EXPERIMENT NO.2

OBJECTIVE: Gear cutting on milling machine (Spur Gear).

APPARATUS: Steel rule, Milling cutter, Spanner, Mandrel, Dog carrier

THEORY: Milling is the machining process of using rotary cutters to remove material from a work piece advancing (or feeding) in a direction at an angle with the axis of the tool. It covers a wide variety of different operations and machines, on scales from small individual parts to large, heavy-duty gang milling operations. It is one of the most commonly used processes in industry and machine shops today for machining parts to precise sizes and shapes.

Main Components of milling machine:

Base, column, knee, saddle, table

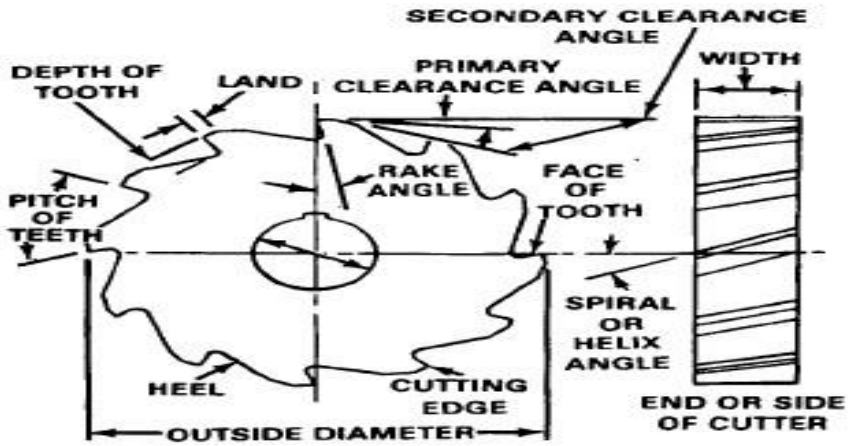
Type of milling machine:

Plain milling machine, vertical milling machine, universal milling machine, simplex milling machine, triplex milling machine

Type of Milling Cutter:

Plain milling cutter, slide milling cutter, arbor cutters, shank cutters, face cutters.

PROCEDURE:



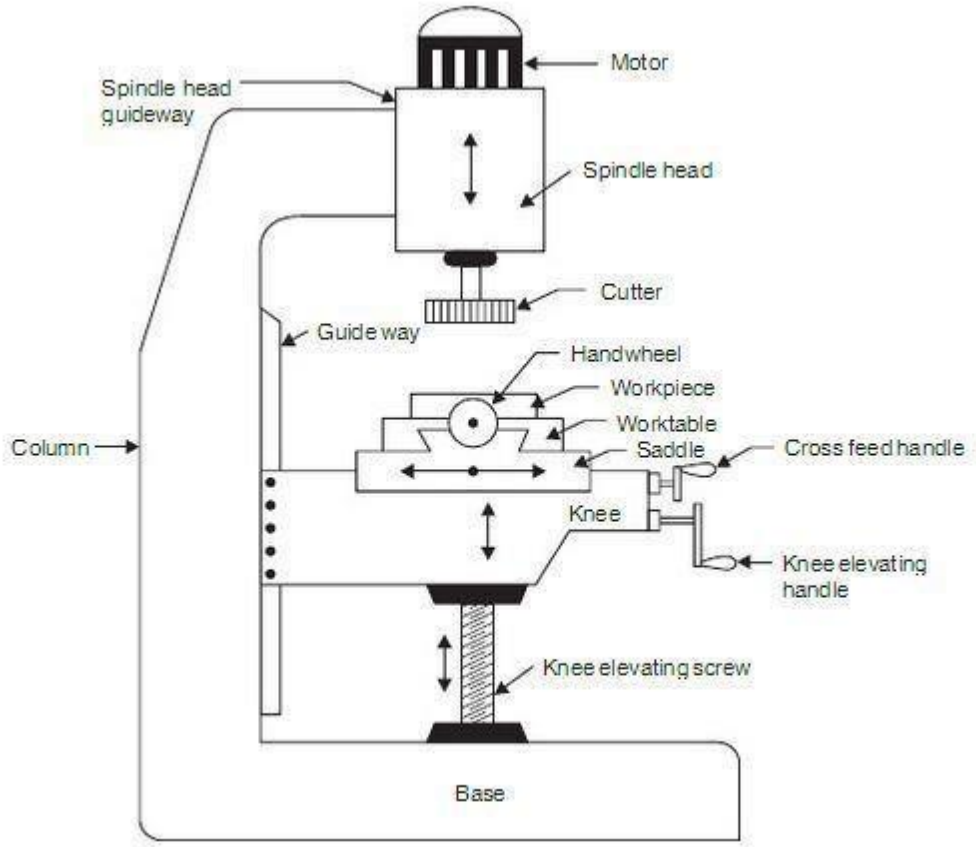


Fig. 4.10 Vertical milling machine

1. The raw blank is selected with reference to the number of teeth to be cut.
2. Indexing number is calculated to the position of the blank.
3. Gear blank is mounted on mandrel in milling machine.
4. Centering of the blank is done by upward and cross feed.
5. The depth of the cut is calculated for the given module.

Result: Thus the gear cutting is performed in a milling machine.