

Lathe Practice

Introduction

Lathe is a machine, which removes the metal from a piece of work to the required shape & size

Types of Lathe

Engine Lathe

The most common form of lathe, motor driven and comes in large variety of sizes and shapes.

Bench Lathe

A bench top model usually of low power used to make precision machine small work pieces.

Tracer Lathe

a lathe that has the ability to follow a template to copy a shape or contour.

Automatic Lathe

A lathe in which the work piece is automatically fed and removed without use of an operator. Cutting operations are automatically controlled by a sequencer of some form

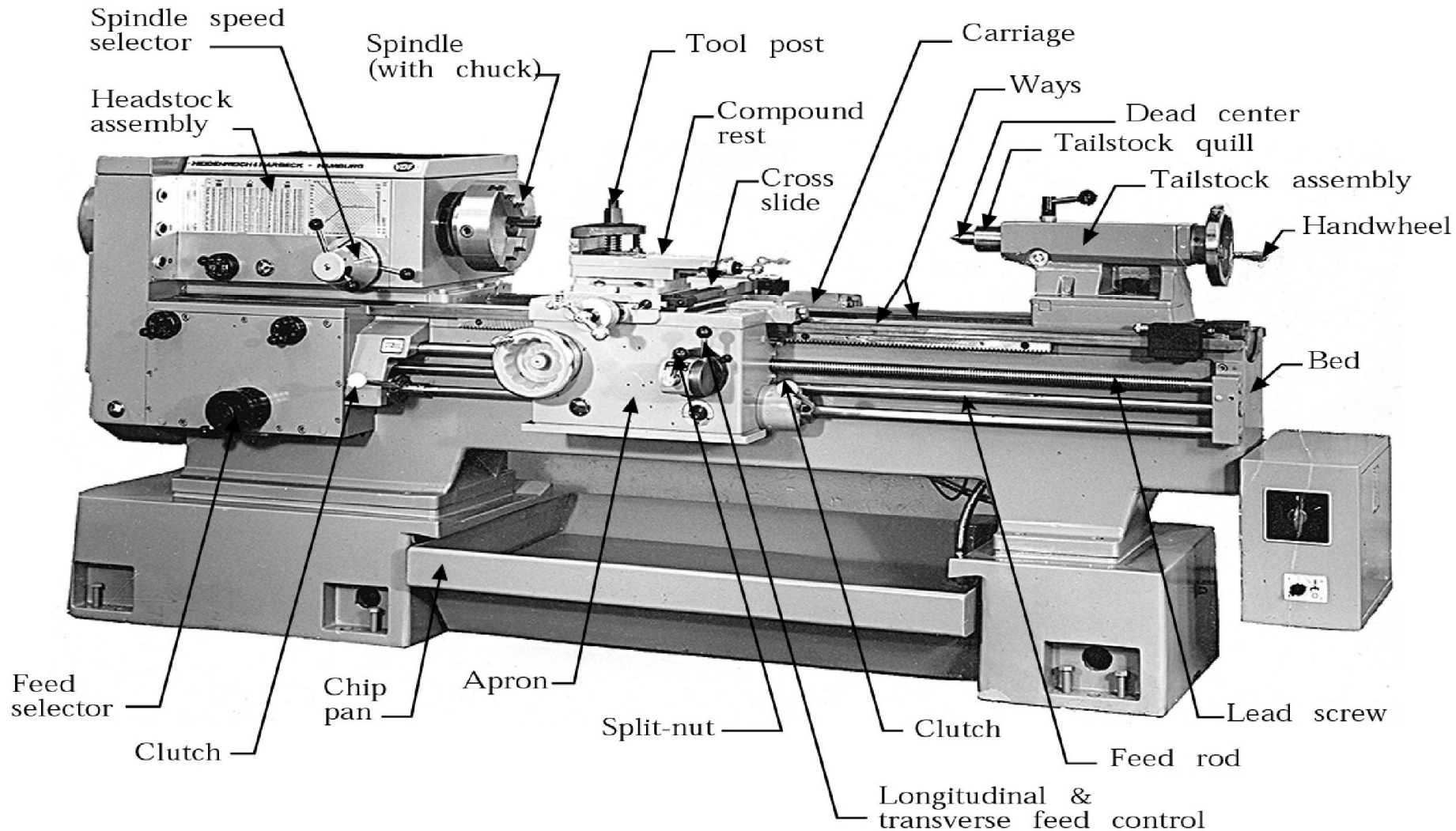
Turret Lathe

lathe which have multiple tools mounted on turret either attached to the tailstock or the cross-slide, which allows for quick changes in tooling and cutting operations.

Computer Controlled Lathe

A highly automated lathe, where both cutting, loading, tool changing, and part unloading are automatically controlled by computer coding.

Component Description



Lathe Operations

Turning: produce straight, conical, curved, or grooved workpieces

Facing: to produce a flat surface at the end of the part or for making face grooves.

Boring: to enlarge a hole or cylindrical cavity made by a previous process or to produce circular internal grooves.

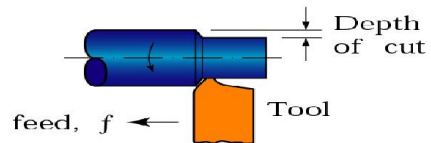
Drilling: to produce a hole by fixing a drill in the tailstock

Threading: to produce external or internal threads

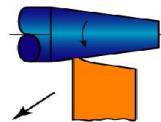
Knurling: to produce a regularly shaped roughness on cylindrical surfaces

Lathe Operations

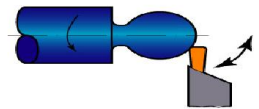
(a) Straight turning



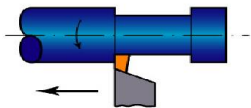
(b) Taper turning



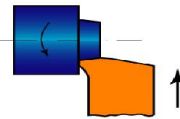
(c) Profiling



(d) Turning and external grooving



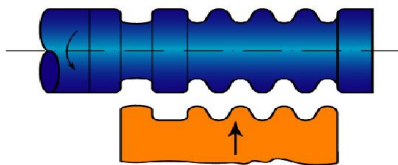
(e) Facing



(f) Face grooving



(g) Cutting with a form tool



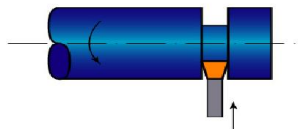
(h) Boring and internal grooving



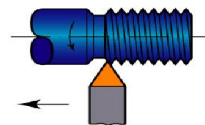
(i) Drilling



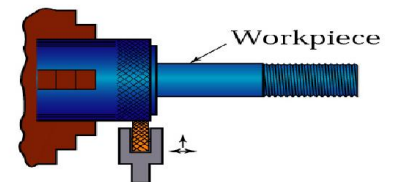
(j) Cutting off



(k) Threading

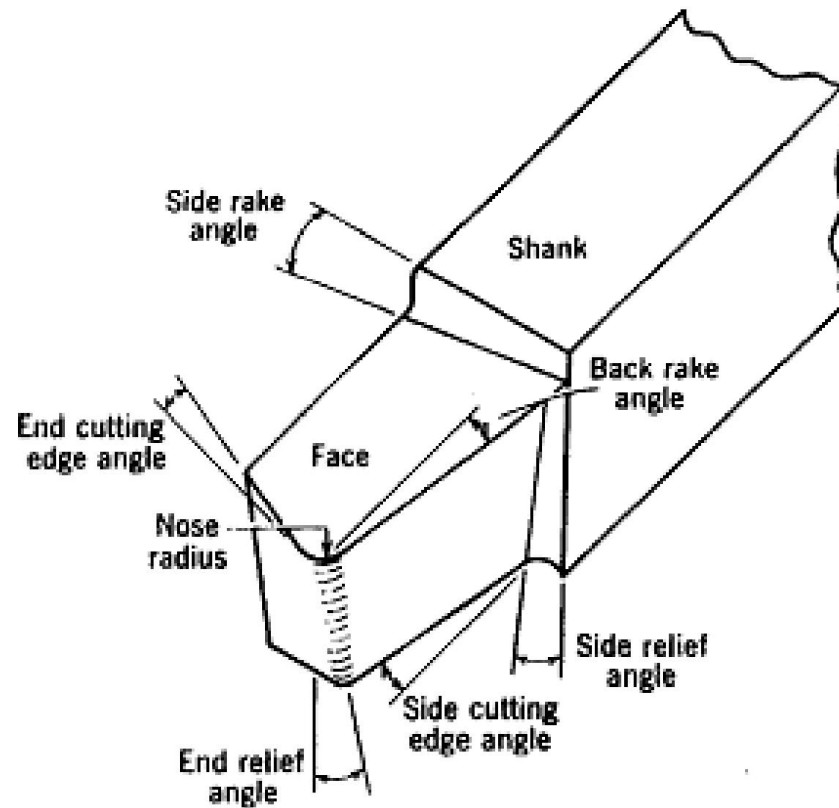


(l) Knurling



Cutting Tools

Single point cutting tool



Work Holding Devices

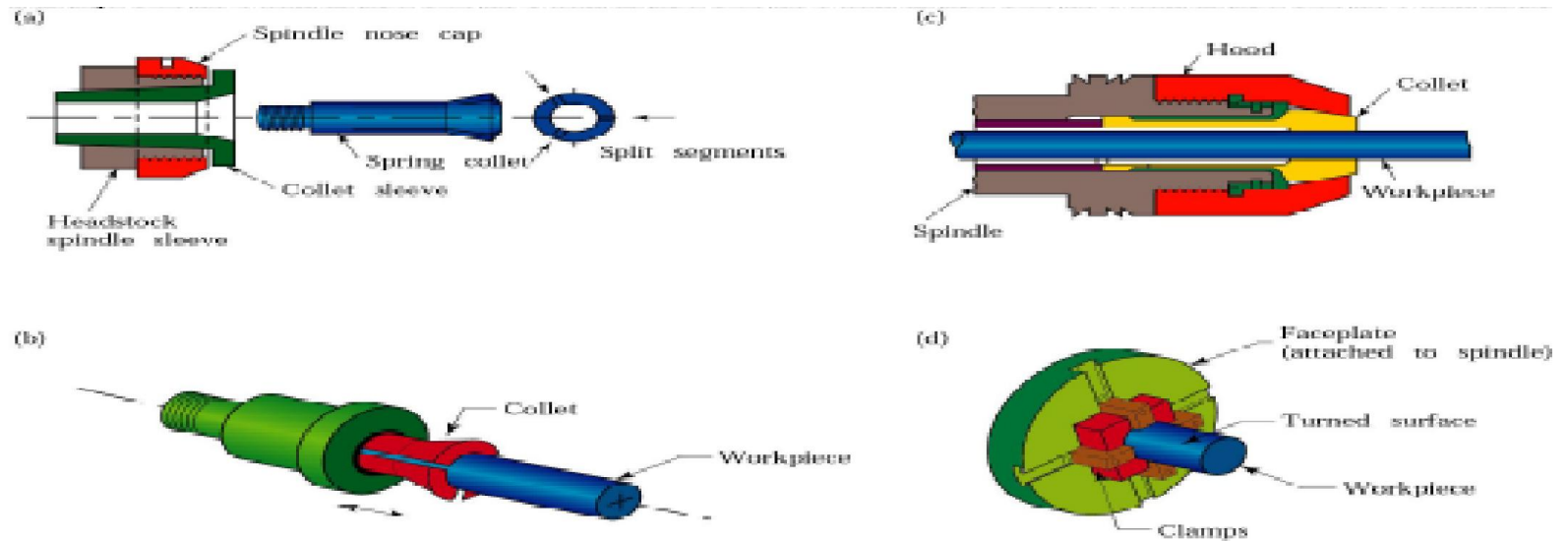


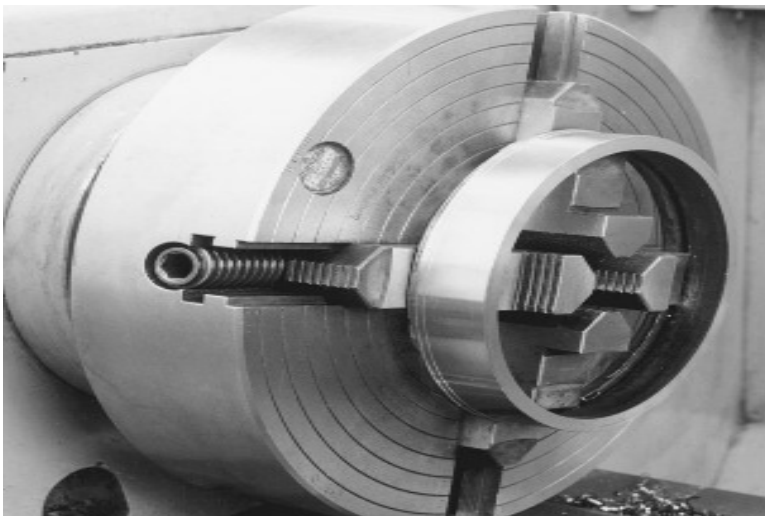
Fig : (a) and (b) Schematic illustrations of a draw-in-type collets. The workpiece is placed in the collet hole, and the conical surfaces of the collet are forced inward by pulling it with a draw bar into the sleeve. (c) A push-out type collet. (d) Workholding of a part on a face plate.

Three jaw chuck



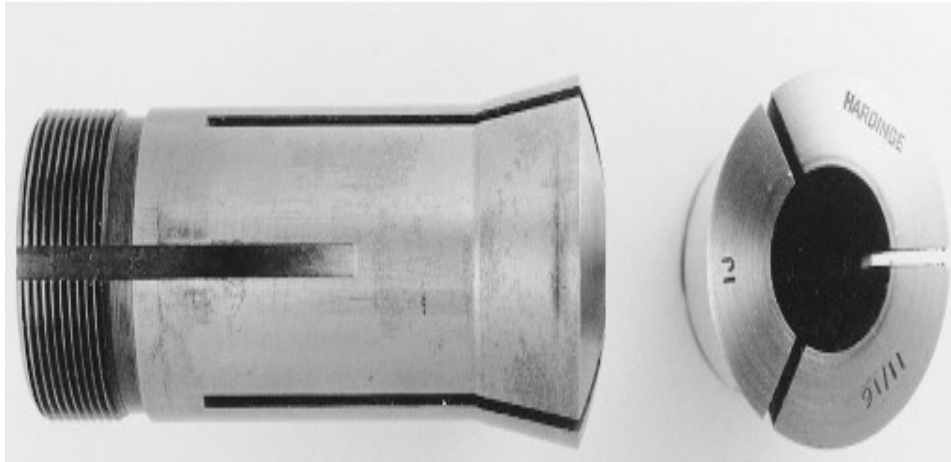
- For holding cylindrical stock centered.
- For facing/center drilling the end of your aluminum stock

Four-Jaw Chuck



- This is independent chuck generally has four jaws , which are adjusted individually on the chuck face by means of adjusting screws

Collet Chuck



Collet chuck is used to hold small workpieces

Magnetic Chuck



Thin jobs can be held by means of magnetic chucks.

THANK YOU