

TURNER

1st YEAR

TRANSPARENCIES

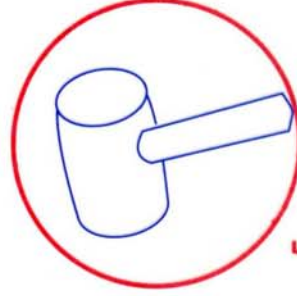
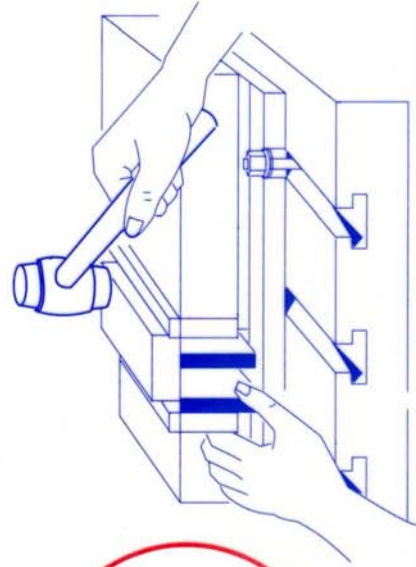
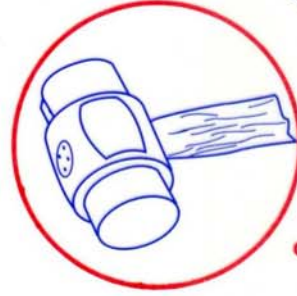
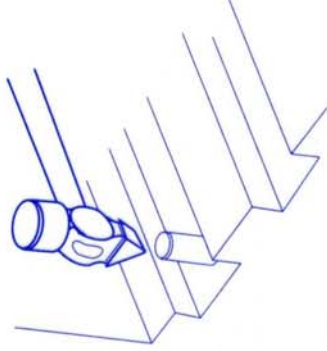
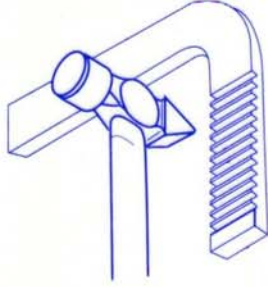
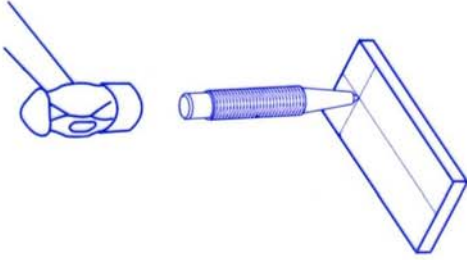
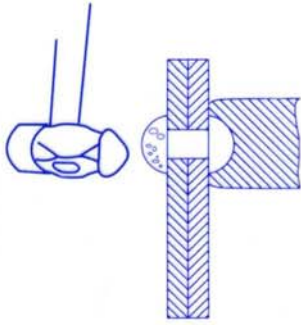


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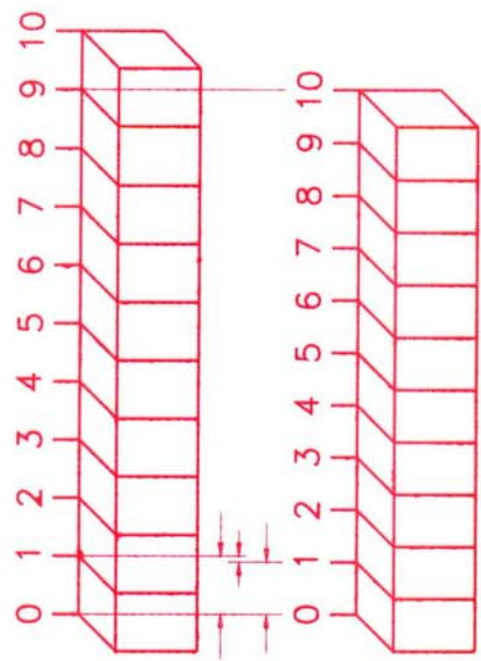
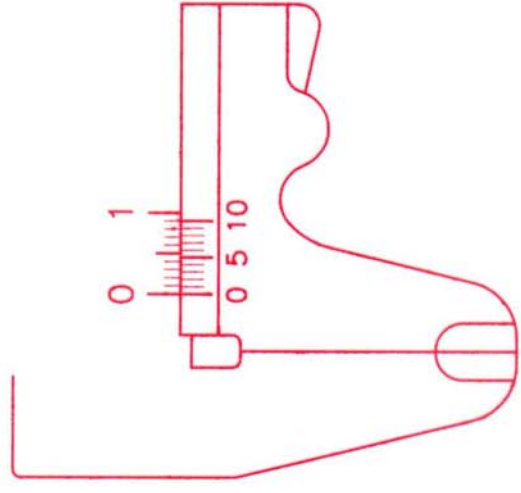
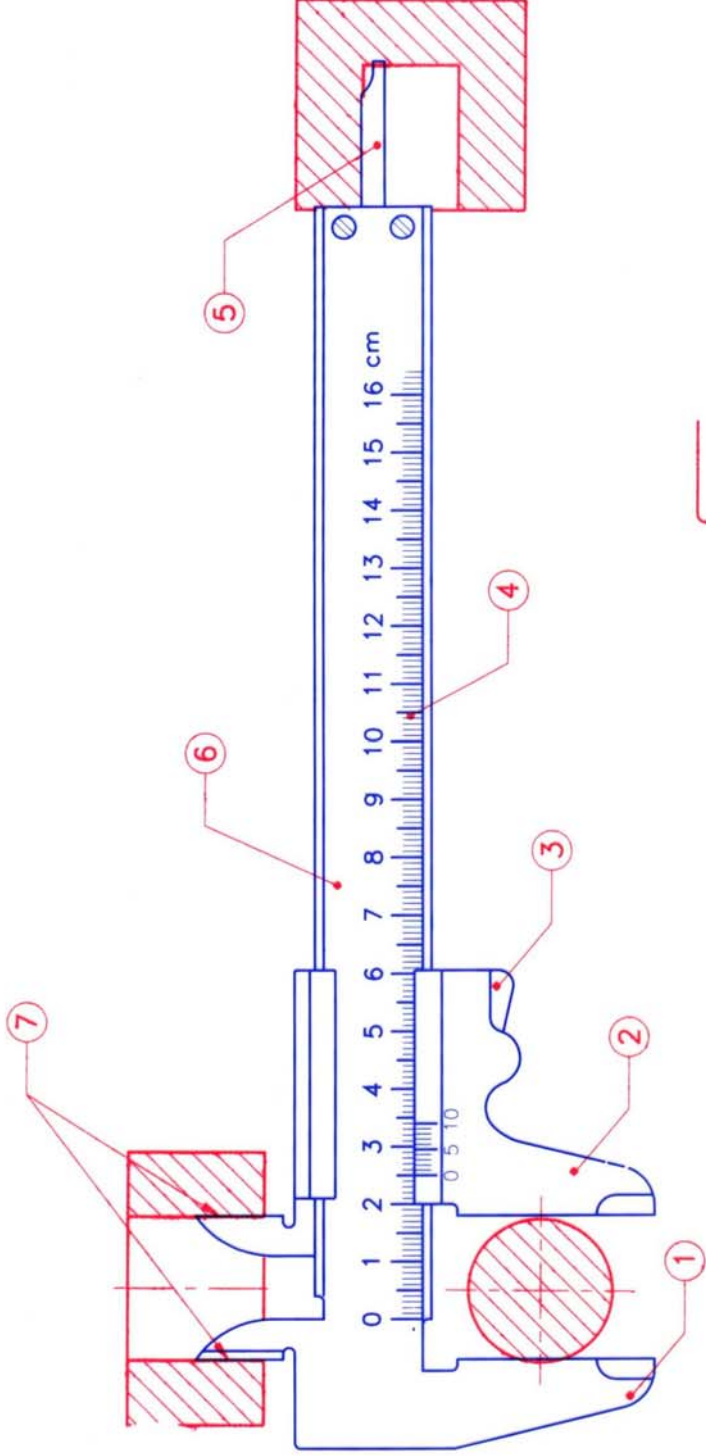
Directorate General of Employment & Training, Ministry of Labour, Govt. of India.

Developed by
CENTRAL INSTRUCTIONAL MEDIA INSTITUTE
in collaboration with DEUTSCHE GESELLSCHAFT FUER TECHNISCHE ZUSAMMENARBEIT (GTZ) Germany
P.O.Box 3142, 76, GST Road, Guindy, Chennai - 600 032. Phone: 234 5256, 234 5257. Fax: (0091 44) 234 2791



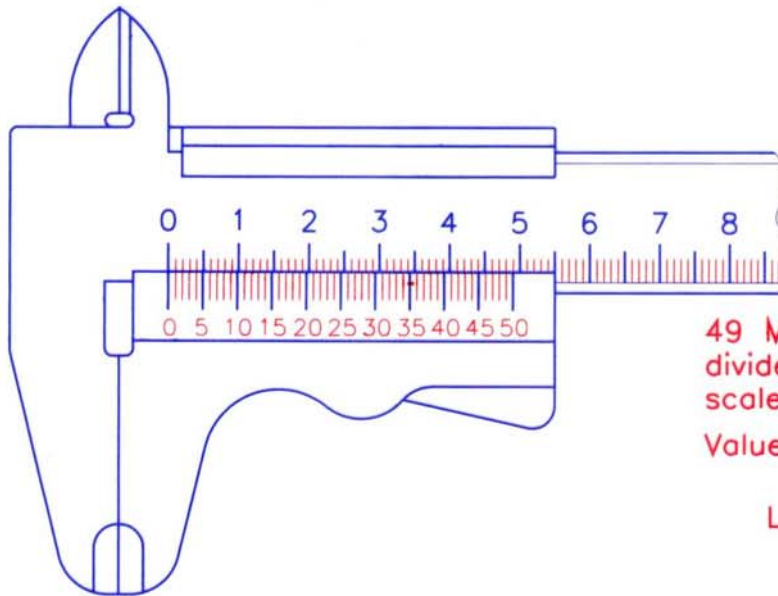
HAND HAMMERS - APPLICATIONS

TR0101010193



VERNIER CALIPER PARTS AND PRINCIPLE

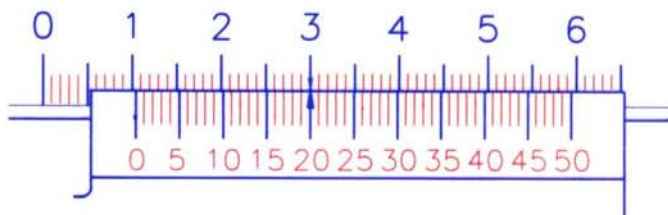
TR0102010193



49 Main scale divisions are divided into 50 vernier scale divisions

$$\text{Value of 1 VSD} = \frac{49}{50} \text{ mm}$$

$$\text{Least count} = 1 \text{ MD} - 1 \text{ VSD}$$

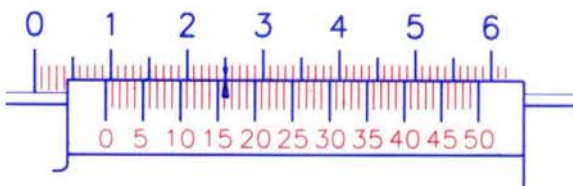


Main scale reading =

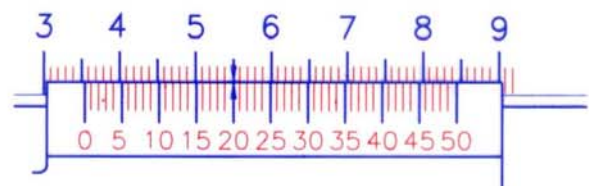
Value of coinciding vernier division } =

Reading =

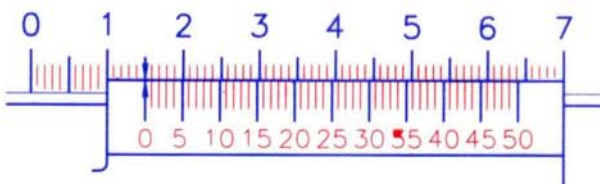
Assignments:-



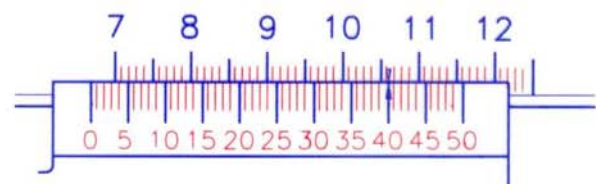
A Reading



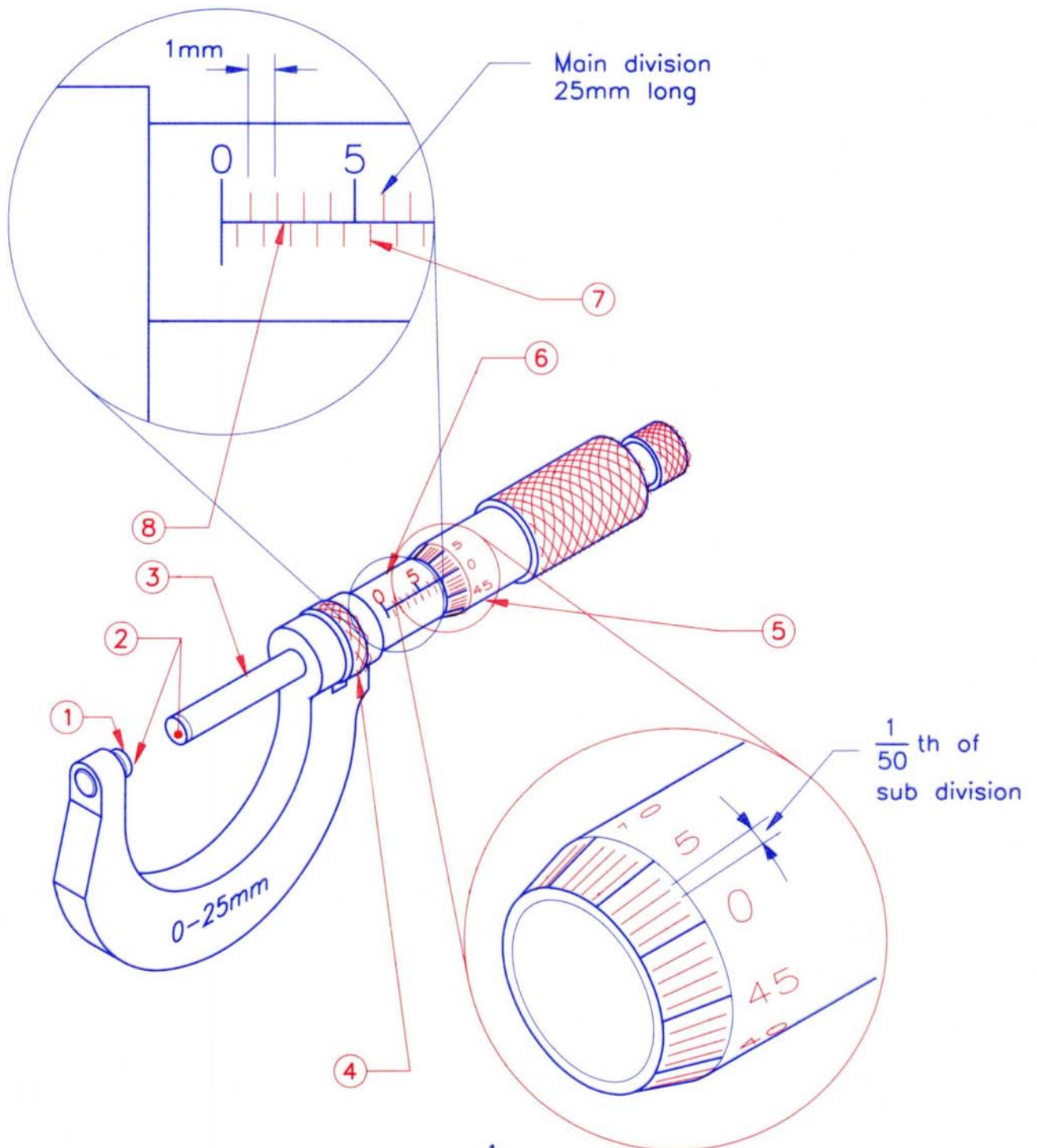
B Reading



C Reading



D Reading



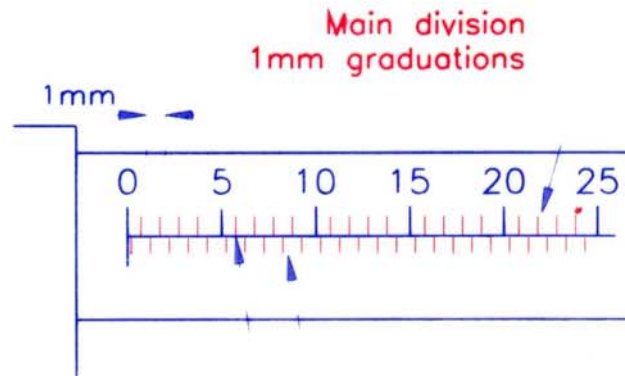
$$\begin{aligned} \text{Least count} &= \frac{1}{50} \text{ th of } 0.5 \\ &= \boxed{} \end{aligned}$$

**MICROMETER
PARTS AND GRADUATIONS**

TR0102020193

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Micrometer graduations

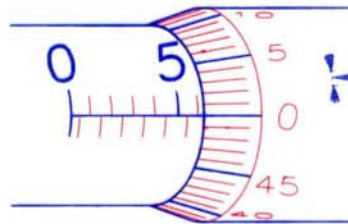


Datum line

Main division
1mm graduations

Sub division
0.5mm graduations

0.5mm - one rotation of thimble-
graduated into 50 parts

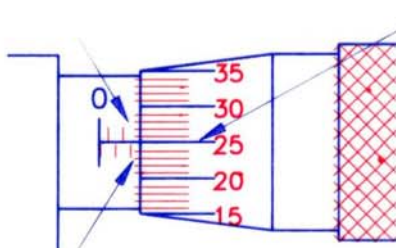


$\frac{1}{50}$ th of 0.5
= 0.01

Thimble divisions
0.01mm graduations

Micrometer reading

Main divisions
 $2 \times 1\text{mm} = 2.00\text{mm}$

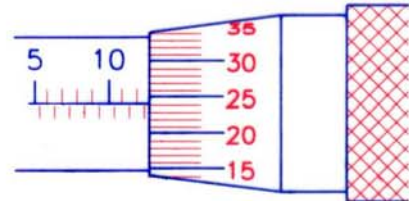


Thimble divisions
 $25 \times 0.1\text{mm}$
= 0.25mm

Sub division
 $1 \times 0.5\text{mm}$
= 0.5mm

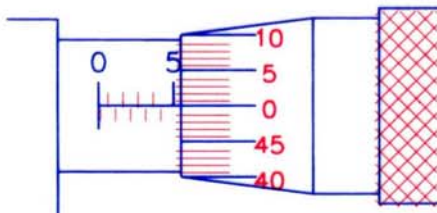
Main divisions =
Sub division =
Thimble divisions =
Reading =

Example

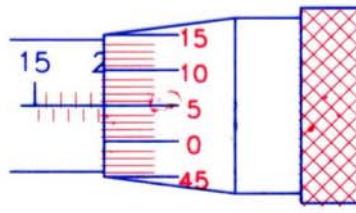


Main divisions =
Sub division =
Thimble divisions =
Reading =

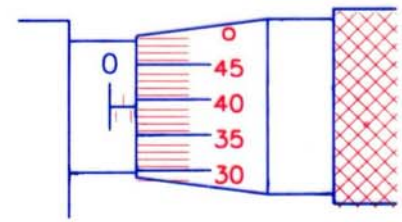
Assignments:-



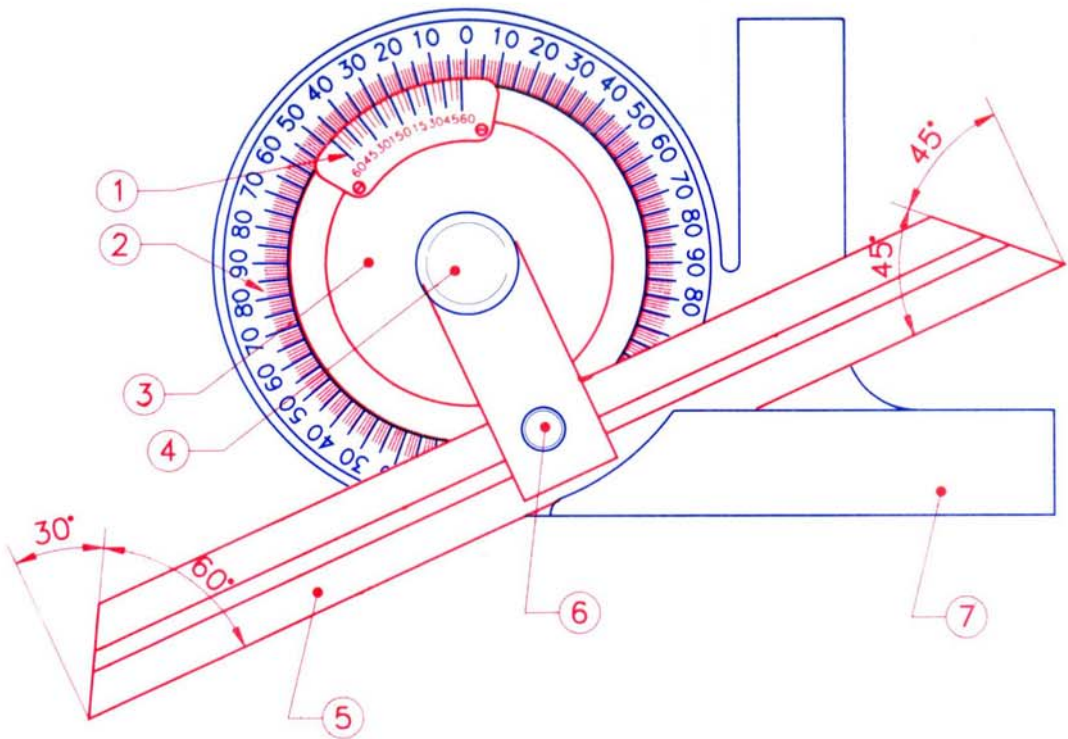
A Reading



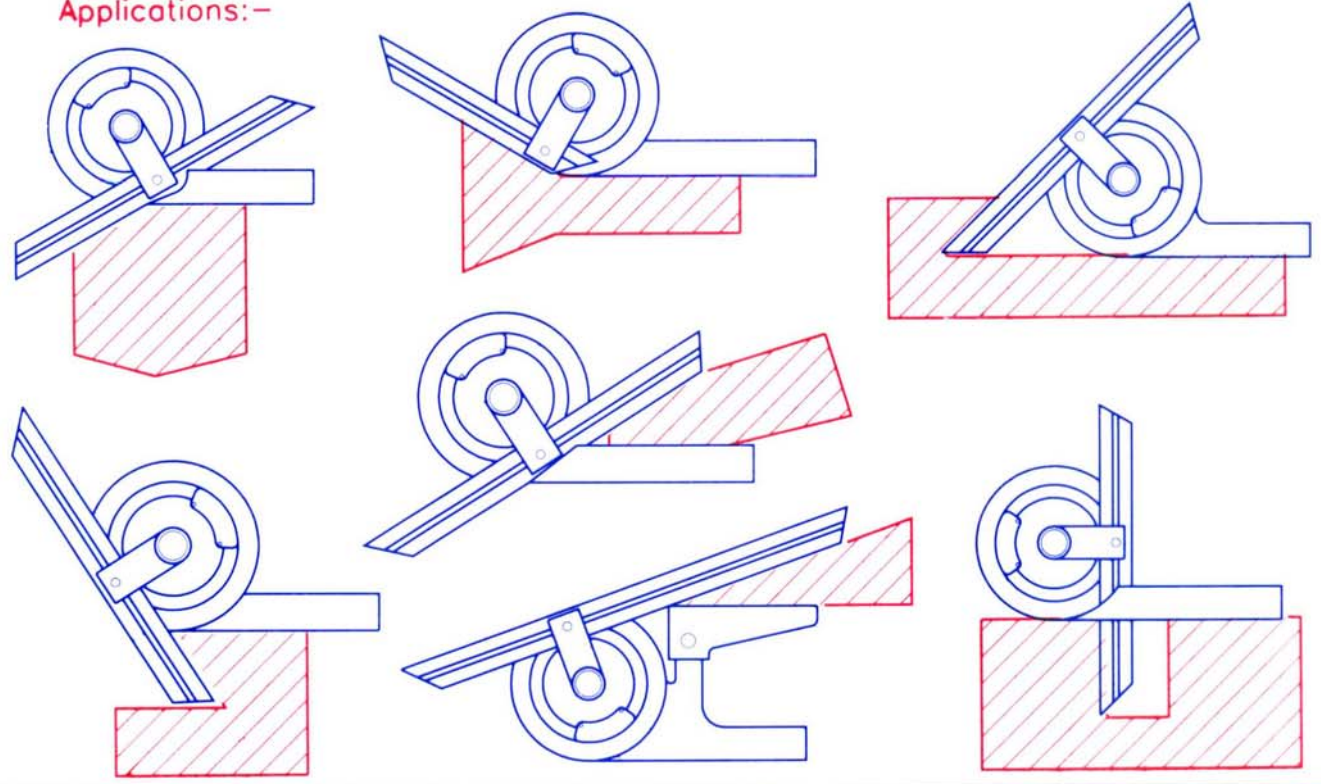
B Reading



C Reading



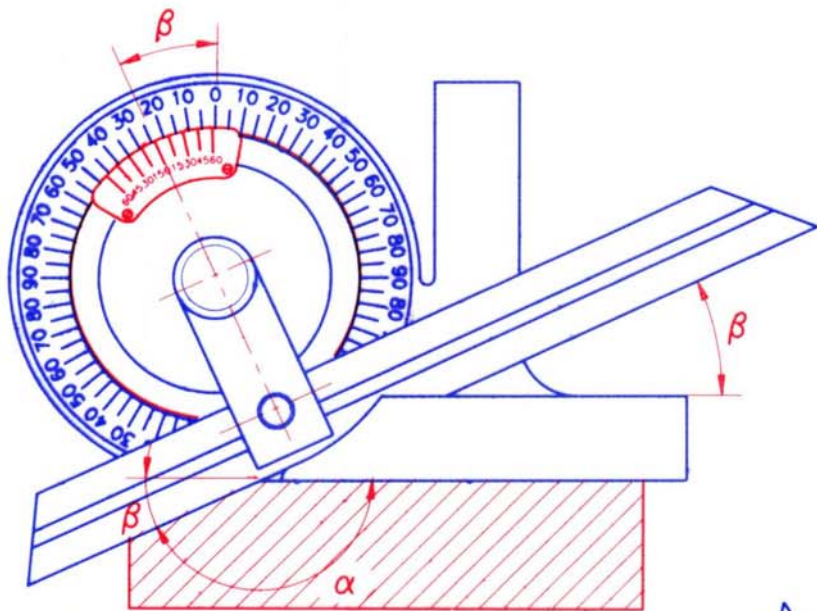
Applications:-



**VERNIER BEVEL PROTRACTOR
PARTS & APPLICATION**

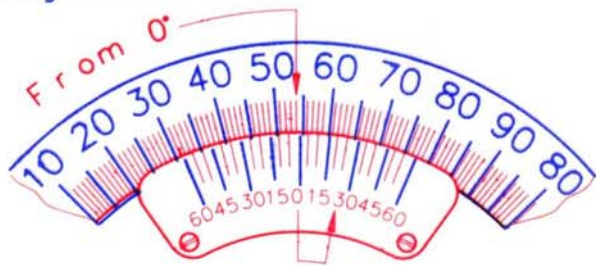
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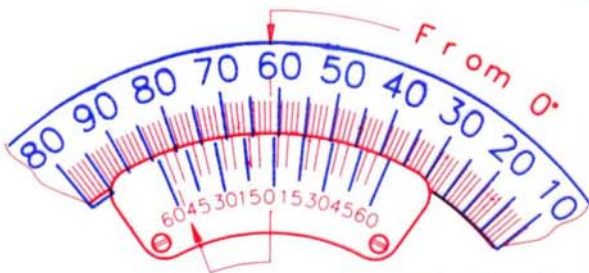
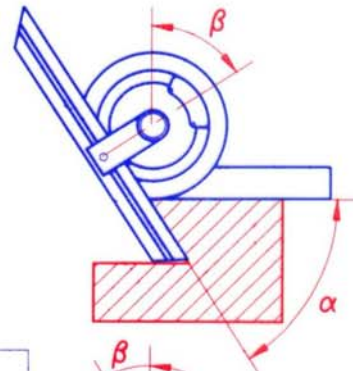


Obtuse angle
 $\alpha = 180^\circ - \beta$

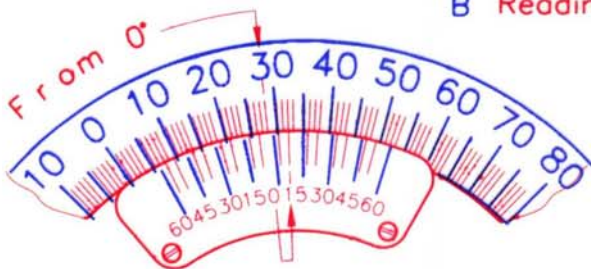
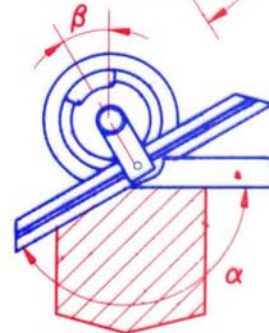
Assignments:-



A Reading



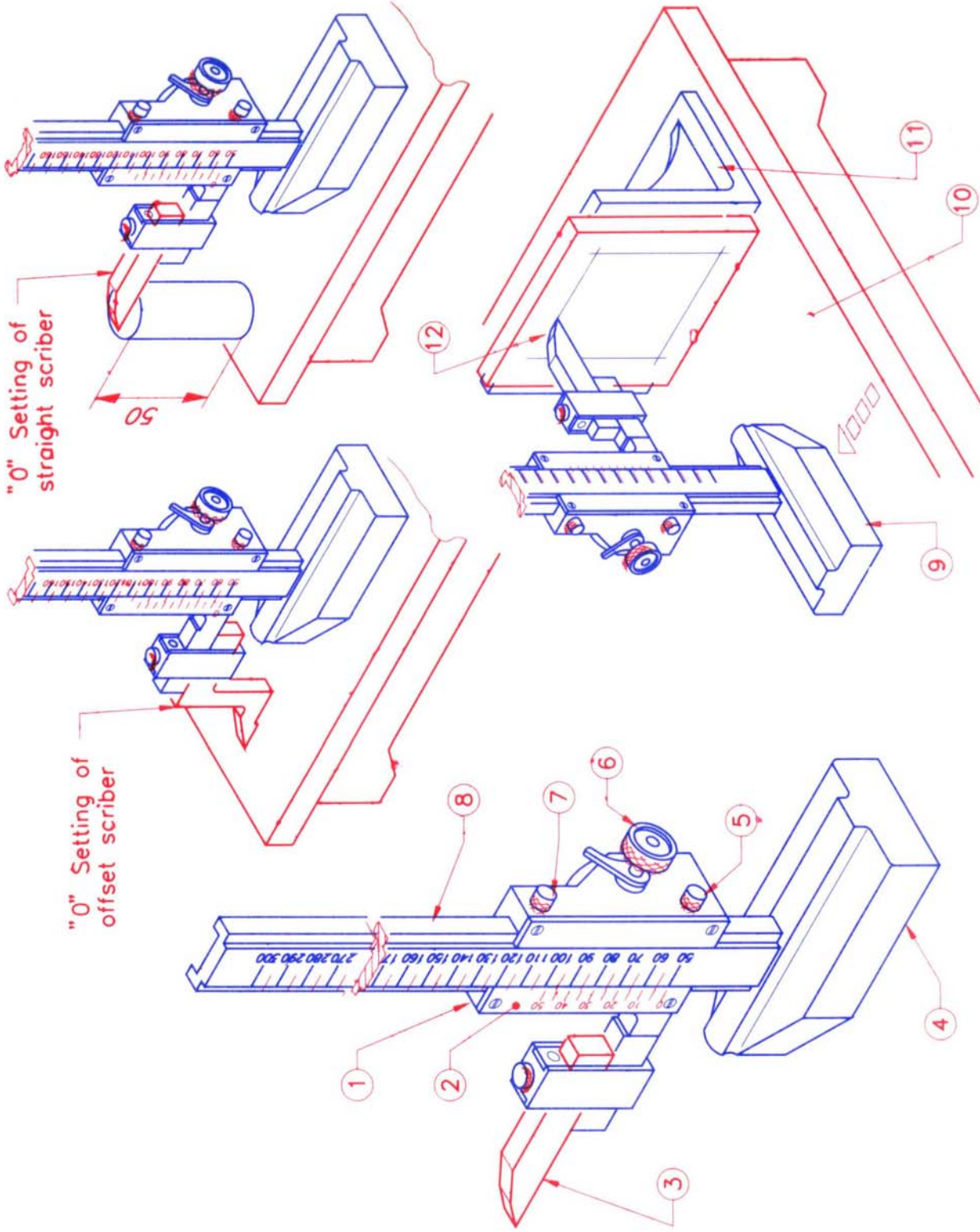
B Reading



C Reading

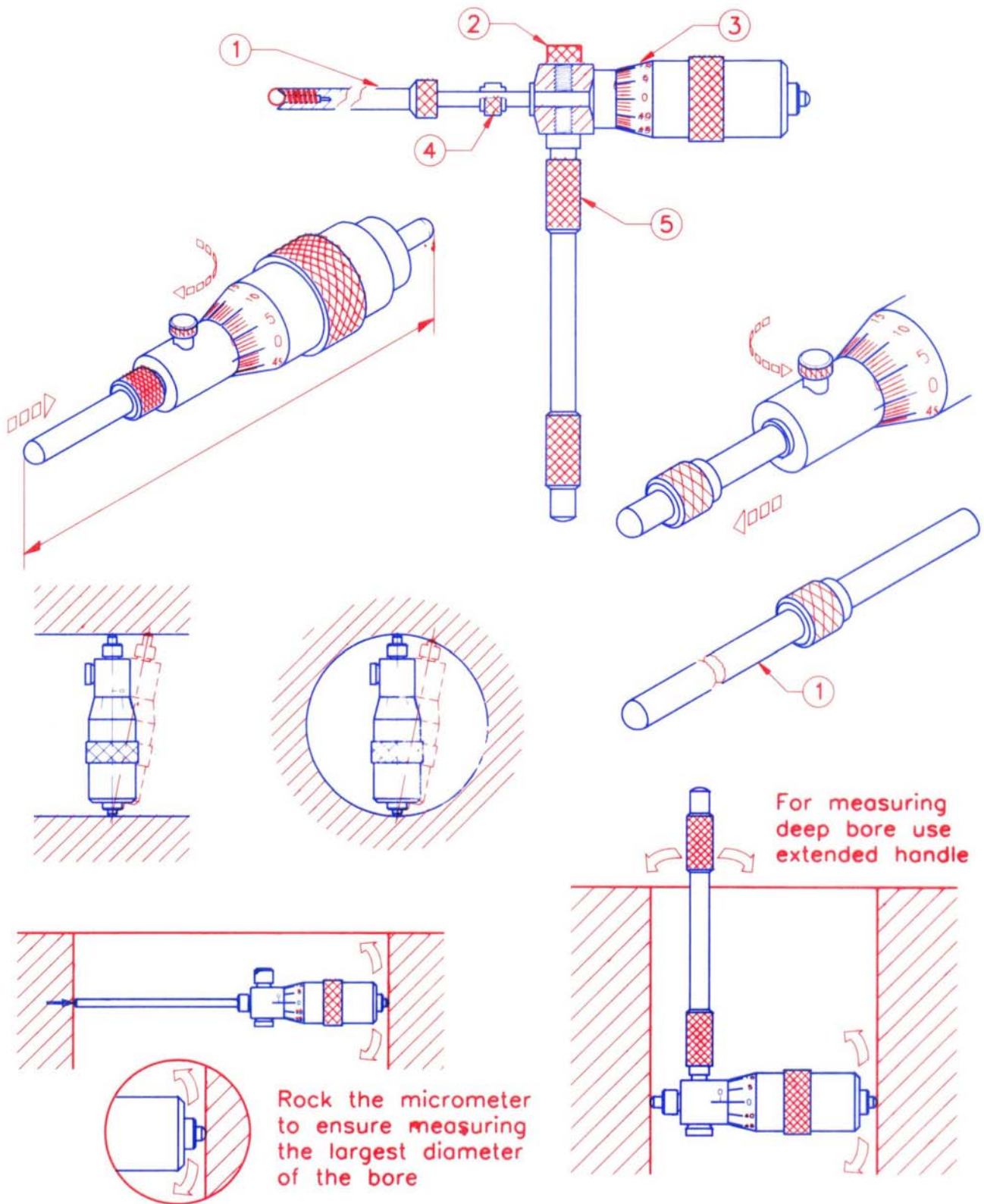


D Reading



VERNIER HEIGHT GAUGE

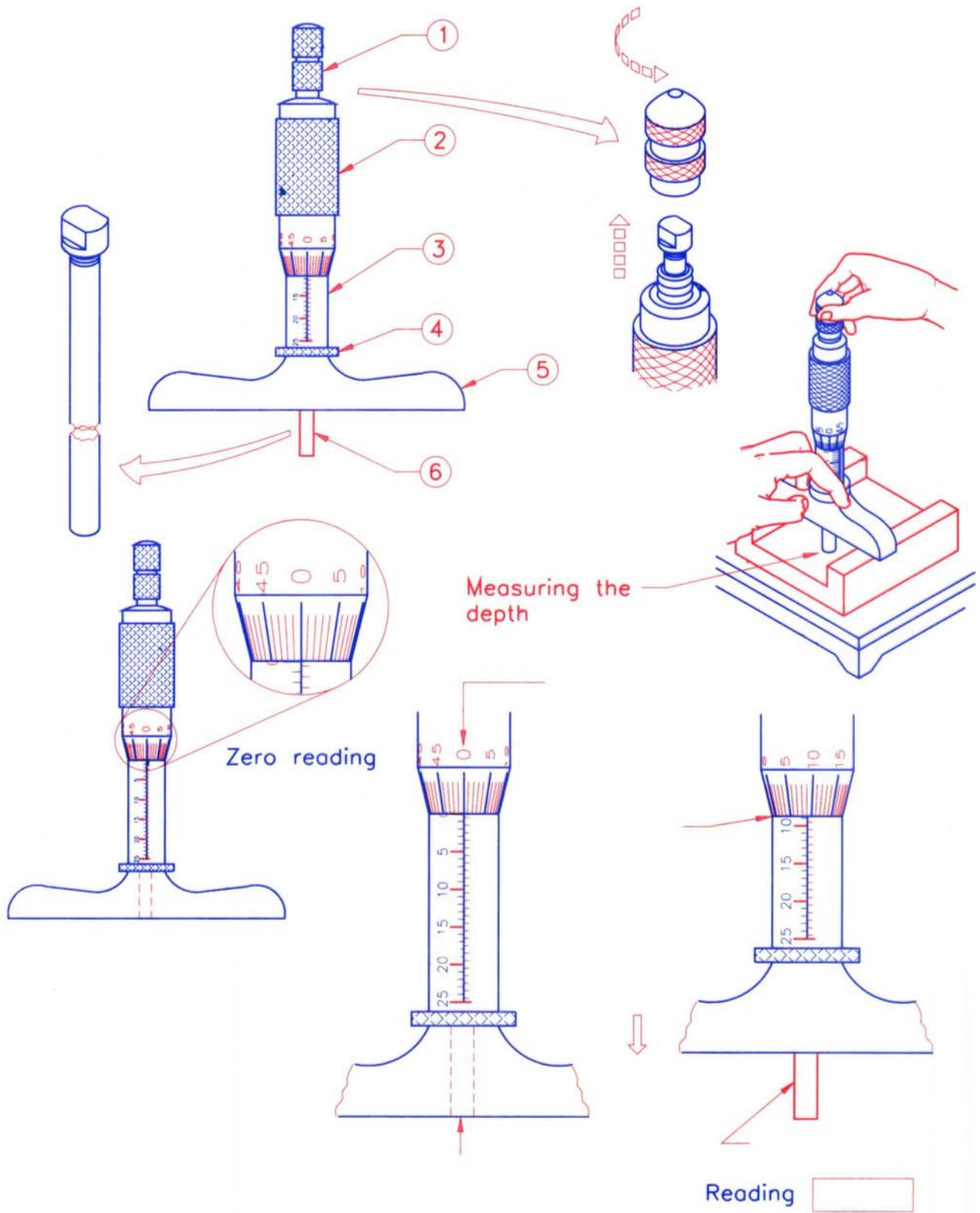
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INSIDE MICROMETER

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DEPTH MICROMETER

TR0102060193

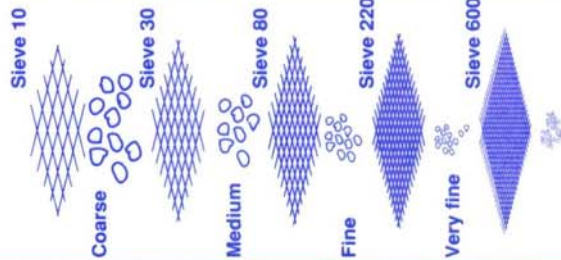
51-A-46-H-5-V-8

Type of abrasive

A - Aluminium oxide
C - Silicon carbide

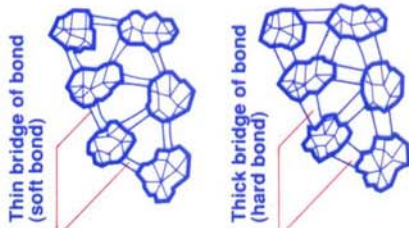
51-A-46-H-5-V-8

Grain size : (grit)
The actual size of the abrasive grain



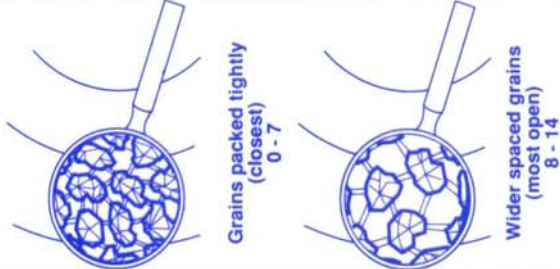
51-A-46-H-5-V-8

Grade :
The strength of the bond holds the grain in position



51-A-46-H-5-V-8

Structure :
The amount of bond present between the abrasive grains.



51-A-46-H-5-V-8

Type of bond

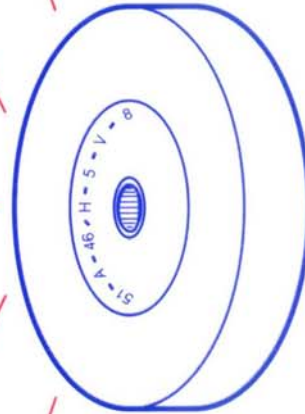
V - Vitrified
S - Silicate
R - Rubber
RF - Rubber reinforced
B - Resinoid (Synthetic resins)
BF - Resinoid reinforced
E - Shellac
Mg - Magnesia

51-A-46-H-5-V-8

Manufacturer's symbol for abrasive (Optional)

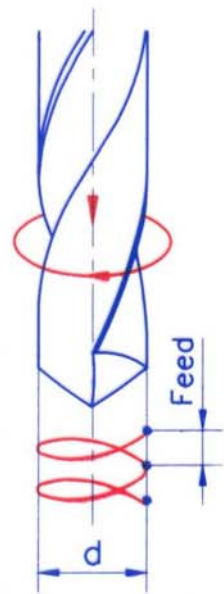
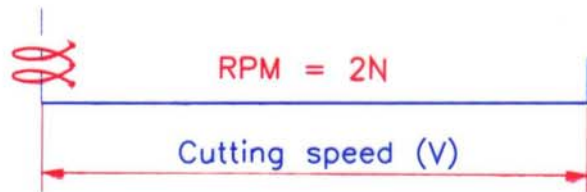
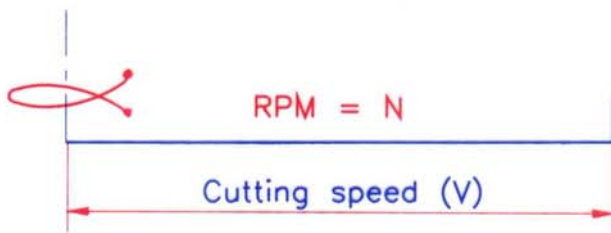
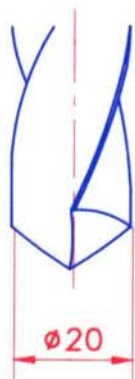
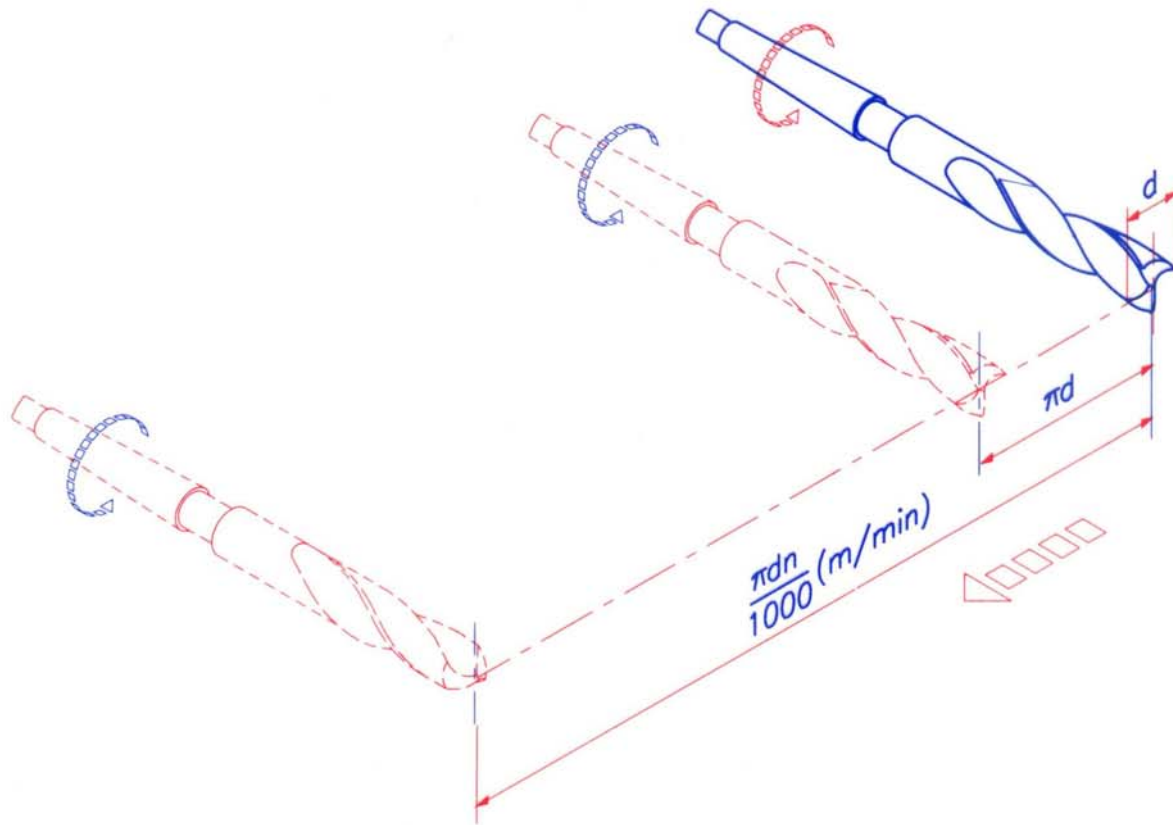
51-A-46-H-5-V-8

Manufacturer's own identification mark for the wheel (Optional)



GRINDING WHEEL MARKING

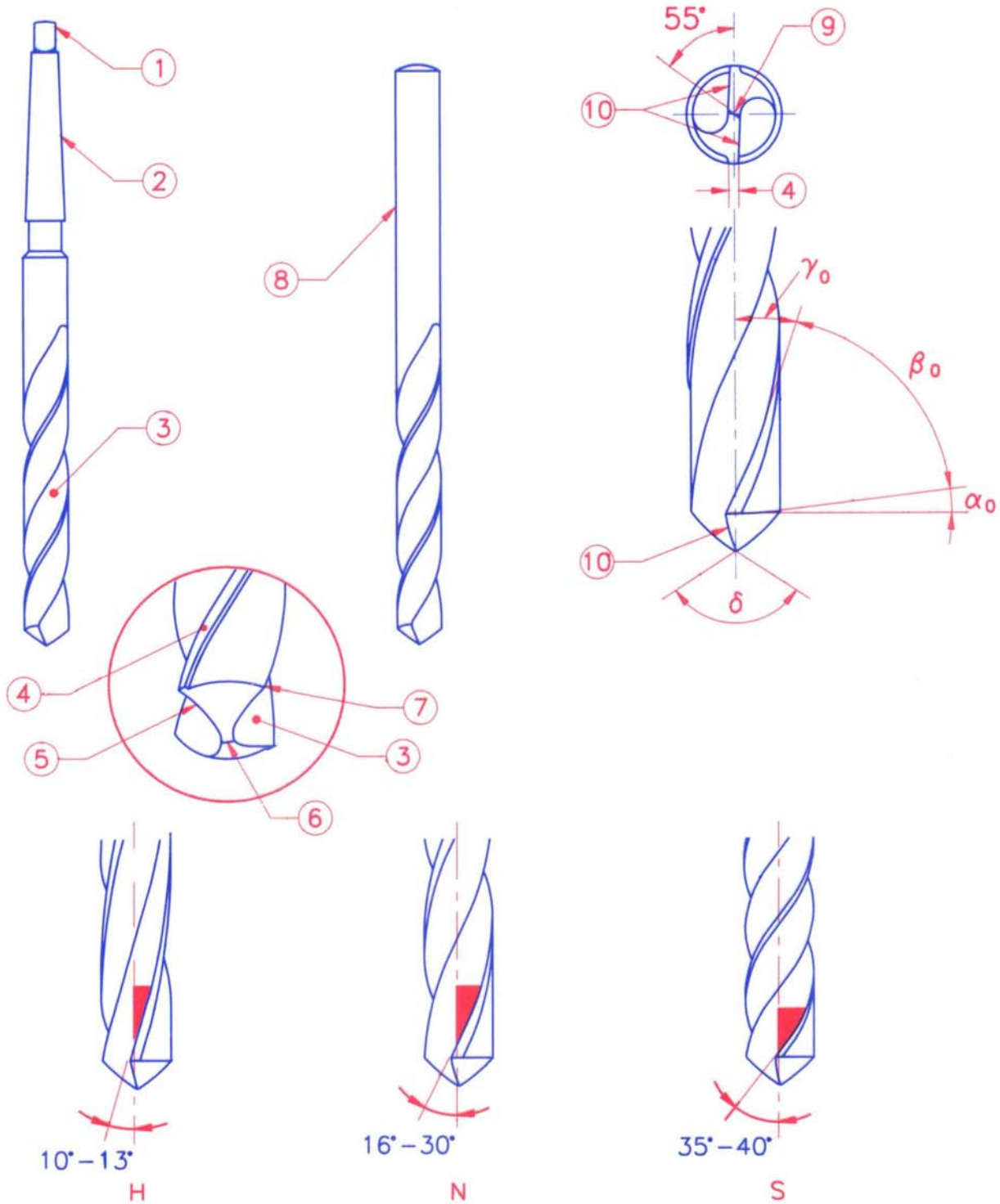
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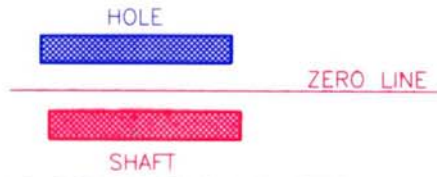


CUTTING SPEED, FEED AND R.P.M. OF DRILLS

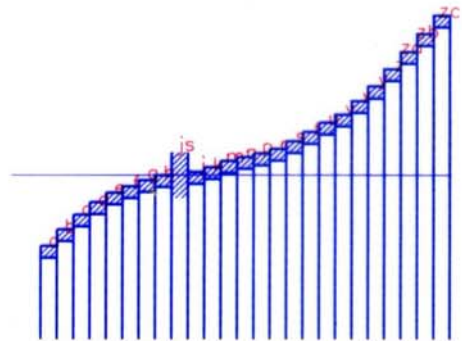
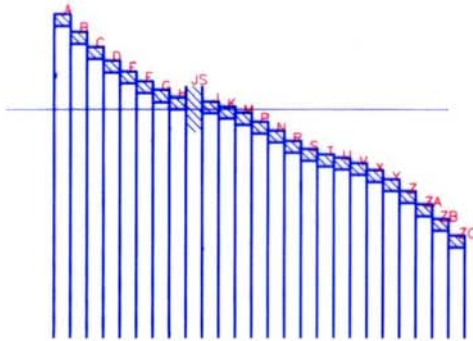
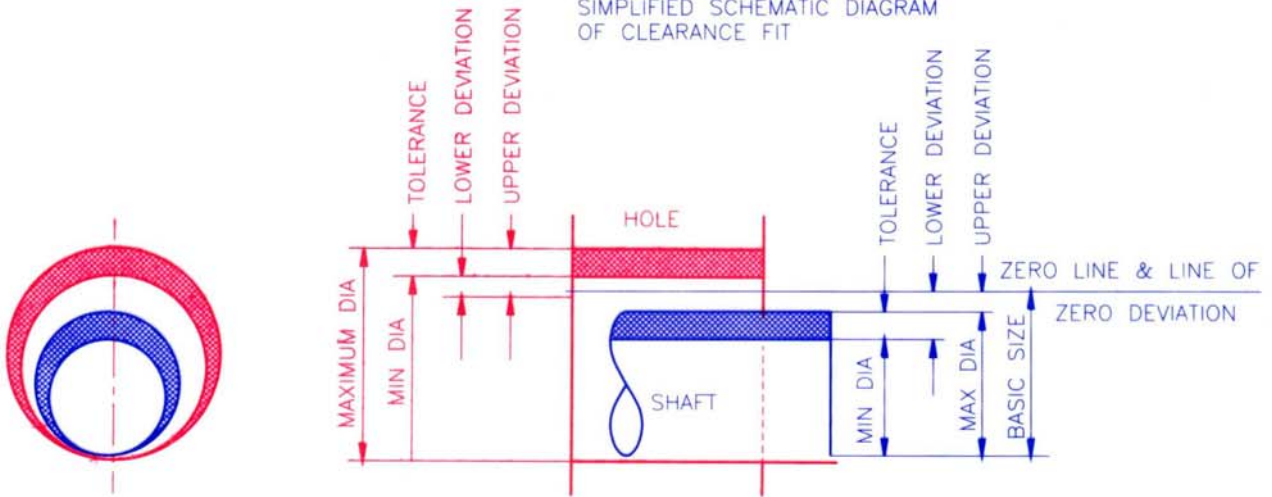
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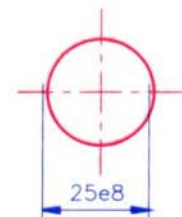
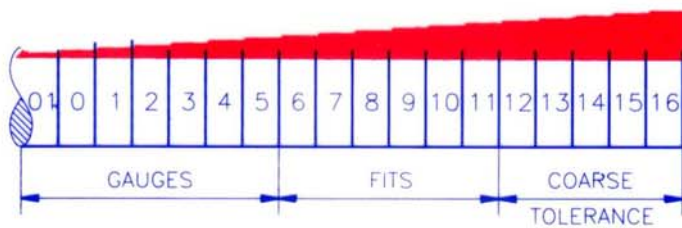
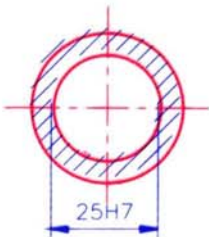




SIMPLIFIED SCHEMATIC DIAGRAM OF CLEARANCE FIT

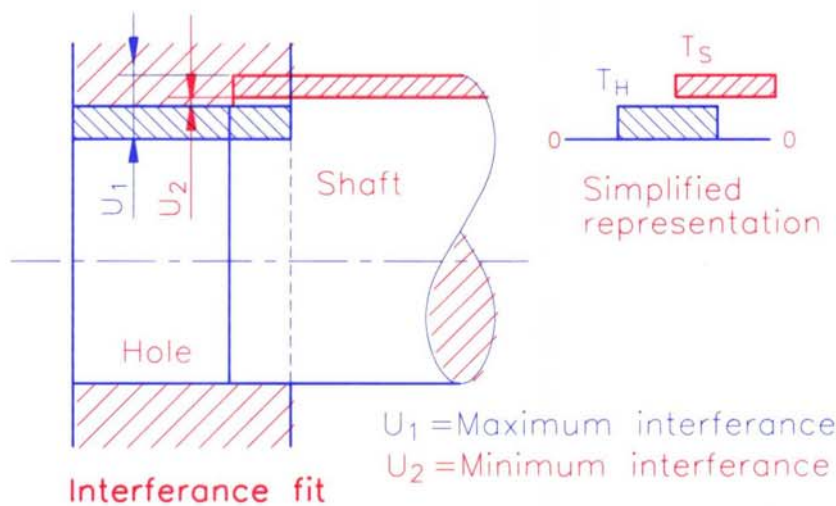
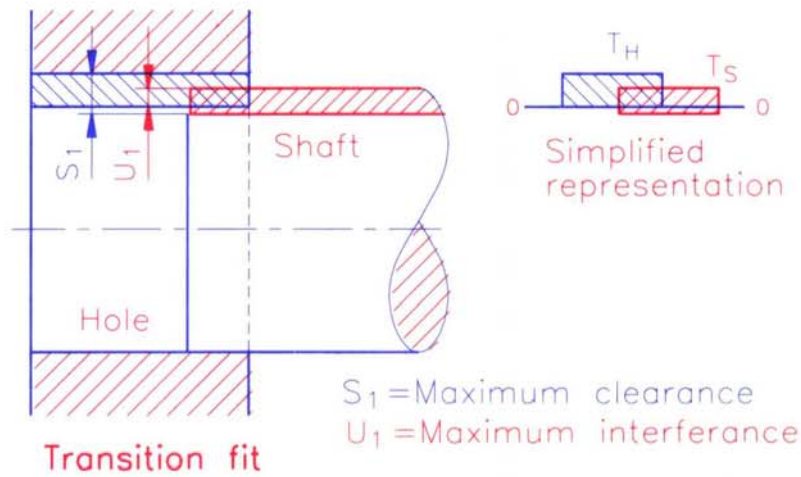
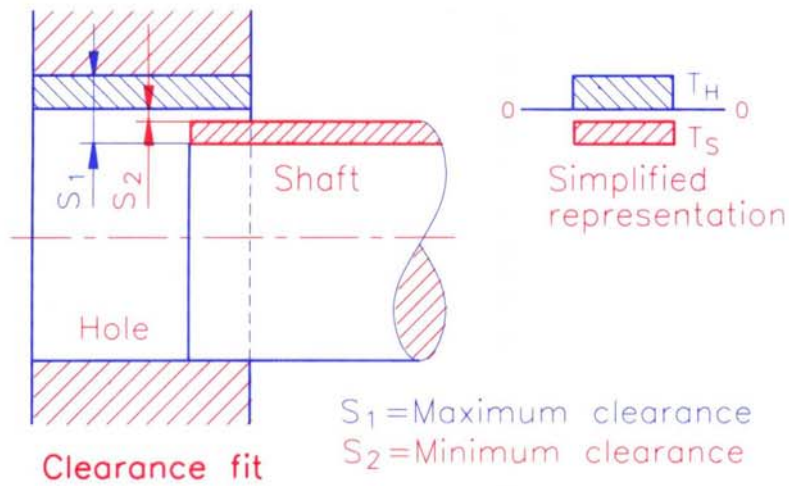


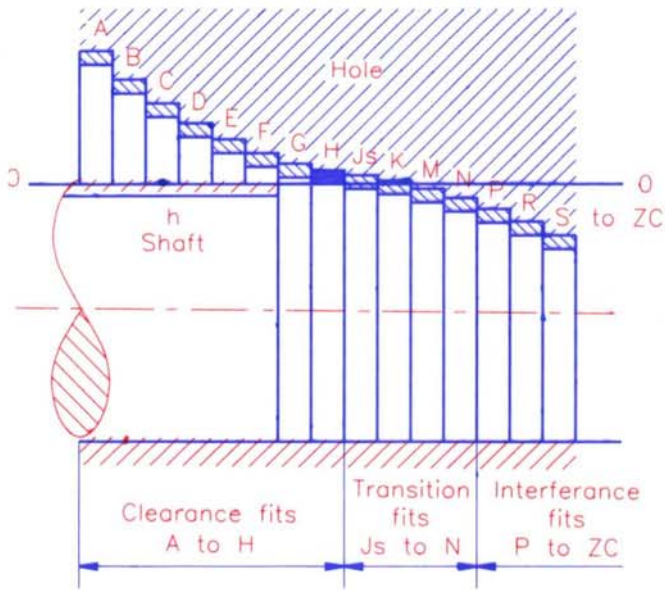
18 GRADES OF TOLERANCES



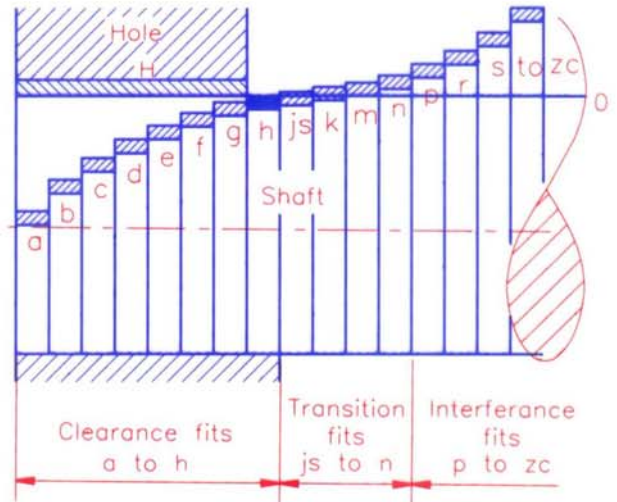
• WHAT DOES 25H7 INDICATE?

• WHAT DOES 25e8 INDICATE?

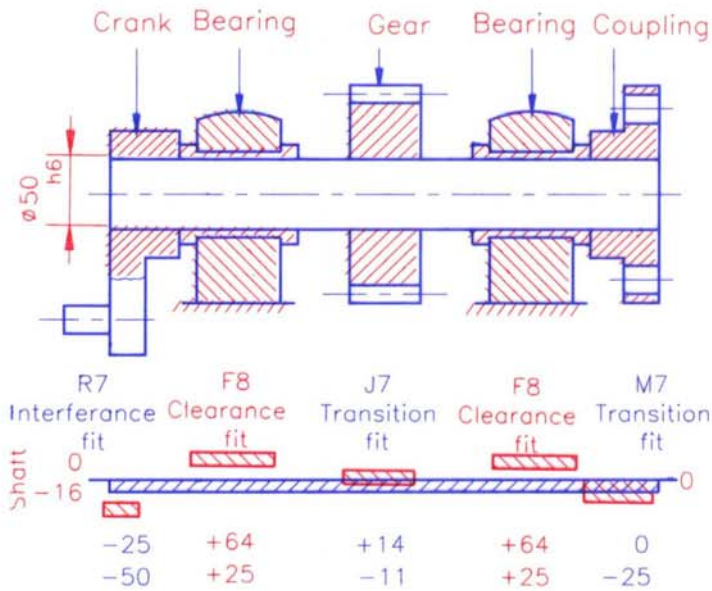




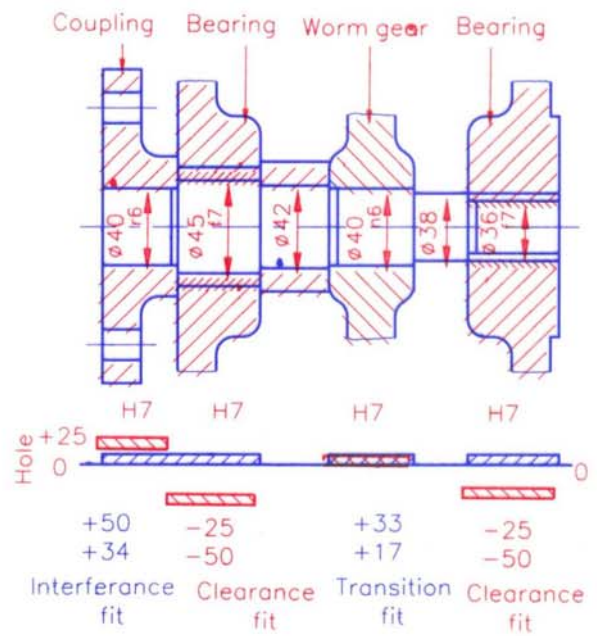
BASIC SHAFT SYSTEM



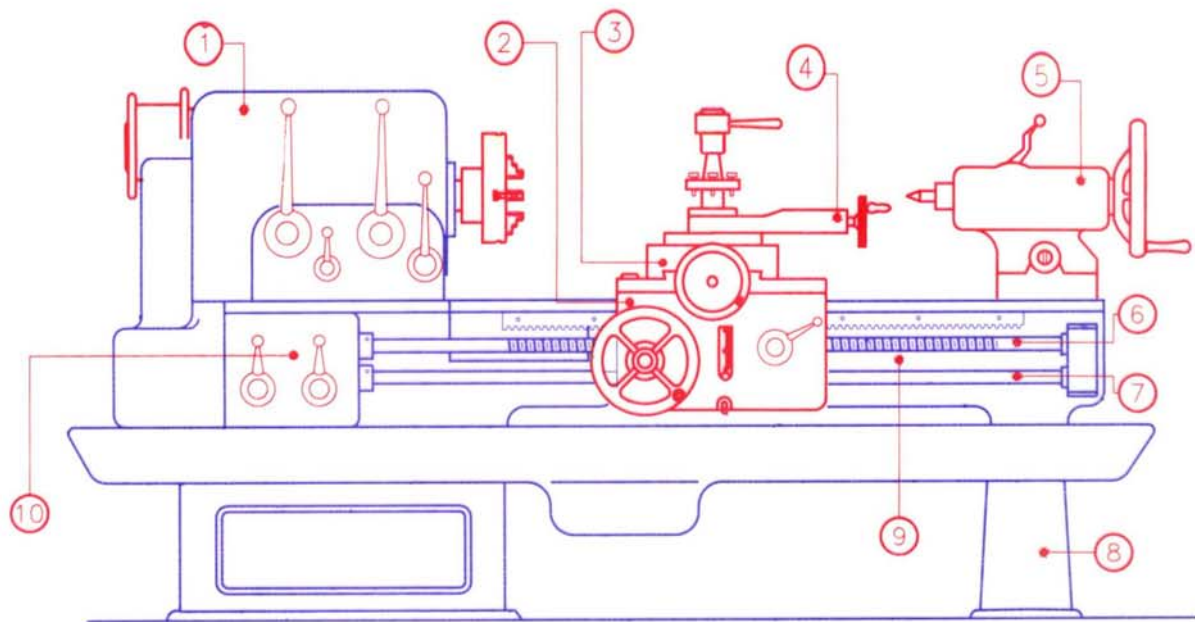
BASIC HOLE SYSTEM



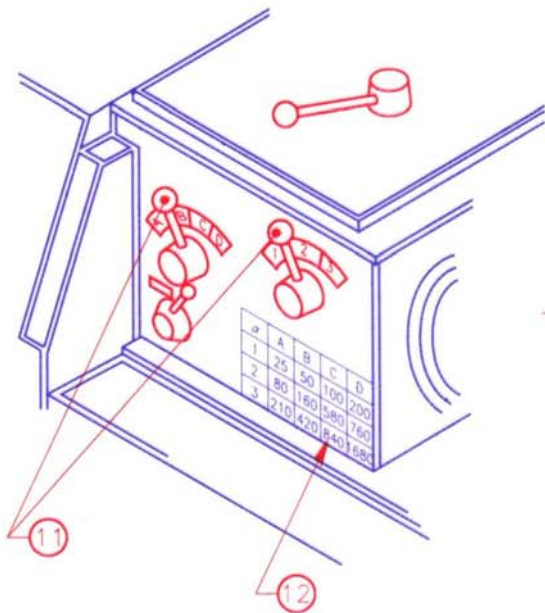
APPLICATION FOR THE BASIC SHAFT SYSTEM



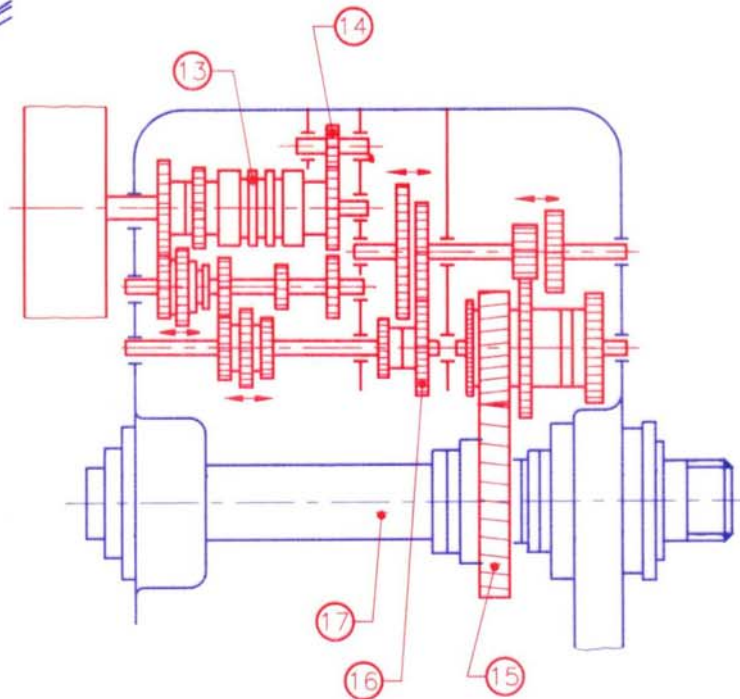
APPLICATION FOR THE BASIC HOLE SYSTEM



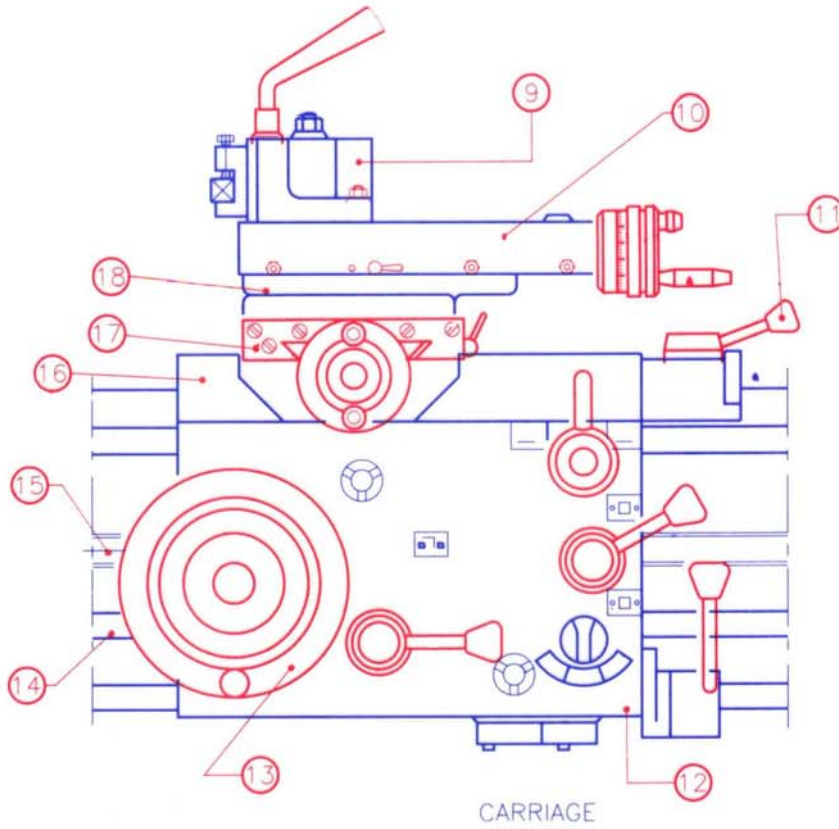
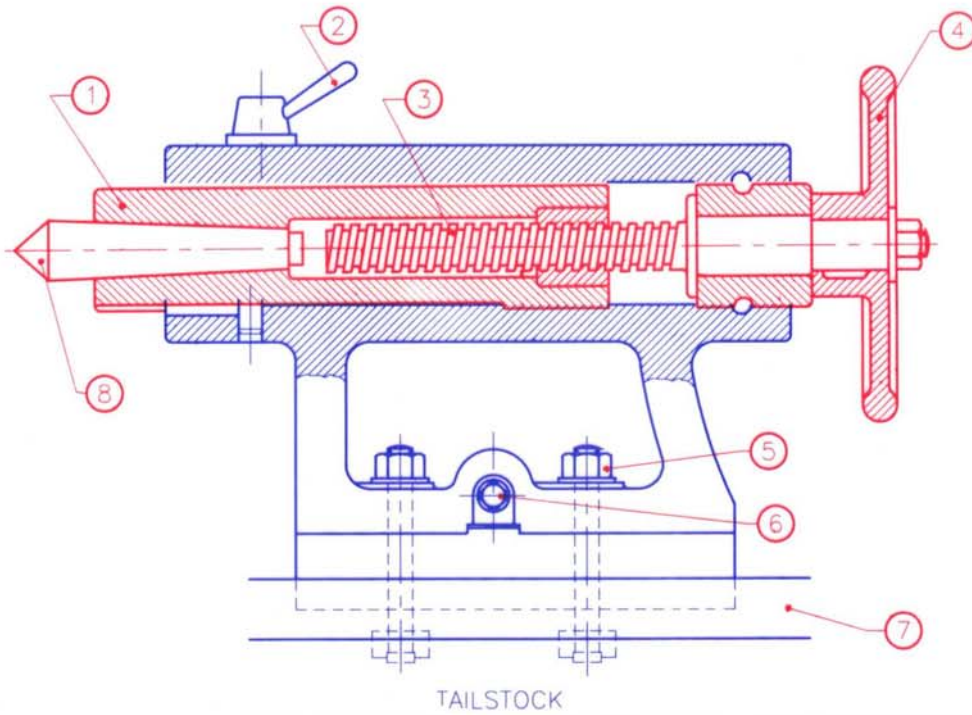
CENTRE LATHE



HEAD STOCK



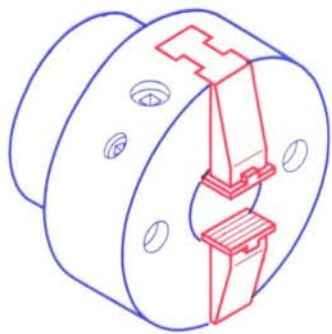
INNER MECHANISM



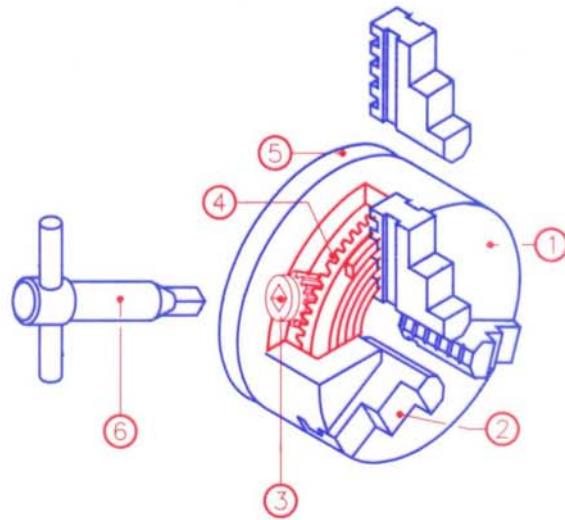
LATHE PARTS

TR01 1201 0293

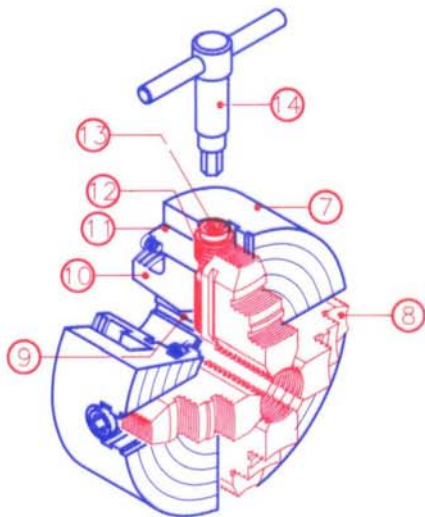
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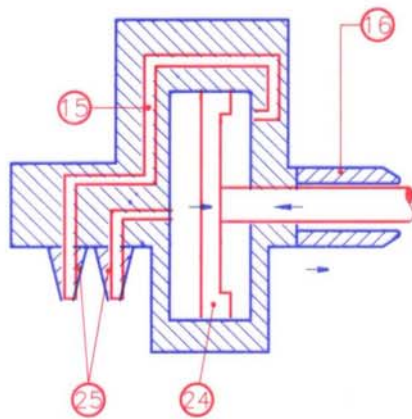
TWO JAW CHUCK



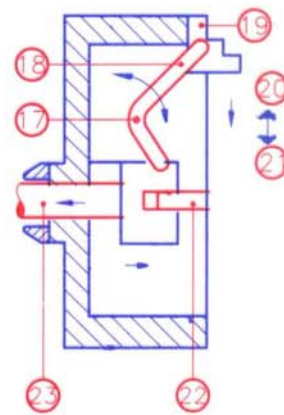
THREE JAW CHUCK

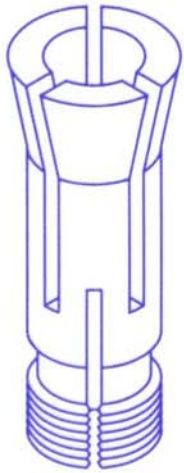


FOUR JAW CHUCK

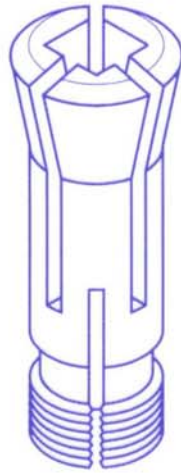


HYDRAULIC CHUCK

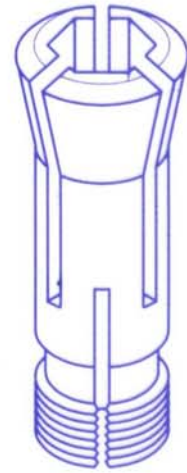




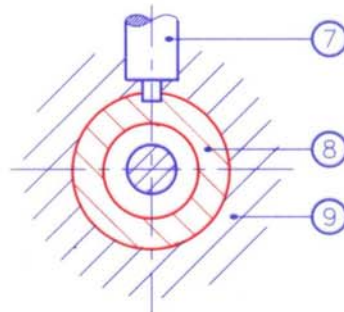
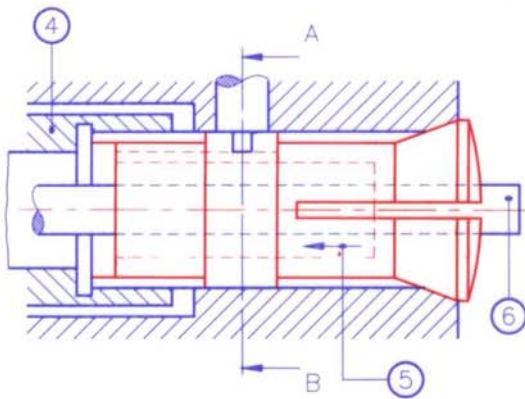
①



②



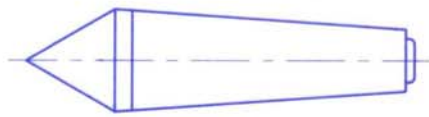
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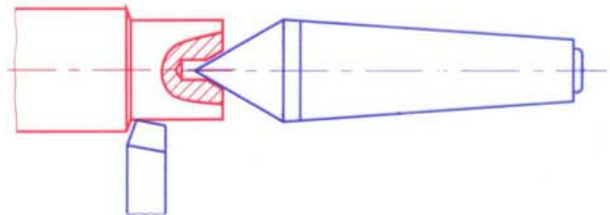
COLLET CHUCKS

TR01 1301 0293

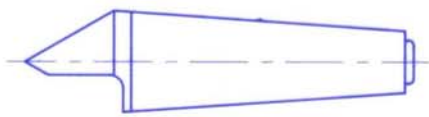
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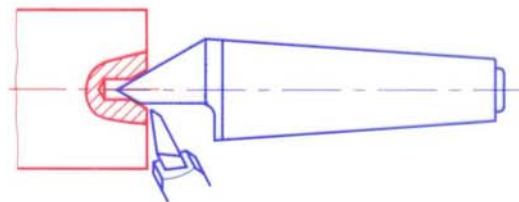
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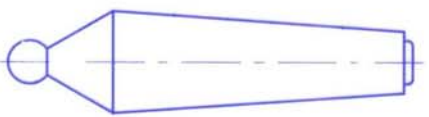
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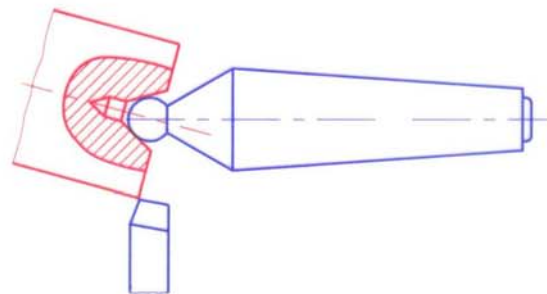
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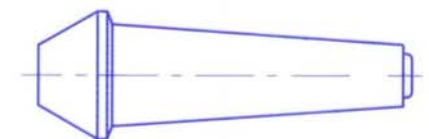
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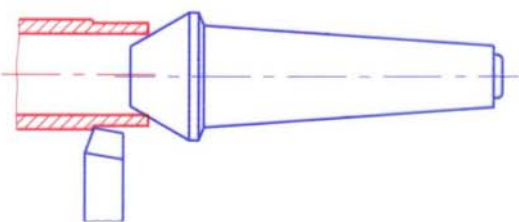
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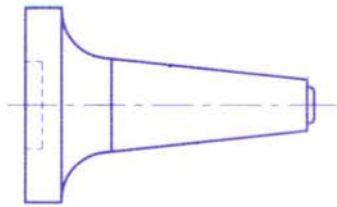


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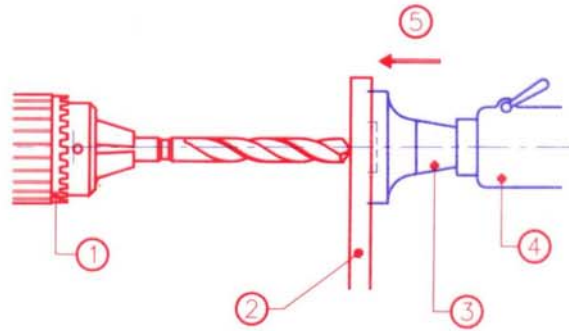
LATHE CENTRES AND THEIR APPLICATION

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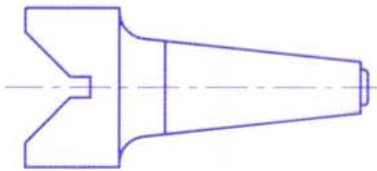
CIM CENTRAL INSTRUCTIONAL
MEDIA INSTITUTE, MADRAS
AN INDO-GERMAN PROJECT



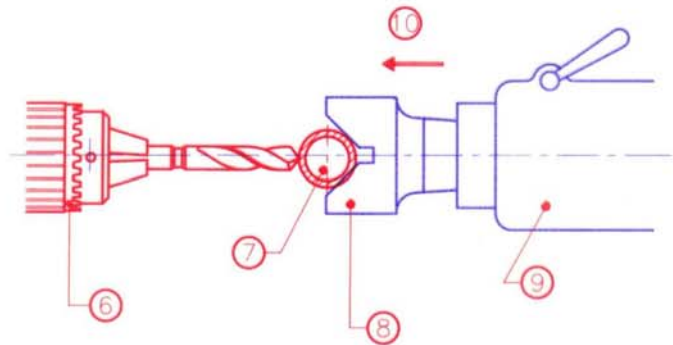
PAD CENTRE



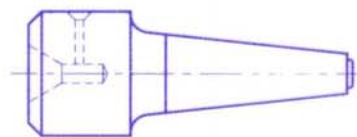
APPLICATION OF PAD CENTRE



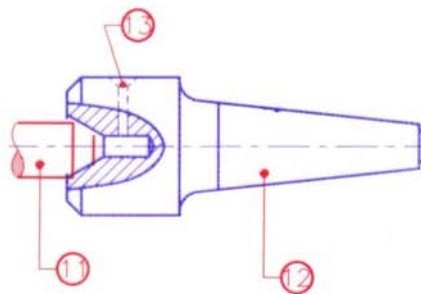
CROACH OR SWIVEL 'V' CENTRE



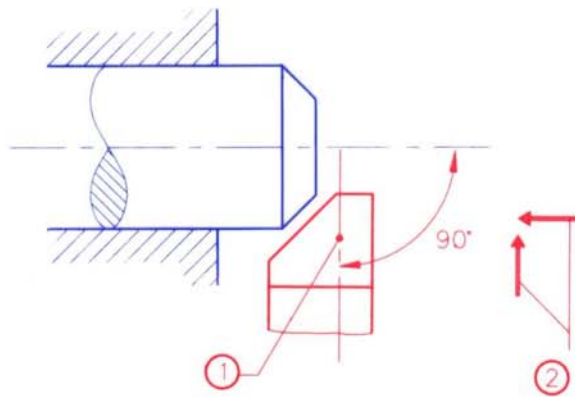
APPLICATION OF CROACH CENTRE



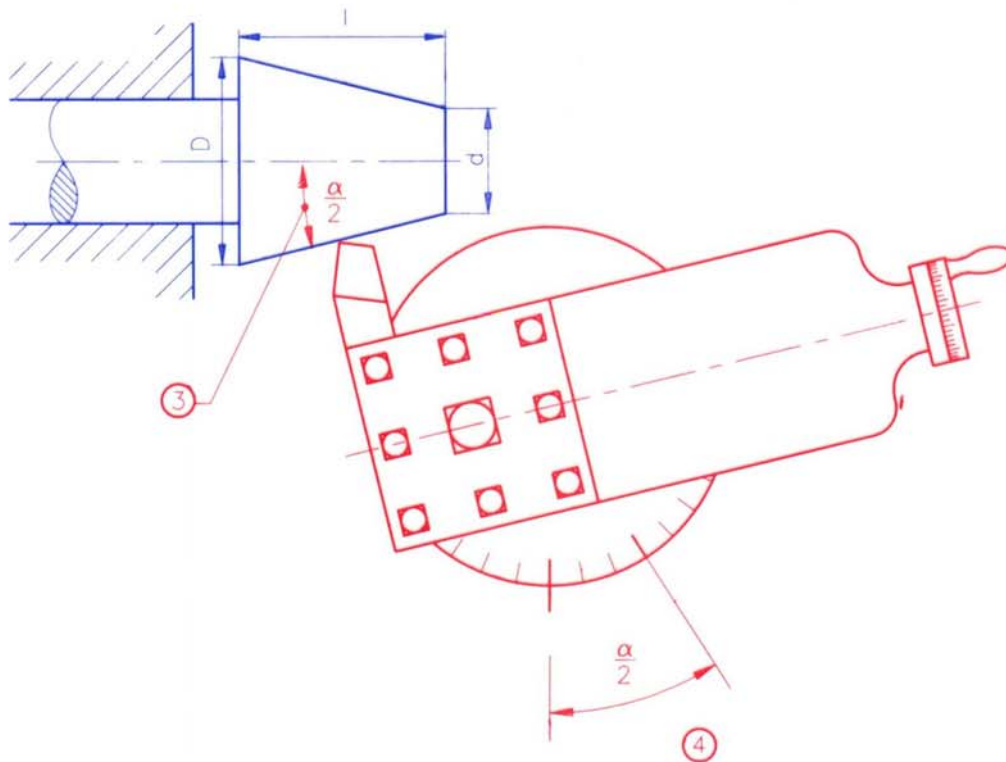
FEMALE CENTRE



APPLICATION OF FEMALE CENTRE



FORM TOOL METHOD

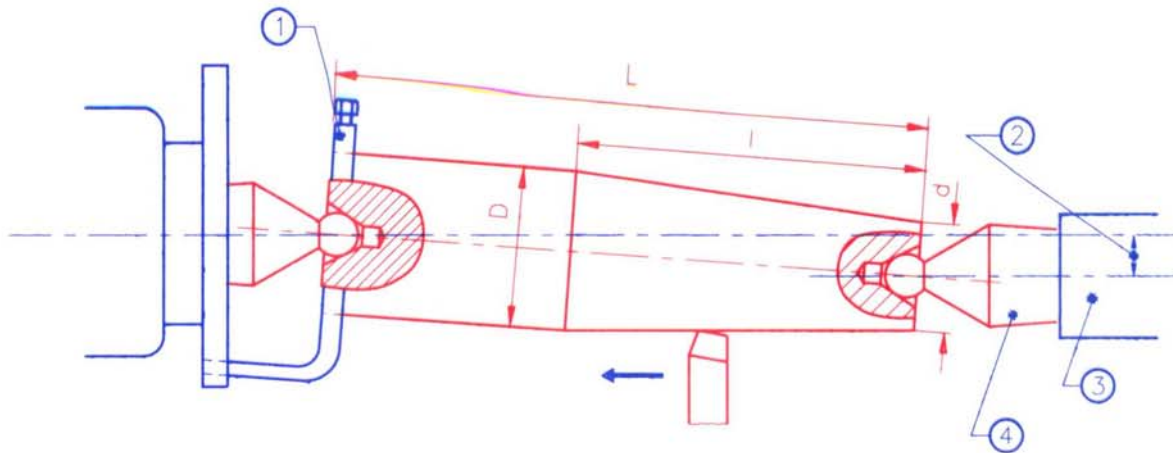


COMPOUND SLIDE METHOD

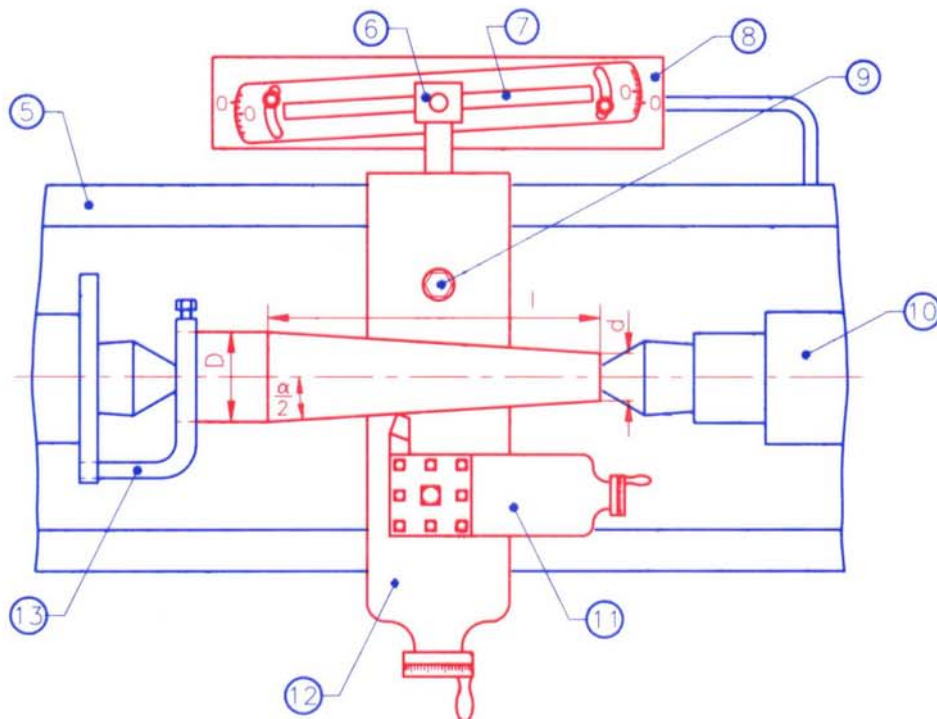
**DIFFERENT METHODS OF
TAPER TURNING**
(FORM TOOL AND COMPOUND REST)

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TAILSTOCK OFFSET METHOD



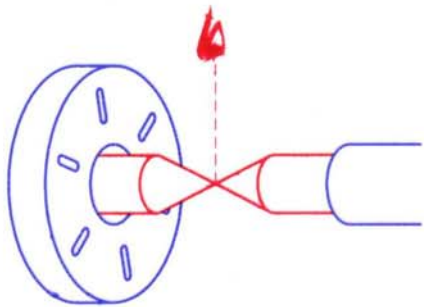
TAPER TURNING ATTACHMENT METHOD

DIFFERENT METHODS OF TAPER TURNING

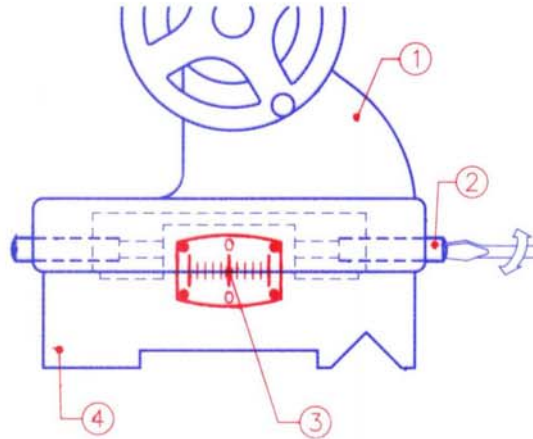
(TAILSTOCK SET OVER AND TAPER TURNING ATTACHMENT)

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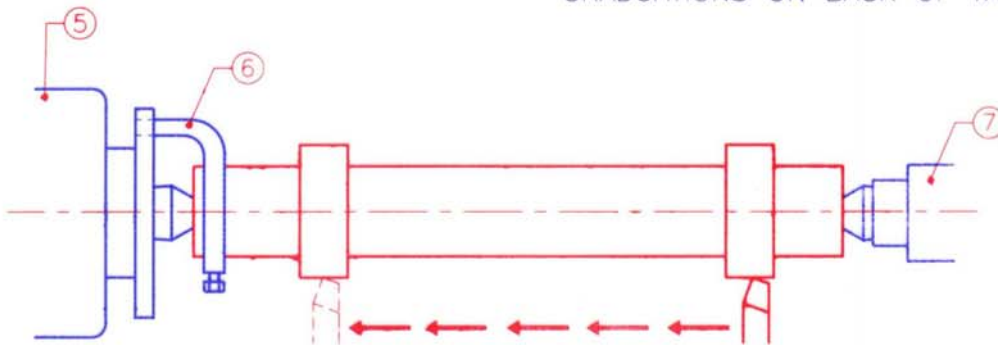
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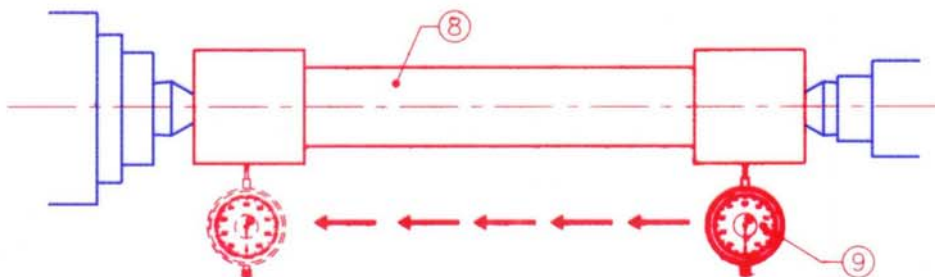
VISUAL ALIGNMENT OF CENTRES



ALIGNMENT OF CENTRES USING GRADUATIONS ON BACK OF TAILSTOCK



ALIGNMENT OF LATHE CENTRES BY TRAIL CUT METHOD



ALIGNING CENTRES WITH A TEST BAR AND DIAL INDICATOR