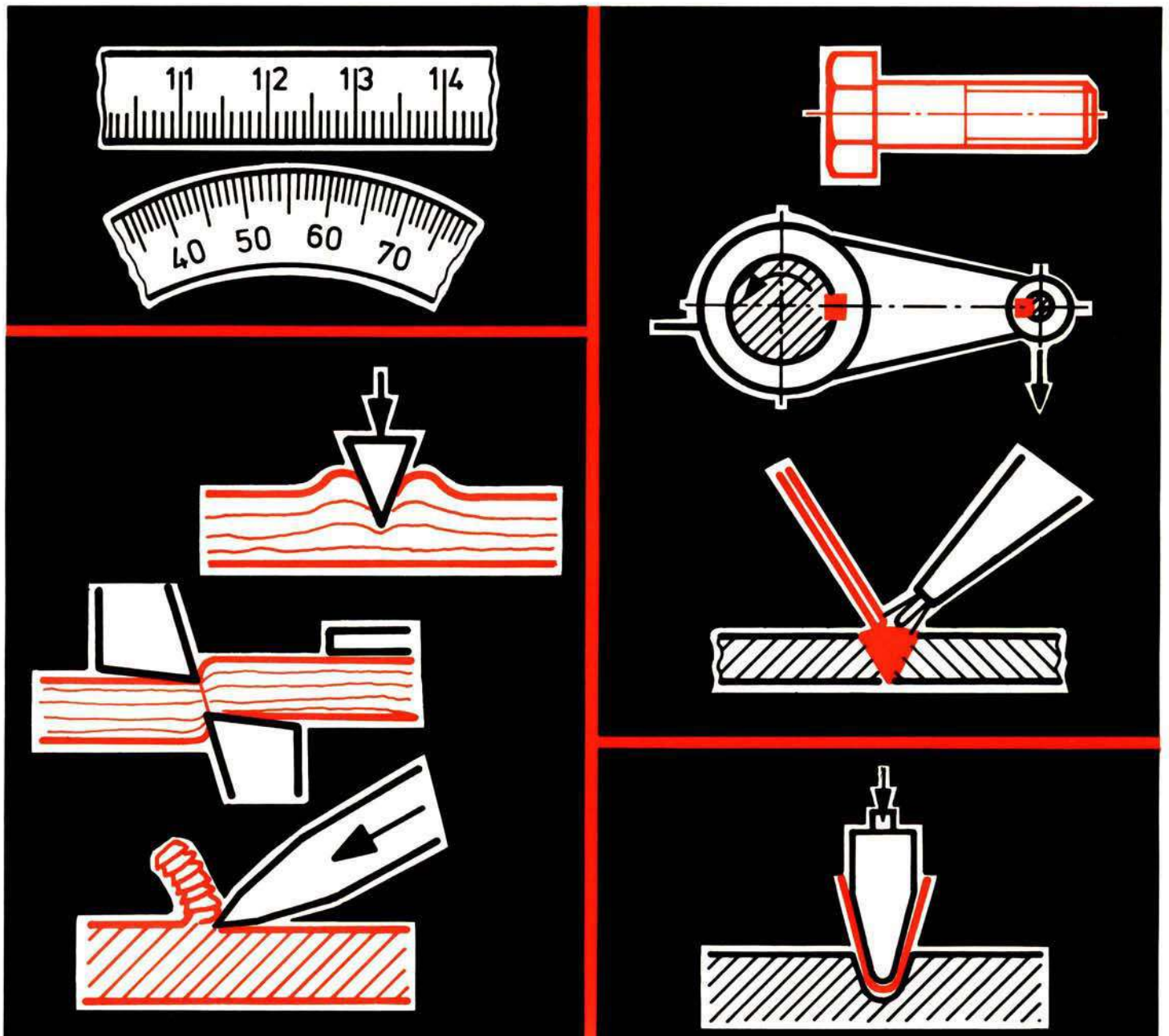
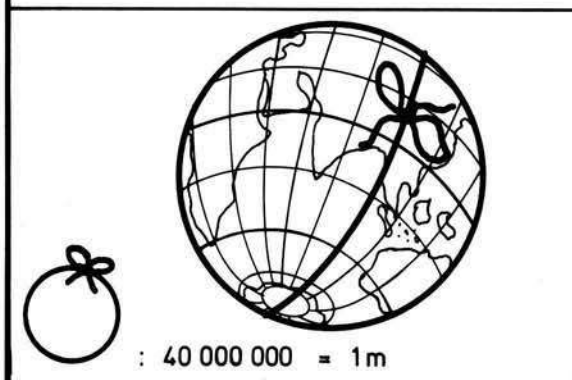
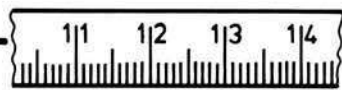


Bildreihen für die Grundstufe Metall

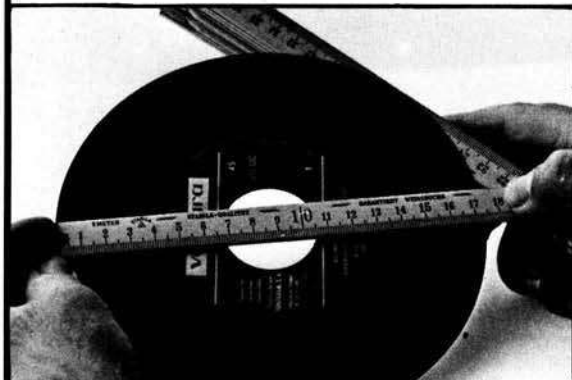
Helmut Pfisterer



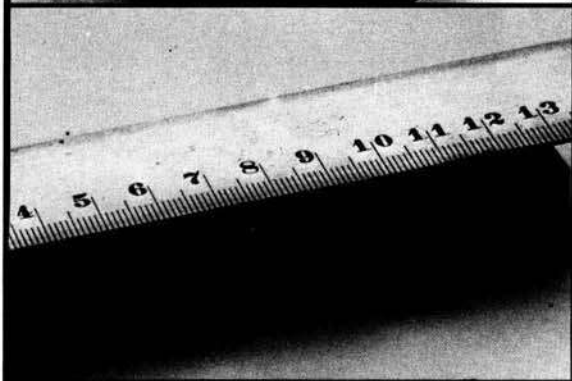
Holland + Josenhans Verlag Stuttgart Bestell-Nr.3004



1.1



1.2



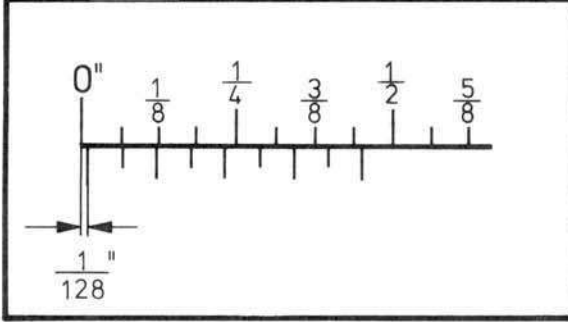
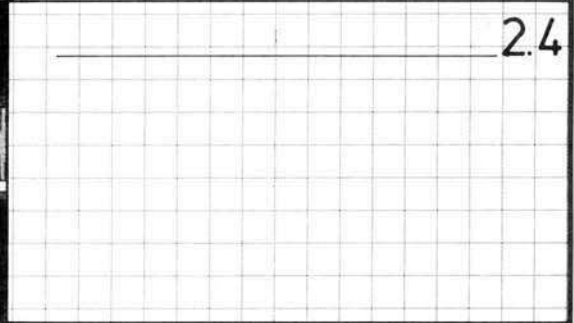
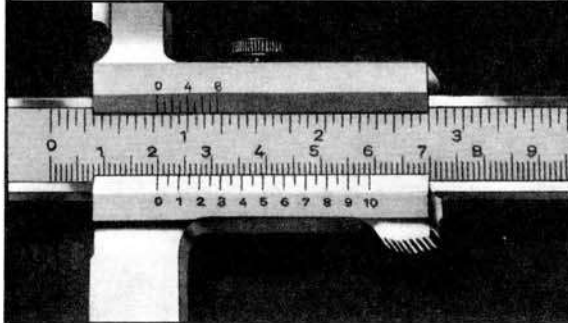
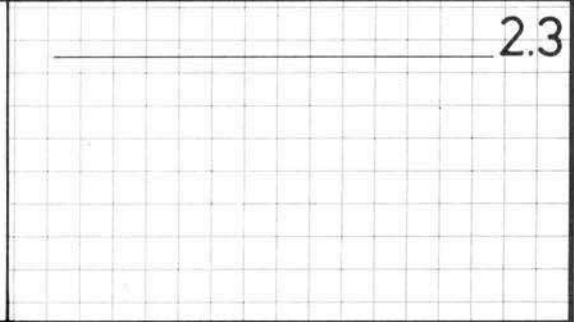
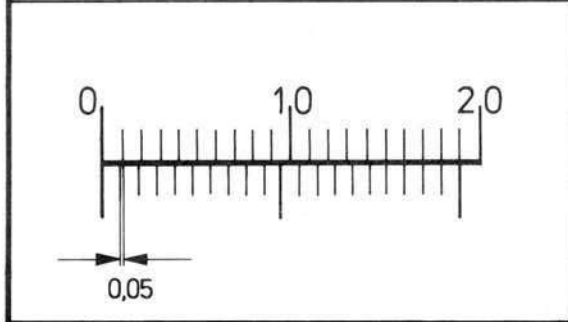
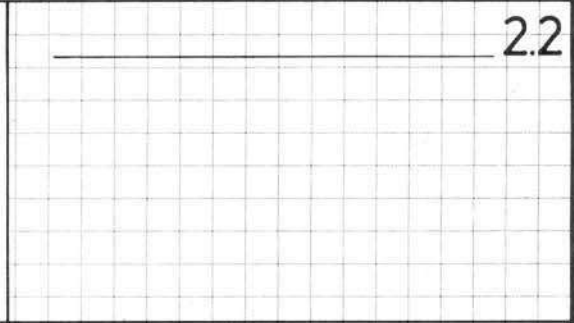
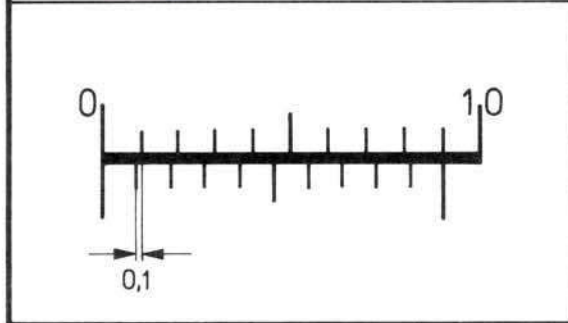
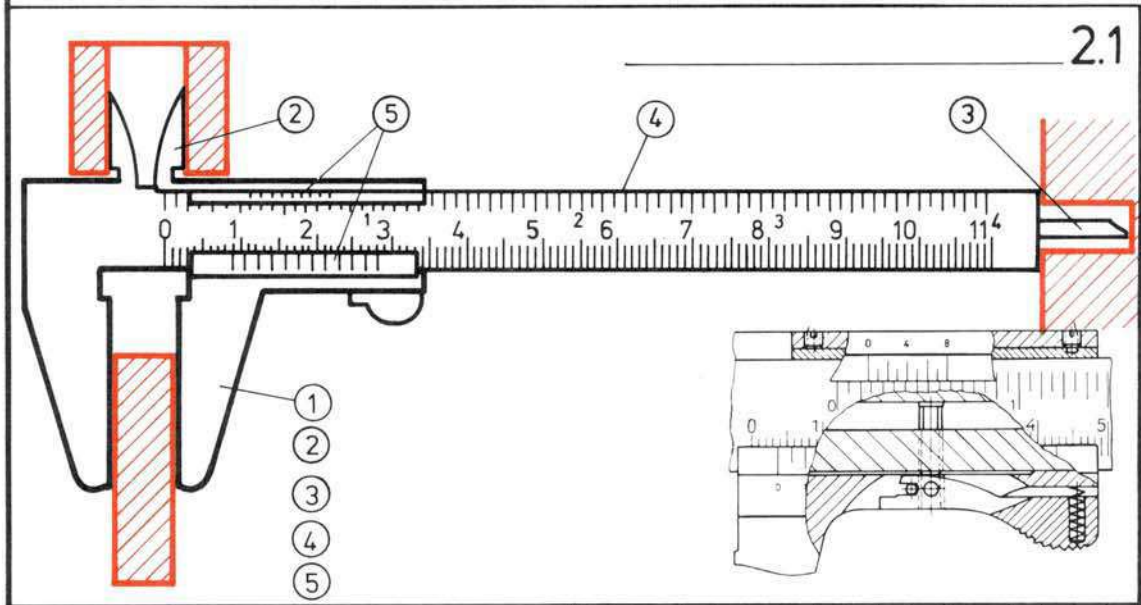
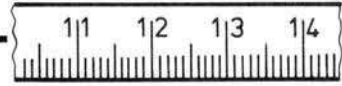
1.3



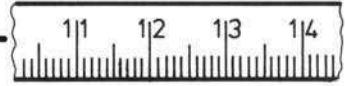
1.4



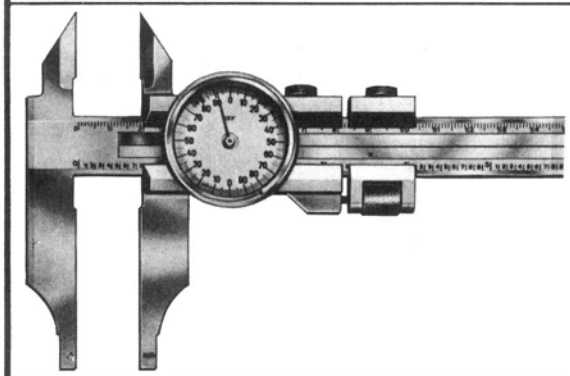
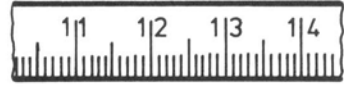
1.5



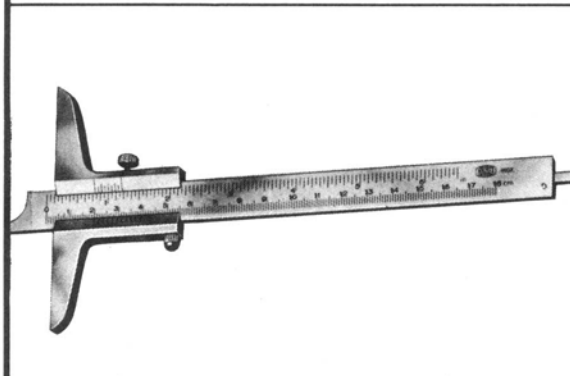
$$\frac{1}{16} - \frac{7}{16} : 8 = \frac{8}{128} - \frac{7}{128} = \frac{1}{128}$$



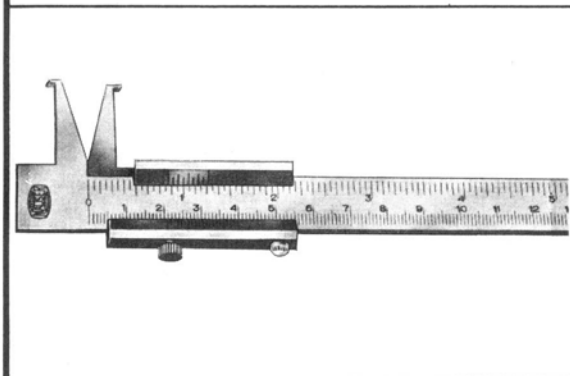
| | |
|--|---|
| | <p>_____ 3.1</p> |
| | <p>_____ 3.2</p> |
| | <p>_____ 3.3</p> |
| | <p>_____ 3.4</p> |
| | <p>_____ 3.5</p> <p>① ② ③ ④</p> |



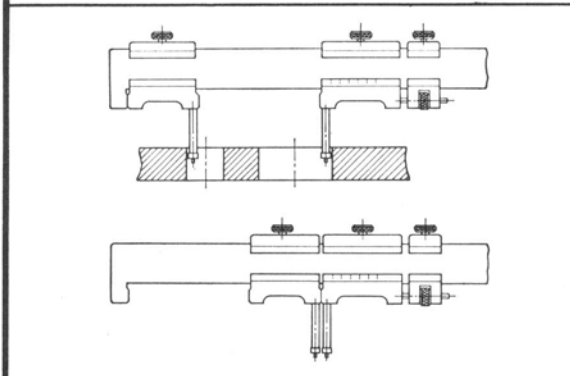
3.1



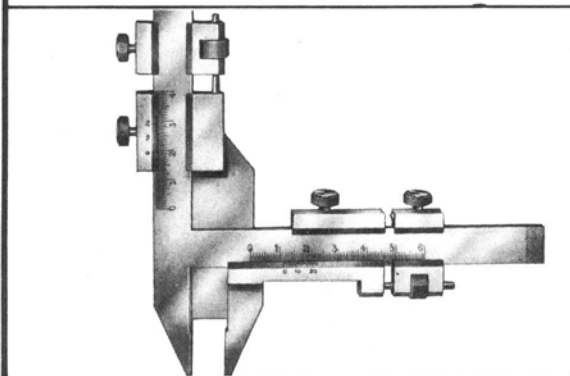
3.2



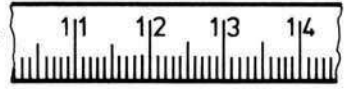
3.3



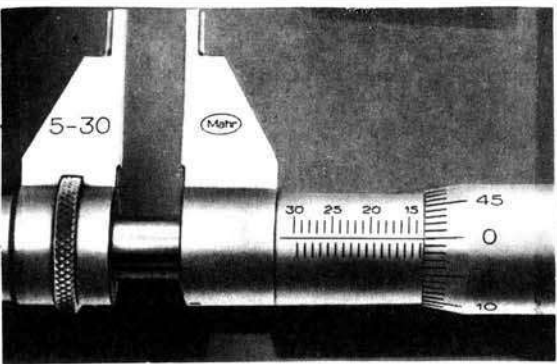
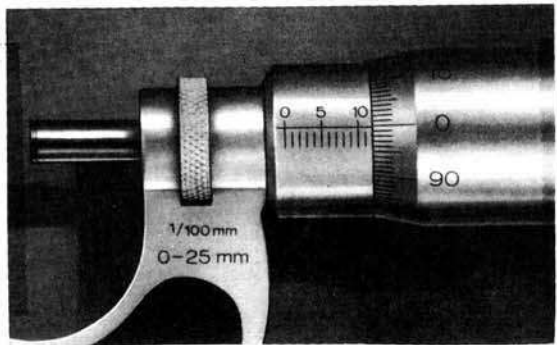
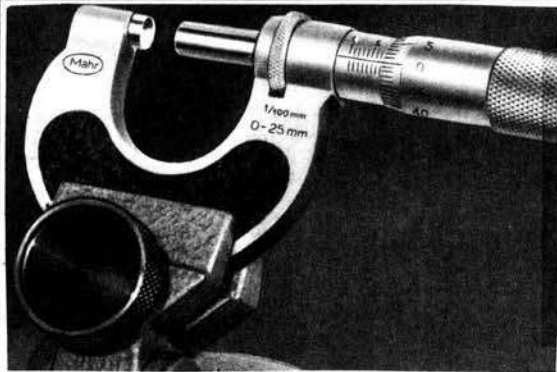
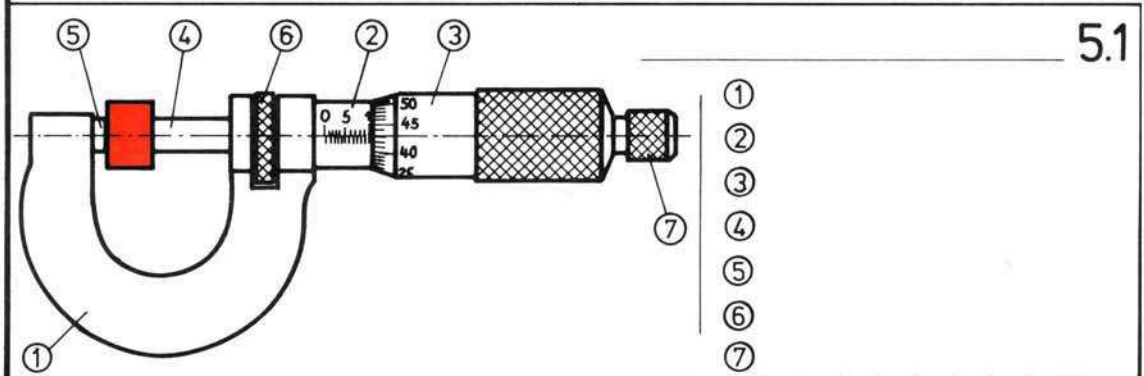
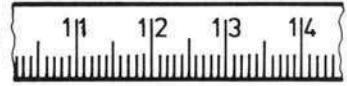
3.4

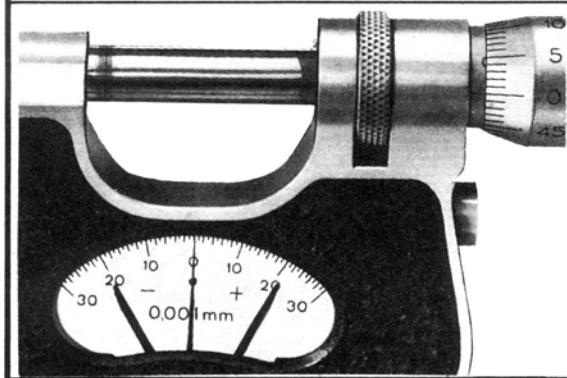


3.5

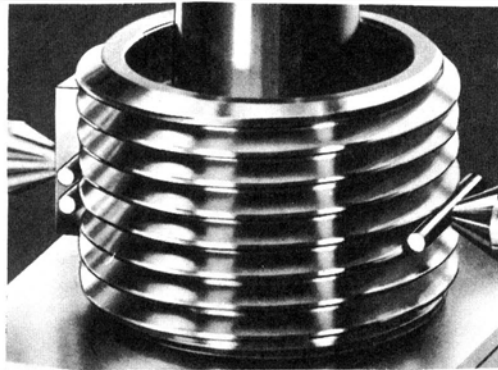


| | |
|--|------------------|
| | <p>_____ 4.1</p> |
| | <p>_____ 4.2</p> |
| | <p>_____ 4.3</p> |
| | <p>_____ 4.4</p> |
| | <p>_____ 4.5</p> |

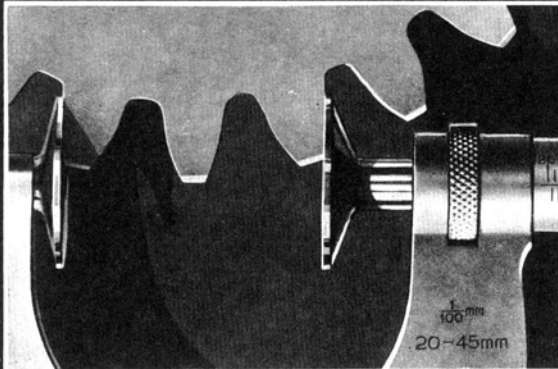




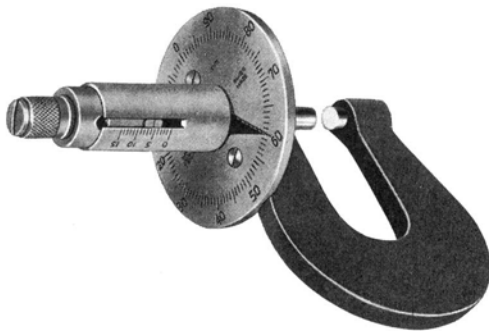
5.1



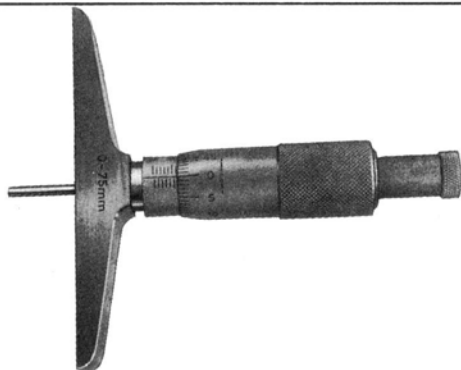
5.2



5.3



5.4

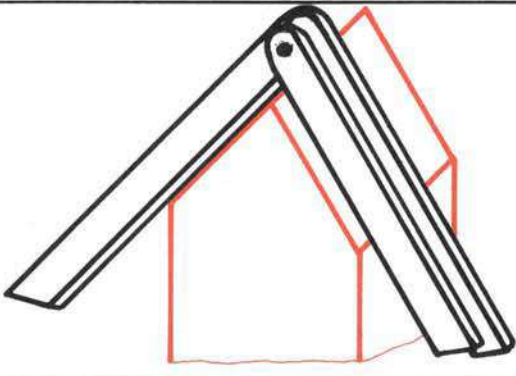
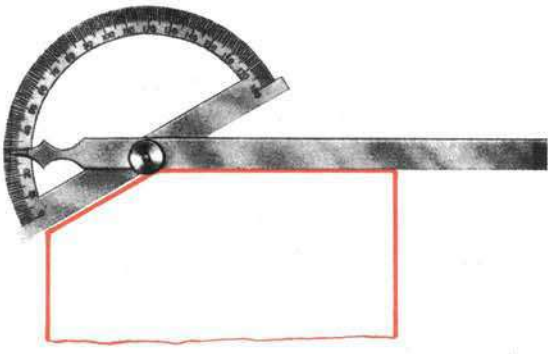
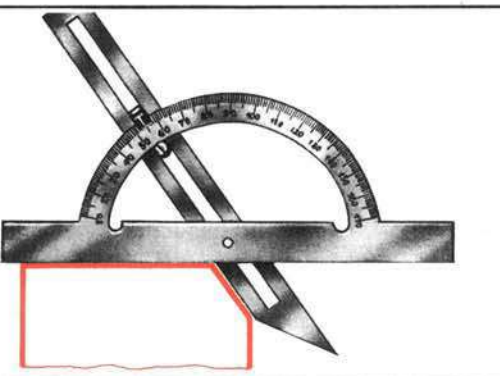
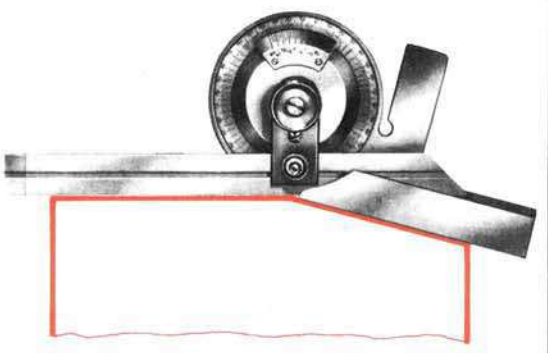
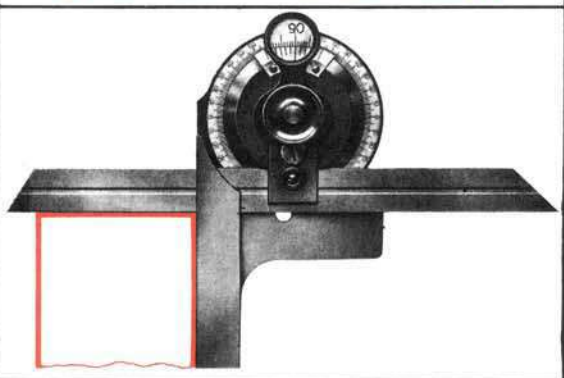


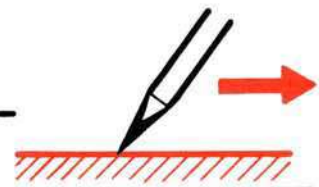
5.5



| | |
|--|--|
| | <p>_____ 6.1</p> |
| | <p>_____ 6.2</p> |
| | <p>_____ 6.3</p> |
| | <p>_____ 6.4</p> |
| | <p>_____ 6.5</p> <ul style="list-style-type: none"> ① ② ③ ④ ⑤ |



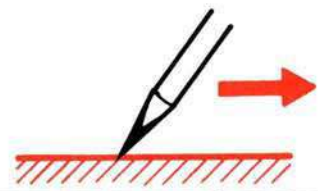
| | |
|---|------------------|
|  | <p>_____ 7.1</p> |
|  | <p>_____ 7.2</p> |
|  | <p>_____ 7.3</p> |
|  | <p>_____ 7.4</p> |
|  | <p>_____ 7.5</p> |




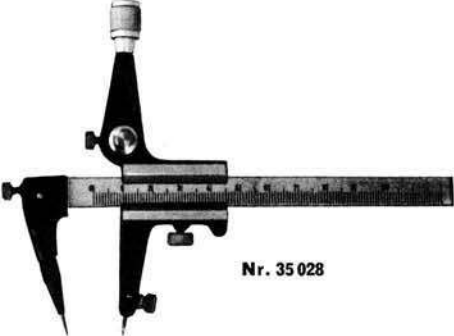

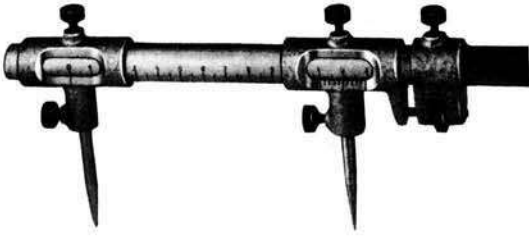

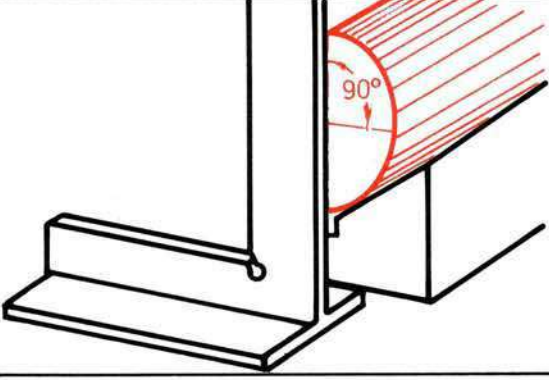
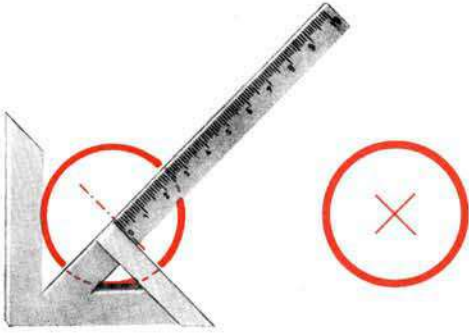


| | |
|--|---|
| | <p>_____ 1.1</p> <p>①</p> <p>② ③</p> <p>④</p> <p>⑤ ⑥ ⑨</p> <p>⑦ ⑧</p> |
| | <p>_____ 1.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 1.3</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p>_____ 1.4</p> |
| | <p>_____ 1.5</p> |



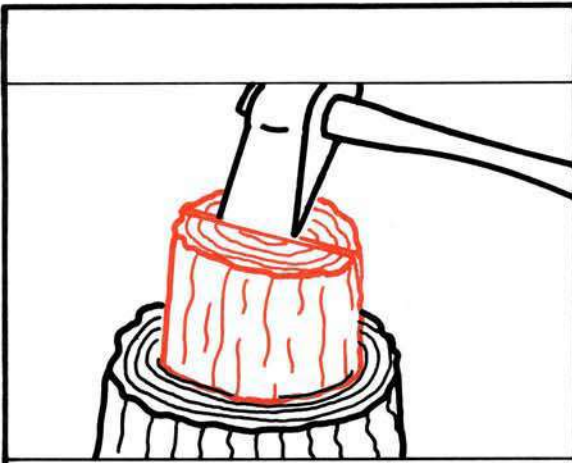
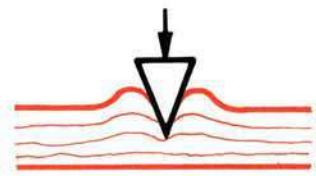
| | |
|--|------------|
| | <p>2.1</p> |
| | <p>2.2</p> |
| | <p>2.3</p> |
| | <p>2.4</p> |
| | <p>2.5</p> |



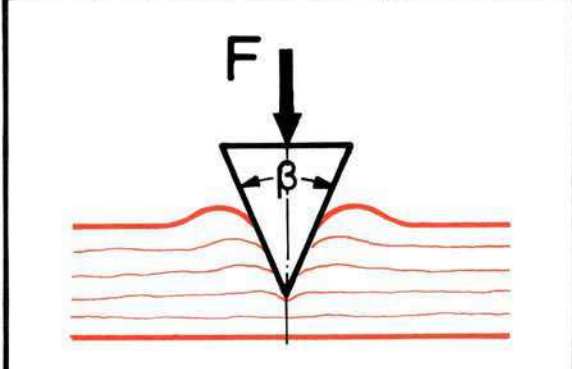
| | |
|---|--|
|   | <p>_____ 3.1</p> <p>①</p>  <p>②</p> |
|  <p>Nr. 35 028</p> | <p>_____ 3.2</p>  |
|  | <p>_____ 3.3</p>  |
|  | <p>_____ 3.4</p> |
|  | <p>_____ 3.5</p> |



| | |
|--|---|
| | <p style="text-align: right;">4.1</p> <p>_____</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p style="text-align: right;">4.2</p> <p>_____</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p style="text-align: right;">4.3</p> <p>_____</p> |
| | <p style="text-align: right;">4.4</p> <p>_____</p> |
| | <p style="text-align: right;">4.5</p> <p>_____</p> |

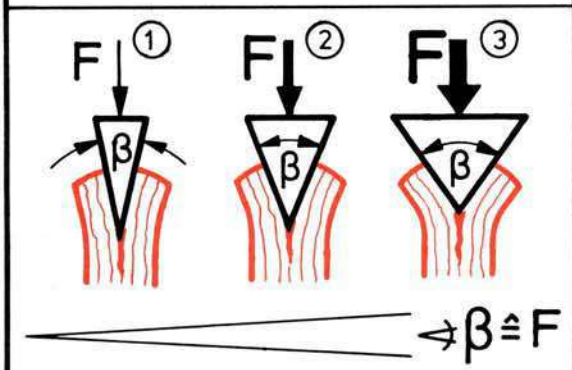


_____ 1.1



_____ 1.2

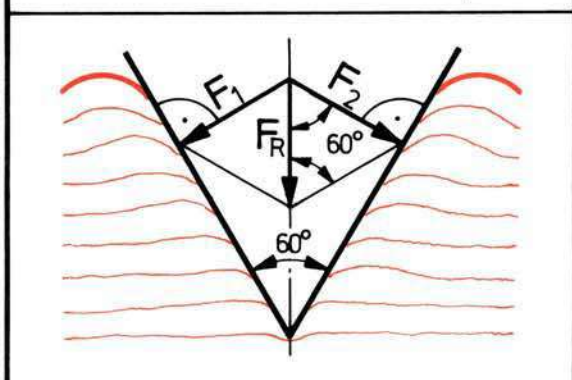
$F =$
 $\sphericalangle \beta =$



_____ 1.3

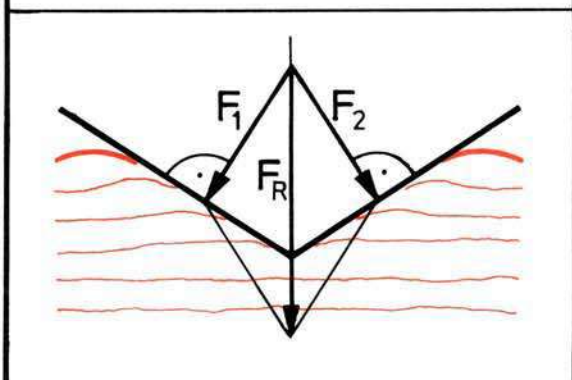
- ①
- ②
- ③

$\sphericalangle \beta \propto F$



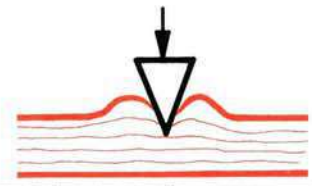
_____ 1.4

$F_1 = F_2$
 $\sphericalangle 60^\circ : F_R = F_1 = F_2$

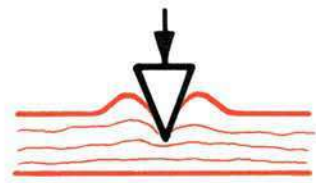


_____ 1.5

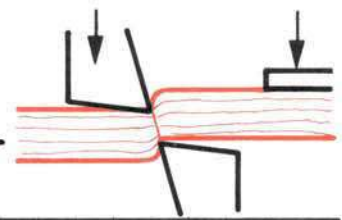
$F_1 = F_2 < F_R$



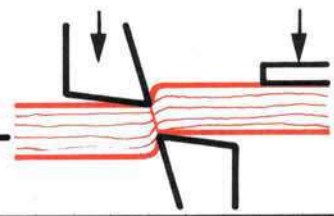
| | |
|--|---|
| | <p>_____ 2.1</p> |
| | <p>_____ 2.2</p> |
| | <p>_____ 2.3</p> |
| | <p>_____ 2.4</p> <p>① ②</p> |
| | <p>_____ 2.5</p> <p>① ② ③ ④</p> |



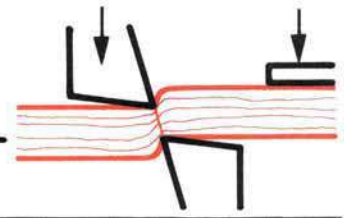
| | |
|--|--|
| | <p>_____ 3.1</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.2</p> <p>$F \cdot S = F \cdot S$</p> |
| | <p>_____ 3.3</p> |
| | <p>_____ 3.4</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.5</p> <p>①</p> <p>②</p> |



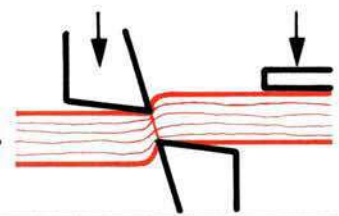
| | |
|--|---|
| | <p>_____ 1.1</p> <p>$\sphericalangle \alpha = 2 \dots 4^\circ =$</p> <p>$\sphericalangle \beta = 75 \dots 82^\circ =$</p> <p>$\sphericalangle \gamma = 5 \dots 13^\circ =$</p> |
| | <p>_____ 1.2</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p>_____ 1.3</p> |
| | <p>_____ 1.4</p> |
| | <p>_____ 1.5</p> |



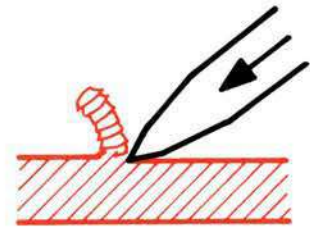
| | |
|--|------------------------------------|
| | <p>_____ 2.1</p> |
| | <p>_____ 2.2</p> |
| | <p>_____ 2.3</p> |
| | <p>_____ 2.4</p> <p>①</p> <p>②</p> |
| | <p>_____ 2.5</p> |



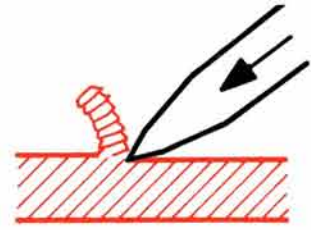
| | |
|--|------------------------------------|
| | <p>_____ 3.1</p> |
| | <p>_____ 3.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.3</p> |
| | <p>_____ 3.4</p> |
| | <p>_____ 3.5</p> |



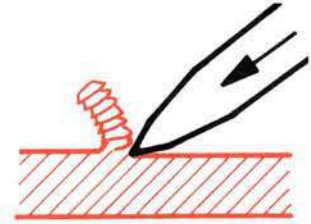
| | |
|--|---|
| | <p>_____ 4.1</p> |
| | <p>_____ 4.2</p> |
| | <p>_____ 4.3</p> |
| | <p>_____ 4.4</p> <ul style="list-style-type: none"> ① ② ③ ④ ⑤ ⑥ |
| | <p>_____ 4.5</p> |



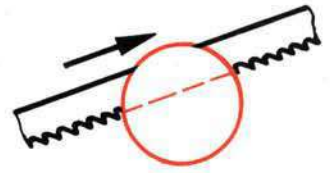
| | |
|--|---|
| | <p>_____ 1.1</p> |
| | <p>_____ 1.2</p> |
| | <p>_____ 1.3</p> |
| | <p>_____ 1.4</p> <p>① ② ③ ④ ⑤ ⑥ ⑦</p> |





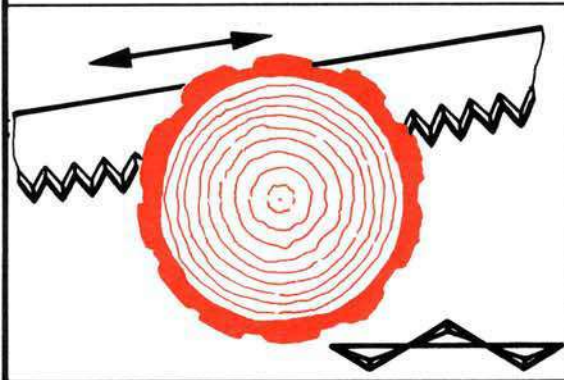
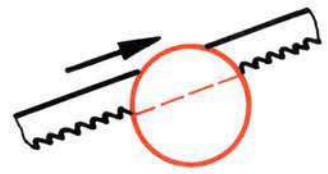
| | |
|--|---|
| | <p>_____ 2.1</p> <p>① _____</p> <p>② _____</p> <p>$\Delta \alpha =$ _____</p> <p>$\Delta \beta =$ _____</p> <p>$\Delta \gamma =$ _____</p> |
| | <p>_____ 2.2</p> <p>① _____</p> <p>② _____</p> <p>$\Delta \alpha =$ _____</p> <p>$\Delta \beta =$ _____</p> <p>$\Delta \gamma =$ _____</p> |
| | <p>_____ 2.3</p> |
| | <p>_____ 2.4</p> |
| | <p>_____ 2.5</p> |



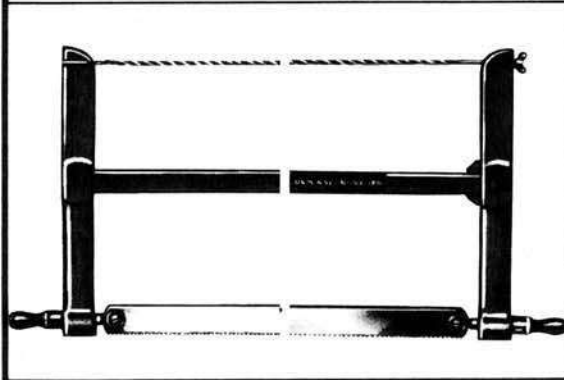
| | |
|--|------------|
| | <p>3.1</p> |
| | <p>3.2</p> |
| | <p>3.3</p> |
| | <p>3.4</p> |
| | <p>3.5</p> |



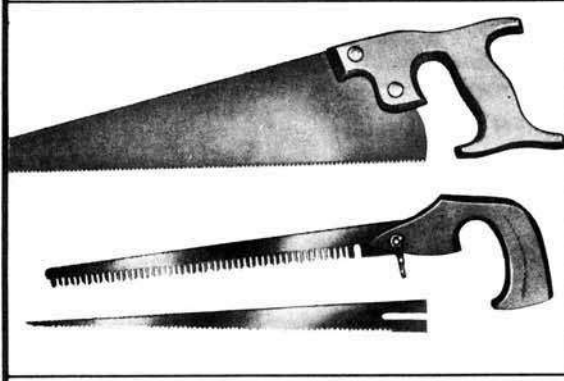
| | |
|--|--|
| | <p>_____ 1.1</p> |
| | <p>_____ 1.2</p> |
| | <p>_____ 1.3</p> |
| | <p>_____ 1.4</p>  |
| | <p>_____ 1.5</p>  |



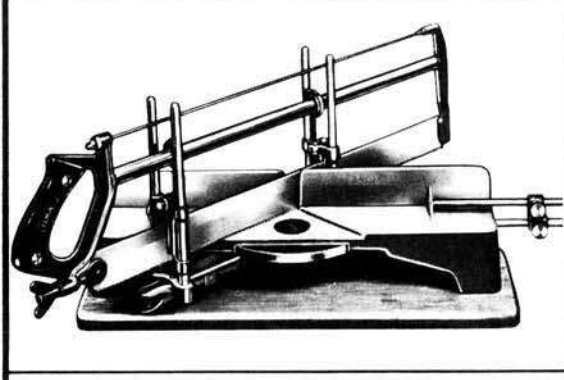
2.1



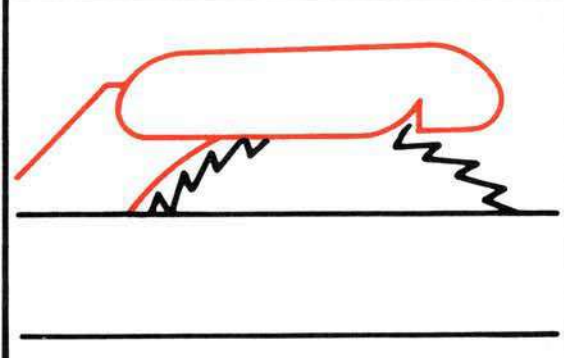
2.2



2.3

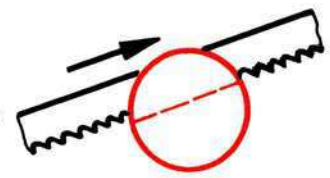


2.4

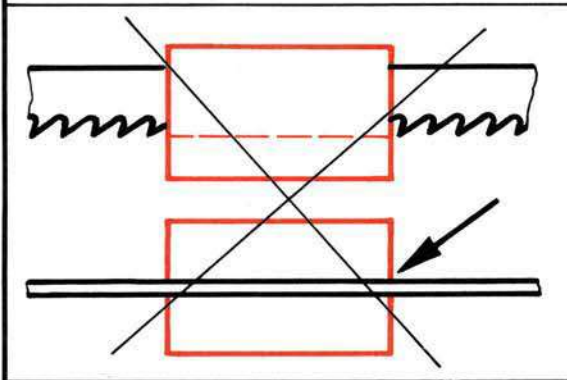
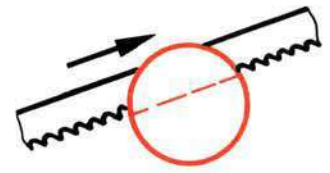


2.5

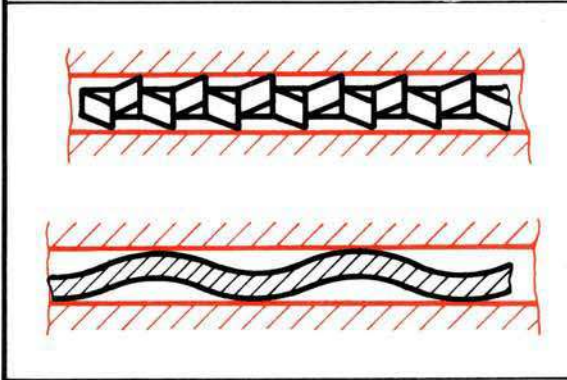




| | |
|--|---|
| | <p>_____ 3.1</p> <p>$\sphericalangle \alpha = 30^\circ$ $\sphericalangle \beta = 50^\circ$ $\sphericalangle \gamma = 10^\circ$</p> |
| | <p>_____ 3.2</p> <p>$\sphericalangle \alpha = 40^\circ$ $\sphericalangle \beta = 50^\circ$ $\sphericalangle \gamma = 0^\circ$</p> |
| | <p>_____ 3.3</p> |
| | <p>_____ 3.4</p> |
| | <p>_____ 3.5</p> |



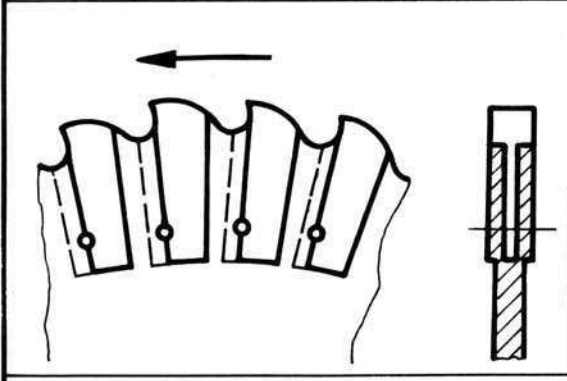
4.1



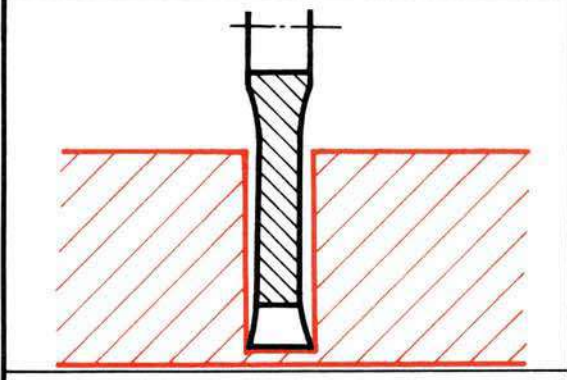
4.2

①

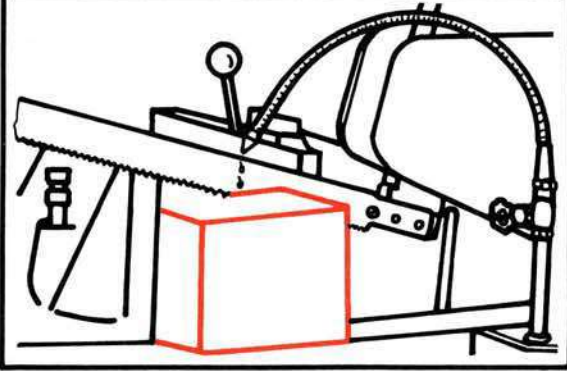
②



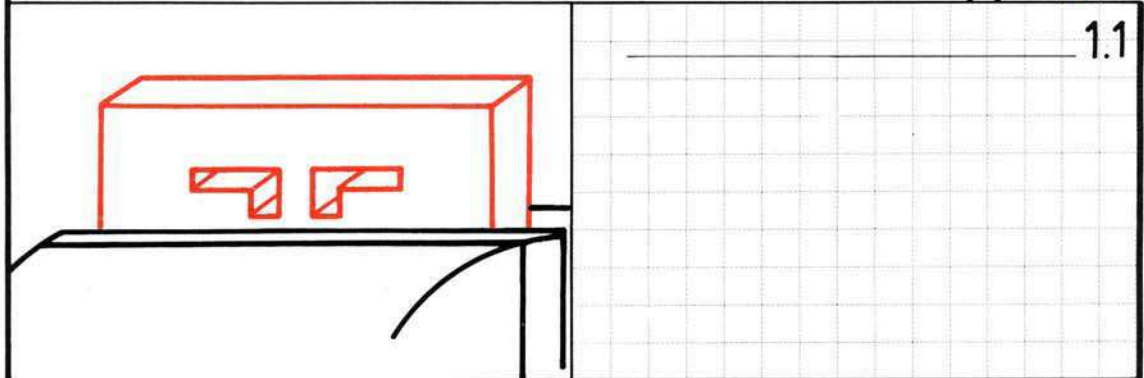
4.3



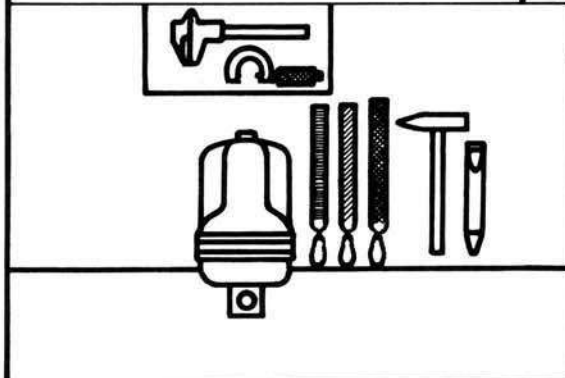
4.4



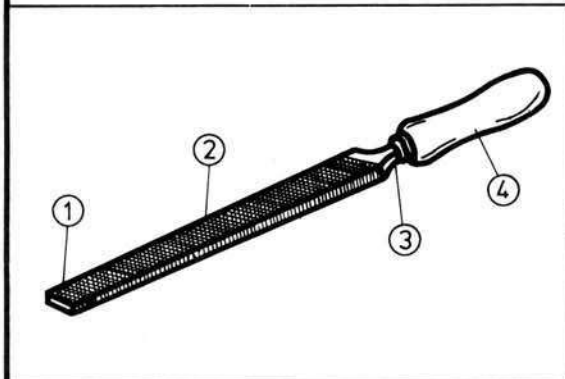
4.5



1.1

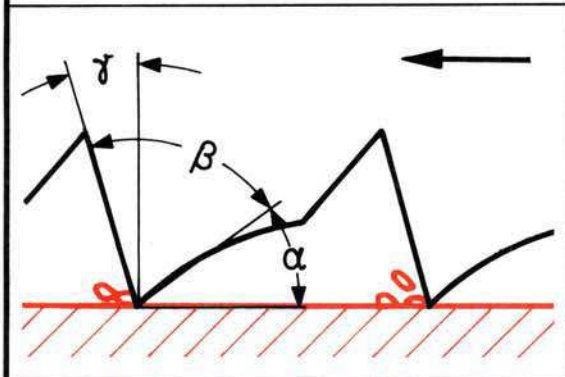


1.2



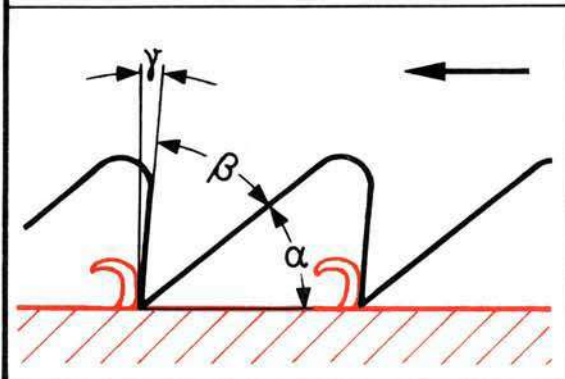
1.3

- ①
- ②
- ③
- ④



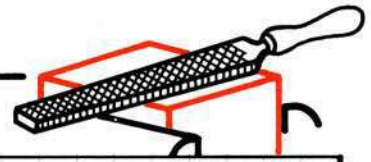
1.4

- ↔ α
- ↔ β
- ↔ γ



1.5

- ↔ α
- ↔ β
- ↔ γ



2.1

①
②
③

2.2

①
②






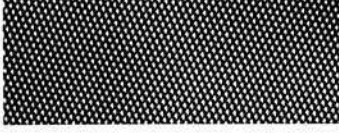









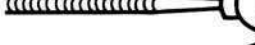








2.3

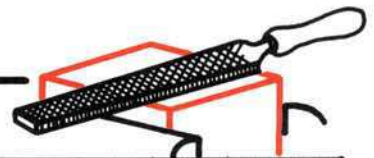
①
②

2.4

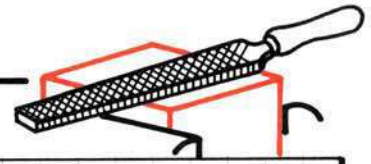
2.5



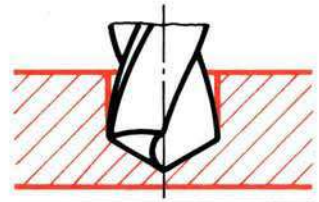
| | |
|---|--|
| | |
|  1  2 | _____ 3.1 1 2 |
|  3  4 | _____ 3.2 3 4 |
|  5  6 | _____ 3.3 5 6 |
|  □  341  ◐  342  □  343  ▽  344  ○  345  ▽  346  ◇  347  ○  348  ▽  349 | _____ 3.4 341 342 343 344 345 346 347 348 349 |



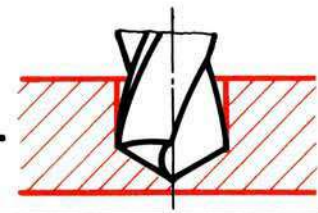
| | |
|--|------------|
| | <p>4.1</p> |
| | <p>4.2</p> |
| | <p>4.3</p> |
| | <p>4.4</p> |
| | <p>4.5</p> |



| | |
|--|------------|
| | <p>5.1</p> |
| | <p>5.2</p> |
| | <p>5.3</p> |
| | <p>5.4</p> |
| | <p>5.5</p> |



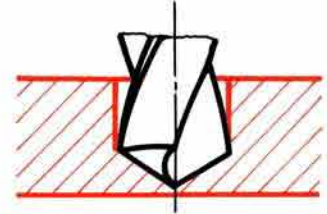
| | |
|--|------------------|
| | <p>_____ 1.1</p> |
| | <p>_____ 1.2</p> |
| | <p>_____ 1.3</p> |
| | <p>_____ 1.4</p> |
| | <p>_____ 1.5</p> |



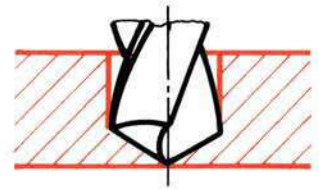
| | |
|--|--|
| | <p style="text-align: right;">2.1</p> <p>① ② ③ ④ ⑤ ⑥ ⑦</p> |
| | <p style="text-align: right;">2.2</p> <p>① ② $\sphericalangle \phi$ ③ ④ ⑤ ⑥ ⑦</p> |
| | <p style="text-align: right;">2.3</p> <p>$\sphericalangle \alpha =$ $\sphericalangle \beta =$ $\sphericalangle \gamma =$</p> |
| | <p style="text-align: right;">2.4</p> <p>N - $\sphericalangle \gamma$ W - $\sphericalangle \gamma$ H - $\sphericalangle \gamma$</p> |
| | <p style="text-align: right;">2.5</p> <p>$\sphericalangle \phi$ N 118° 130° 140° W 118° 140° 80° H 118° 140°</p> |



| | |
|--|---|
| | <p>_____ 3.1</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.2</p> <p>①</p> <p>②</p> <p>⚠</p> |
| | <p>_____ 3.3</p> <p>⚠</p> |
| | <p>_____ 3.4</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p>_____ 3.5</p> <p>①</p> <p>②</p> <p>③</p> |



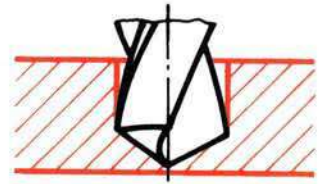
| | |
|--|--|
| | <p>_____ 4.1</p> <p>①</p> <p>②</p> <p>① + ② =</p> |
| | <p>_____ 4.2</p> <p></p> <p>①</p> <p>②</p> <p>③</p> <p>④</p> <p>⑤</p> <p>⑥</p> |
| | <p>_____ 4.3</p> <p></p> |
| | <p>_____ 4.4</p> <p></p> |
| | <p>_____ 4.5</p> <p></p> |



| | |
|--|---|
| | <p>_____ 5.1</p> <p>① _____</p> <p>② _____</p> |
| | <p>_____ 5.2</p> |
| | <p>_____ 5.3</p> <p>① _____</p> <p>② _____</p> |
| | <p>_____ 5.4</p> <p>① _____</p> <p>② _____</p> <p>③ _____</p> |
| | <p>_____ 5.5</p> <p>v - _____</p> <p>a - _____</p> <p>s - _____</p> |



| | |
|--|---|
| | <p>_____ 6.1</p> <p>$\Delta = 60^\circ, 75^\circ, 90^\circ, 120^\circ$</p> |
| | <p>_____ 6.2</p> |
| | <p>_____ 6.3</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p>_____ 6.4</p> |
| | <p>_____ 6.5</p> |



| | |
|--|------------------------------|
| | <p>7.1</p> |
| | <p>7.2</p> |
| | <p>7.3</p> |
| | <p>7.4</p> <p>①</p> <p>②</p> |
| | <p>7.5</p> |



8.1

①

②

8.2

8.3

8.4

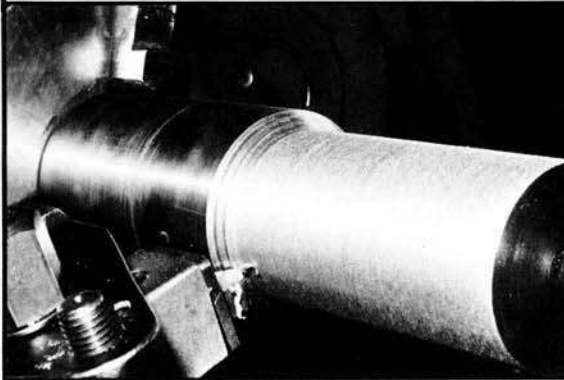
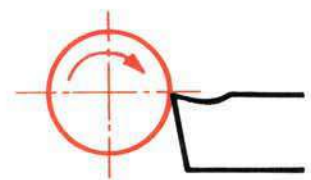
8.5



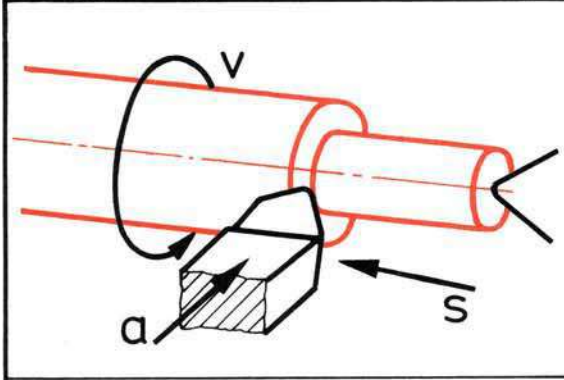
| | |
|--|--|
| | <p>_____ 9.1</p> <p>$\sphericalangle \alpha =$</p> <p>$\sphericalangle \beta =$</p> <p>$\sphericalangle \gamma =$</p> |
| | <p>_____ 9.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 9.3</p> <p>⚠</p> <p>①</p> <p>②</p> |
| | <p>_____ 9.4</p> |
| | <p>_____ 9.5</p> |



| | |
|--|---|
| | <p style="text-align: right;">10.1</p> |
| | <p style="text-align: right;">10.2</p> |
| | <p style="text-align: right;">10.31</p> |
| | <p style="text-align: right;">10.32</p> <p>①</p> <p>②</p> |
| | <p style="text-align: right;">10.4</p> <p>①</p> <p>②</p> |
| | <p style="text-align: right;">10.5</p> <p>①</p> <p>②</p> |

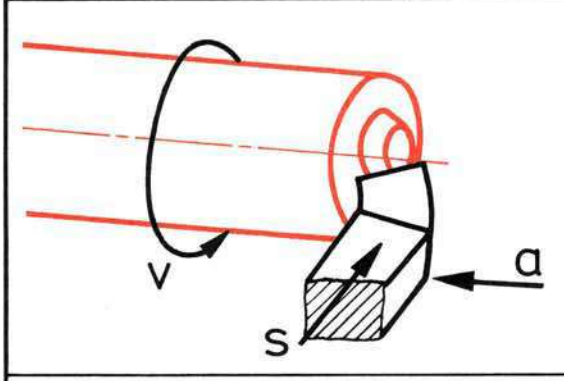


_____ 1.1



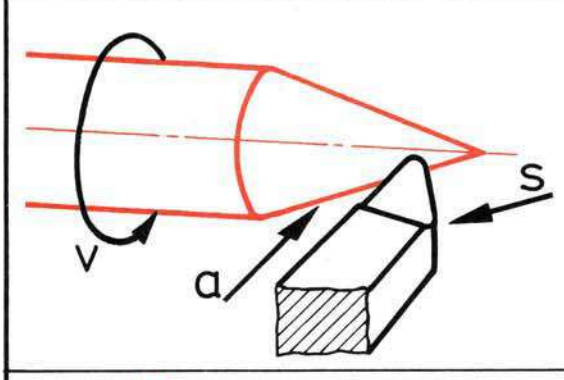
_____ 1.2

v -
alpha -
s -



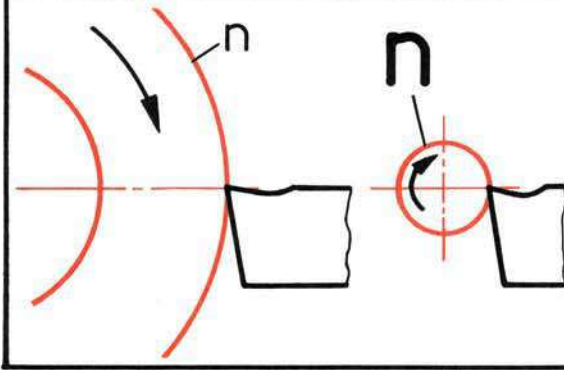
_____ 1.3

v -
alpha -
s -

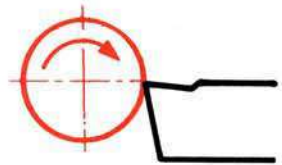


_____ 1.4

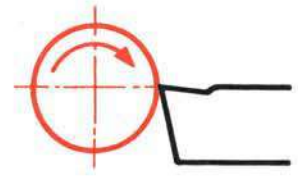
v -
alpha -
s -



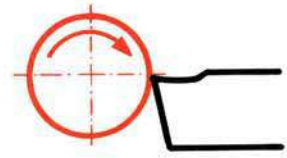
_____ 1.5



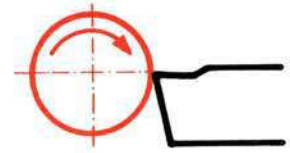
| | |
|--|--|
| | <p style="text-align: right;">2.1</p> <p> $\Delta \alpha =$ $\Delta \beta =$ $\Delta \gamma =$ </p> |
| | <p style="text-align: right;">2.2</p> |
| | <p style="text-align: right;">2.3</p> |
| | <p style="text-align: right;">2.4</p> |
| | <p style="text-align: right;">2.5</p> <p> ① ② </p> |



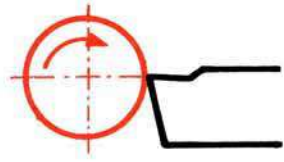
| | |
|--|--|
| | <p>_____ 3.1</p> <p>①</p> <p>②</p> <p>③</p> <p>④</p> <p>⑤</p> |
| | <p>_____ 3.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.3</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.4</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p>_____ 3.5</p> <p>①</p> <p>②</p> <p>③</p> <p>④</p> <p>⑤</p> <p>⑥</p> |



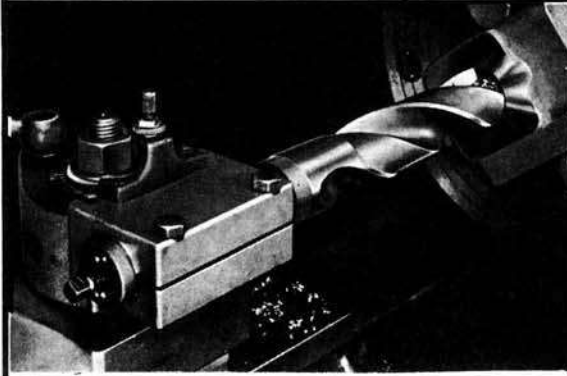
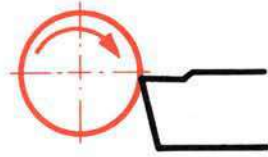
| | |
|---|---|
| | <p style="text-align: right;">4.1</p> <p>$\sphericalangle \alpha =$</p> <p>$\sphericalangle \beta =$</p> <p>$\sphericalangle \gamma =$</p> |
| | <p style="text-align: right;">4.2</p> <p>$\sphericalangle \alpha =$</p> <p>$\sphericalangle \beta =$</p> <p>$\sphericalangle \gamma =$</p> |
| | <p style="text-align: right;">4.3</p> <p>$x_1 =$</p> <p>$x_2 =$</p> |
| | <p style="text-align: right;">4.4</p> <p>$\epsilon =$</p> <p>$\chi =$</p> |
| <p style="text-align: center;">$a \cdot s_1 = a \cdot s_2$</p> | <p style="text-align: right;">4.5</p> |



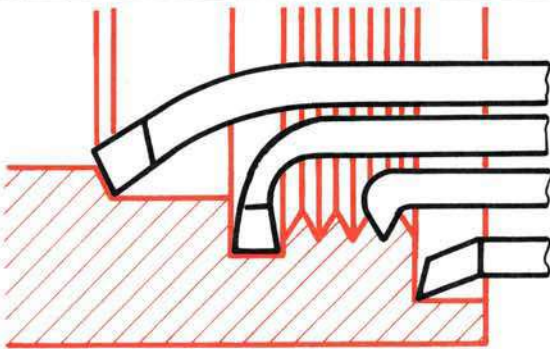
| | |
|--|---|
| | <p>_____ 5.1</p> <p>① ② ③ ④ ⑤</p> |
| | <p>_____ 5.2</p> <p>① ② ③</p> |
| | <p>_____ 5.3</p> <p>① ② ③</p> |
| | <p>_____ 5.4</p> |
| | <p>_____ 5.5</p> |



| | |
|---------------------------------|------------------|
| <p>① ②</p> | <p>_____ 5.1</p> |
| <p>③ ④</p> | <p>_____ 5.2</p> |
| <p>⑤ ⑥</p> | <p>_____ 5.3</p> |
| | <p>_____ 5.4</p> |
| | <p>_____ 5.5</p> |

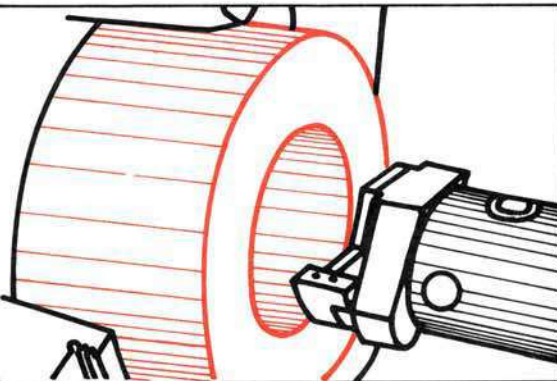


6.1

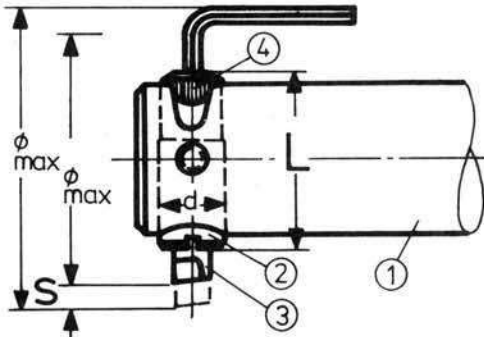


6.2

- ①
- ②
- ③
- ④

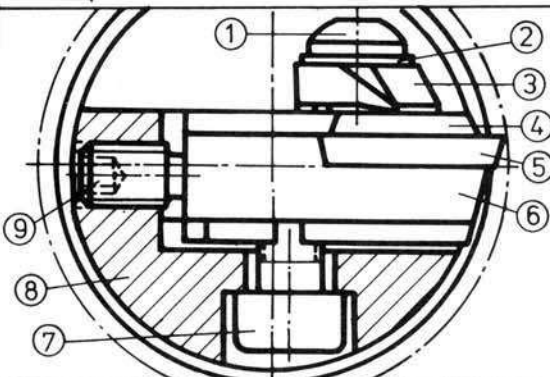


6.3



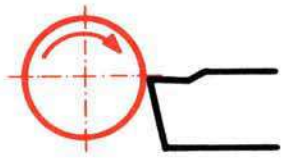
6.4

- ①
- ②
- ③
- ④

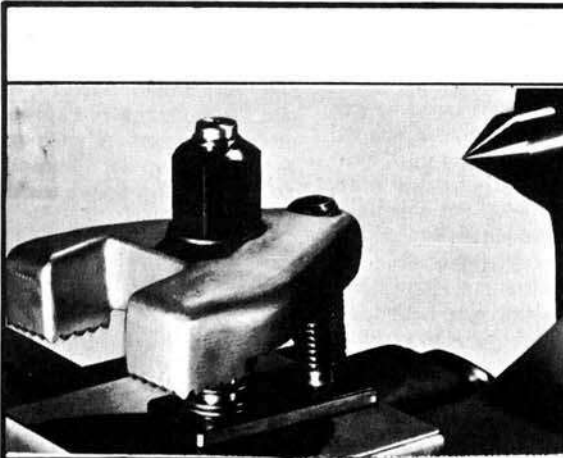
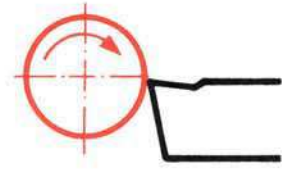


6.5

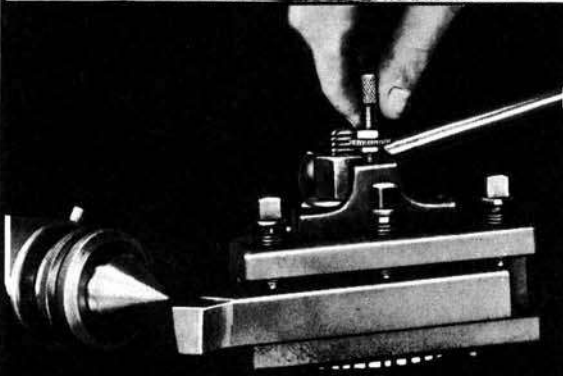
- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨



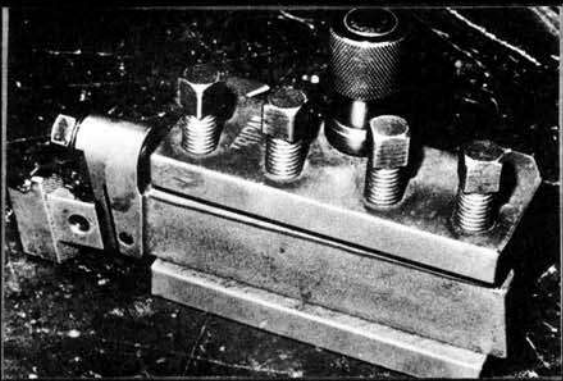
| | |
|--|------------|
| | <p>7.1</p> |
| | <p>7.2</p> |
| | <p>7.3</p> |
| | <p>7.4</p> |
| | <p>7.5</p> |



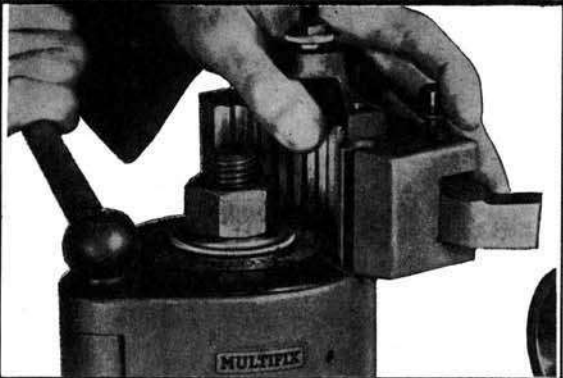
8.1



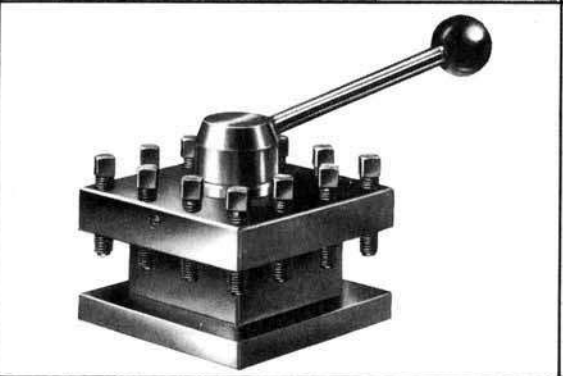
8.2



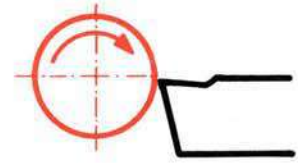
8.3

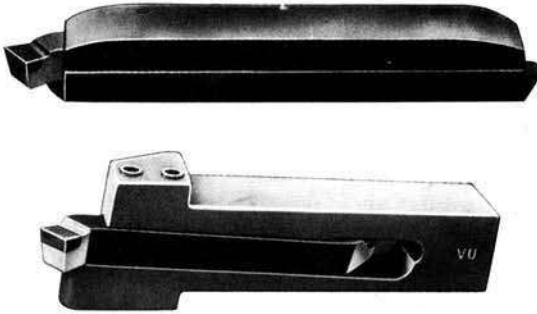
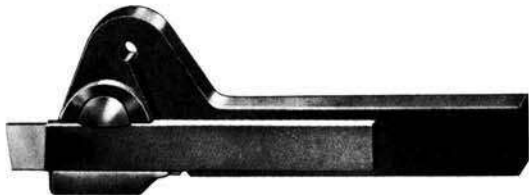
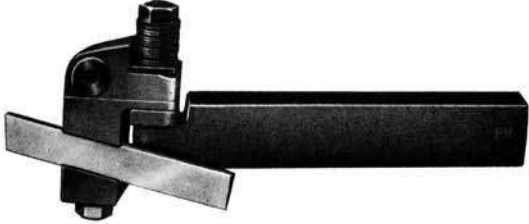
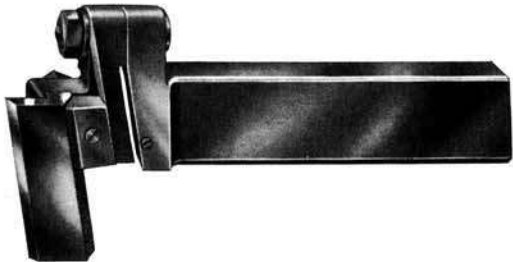
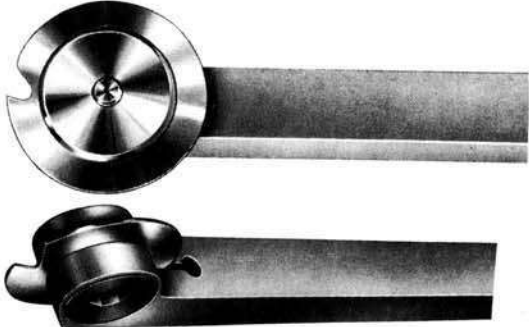


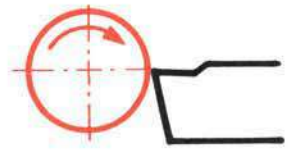
8.4




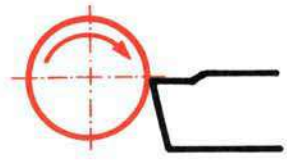
8.5



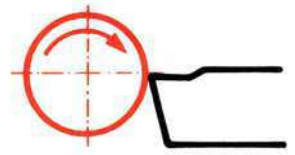
| | |
|---|------------------|
|  | <p>_____ 9.1</p> |
|  | <p>_____ 9.2</p> |
|  | <p>_____ 9.3</p> |
|  | <p>_____ 9.4</p> |
|  | <p>_____ 9.5</p> |

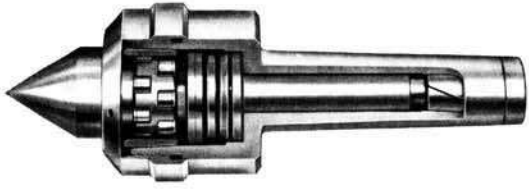
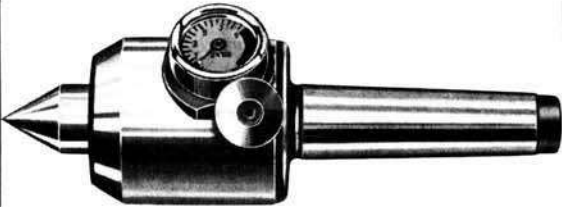
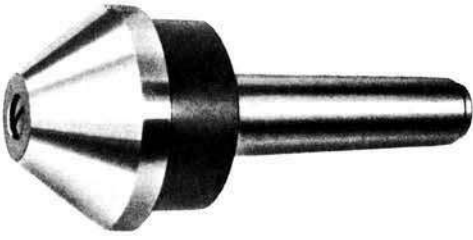
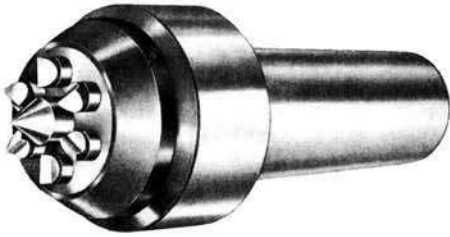




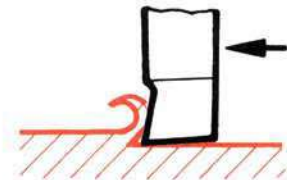
| | |
|--|--|
| | <p>10.1</p> |
| | <p>10.2</p> |
| | <p>10.3</p> |
| | <p>10.4</p>  |
| | <p>10.5</p> <ul style="list-style-type: none"> ① ② ③ ④ ④.1 ④.2 |



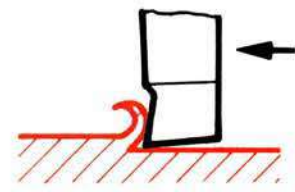
| | |
|--|-------------|
| | <p>10.1</p> |
| | <p>10.2</p> |
| | <p>10.3</p> |
| | <p>10.4</p> |
| | <p>10.5</p> |



| | |
|---|---|
|  | <p>_____ 11.1</p> |
|  | <p>_____ 11.2</p> |
|  | <p>_____ 11.3</p> |
|  | <p>_____ 11.4</p> |
|  | <p>_____ 11.5</p>  |

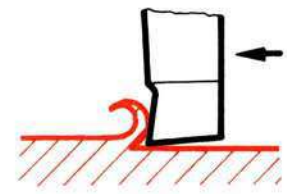


| | |
|--|------------------|
| | <p>_____ 1.1</p> |
| | <p>_____ 1.2</p> |
| | <p>_____ 1.3</p> |
| | <p>_____ 1.4</p> |
| | <p>_____ 1.5</p> |

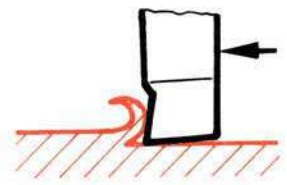


2

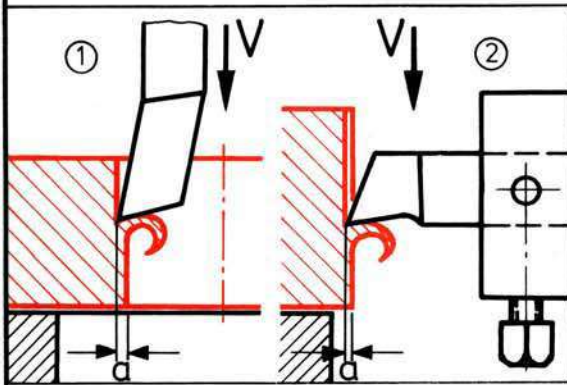
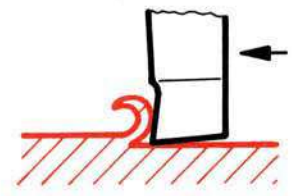
| | |
|--|---|
| | <p>_____ 2.1</p> |
| | <p>_____ 2.2</p> |
| | <p>_____ 2.3</p> |
| | <p>_____ 2.4</p> <p>① ② ③ ④</p> |
| | <p>_____ 2.5</p> <p>① ② ③</p> |



| | |
|--|------------------------------------|
| | <p>_____ 3.1</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.3</p> |
| | <p>_____ 3.4</p> |
| | <p>_____ 3.5</p> |



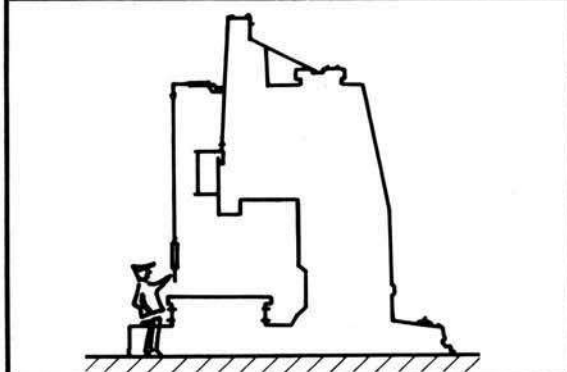
| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| | <p>_____ 4.1</p> <table border="0"> <tr> <td>①</td> <td>⑦</td> </tr> <tr> <td>②</td> <td>⑧</td> </tr> <tr> <td>③</td> <td>M</td> </tr> <tr> <td>④</td> <td>V</td> </tr> <tr> <td>⑤</td> <td>S</td> </tr> <tr> <td>⑥</td> <td></td> </tr> </table> | ① | ⑦ | ② | ⑧ | ③ | M | ④ | V | ⑤ | S | ⑥ | |
| ① | ⑦ | | | | | | | | | | | | |
| ② | ⑧ | | | | | | | | | | | | |
| ③ | M | | | | | | | | | | | | |
| ④ | V | | | | | | | | | | | | |
| ⑤ | S | | | | | | | | | | | | |
| ⑥ | | | | | | | | | | | | | |
| | <p>_____ 4.2</p> <p>①</p> <p>②</p> | | | | | | | | | | | | |
| | <p>_____ 4.3</p> | | | | | | | | | | | | |
| | <p>_____ 4.4</p> <p>①</p> <p>②</p> | | | | | | | | | | | | |
| | <p>_____ 4.5</p> | | | | | | | | | | | | |



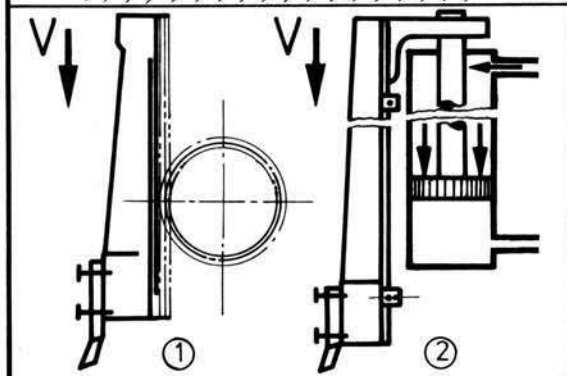
_____ 5.1

①

②



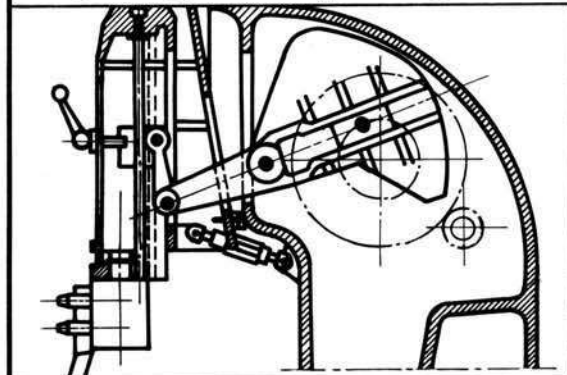
_____ 5.2



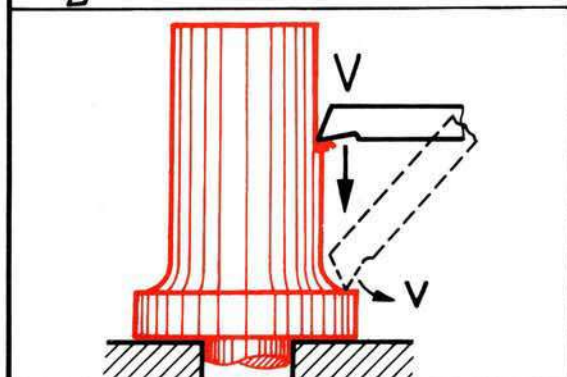
_____ 5.3

①

②



_____ 5.4



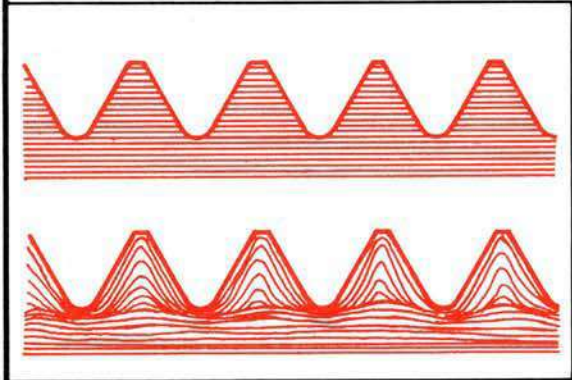
_____ 5.5



| | |
|---|---|
| | <p style="text-align: right;">1.1</p> <p>d =</p> <p>$d \cdot \pi =$</p> <p>P =</p> <p>$\sphericalangle \alpha =$</p> |
| | <p style="text-align: right;">DIN(M) 1.2</p> <p>d =</p> <p>P =</p> <p>$t_1 = 0,6495 \cdot P \approx 0,1 \cdot d =$</p> <p>$d_2 = d - 0,6495 \cdot P =$</p> <p>$d_1 = d - 1,299 \cdot P \approx 0,8 \cdot d =$</p> <p>$\sphericalangle 60^\circ =$</p> |
| | <p style="text-align: right;">ISO(M) 1.3</p> <p>d = D =</p> <p>P =</p> <p>d₃ =</p> <p>D₁ =</p> <p>d₂ = D₂ =</p> <p>$\sphericalangle 60^\circ =$</p> |
| | <p style="text-align: right;">Whitworth(") 1.4</p> <p>d = D =</p> <p>P =</p> <p>d₁ =</p> <p>d₂ =</p> <p>$\sphericalangle 55^\circ =$</p> <p>z =</p> |
| <p style="text-align: center;">$1'' = 25.4 \text{ mm}$</p> | <p style="text-align: right;">1.5</p> <p>1" =</p> <p>R 1" =</p> <p>1/2" =</p> <p>R 1/2" =</p> <p>3/4" =</p> <p>R 3/4" =</p> |



| | |
|--|--|
| | <p style="text-align: right;">_____ 2.1</p> <p>① M 16 = 1" =</p> <p>② M 16 x 1 = W 24 x $\frac{1}{10}$" =</p> <p>M 2 x 0,25 =</p> <p>M 50 x 1,5 =</p> |
| | <p style="text-align: right;">_____ 2.2</p> <p>①</p> <p>②</p> <p>③</p> <p>④</p> |
| | <p style="text-align: right;">_____ 2.3</p> <p>①</p> <p>②</p> |
| | <p style="text-align: right;">_____ 2.4</p> <p>①</p> <p>②</p> |
| | <p style="text-align: right;">_____ 2.5</p> <p>①</p> <p>②</p> <p>③</p> |



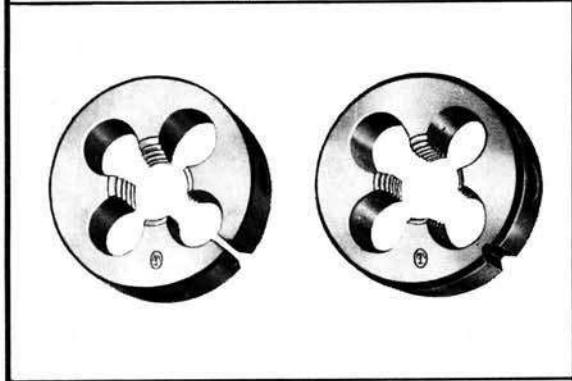
_____ 3.1

①

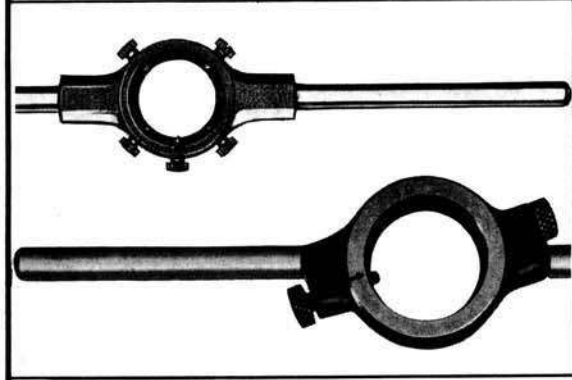
②



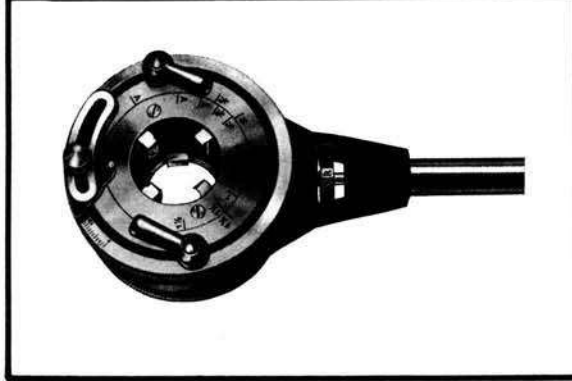
_____ 3.2



_____ 3.3



_____ 3.4



_____ 3.5



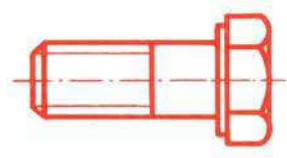
| | |
|--|--|
| | <p style="text-align: right;">4.1</p> <p>① _____</p> <p>② _____</p> |
| | <p style="text-align: right;">4.2</p> <p>① _____</p> <p>② _____</p> <p>③ _____</p> |
| | <p style="text-align: right;">4.3</p> <p>① _____</p> <p>② _____</p> <p>③ _____</p> |
| | <p style="text-align: right;">4.4</p> <p>① _____</p> <p>② _____</p> |
| | <p style="text-align: right;">4.5</p> <p>① _____</p> <p>② _____</p> <p>③ _____</p> |



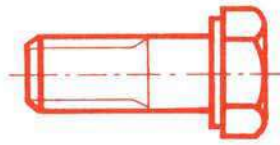
| | |
|--|------------|
| | <p>5.1</p> |
| | <p>5.2</p> |
| | <p>5.3</p> |
| | <p>5.4</p> |
| | <p>5.5</p> |



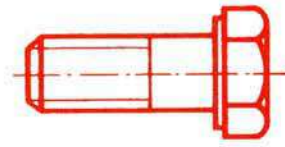
| | |
|--|------------------|
| | <p>_____ 6.1</p> |
| | <p>_____ 6.2</p> |
| | <p>_____ 6.3</p> |
| | <p>_____ 6.4</p> |
| | <p>_____ 6.5</p> |



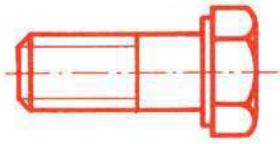
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|--|--|--|--|--|--|--|--|---|---|---|---|
| | <p style="text-align: right;">_____ 1.1</p> <p>① ② ③ ④ ⑤</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">M 16 x 50 DIN 931-6.8</p> | <p style="text-align: right;">_____ 1.2</p> <p>① ② M 16 — 50 — DIN 931- 6. .8</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td>4A</td> <td>4D</td> <td>4S</td> <td>5D</td> <td>5S</td> <td>6D</td> <td>6S</td> <td>6G</td> <td>8G</td> <td>10K</td> <td>12K</td> <td>-</td> </tr> <tr> <td>3.6</td> <td>4.6</td> <td>4.8</td> <td>5.6</td> <td>5.8</td> <td>6.6</td> <td>6.8</td> <td>6.9</td> <td>8.8</td> <td>10.9</td> <td>12.9</td> <td>14.9</td> </tr> <tr> <td colspan="8"></td> <td>☒</td> <td>□</td> <td>▬</td> <td>⊞</td> </tr> </table> | | 4A | 4D | 4S | 5D | 5S | 6D | 6S | 6G | 8G | 10K | 12K | - | 3.6 | 4.6 | 4.8 | 5.6 | 5.8 | 6.6 | 6.8 | 6.9 | 8.8 | 10.9 | 12.9 | 14.9 | | | | | | | | | ☒ | □ | ▬ | ⊞ |
| 4A | 4D | 4S | 5D | 5S | 6D | 6S | 6G | 8G | 10K | 12K | - | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6 | 4.6 | 4.8 | 5.6 | 5.8 | 6.6 | 6.8 | 6.9 | 8.8 | 10.9 | 12.9 | 14.9 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | ☒ | □ | ▬ | ⊞ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p style="text-align: right;">_____ 1.4</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p style="text-align: right;">_____ 1.5</p> <p>① ②</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| | |
|--|--|
| | <p>_____ 2.1</p> <p>① ② ③ ④</p> |
| | <p>_____ 2.2</p> <p>① ② ③</p> <p>A B</p> |
| | <p>_____ 2.3</p> <p>① ② ③</p> <p>A B</p> |
| | <p>_____ 2.4</p> <p>① ②</p> <p>A J V</p> |
| | <p>_____ 2.5</p> <p>① ②</p> <p>A J V</p> |



| | |
|--|--|
| <p style="text-align: center;">① ②</p> | <p style="text-align: right;">_____ 3.1</p> <p>①</p> <p>②</p> |
| <p style="text-align: center;">DIN 93 DIN 432</p> | <p style="text-align: right;">_____ 3.2</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p style="text-align: right;">_____ 3.3</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p style="text-align: right;">_____ 3.4</p> <p>①</p> <p>②</p> <p>③</p> <p>④</p> |
| | <p style="text-align: right;">_____ 3.5</p> <p style="text-align: center;">⚠</p> |



4.1

①
②
③

4.2

①
②

4.3

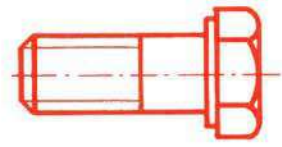
①
②
③
④

4.4

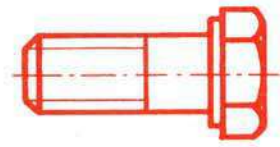
①
②
③

4.5

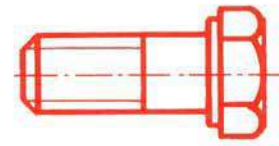
①
②
③


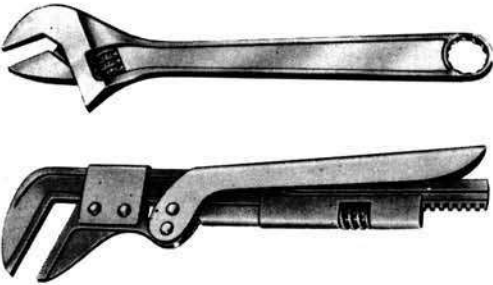

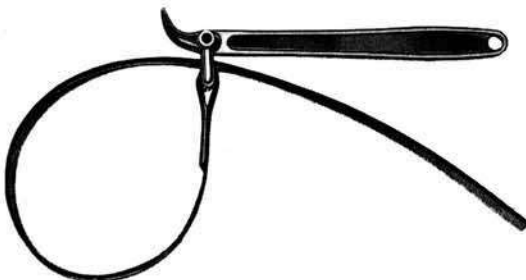



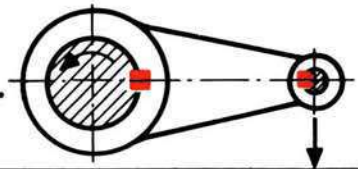
| | |
|--|--|
| <p style="text-align: center;">① ② ③</p> | <p style="text-align: right;">_____ 5.1</p> <p>①</p> <p>②</p> <p>③</p> |
| <p style="text-align: center;">① ② ③</p> | <p style="text-align: right;">_____ 5.2</p> <p>①</p> <p>②</p> <p>③</p> |
| <p style="text-align: center;">① ② ③</p> | <p style="text-align: right;">_____ 5.3</p> <p>①</p> <p>②</p> <p>③</p> |
| <p style="text-align: center;">①</p> <p style="text-align: center;">②</p> <p style="text-align: center;">③</p> | <p style="text-align: right;">_____ 5.4</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p style="text-align: right;">_____ 5.5</p> |



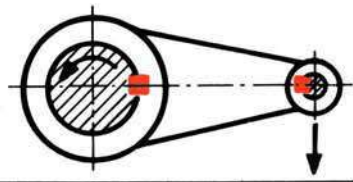
| | |
|--|------------------|
| | <p>_____ 6.1</p> |
| | <p>_____ 6.2</p> |
| | <p>_____ 6.3</p> |
| | <p>_____ 6.4</p> |
| | <p>_____ 6.5</p> |



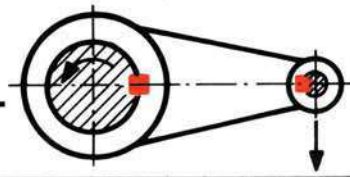
| | |
|---|------------------|
|  | <p>_____ 7.1</p> |
|  | <p>_____ 7.2</p> |
|  | <p>_____ 7.3</p> |
|  | <p>_____ 7.4</p> |
|  | <p>_____ 7.5</p> |



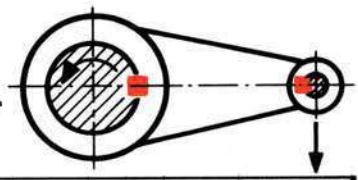
| | |
|--|------------------------------------|
| | <p>_____ 1.1</p> <p>①</p> <p>②</p> |
| | <p>_____ 1.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 1.3</p> |
| | <p>_____ 1.4</p> |
| | <p>_____ 1.5</p> |



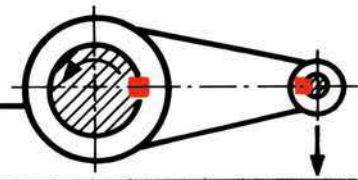
| | |
|--|------------------------------------|
| | <p>_____ 2.1</p> |
| | <p>_____ 2.2</p> |
| | <p>_____ 2.3</p> <p>①</p> <p>②</p> |
| | <p>_____ 2.4</p> |
| | <p>_____ 2.5</p> |



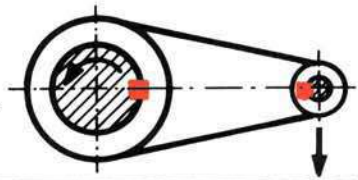
| | |
|--|---|
| <p style="text-align: center;">① ②</p> <p style="text-align: center;">1 : 100</p> | <p style="text-align: right;">_____ 3.1</p> <p>① _____</p> <p>② _____</p> |
| | <p style="text-align: right;">_____ 3.2</p> |
| | <p style="text-align: right;">_____ 3.3</p> |
| <p style="text-align: center;">① ②</p> | <p style="text-align: right;">_____ 3.4</p> <p>① _____</p> <p>② _____</p> |
| | <p style="text-align: right;">_____ 3.5</p> |



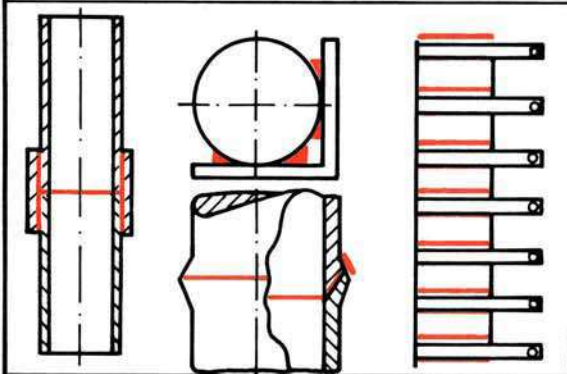
| | |
|--|------------------|
| | <p>_____ 4.1</p> |
| | <p>_____ 4.2</p> |
| | <p>_____ 4.3</p> |
| | <p>_____ 4.4</p> |
| | <p>_____ 4.5</p> |



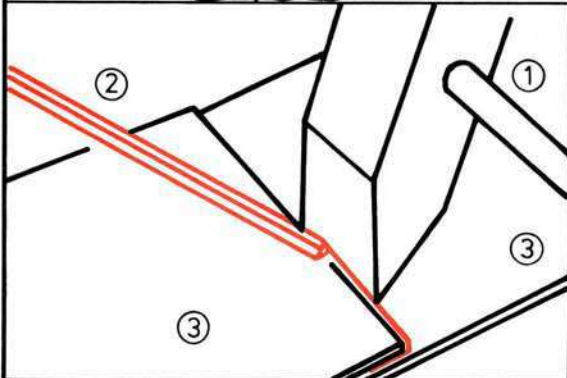
| | |
|--|---|
| | <p>_____ 5.1</p> <p>① ② ③ ④ ⑤</p> |
| | <p>_____ 5.2</p> <p>① ②</p> |
| | <p>_____ 5.3</p> |
| | <p>_____ 5.4</p> <p>① ②</p> |
| | <p>_____ 5.5</p> <p>① ②</p> |



| | |
|---------------------------------|------------------------------------|
| | <p>_____ 6.1</p> |
| <p>① ②</p> | <p>_____ 6.2</p> <p>①</p> <p>②</p> |
| <p>① ②</p> | <p>_____ 6.3</p> <p>①</p> <p>②</p> |
| <p>① ②</p> | <p>_____ 6.4</p> <p>①</p> <p>②</p> |
| <p>① ②</p> | <p>_____ 6.5</p> <p>①</p> <p>②</p> |

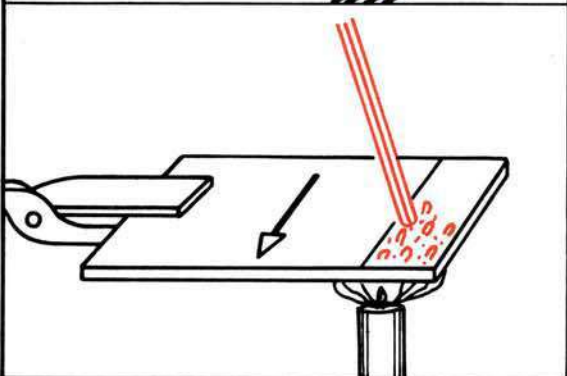


_____ 1.1

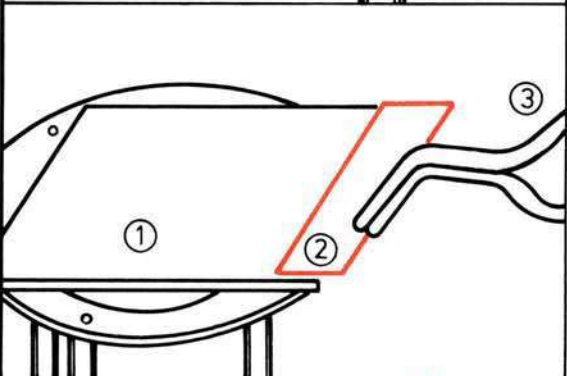


_____ 1.2

- ①
- ②
- ③

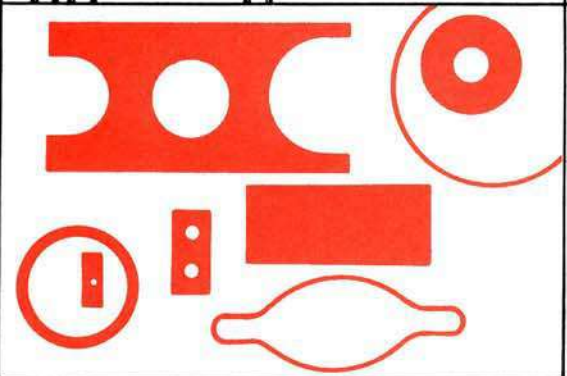


_____ 1.3

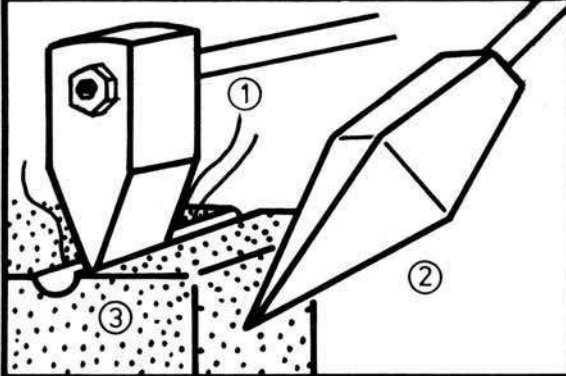
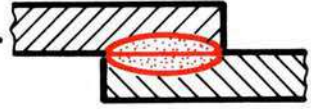


_____ 1.4

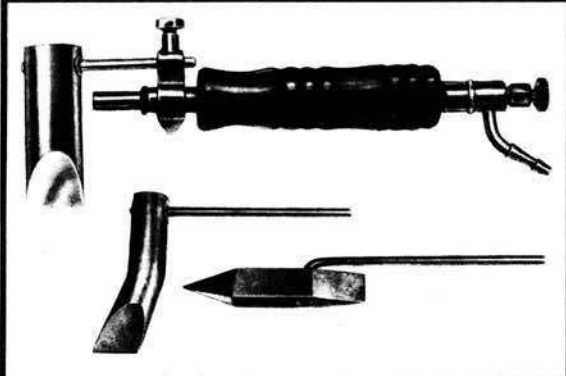
- ①
- ②
- ③



_____ 1.5



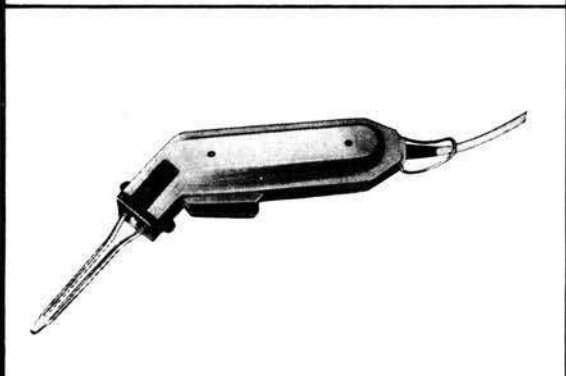
_____ 2.1
①
②
③



_____ 2.2



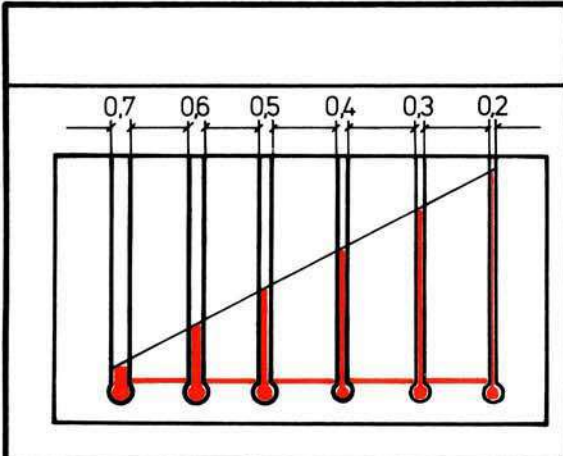
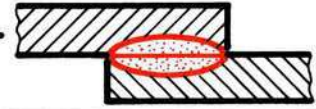
_____ 2.3



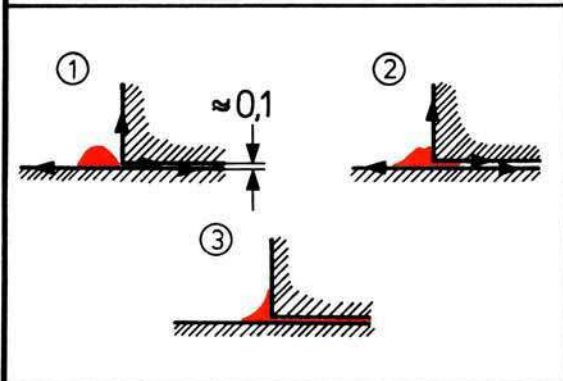
_____ 2.4



_____ 2.5

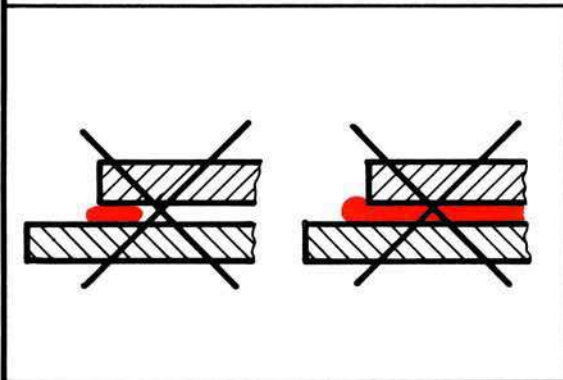


_____ 3.1

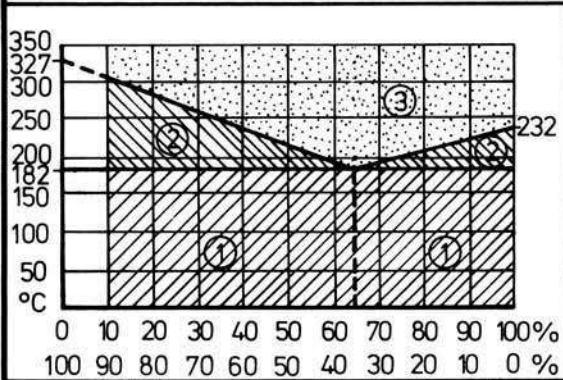


_____ 3.2

①
②
③

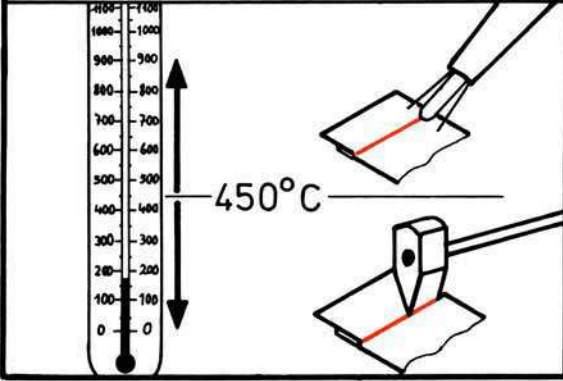


_____ 3.3



_____ 3.4

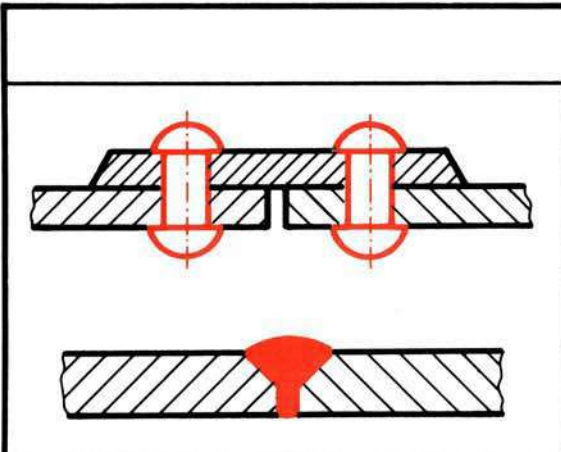
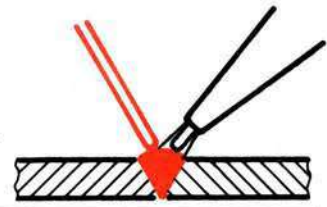
①
②
③



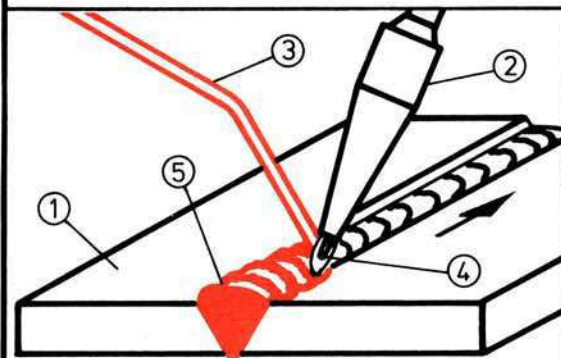
_____ 3.5

1080 °C —
945...1020 °C —
600...860 °C —
320 °C —
182...305 °C —
182 °C —

| | |
|--|------------------------------------|
| | <p>_____ 4.1</p> |
| | <p>_____ 4.2</p> |
| | <p>_____ 4.3</p> <p>①</p> <p>②</p> |
| | <p>_____ 4.4</p> <p>①</p> <p>②</p> |
| | <p>_____ 4.5</p> |

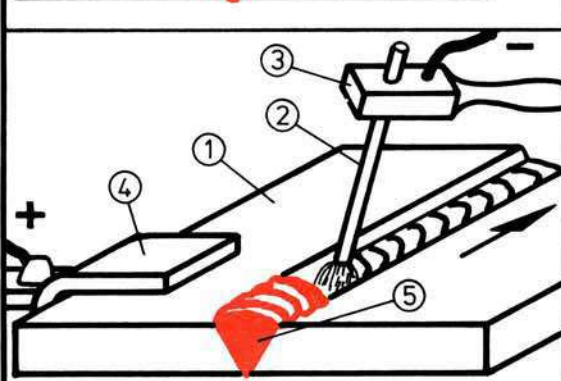


_____ 1.1



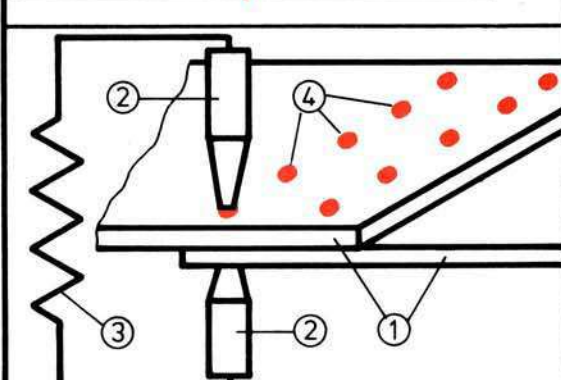
_____ 1.2

①
②
③
④
⑤



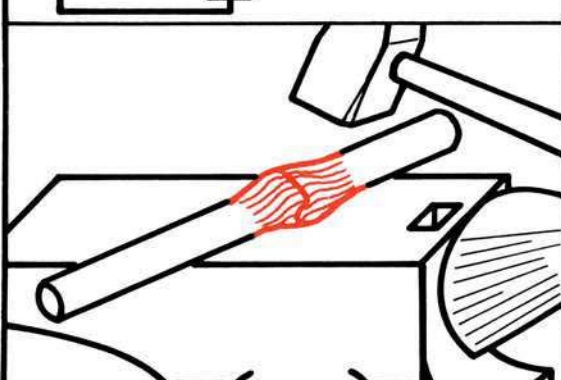
_____ 1.3

①
②
③
④
⑤

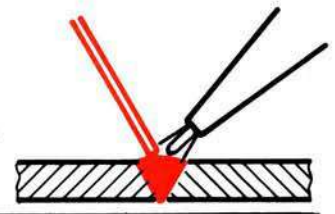


_____ 1.4

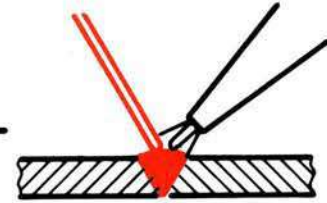
①
②
③
④



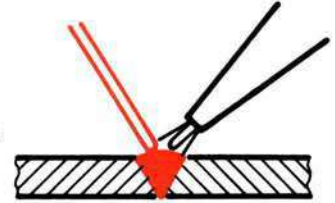
_____ 1.5



| | |
|--|---|
| | <p>_____ 2.1</p> <p>O₂-</p> |
| | <p>_____ 2.2</p> <p>H₂-</p> |
| | <p>_____ 2.3</p> <p>C₂H₂-</p> |
| | <p>_____ 2.4</p> <p>C₂H₂-</p> <p></p> |
| <p>CaC₂+2H₂O=C₂H₂+Ca(OH)₂</p> <p>1kg CaC₂ ≈ 250... 300l C₂H₂</p> | <p>_____ 2.5</p> <p></p> |



| | |
|--|---|
| | <p>_____ 3.1</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.3</p> <p>①</p> <p>②</p> |
| | <p>_____ 3.4</p> |
| | <p>_____ 3.5</p> <p>①</p> <p>②</p> <p>③</p> <p>④</p> <p>⑤</p> <p>⑥</p> <p>⑦</p> |



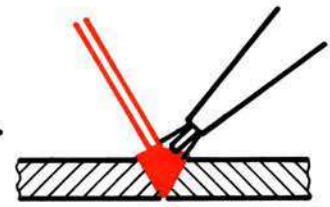
_____ 4.1

_____ 4.2

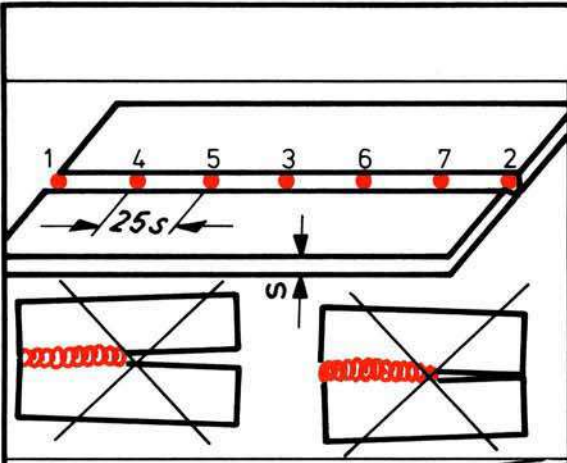
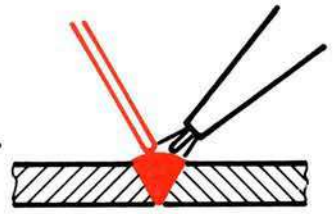
_____ 4.3

_____ 4.4

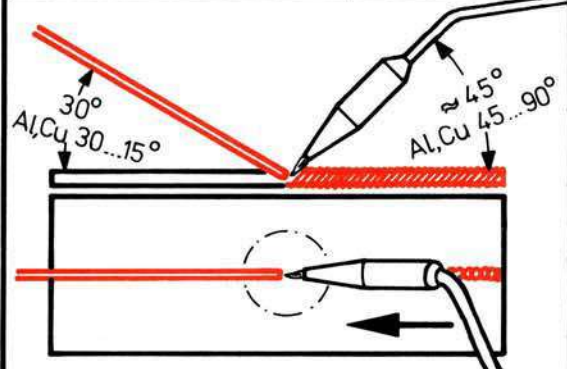
_____ 4.5



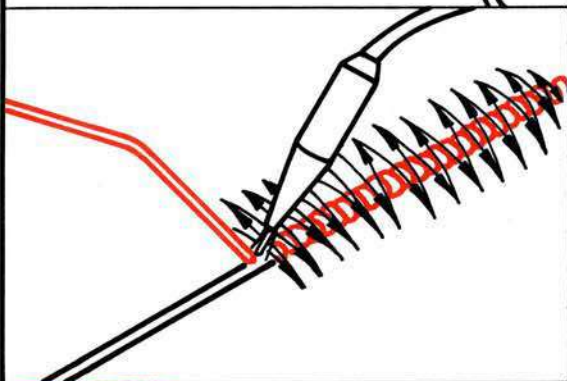
| | |
|---|---|
| <p>$C_2H_2 + O_2$</p> <p>3200°C</p> <p>1200°C</p> <p>① ② ③</p> | <p>_____ 5.1</p> <p>①</p> <p>②</p> <p>③</p> |
| | <p>_____ 5.2</p> |
| | <p>_____ 5.3</p> |
| <p>$H_2 + O_2$</p> <p>2200°C</p> | <p>_____ 5.4</p> |
| <p>$C_3H_8 + O_2 \quad \cong 2700^\circ C$</p> | <p>_____ 5.5</p> |



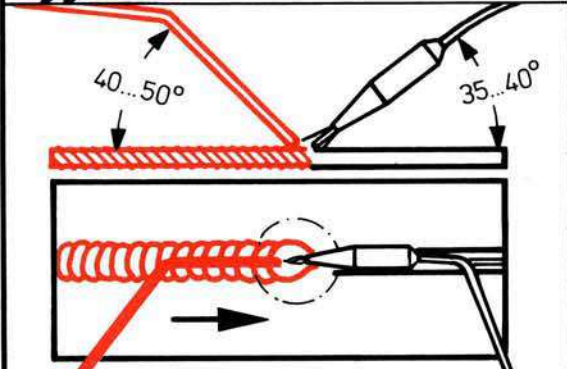
6.1



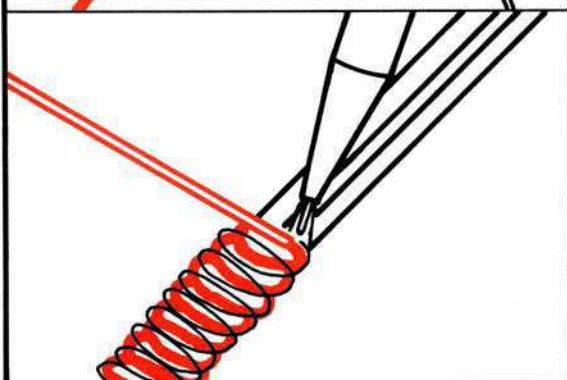
6.2



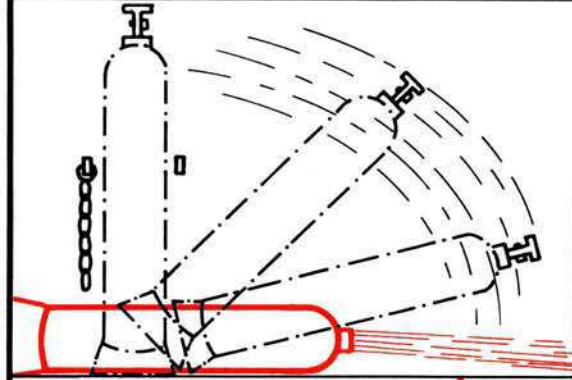
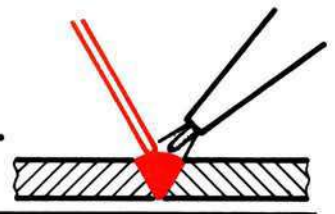
6.3



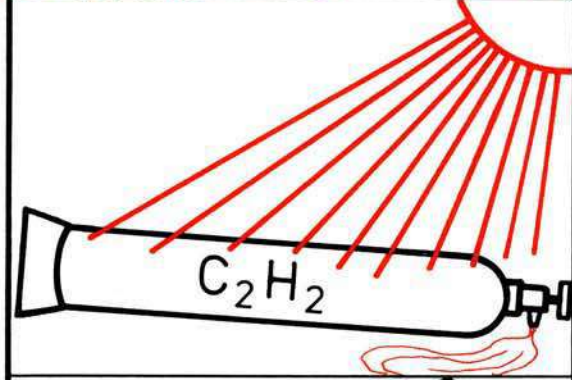
6.4



6.5



7.1
⚠



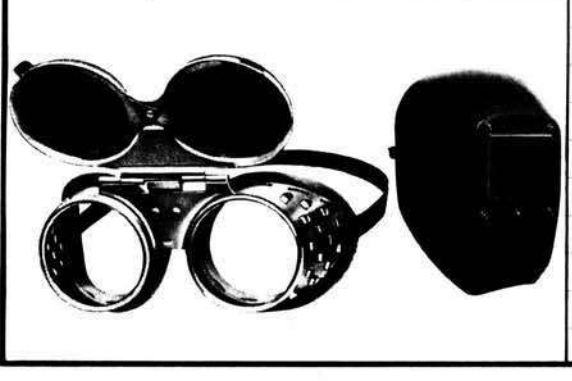
7.2
⚠



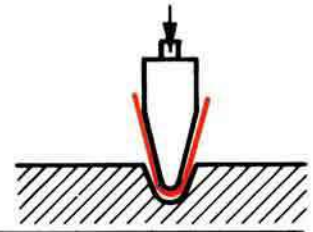
7.3
⚠



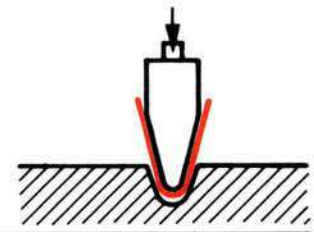
7.4
⚠



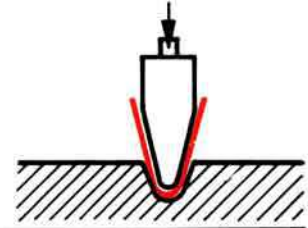
7.5
⚠



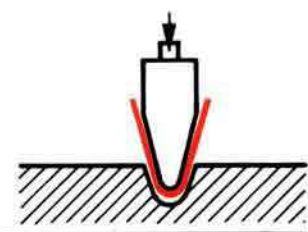
| | |
|---|------------------|
| <p>Diagram 1.1: A red L-shaped profile is shown on a grid. The horizontal leg has 10 grid units length, and the vertical leg has 10 grid units height. Arrows indicate the direction of the profile's path.</p> | <p>_____ 1.1</p> |
| <p>Diagram 1.2: A red L-shaped profile with a rounded corner. The horizontal leg is 10 grid units long, and the vertical leg is 10 grid units high. The corner is rounded with a radius of 2 grid units.</p> | <p>_____ 1.2</p> |
| <p>Diagram 1.3: A quarter-circle arc with a radius r. The arc is drawn in the first quadrant of a coordinate system, starting from the origin and ending at a point (r, r).</p> | <p>_____ 1.3</p> |
| <p>Diagram 1.4: A red L-shaped profile with dimensions. The horizontal leg has length l_1 and the vertical leg has height l_2. The corner is rounded with a radius r. The thickness of the legs is s. The distance from the inner corner to the outer edge is $s/2$.</p> | <p>_____ 1.4</p> |
| <p>Diagram 1.5: A red L-shaped profile with dimensions. The horizontal leg has length l_1 and the vertical leg has height l_2. The corner is rounded with a radius r. The thickness of the legs is s. The distance from the inner corner to the outer edge is $s/2$.</p> | <p>_____ 1.5</p> |



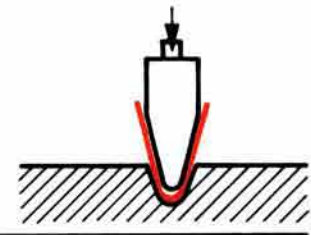
| | |
|--|---|
| | <p>_____ 1.2</p> <p>①</p> <p>②</p> |
| | <p>_____ 2.2</p> <p>①</p> <p>②</p> <p>③</p> <p>④</p> <p>⑤</p> |
| | <p>_____ 2.3</p> |
| | <p>_____ 2.4</p> |
| | <p>_____ 2.5</p> |



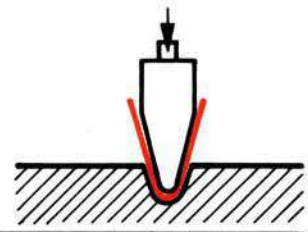
| | |
|--|---|
| | <p>_____ 3.1</p> |
| | <p>_____ 3.2</p> |
| | <p>_____ 3.3</p> <p>① ② ③ ④ ⑤ ⑥</p> |
| | <p>_____ 3.4</p> <p>① ② ③ ④ ⑤</p> |
| | <p>_____ 3.5</p> <p>① ② ③ ④</p> |



| | |
|--|------------------------------------|
| | <p>_____ 4.1</p> <p>①</p> <p>②</p> |
| | <p>_____ 4.2</p> |
| | <p>_____ 4.3</p> |
| | <p>_____ 4.4</p> |
| | <p>_____ 4.5</p> |



| | |
|--|---|
| | <p>_____ 5.1</p> |
| | <p>_____ 5.2</p> <p>① ②</p> |
| | <p>_____ 5.3</p> <p>① ② ③ ④ ⑤</p> |
| | <p>_____ 5.4</p> |
| | <p>_____ 5.5</p> |



| | |
|--|---------------------------------|
| | <p>_____ 6.1</p> |
| | <p>_____ 6.2</p> |
| | <p>_____ 6.3</p> |
| | <p>_____ 6.4</p> |
| | <p>_____ 6.5</p> <p>① ②</p> |