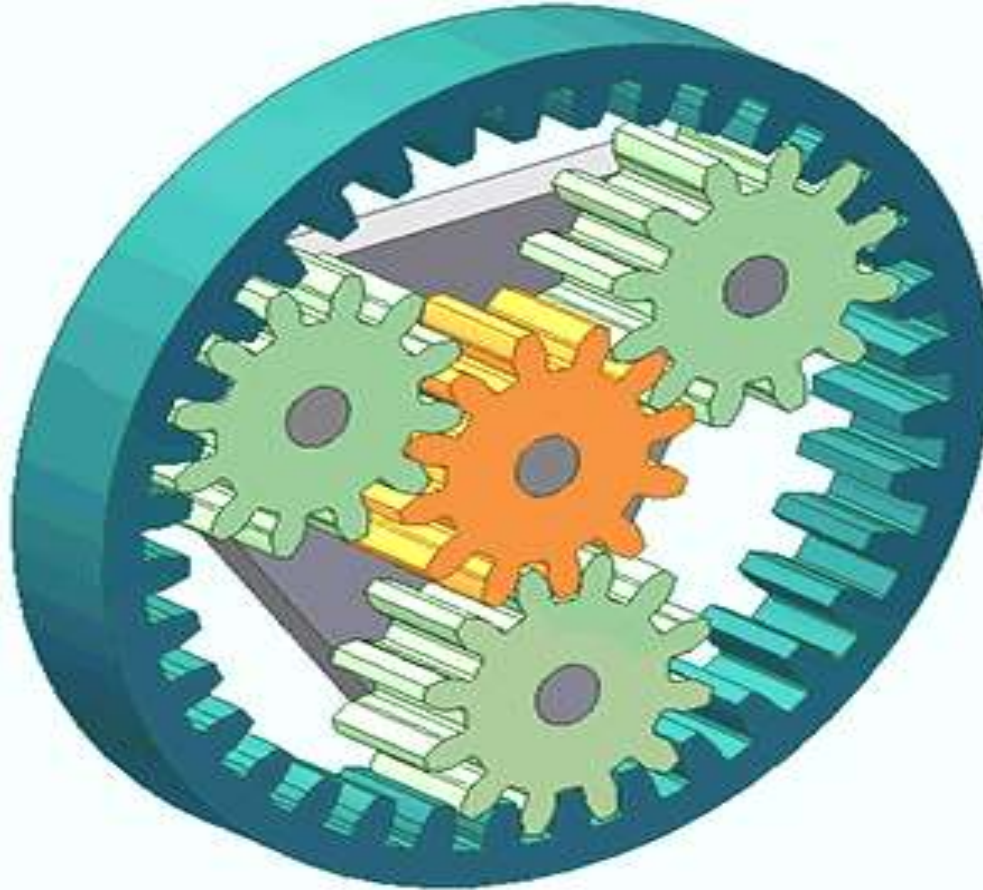
INTERNAL GEARS



- This design allows for the driving pinion to rotate internal to the gear, which in turn, allows for clean operation.
- Intended for light duty applications, these gears are available only in brass.

Advantages:

- Reduced Sliding Action
- Reduced Tooth Wear



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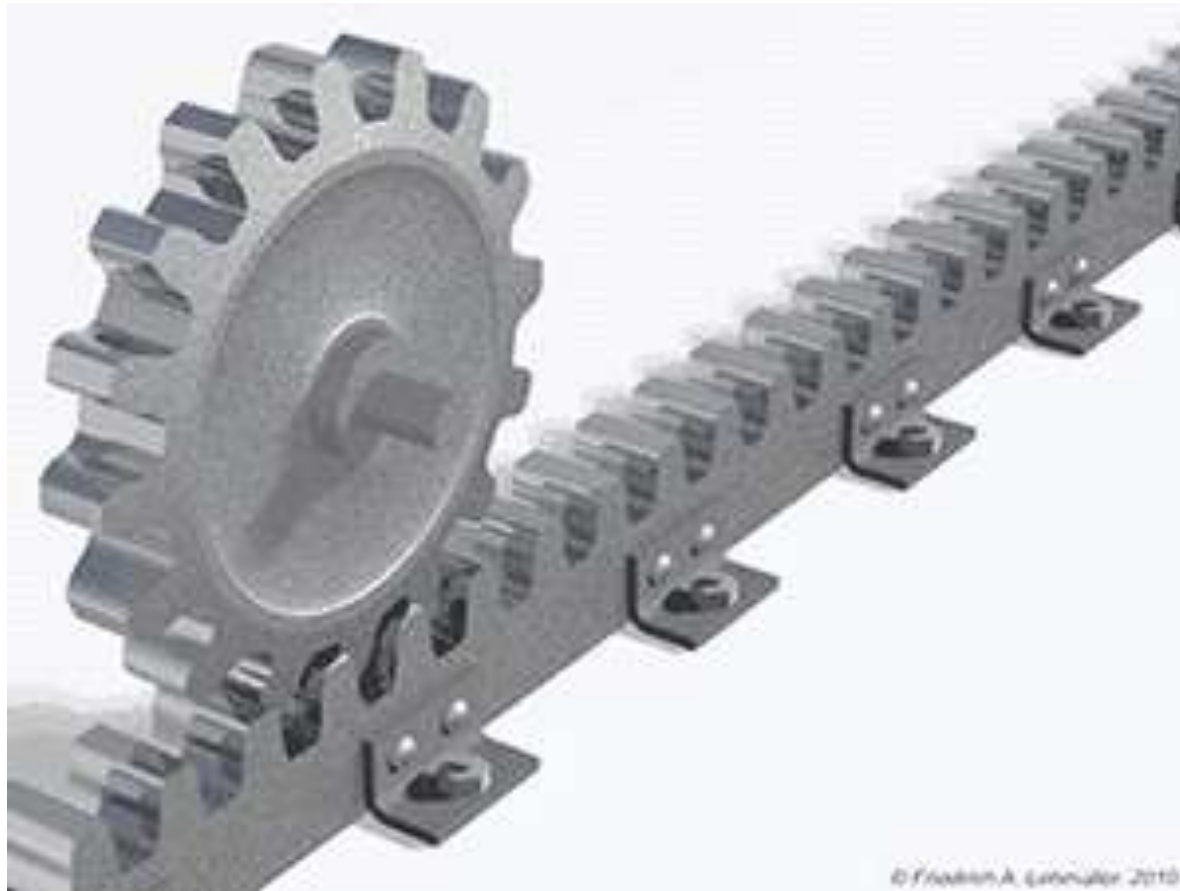
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C-RACK and PINION GEARS



- They convert rotational motion into linear motion.
- Rotating the pinion causes the rack to be driven in a line.
- Conversely, moving the rack linearly will cause the pinion to rotate.



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E-HELICAL GEARS



- Helical gears are **one type of cylindrical gears where the teeth are curved into a helix shape.**
- Compared to spur gears (straight teeth), properly designed helical gears can have a larger total contact ratio which can improve vibration and noise.



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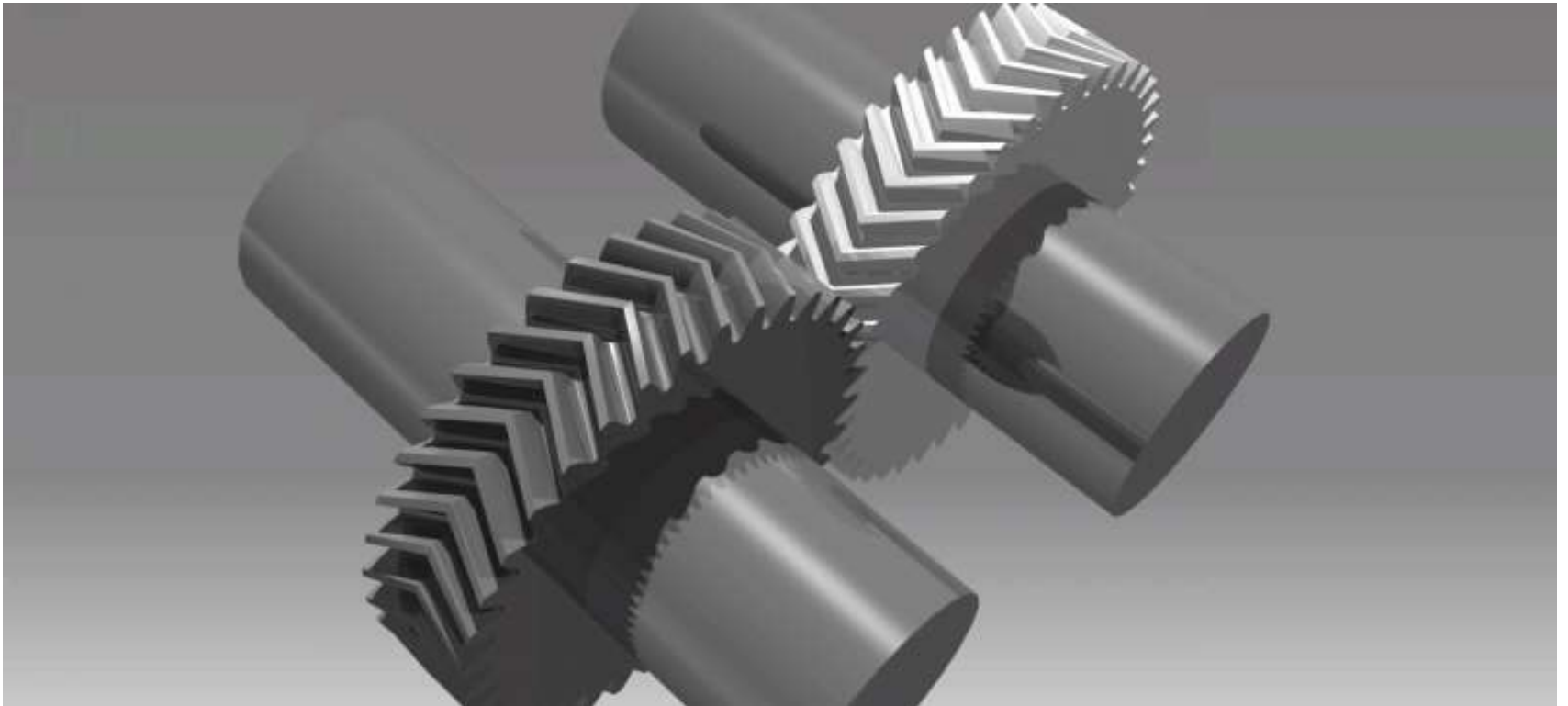
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F-HERRINGBONE GEARS:



- They are helical gears with V-shaped right-hand and left-hand helix angles side by side across the face of the gear.
- This geometry neutralizes axial thrust from helical teeth.



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