

## *Semi automatic lathes*

- Semi automatic lathes are production lathes with human involvement for certain operations
- Semi automatic lathes are production lathes with human involvement for certain operations
- Capstan and turret lathes with additional attachments become semi automatic lathes
- Also called retrofitting
- Wide range of jobs can be accommodated
- Higher production rates

## Semi Automatic Lathes

- Designed for short continuous runs
- Turret or ram in place of tailstock
- Indexable square tool post on cross slide
  - Suitable for Drilling, countersinking, reaming, tapping like operations
  - Turret and Capstan lathes are examples
  - In Turret lathe Turret moves along with saddle
  - In Capstan lathe turret slides over the ram

# Turret Lathe

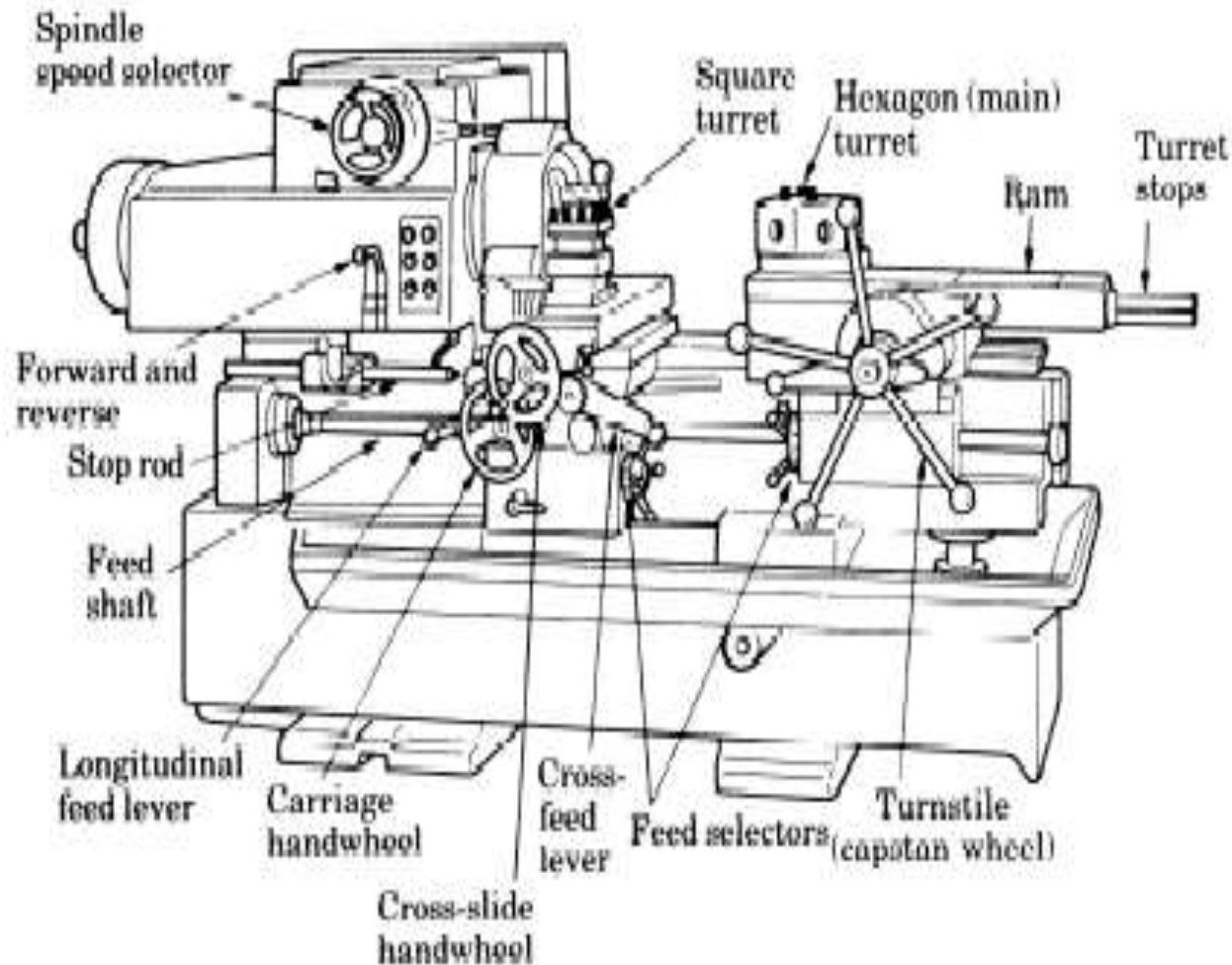
Capable of performing multiple cutting operations on the same workpiece

- Turning
- Boring
- Drilling
- Thread cutting
- Facing

Turret lathes are very versatile

Types of turret lathes

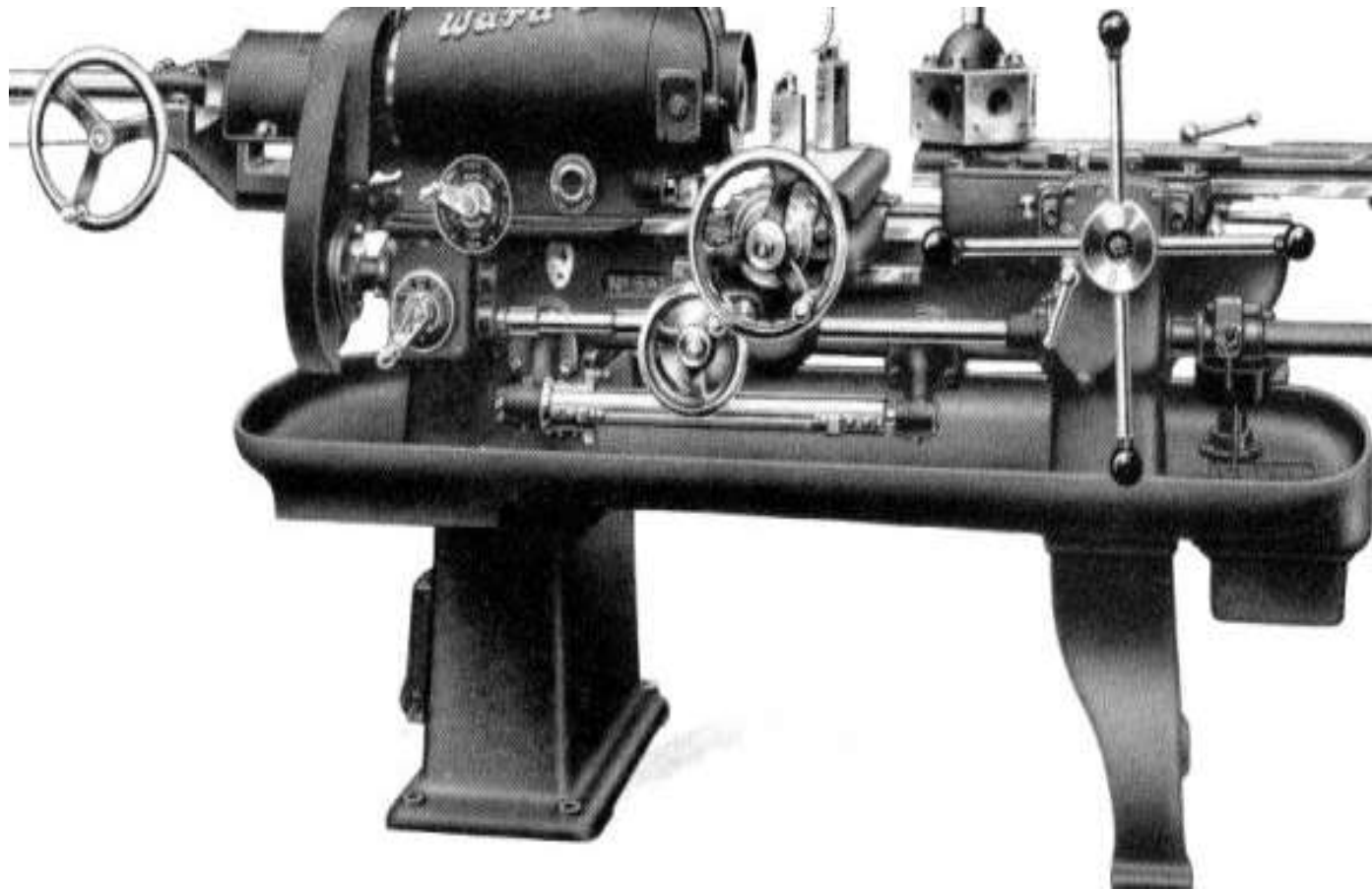
- Ram-type: ram slides in a separate base on the saddle
- Saddle type:
  - more heavily constructed
  - Used to machine large workpieces



# Turret lathe

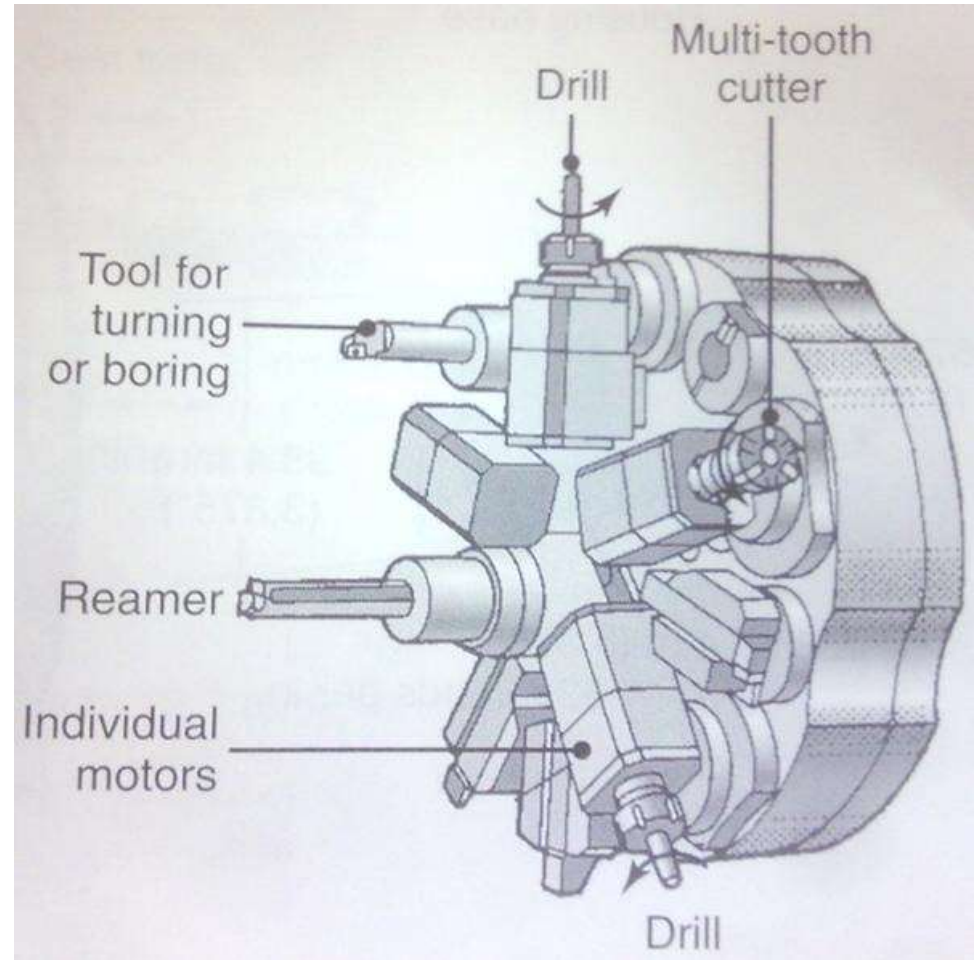


# Capston Lathe



# Turret Lathe

- These machines are capable of carrying out multiple cutting operations on the same workpiece.
- Several cutting tools are mounted on a tetra, penta, or hexagonal turret, which replaces the tailstock.
- These tools can be rapidly brought into action against the workpiece one by one by indexing the turret.





# Comparison of turret & engine lathe

## *Turret lathe*

- Turret lathes are relatively more robust and heavy duty machines .work on chucking type jobs held in the quick acting chucks
- The heavy turret being mounted on the saddle which directly slides with larger stroke length on the main bed
- One additional guide rod or pilot bar is provided on the headstock of the turret lathes to ensure rigid axial travel of the turret head
- whereas in turret lathes external threads are generally cut, if required, by a single point or multipoint chasing tool being mounted on the front slide and moved by a short leadscrew and a

## *Capstan lathe*

- Capstan lathes generally deal with short or long rod type blanks held in collet,
- In capstan lathe, the turret travels with limited stroke length within a saddle type guide block, called auxiliary bed, which is clamped on the main bed
- External screw threads are cut in capstan lathe, if required, using a self opening die being mounted in one face of the turret,