

Chap. 10 Threaded Fasteners and Power Screws
 10.5 Threaded Fastener Types
 10.8 Thread loosening thread locking

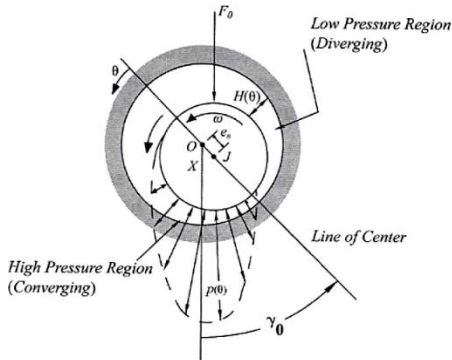
Chap. 11 Rivets, Welding, and Bonding
 Fig. 11.2 ~ Fig. 11.4
 *****11.7 Brazing and Soldering
 *****11.8 Adhesive

Chap. 12 Springs
 12.2 Torsion Bar Springs
 12.3 Coil spring stress and deflection equations
 12.9 Helical extension springs
 12.10 Beam springs (leaf springs)
 12.11 Torsion springs
 12.12 Miscellaneous springs

13.3 Lubrication and sliding bearings
 Bearings?

13.2 Journal (radial) vs Thrust (axial) bearings
 ***13.3 Types of Lubrication
 ***13.4 Basic concepts

Attitude angle: In a bearing, the angle between the resultant of the radial loads acting on a rotor and a line connecting the bearing and shaft centers, measured in the direction of rotation.
Eccentricity: The radial displacement of the rotor journal centerline from the geometric center of a fluid-film bearing
Eccentricity ratio: A dimensionless quantity representing the average position of the shaft within the bearing compared to the available clearance



Plain journal bearing reacting to the applied load

***Stribeck curve
 *****Viscosity (Units):
 Dynamic(shear) vs. Kinematic
 ***Multi-grade oils
 Sample problems 13.1
 *****13.7 Petroff's equation for bearing friction
 *****13.8 Hydrodynamic lubrication theory
 ***Tower's experiment
 *****Reynolds equation
 ***Long bearing solution OR sommerfeld solution: The flow in the z direction is zero & the pressure distribution over the z direction is constant
 ***Short Bearing solution OR Ocvirk Solution: This neglects the term that accounts for the circumferential flow of oil around the bearing. it will be small in comparison to the flow in the axial direction (leakage) in a short bearing.
 13.9 Design Charts
 ***Bearing characteristic number (or Sommerfeld number)
 Sample problem 13.3
 ** 13.10 Lubricant supply
 Holes and grooves
 **13.12 Bearing materials
 *****13.13 Bearing Design
 Sample problem 13.4

Chap. 14 Rolling-Element Bearings
 Figures!
 Deep-groove or "Conrad" type vs Maximum Capacity Bearing
 Angular-contact bearings
 14.3 Rolling-Element Bearing Types
 Spherical roller bearings
 Tapered roller bearings
 ** 14.5 Fitting of Rolling Element Bearings
 14.7 Bearing Selection
 ** DN value
 ** 14.8 Mounting

Chap. 15 Spur Gear
 Figures!
 ***** Figs. 15.3, 15.4, 15.5, 15.8, 15.9, 15.11

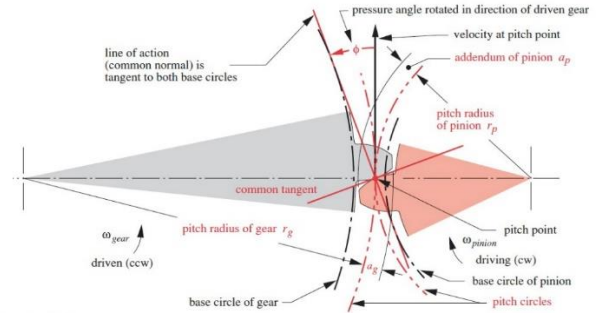


FIGURE 12-4 Contact Geometry and Pressure Angle of Involute Gear Teeth
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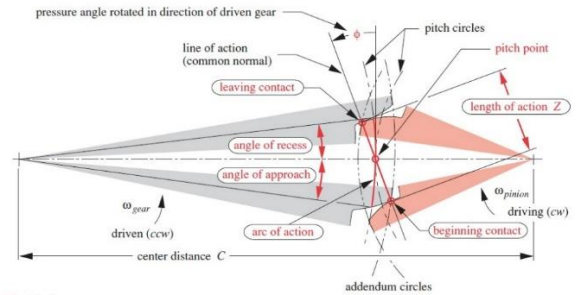


FIGURE 12-5 Length of Action, Arc of Action, and Angles of Approach and Recess During the Meshing of a Gear and Pinion
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** 15.13 Gear Trains
 ***** Eq. 15.26
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 Chap. 16. Helical, Bevel, and Worm Gears
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 16.6 Bevel Gear Geometry and Nomenclature: Fig. 16.9
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 17.1 Shaft
 17.3 Keys, Pins, Snap Rings: Fig. 17.1-17.4