

# **Odborný výcvik**

## **3.ročník**

Bc. Jozef Biernát

Považská Bystrica 2011

**Názov:** Odborný výcvik 1. ročník

**Autor:** Bc. Jozef Biernát, Bc. Stanislav Hrabovský,  
Bc. Miroslav Hlinčík, Bc. Jozef Kresáň

**Vydavateľ:** Stredná odborná škola strojnícka, Považská Bystrica

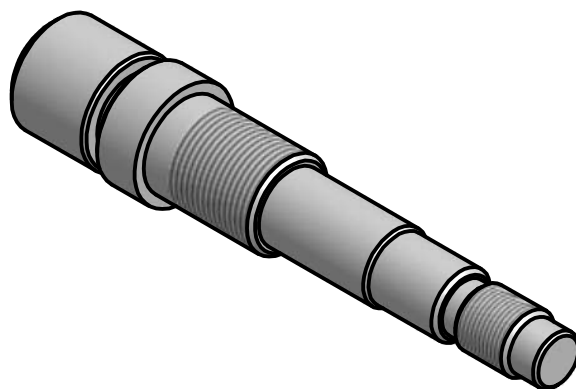
## OBSAH

| P.č. | Tematický celok | Číslo výkresu | str. | P.č. | Tematický celok | Číslo výkresu | str. |
|------|-----------------|---------------|------|------|-----------------|---------------|------|
| 1.   | Sústruženie     | MN3-S-001     | 6    |      |                 | MN3-F-014     | 39   |
|      |                 | MN3-S-002     | 7    |      |                 | MN3-F-015     | 40   |
|      |                 | MN3-S-003     | 8    |      |                 | MN3-F-016     | 41   |
|      |                 | MN3-S-004     | 9    |      |                 | MN3-F-017     | 42   |
|      |                 | MN3-S-005     | 10   |      |                 | MN3-F-018     | 43   |
|      |                 | MN3-S-006     | 11   | 3.   | Brúsenie        | MN3-F-019     | 44   |
|      |                 | MN3-S-007     | 12   |      |                 | MN3-F-020     | 45   |
|      |                 | MN3-S-008     | 13   |      |                 | MN3-F-021     | 46   |
|      |                 | MN3-S-009     | 14   |      |                 | MN3-F-022     | 47   |
|      |                 | MN3-S-010     | 15   |      |                 | MN3-F-023     | 48   |
|      |                 | MN3-S-011     | 16   |      |                 | MN3-F-024     | 49   |
|      |                 | MN3-S-012     | 17   |      |                 | MN3-F-025     | 50   |
|      |                 | MN3-S-013     | 18   |      |                 | MN3-F-026     | 51   |
|      |                 | MN3-S-014     | 19   |      |                 | MN3-F-027     | 52   |
|      |                 | MN3-S-015     | 20   |      |                 | MN3-F-028     | 53   |
|      |                 | MN3-S-016     | 21   |      |                 | MN3-F-029     | 54   |
|      |                 | MN3-S-017     | 22   |      |                 | MN3-F-030     | 55   |
|      |                 | MN3-S-018     | 23   |      |                 | MN3-F-031     | 56   |
|      |                 | MN3-S-019     | 24   | 4.   | Vŕtanie         | MN3-VR-001    | 57   |
|      |                 | MN3-S-020     | 25   |      |                 | MN3-VR-002    | 58   |
| 2.   | Frézovanie      | MN3-F-001     | 26   |      |                 | MN3-VR-003    | 59   |
|      |                 | MN3-F-002     | 27   |      |                 | MN3-VR-004    | 60   |
|      |                 | MN3-F-003     | 28   |      |                 | MN3-VR-005    | 61   |
|      |                 | MN3-F-004     | 29   |      |                 | MN3-VR-006    | 62   |
|      |                 | MN3-F-005     | 30   |      |                 | MN3-VR-007    | 63   |
|      |                 | MN3-F-006     | 31   |      |                 | MN3-VR-008    | 64   |
|      |                 | MN3-F-007     | 32   |      |                 | MN3-VR-009    | 65   |
|      |                 | MN3-F-008     | 33   |      |                 | MN3-VR-010    | 66   |
|      |                 | MN3-F-009     | 34   |      |                 | MN3-VR-011    | 67   |
|      |                 | MN3-F-010     | 35   |      |                 | MN3-VR-012    | 68   |
|      |                 | MN3-F-011     | 36   |      |                 | MN3-VR-013    | 69   |
|      |                 | MN3-F-012     | 37   |      |                 | MN3-VR-014    | 70   |
|      |                 | MN3-F-013     | 38   |      |                 |               |      |

## Úvod

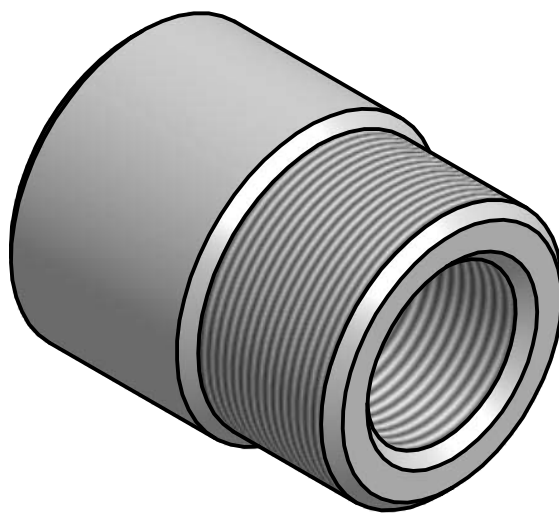
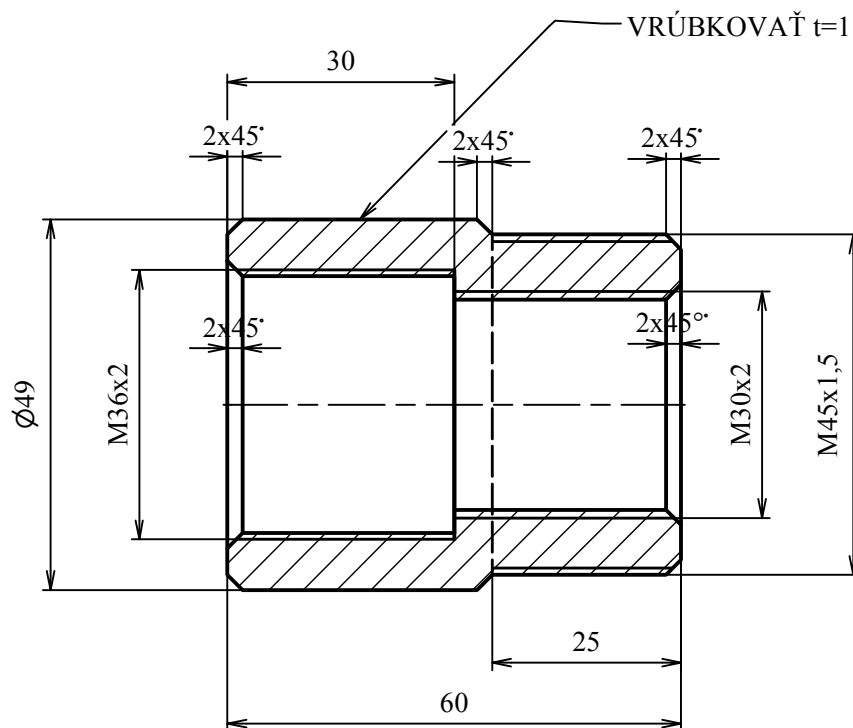
Technická výkresová dokumentácia poskytuje žiakom základné vedomosti o zobrazení strojových súčiastok a zariadení. Vytvára tak predpoklady pre čítanie technických výkresov a zhotovenie súčiastok. Technická dokumentácia je komunikačný prostriedok medzi projekciou, konštrukciou a technickou prípravou výroby.

Žiaci získajú teoretické vedomosti zo základov geometrie, premietania 3D a zásad zobrazenia v 2D. Technická dokumentácia spočíva najmä v rozvíjaní a upevňovaní priestorovej predstavivosti a obrazotvornosti, vo vytváraní zručnosti čítať technické výkresy. Takto získané vedomosti a zručnosti umožnia žiakom prácu na odbornom výcviku.



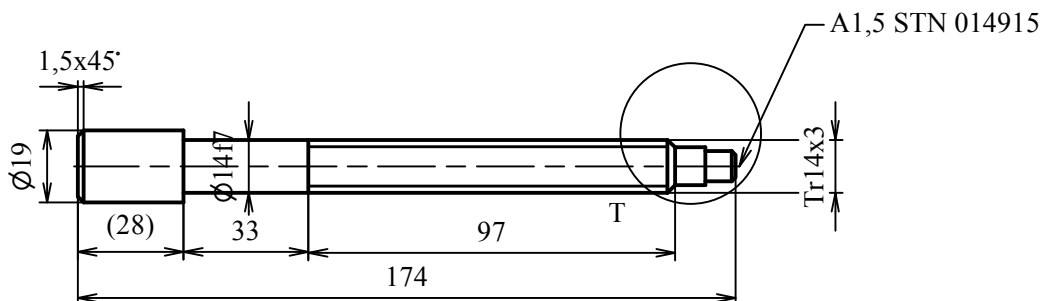
|                            |       |            |        |                                                  |                  |
|----------------------------|-------|------------|--------|--------------------------------------------------|------------------|
| INDEX                      | ZMENA | DATUM      | PODPIS | <b>SOŠ-Strojnica</b><br><b>POVAZSKA BYSTRICA</b> |                  |
|                            |       |            |        |                                                  |                  |
|                            |       |            |        |                                                  |                  |
| ZNACKA MATERIALU Ø40x195   |       |            | T.O.   | HMOTNOST kg                                      | MIERKA           |
| ZNACKA MATERIALU 11600     |       |            |        | hr.hmotnosť                                      | 1:2              |
| POM.ZARIADENIE             |       |            |        | STN STN polotovár                                | TR.C.            |
| VYPRACOVAL : BC.HLINČIK    |       | NORM. REF. |        | POZNAMKA                                         | C.KUSOVNIKU      |
| PRESKUSAL :                |       | dátum      |        |                                                  |                  |
| TECHNOLOG :                |       | SCHVALIL:  |        | STARÝ V.                                         | C. v. MN 3 S 001 |
| NAZOV<br><b>HRIADEĽ -1</b> |       |            |        | LISTOV<br>LIST                                   |                  |

√ Ra 3,2

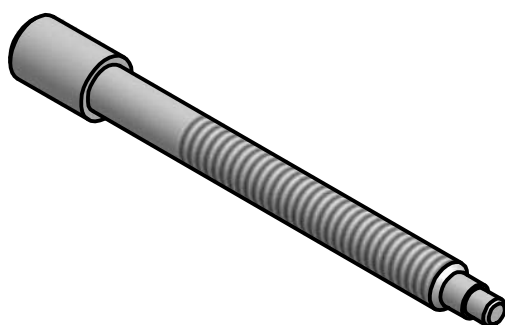
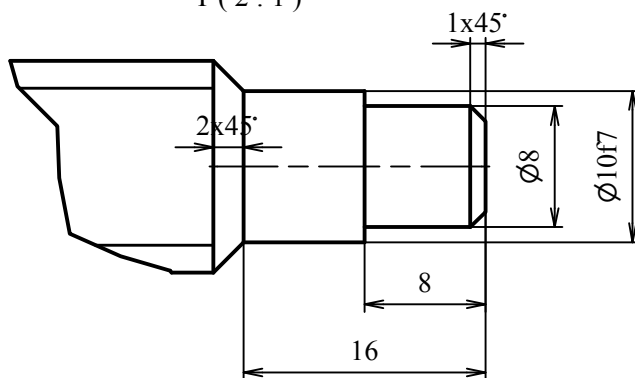


|                         |       |            |        |                   |                  |
|-------------------------|-------|------------|--------|-------------------|------------------|
| INDEX                   | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|                         |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU Ø50x65 |       |            | T.O.   | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11600  |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE          |       |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL : BC.HLINČIK |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       | dátum      |        |                   |                  |
| TECHNOLOG :             |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 002 |
| NAZOV                   |       |            |        |                   |                  |
| ZÁVITOVÉ PÚZDRO         |       |            |        |                   |                  |
|                         |       |            |        | LISTOV            | LIST             |

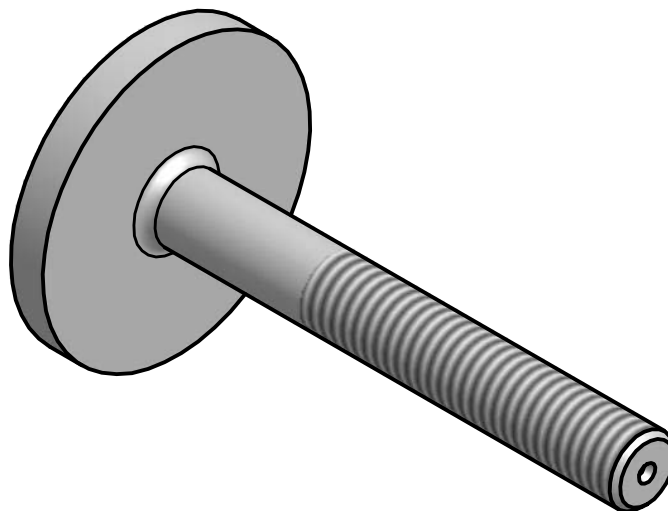
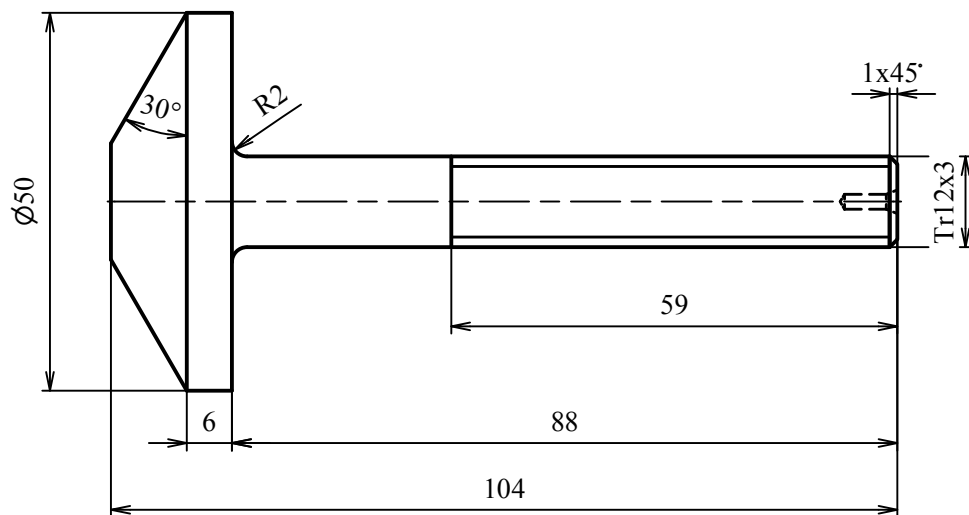
√ Ra3,2



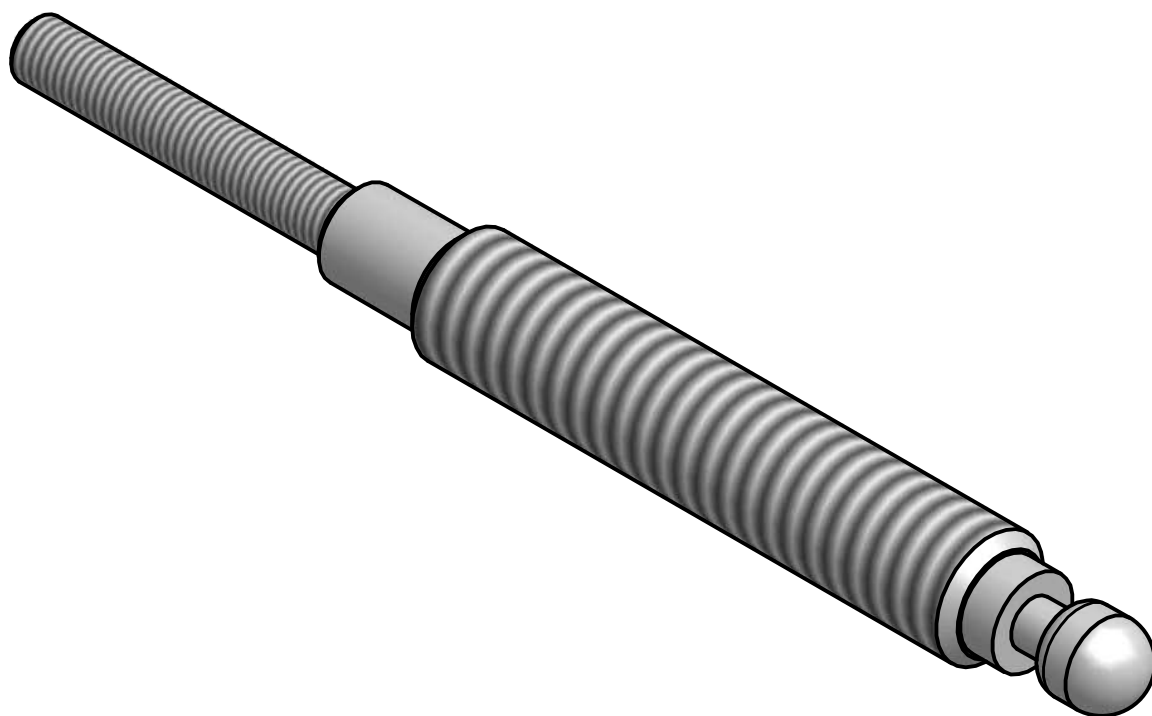
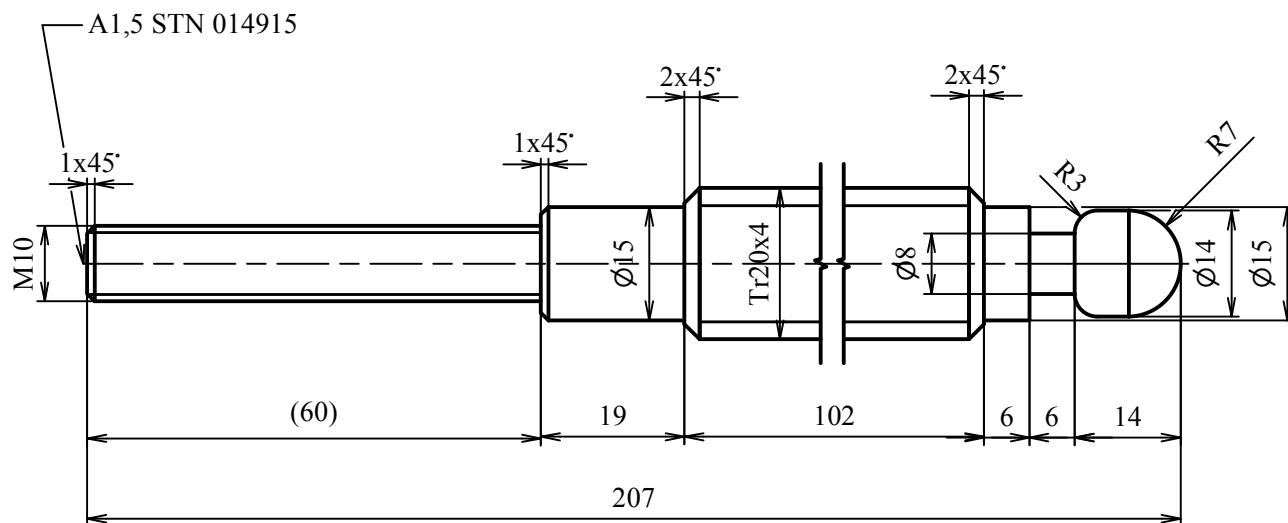
T (2 : 1)



| INDEX            | ZMENA       | DATUM      | PODPIS | SOŠ-Strojnícka    |                  |
|------------------|-------------|------------|--------|-------------------|------------------|
|                  |             |            |        | POVAZSKA BYSTRICA |                  |
| ZNACKA MATERIALU | Ø20x179     |            | T.O.   | HMOTNOST kg       | MIERKA 1:2       |
| ZNACKA MATERIALU | 11600       |            |        | hr.hmotnosť       |                  |
| POM.ZARIADENIE   |             |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL :     | BC.HLINČIK  | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :      |             | dátum      |        |                   |                  |
| TECHNOLOG :      |             | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 003 |
| NAZOV            | HRIADEL' -2 |            |        | LISTOV            | LIST             |



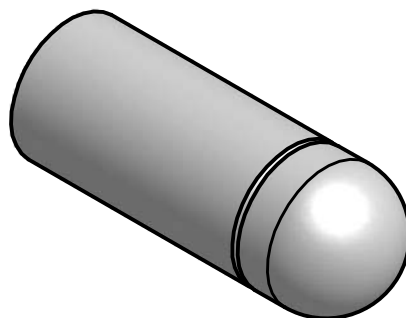
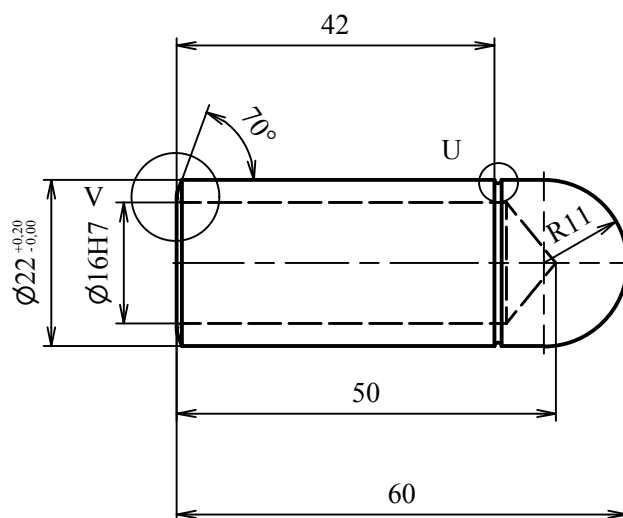
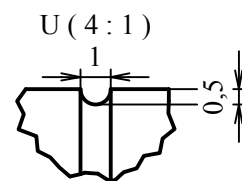
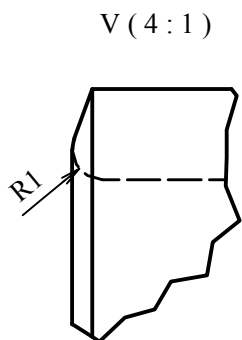
| INDEX             | ZMENA | DATUM      | PODPIS     | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|-------------------|-------|------------|------------|---------------------------------------|------------------|
|                   |       |            |            |                                       |                  |
| ZNACKA MATERIALU  |       | Ø52x109    | T.O.       | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU  |       | 11600      |            | hr.hmotnosť                           | 1:1              |
| POM.ZARIADENIE    |       |            |            | STN STN polotovár                     | TR.C.            |
| VYPRACOVAL :      |       | BC.HLINČIK | NORM. REF. | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :       |       |            | dátum      |                                       |                  |
| TECHNOLOG :       |       |            | SCHVALIL:  | STARY V.                              | C. v. MN 3 S 004 |
| NAZOV             |       |            |            |                                       |                  |
| FRANCÚZSKY KľÚČ 5 |       |            |            | LISTOV                                | LIST             |



| INDEX                    | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|--------------------------|-------|------------|--------|-------------------|------------------|
|                          |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIÁLU Ø22x212 |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIÁLU 11600   |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE           |       |            |        | STN STN polotovár | TR.C.            |
| VYPRACOVAL : BC.HLINČIK  |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :              |       | dátum      |        |                   |                  |
| TECHNOLOG :              |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 005 |
| NAZOV                    |       |            |        |                   |                  |
| Tr SKRUTKA               |       |            |        |                   |                  |
|                          |       |            |        | LISTOV            | LIST             |

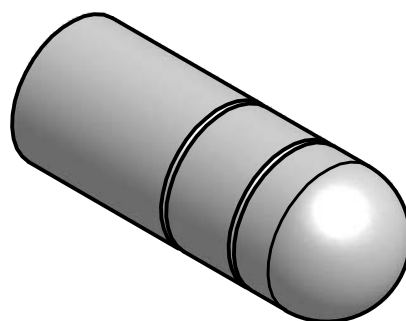
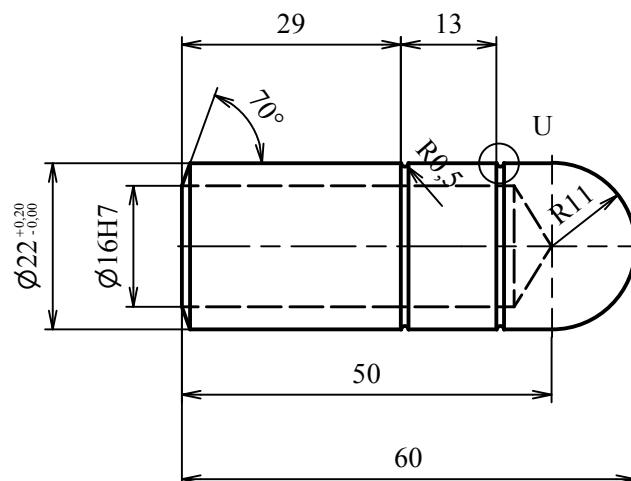
1 2 3 4

√ Ra 1,6



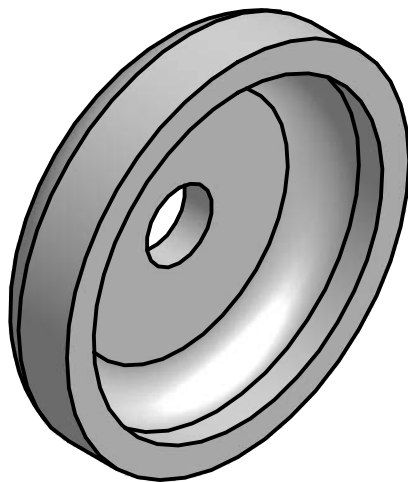
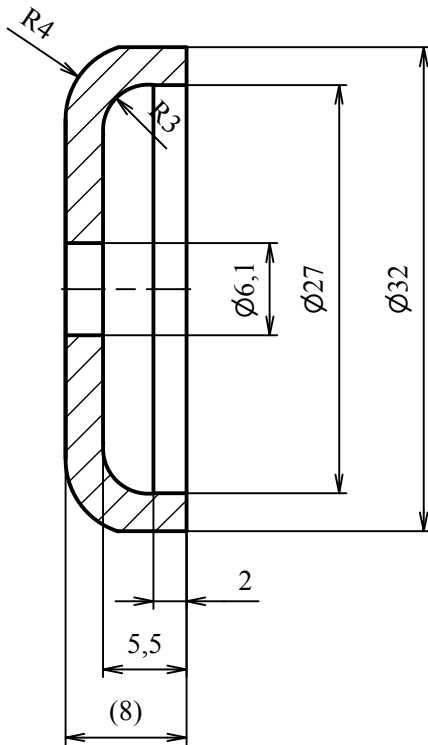
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|------------------------------|-------|------------|--------|-------------------|------------------|
| INDEX                        | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|                              |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU      Ø24x65 |       |            | T.O.   | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU      19452  |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE               |       |            |        | STN STN polotovár | TR.C.            |
| VYPRACOVAL : BC.HLINČIK      |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :                  |       | dátum      |        |                   |                  |
| TECHNOLOG :                  |       | SCHVALIL:  |        | STARY V.          | C. v. MN 3 S 006 |
| NAZOV                        |       |            |        |                   |                  |
| KOVADLINKA 1                 |       |            |        |                   |                  |
|                              |       |            |        | LISTOV            | LIST             |

√ Ra 1,6



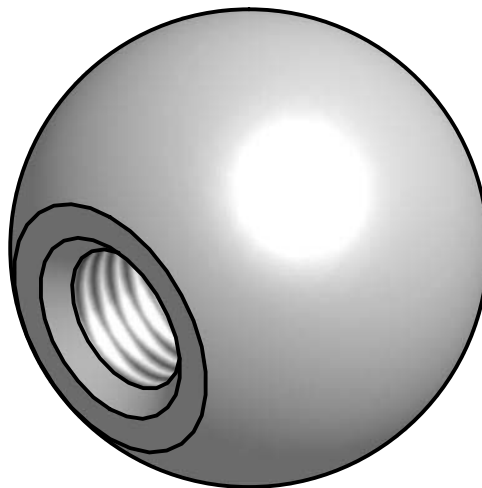
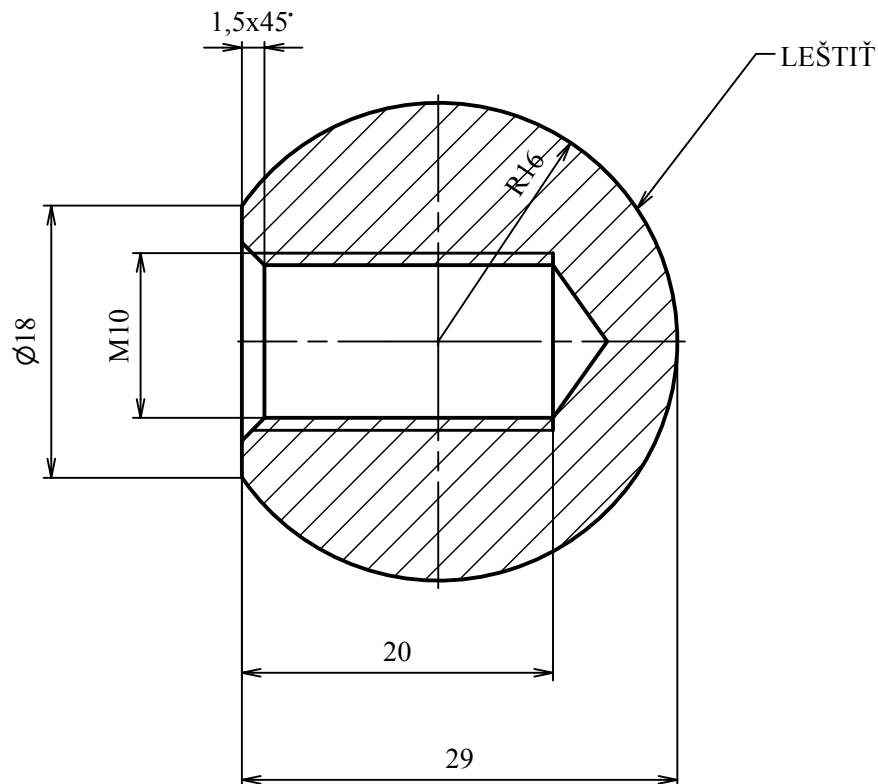
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|----------------------------|-------|------------|--------|-------------------|------------------|
| INDEX                      | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|                            |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU    Ø24x65 |       |            | T.O.   | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU    19452  |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE             |       |            |        | STN STN polotovár | TR.C.            |
| VYPRACOVAL : BC.HLINČIK    |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :                |       | dátum      |        |                   |                  |
| TECHNOLOG :                |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 007 |
| NAZOV                      |       |            |        |                   |                  |
| KOVADLINKA 2               |       |            |        |                   |                  |
|                            |       |            |        | LISTOV            | LIST             |

√ Ra 3,2

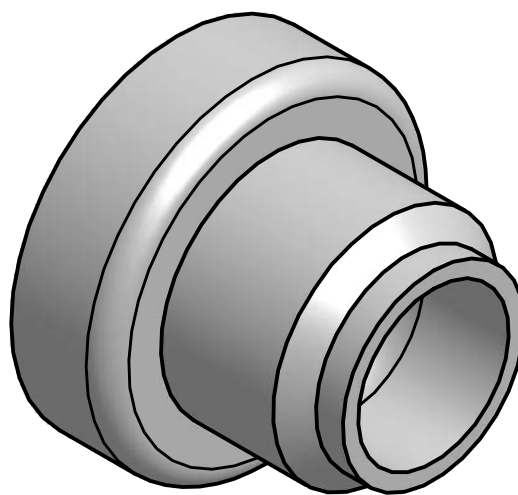
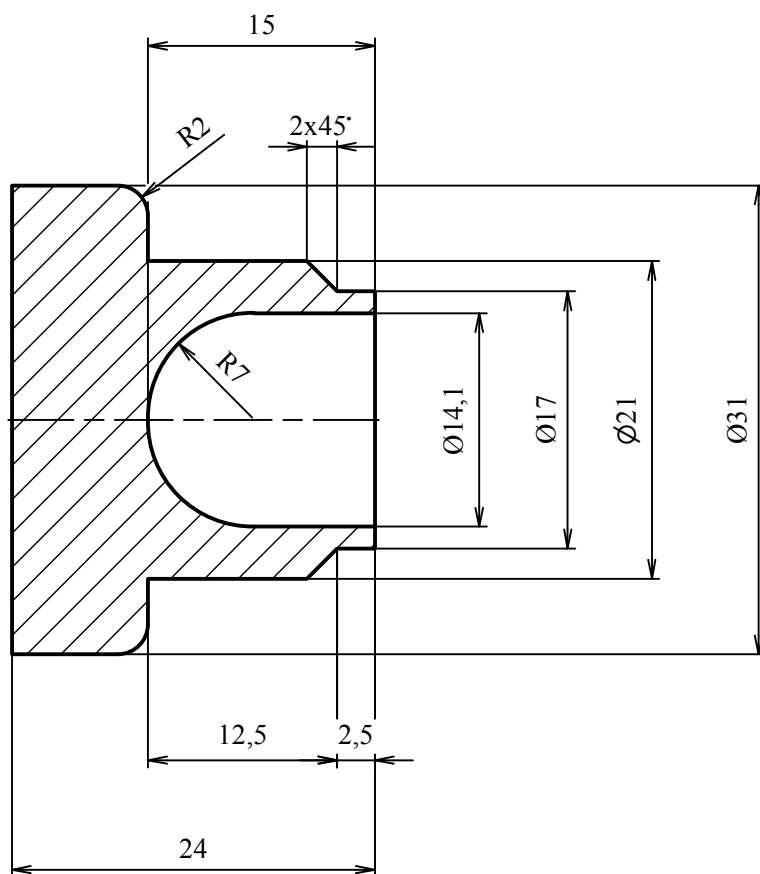


| INDEX                   | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|-------------------------|-------|------------|--------|-------------------|------------------|
|                         |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU Ø35x13 |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11600  |       |            |        | hr.hmotnosť       | 2:1              |
| POM.ZARIADENIE          |       |            |        | STN STN polotovár | TR.C.            |
| VYPRACOVAL : BC.HLINČIK |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       | dátum      |        |                   |                  |
| TECHNOLOG :             |       | SCHVALIL:  |        | STARY V.          | C. v. MN 3 S 008 |
| NAZOV                   |       |            |        |                   |                  |
| PODLOŽKA                |       |            |        |                   |                  |
|                         |       |            |        | LISTOV            | LIST             |

√ Ra 1,6

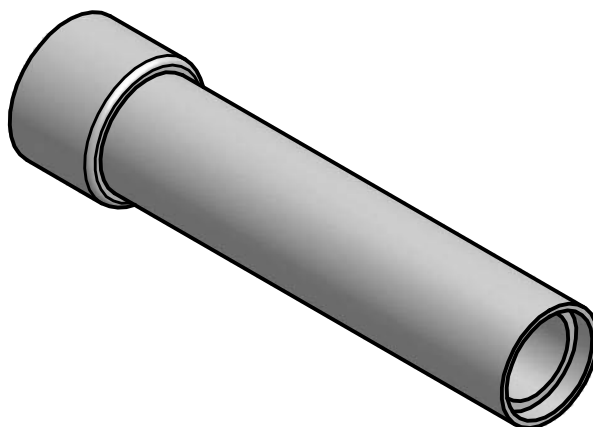


|                         |       |            |        |                   |                  |
|-------------------------|-------|------------|--------|-------------------|------------------|
| INDEX                   | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|                         |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU Ø34x70 |       |            | T.O.   | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11600  |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE          |       |            |        | STN STN polotovár | TR.C.            |
| VYPRACOVAL : BC.HLINČIK |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       | dátum      |        |                   |                  |
| TECHNOLOG :             |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 009 |
| NAZOV                   |       |            |        |                   |                  |
| GULIČKA                 |       |            |        | LISTOV            | LIST             |



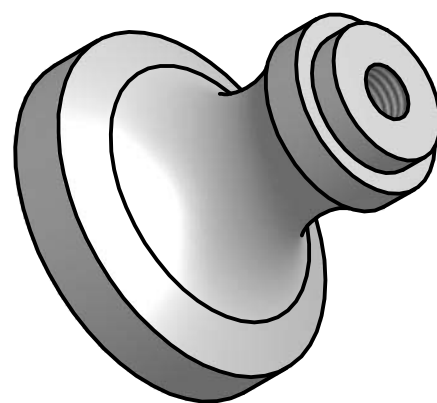
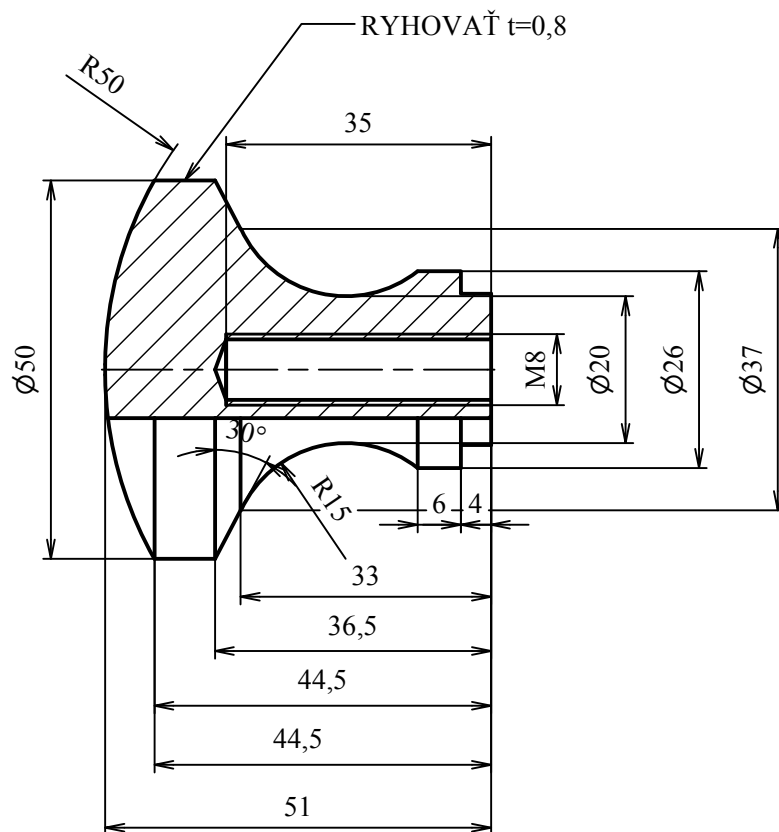
| INDEX                   | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|-------------------------|-------|------------|--------|-------------------|------------------|
|                         |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU Ø32x29 |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11600  |       |            |        | hr.hmotnosť       | 2:1              |
| POM.ZARIADENIE          |       |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL : BC.HLINČIK |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       | dátum      |        |                   |                  |
| TECHNOLOG :             |       | SCHVALIL:  |        | STARY V.          | C. v. MN 3 S 010 |
| NAZOV                   |       |            |        |                   |                  |
| PRITLAČNÝ ČAP           |       |            |        |                   |                  |
|                         |       |            |        | LISTOV            | LIST             |



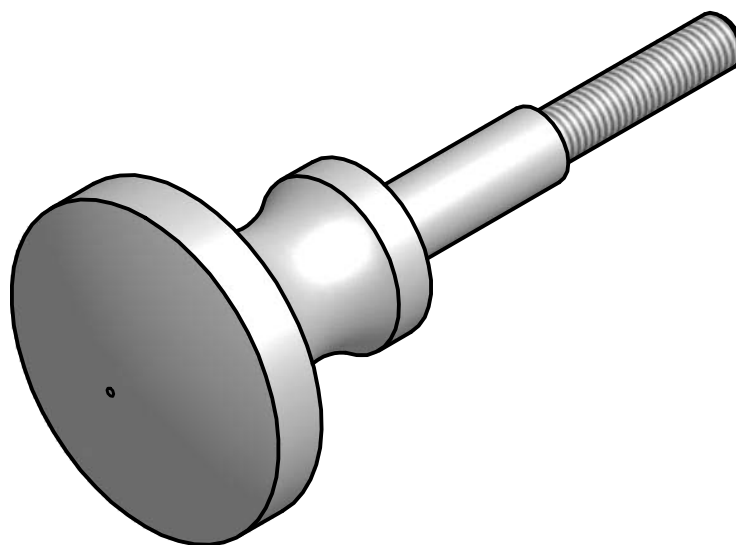
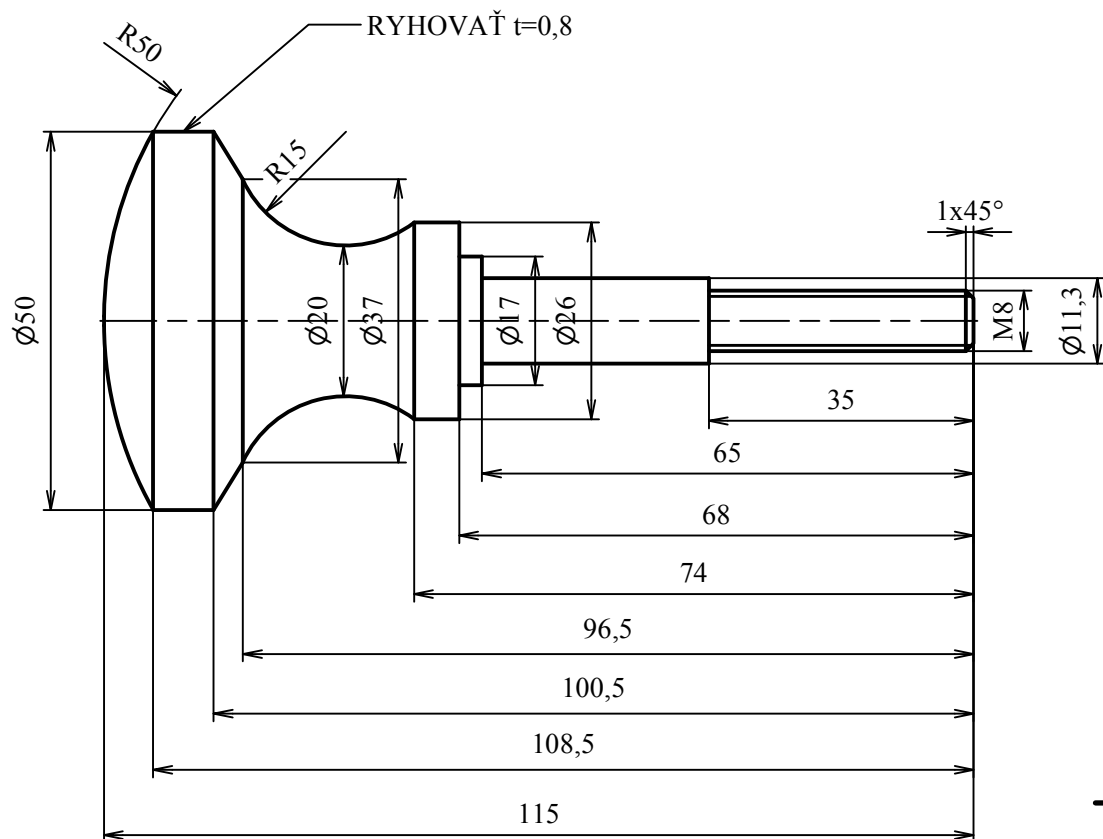


|                         |       |            |        |                   |                  |
|-------------------------|-------|------------|--------|-------------------|------------------|
| INDEX                   | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|                         |       |            |        | POVAŽSKÁ BYSTRICA |                  |
|                         |       |            |        |                   |                  |
| ZNACKA MATERIÁLU Ø24x95 |       |            | T.O.   | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIÁLU 11600  |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE          |       |            |        | STN STN polotovár | TR.C.            |
| VYPRACOVAL : BC.HLINČIK |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       | dátum      |        |                   |                  |
| TECHNOLOG :             |       | SCHVALIL:  |        | STARY V.          | C. v. MN 3 S 012 |
| NAZOV                   |       |            |        |                   |                  |
| FRANCÚSKY KĽÚČ 10       |       |            |        |                   |                  |
|                         |       |            |        | LISTOV            | LIST             |

√ Ra 3,2



|                         |       |            |        |                   |                  |
|-------------------------|-------|------------|--------|-------------------|------------------|
| INDEX                   | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|                         |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU Ø55x66 |       |            | T.O.   | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11373  |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE          |       |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL : Bc.HLINČÍK |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       | dátum      |        |                   |                  |
| TECHNOLOG :             |       | SCHVALIL:  |        | STARY V.          | C. v. MN 3 S 013 |
| NAZOV                   |       |            |        |                   |                  |
| DVEROVÁ GUĽA 1          |       |            |        | LISTOV            | LIST             |



| INDEX                                        | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|----------------------------------------------|-------|------------|--------|-------------------|------------------|
|                                              |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU $\varnothing 55 \times 130$ |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11373                       |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE                               |       |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL : Bc.HLINČÍK                      |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :                                  |       | dátum      |        |                   |                  |
| TECHNOLOG :                                  |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 014 |
| NAZOV                                        |       |            |        |                   |                  |
| DVEROVÁ GUĽA 2                               |       |            |        | LISTOV            | LIST             |

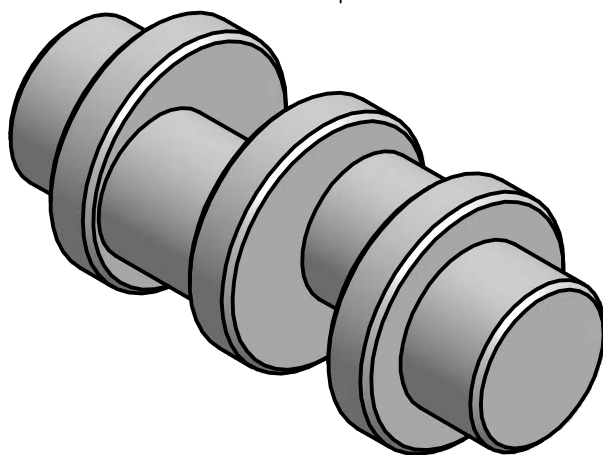
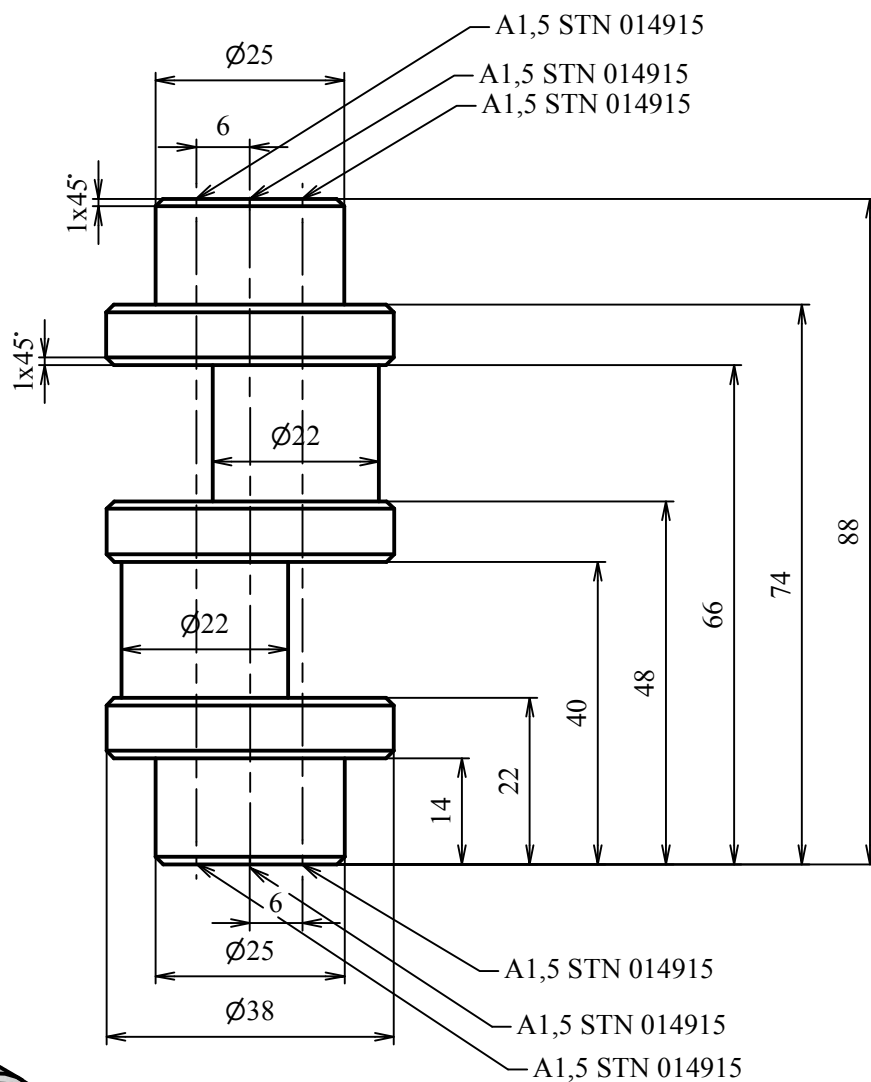
1

2

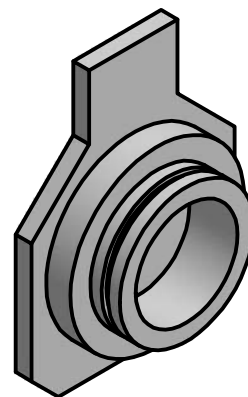
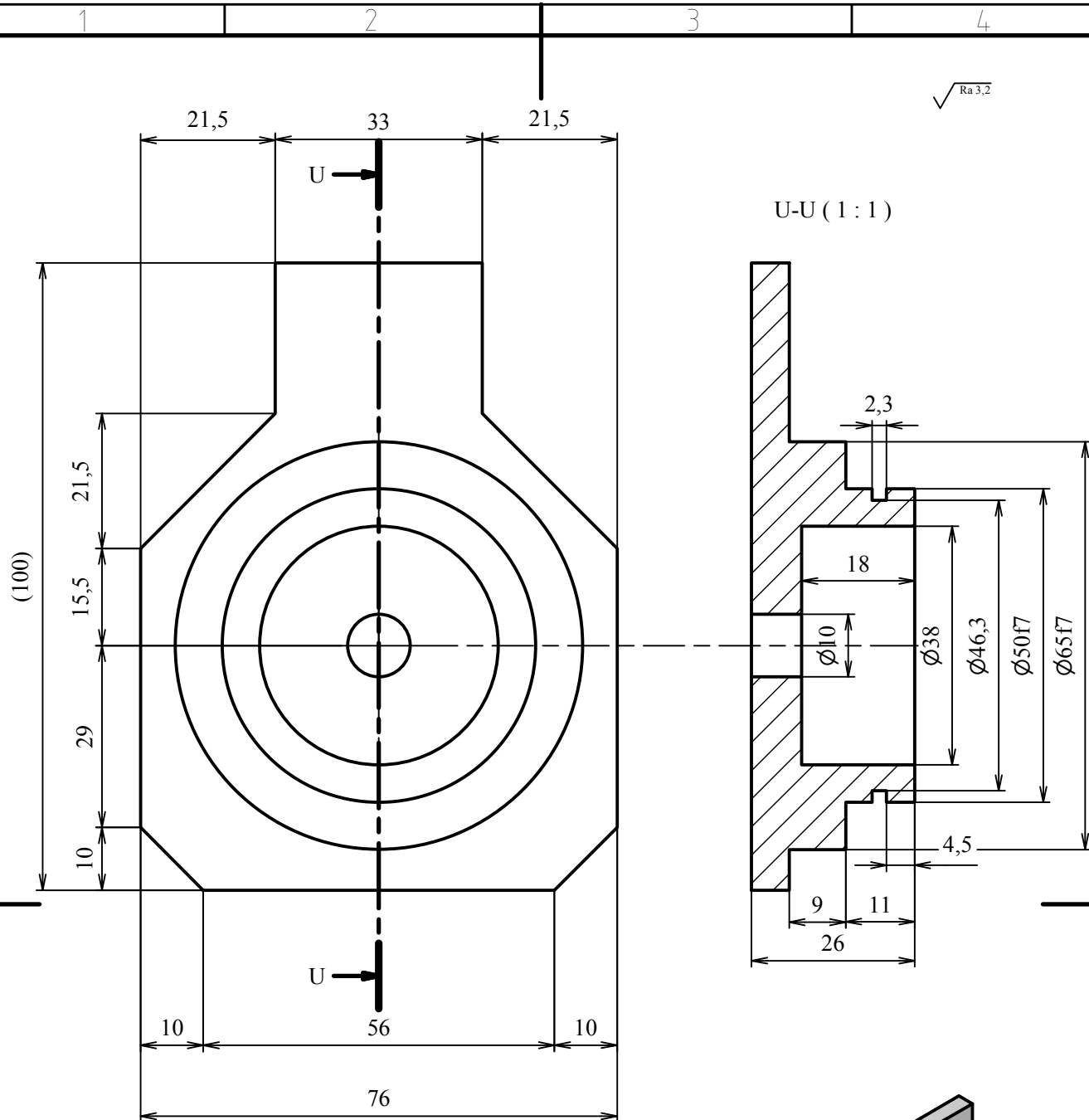
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4

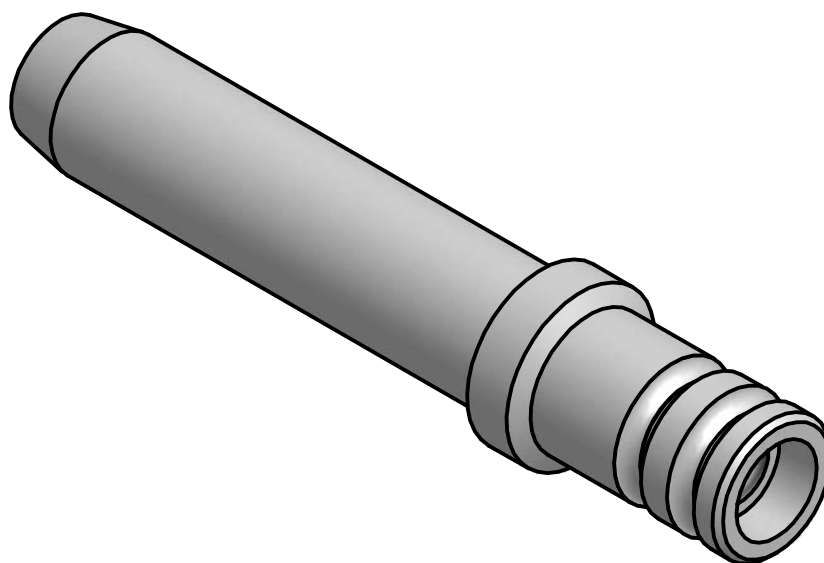
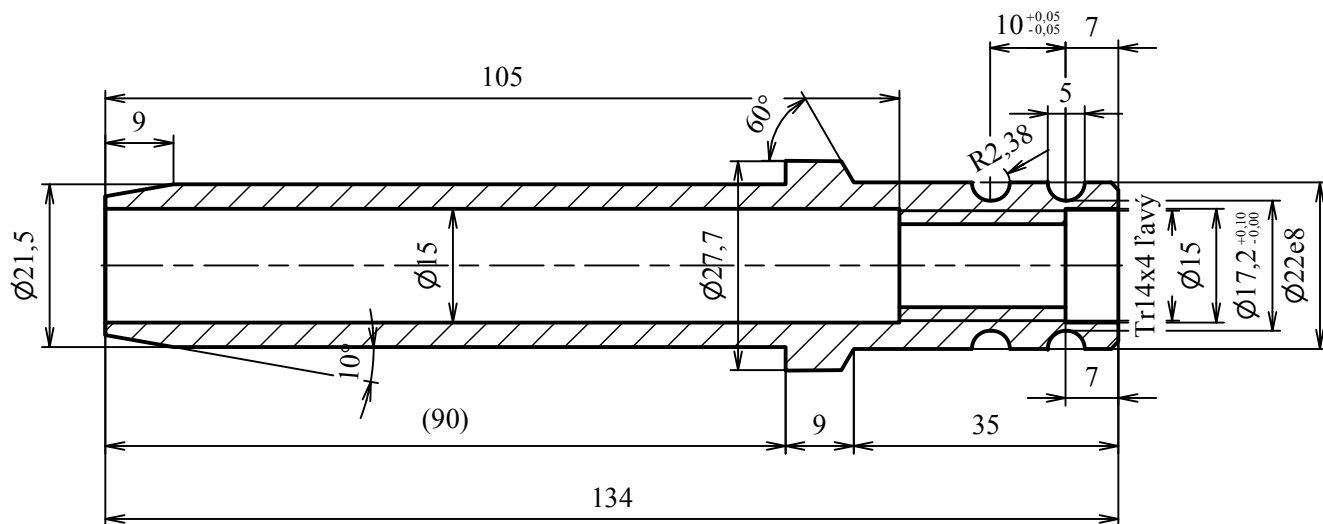
√ Ra 3,2



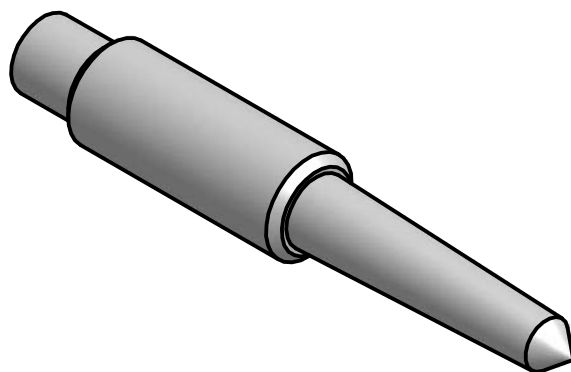
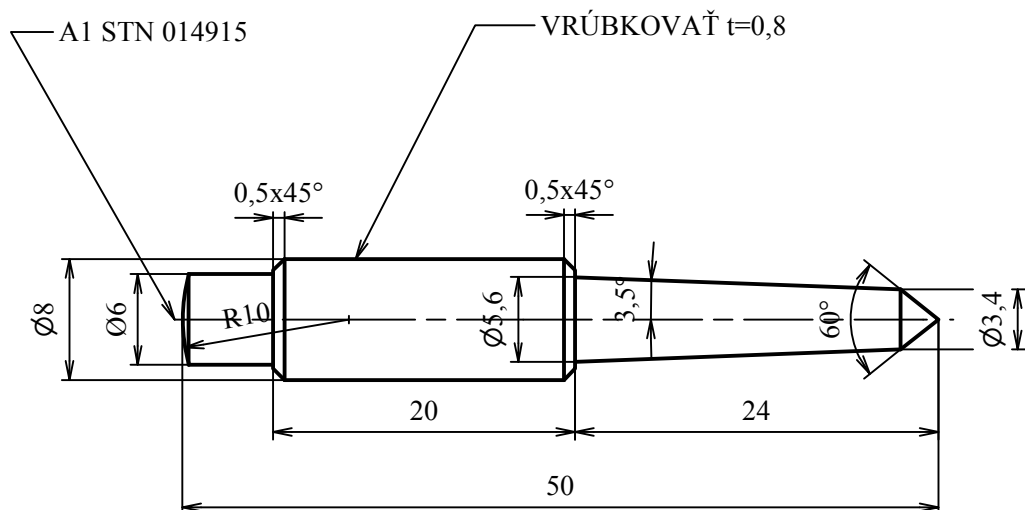
| INDEX                                       | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|---------------------------------------------|-------|------------|--------|-------------------|------------------|
|                                             |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU $\varnothing 40 \times 93$ |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11600                      |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE                              |       |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL : BC.HLINČIK                     |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :                                 |       | dátum      |        |                   |                  |
| TECHNOLOG :                                 |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 015 |
| NAZOV                                       |       |            |        |                   |                  |
| EXECTER                                     |       |            |        |                   |                  |
|                                             |       |            |        | LISTOV            | LIST             |



| INDEX                      | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|----------------------------|-------|------------|--------|-------------------|------------------|
|                            |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU 80x30-105 |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 12060     |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE             |       |            |        | STN STN polotovár | TR.C.            |
| VYPRACOVAL : Bc.HLINČÍK    |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :                |       | dátum      |        |                   |                  |
| TECHNOLOG :                |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 016 |
| NAZOV                      |       |            |        |                   |                  |
| TOČNICA                    |       |            |        | LISTOV            | LIST             |



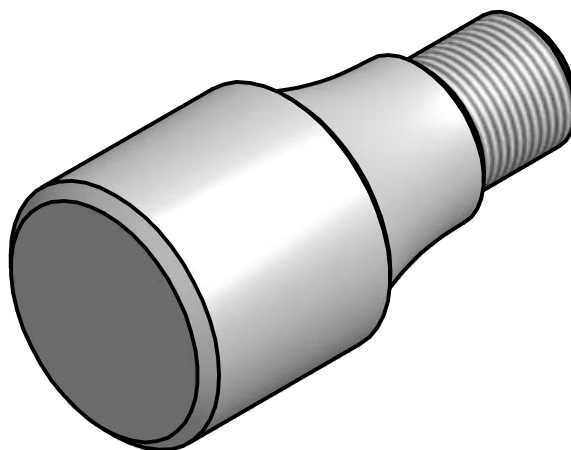
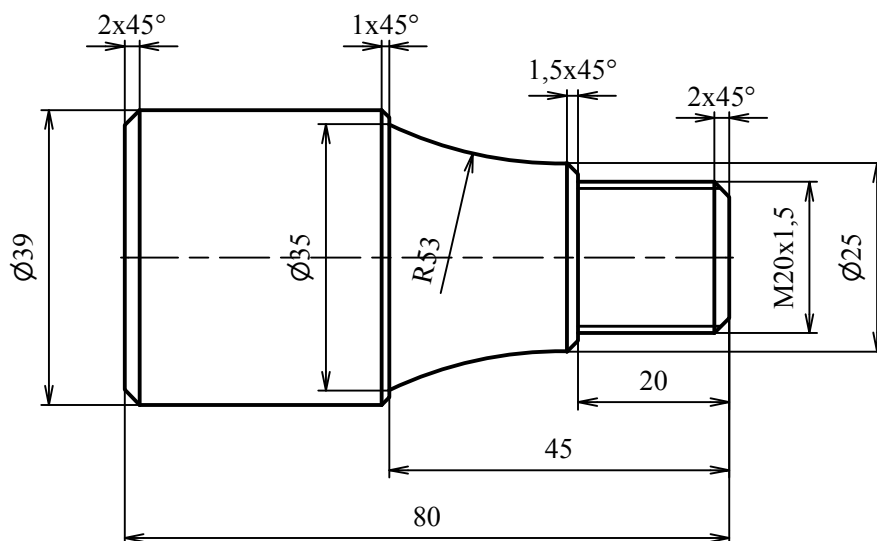
| INDEX                    | ZMENA | DATUM      | PODPIS | SOŠ-Strojnícka    |                  |
|--------------------------|-------|------------|--------|-------------------|------------------|
|                          |       |            |        | POVAZSKA BYSTRICA |                  |
| ZNACKA MATERIALU Ø30x137 |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11600   |       |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE           |       |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL : BC.HLINČIK  |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :              |       | dátum      |        |                   |                  |
| TECHNOLOG :              |       | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 017 |
| NAZOV                    |       |            |        |                   |                  |
| RUKOVET'                 |       |            |        |                   |                  |
|                          |       |            |        | LISTOV            | LIST             |



| INDEX                   | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|-------------------------|-------|------------|--------|-------------------|------------------|
|                         |       |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU Ø10x55 |       | T.O.       |        | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 19701  |       |            |        | hr.hmotnosť       | 2:1              |
| POM.ZARIADENIE          |       |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL : Bc.HLINČÍK |       | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       | dátum      |        |                   |                  |
| TECHNOLOG :             |       | SCHVALIL:  |        | STARY V.          | C. v. MN 3 S 018 |
| NAZOV                   |       |            |        |                   |                  |
| JAMKÁR                  |       |            |        |                   |                  |
|                         |       |            |        | LISTOV            | LIST             |

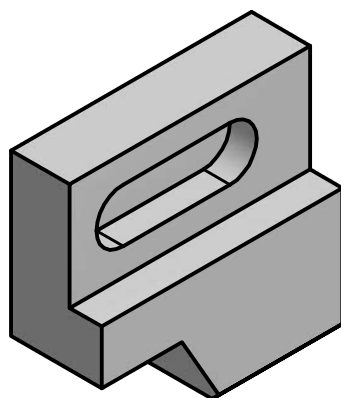
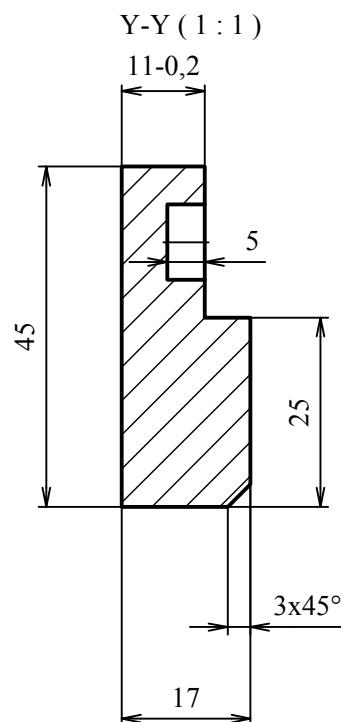
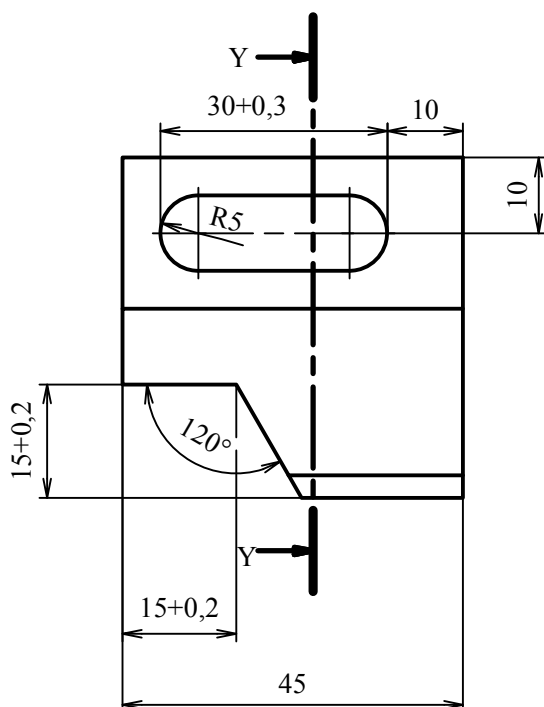
F

√ Ra 3,2

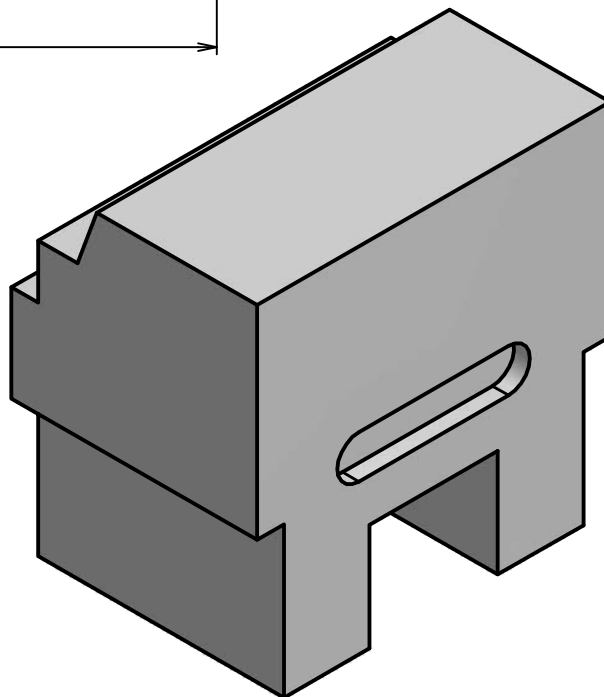
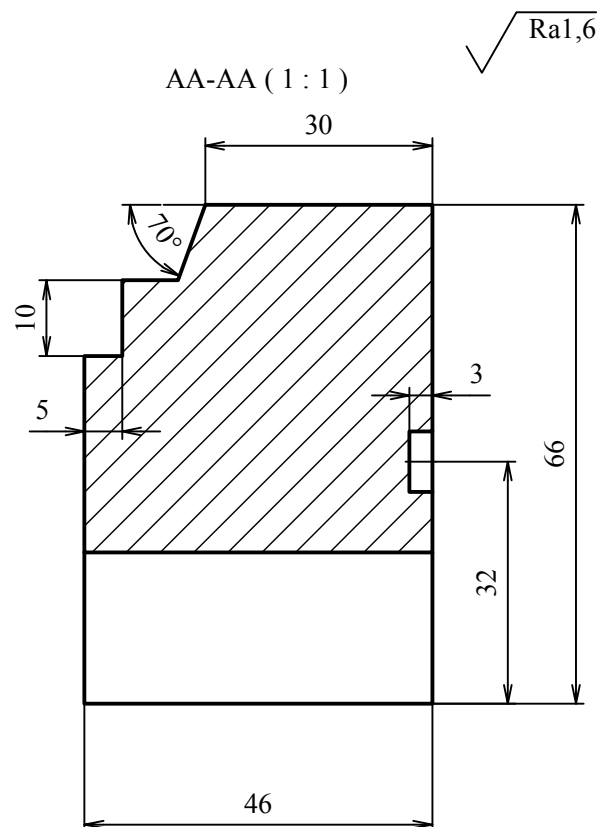
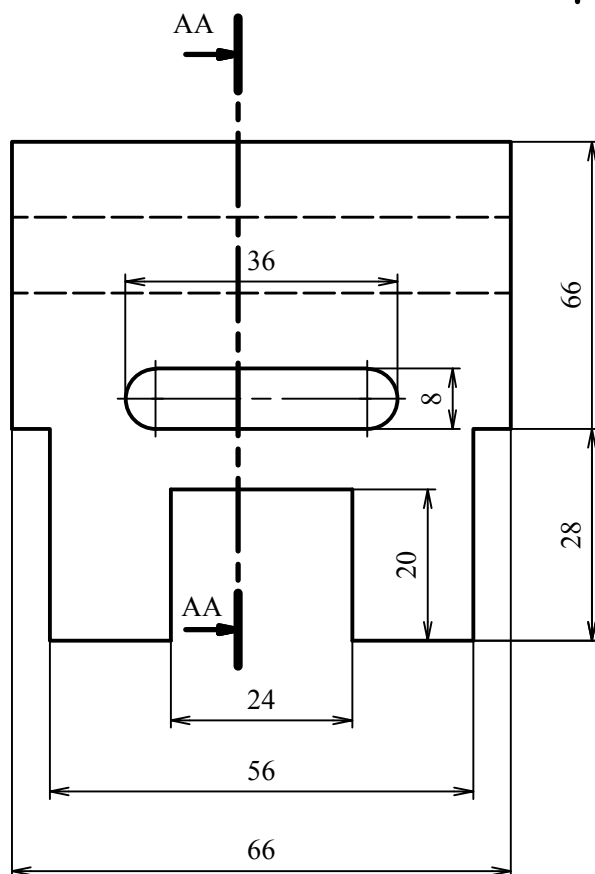


|                         |       |            |            |        |                   |                  |
|-------------------------|-------|------------|------------|--------|-------------------|------------------|
| INDEX                   | ZMENA |            | DATUM      | PODPIS | SOŠ - Strojnícka  |                  |
|                         |       |            |            |        | POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU Ø40x85 |       |            |            | T.O.   | HMOTNOST kg       | MIERKA           |
| ZNACKA MATERIALU 11600  |       |            |            |        | hr.hmotnosť       | 1:1              |
| POM.ZARIADENIE          |       |            |            |        | STN STN polotovar | TR.C.            |
| VYPRACOVAL :            |       | Bc.HLINČÍK | NORM. REF. |        | POZNAMKA          | C.KUSOVNIKU      |
| PRESKUSAL :             |       |            | dátum      |        |                   |                  |
| TECHNOLOG :             |       |            | SCHVALIL:  |        | STARY V.          | C. V. MN 3 S 020 |
| NAZOV                   |       |            |            |        |                   |                  |
| ČAP 2 - CNC             |       |            |            |        | LISTOV LIST       |                  |

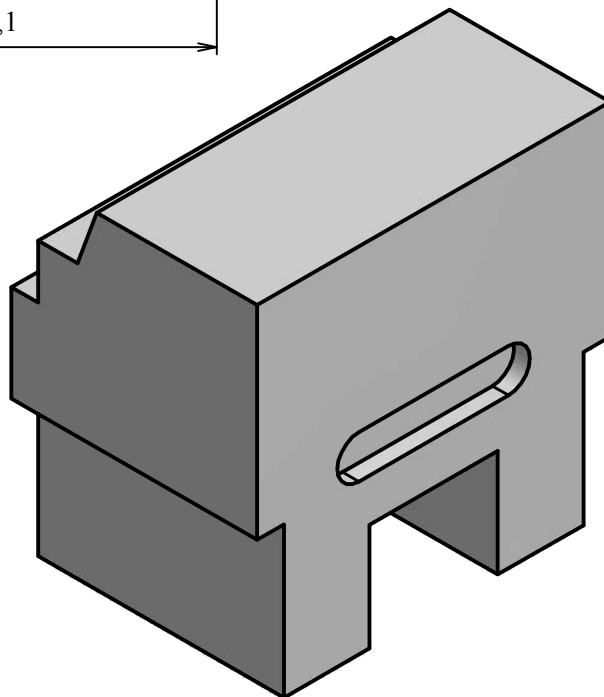
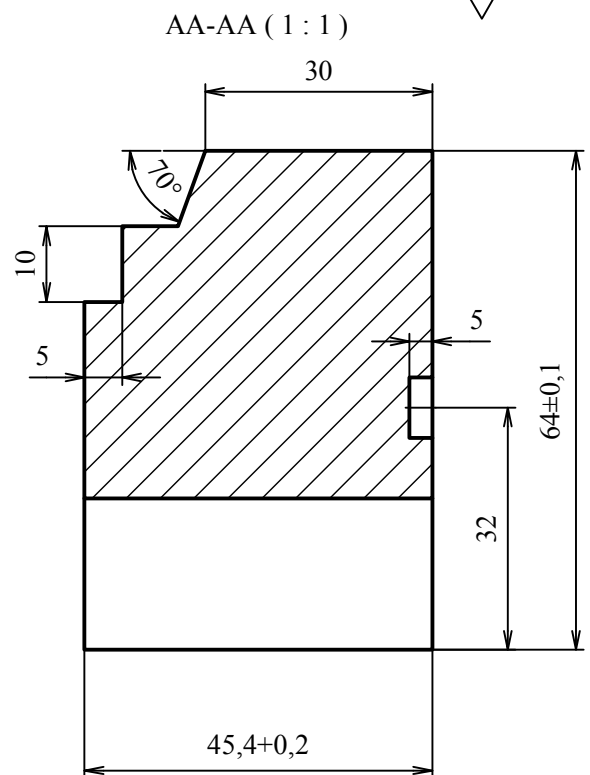
✓ Ra1,6



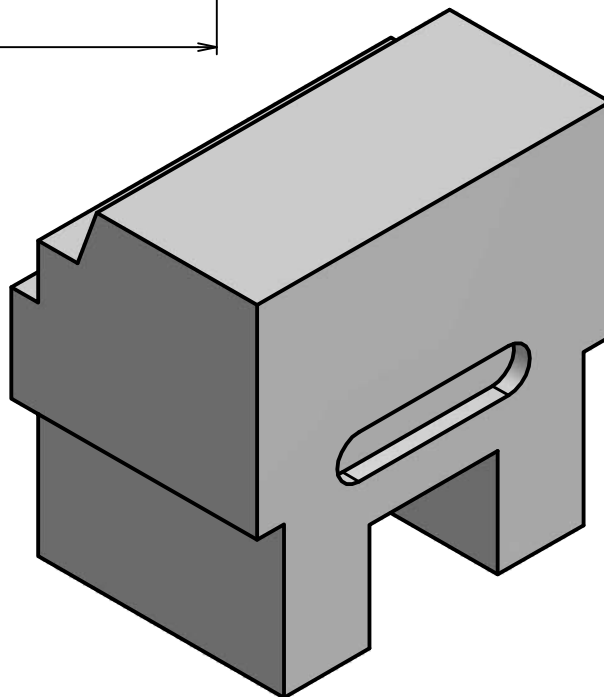
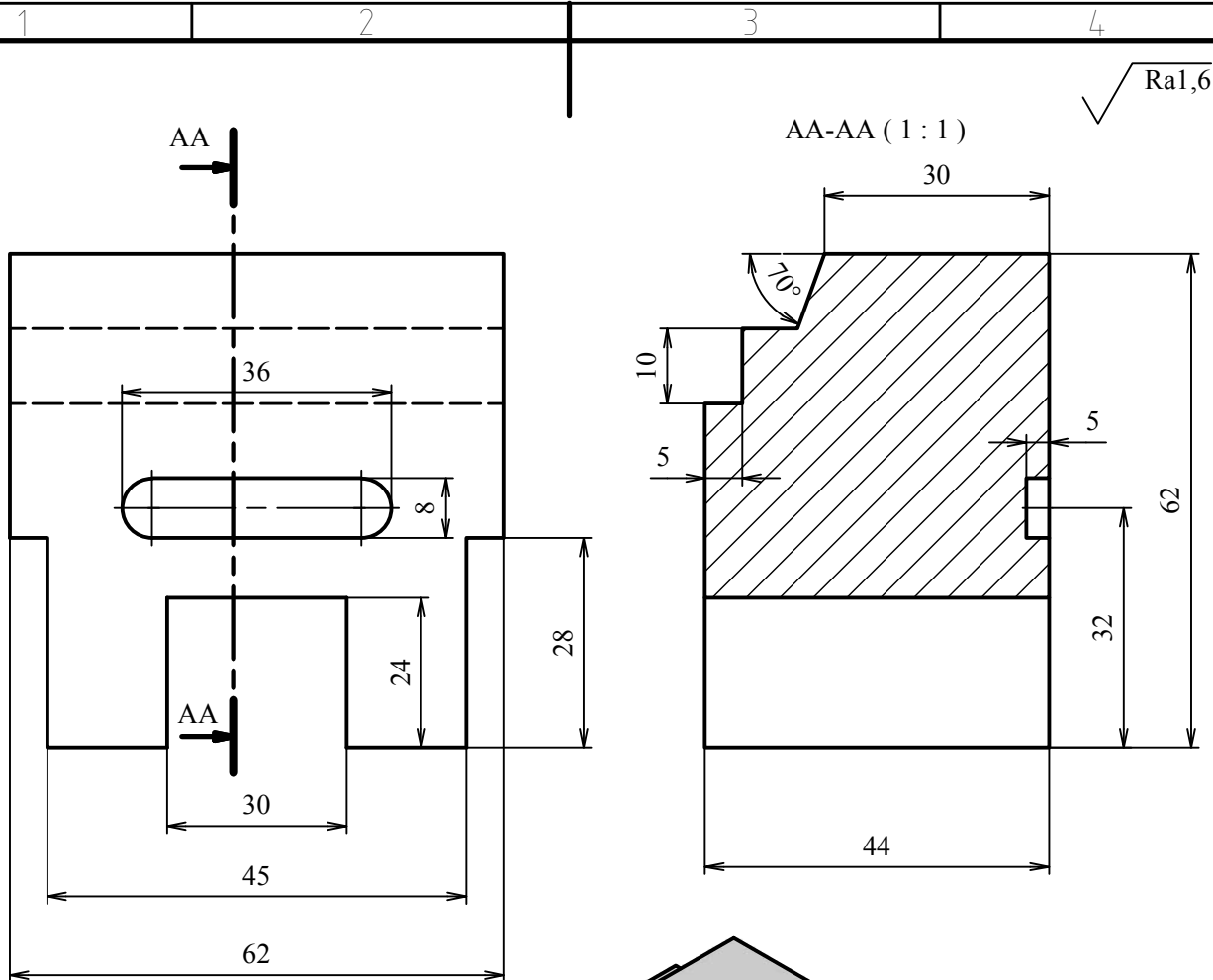
| INDEX                          | ZMENA | DATUM | PODPIS     | <b>SOŠ - Strojnícka</b><br><b>POVAŽSKÁ BYSTRICA</b> |                   |
|--------------------------------|-------|-------|------------|-----------------------------------------------------|-------------------|
|                                |       |       |            |                                                     |                   |
| ZNACKA MATERIALU 11600         |       |       | T.O.       | HMOTNOST kg                                         | MIERKA            |
| ZNACKA MATERIALU 25x50x50      |       |       |            |                                                     | 1:1               |
| POM.ZARIADENIE                 |       |       |            | STN                                                 | TR.C.             |
| VYPRACOVAL : Bc. Jozef Biernát |       |       | NORM. REF. | POZNAMKA                                            | C.KUSOVNIKU       |
| PRESKUSAL :                    |       |       |            |                                                     |                   |
| TECHNOLOG :                    |       |       | SCHVALIL:  | STARY V.                                            | C. v. MN 3 FR-001 |
| NAZOV<br><b>PRIZMA</b>         |       |       |            |                                                     |                   |
|                                |       |       |            | LISTOV                                              | LIST              |



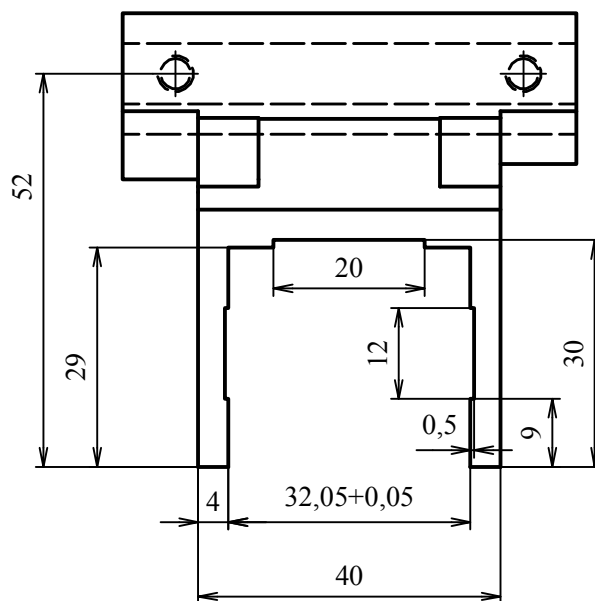
|                                |       |            |        |                                                     |                   |
|--------------------------------|-------|------------|--------|-----------------------------------------------------|-------------------|
| INDEX                          | ZMENA | DATUM      | PODPIS | <b>SOŠ - Strojnícka</b><br><b>POVAŽSKÁ BYSTRICA</b> |                   |
|                                |       |            |        |                                                     |                   |
| ZNACKA MATERIALU 11600         |       |            | T.O.   | HMOTNOST kg                                         | MIERKA            |
| ZNACKA MATERIALU 50x70x70      |       |            |        |                                                     | 1:1               |
| POM.ZARIADENIE                 |       |            |        | STN                                                 | TR.C.             |
| VYPRACOVAL : Bc. Jozef Biernát |       | NORM. REF. |        | POZNAMKA                                            | C.KUSOVNIKU       |
| PRESKUSAL :                    |       |            |        |                                                     |                   |
| TECHNOLOG :                    |       | SCHVALIL:  |        | STARY V.                                            | C. v. MN 3 FR-002 |
| NAZOV<br>ČELUSŤ 1              |       |            |        | LISTOV                                              | LIST              |



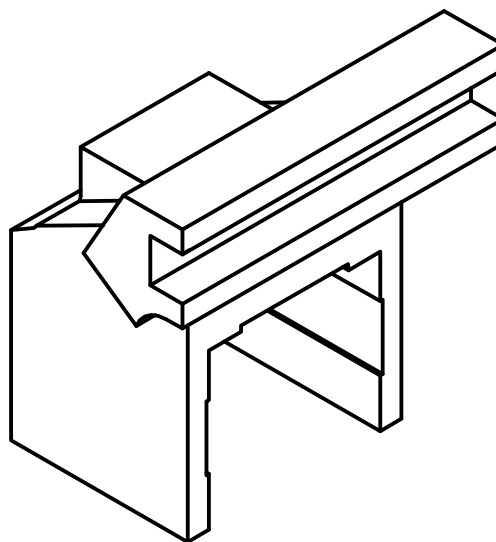
|                                |       |            |        |                                                     |                   |
|--------------------------------|-------|------------|--------|-----------------------------------------------------|-------------------|
| INDEX                          | ZMENA | DATUM      | PODPIS | <b>SOŠ - Strojnícka</b><br><b>POVAŽSKÁ BYSTRICA</b> |                   |
|                                |       |            |        |                                                     |                   |
| ZNACKA MATERIALU 11600         |       |            | T.O.   | HMOTNOST kg                                         | MIERKA            |
| ZNACKA MATERIALU 50x70x70      |       |            |        |                                                     | 1:1               |
| POM.ZARIADENIE                 |       |            |        | STN                                                 | TR.C.             |
| VYPRACOVAL : Bc. Jozef Biernát |       | NORM. REF. |        | POZNAMKA                                            | C.KUSOVNIKU       |
| PRESKUSAL :                    |       |            |        |                                                     |                   |
| TECHNOLOG :                    |       | SCHVALIL:  |        | STARY V.                                            | C. V. MN 3 FR-003 |
| NAZOV<br>ČELUSŤ 2              |       |            |        | LISTOV                                              | LIST              |



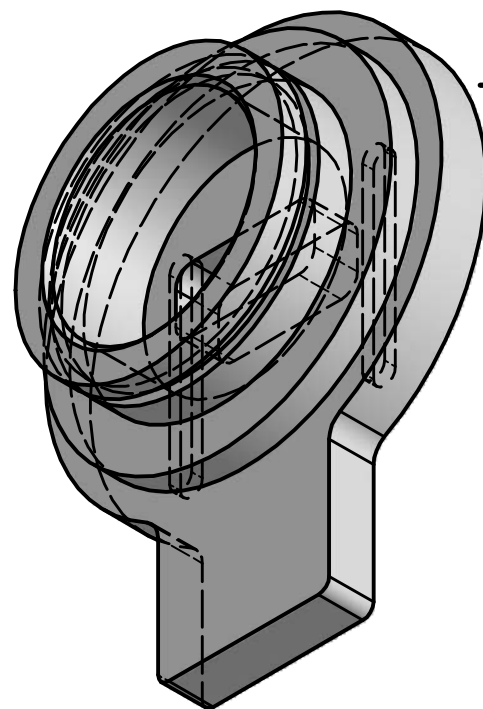
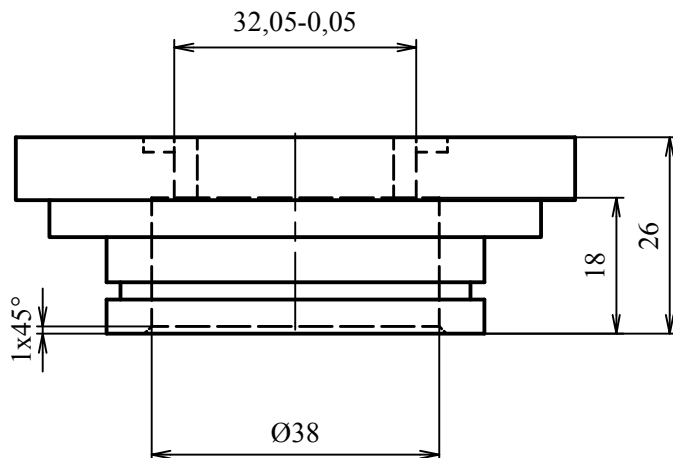
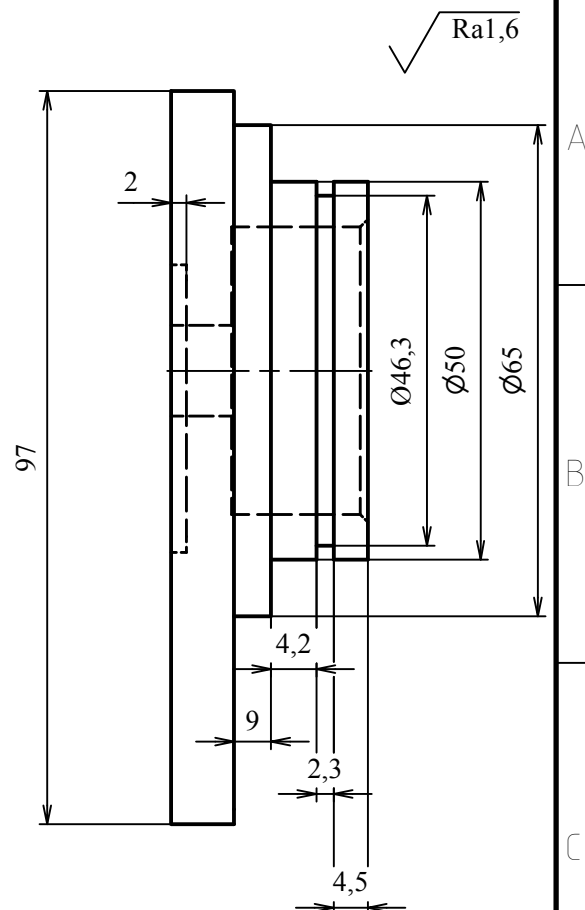
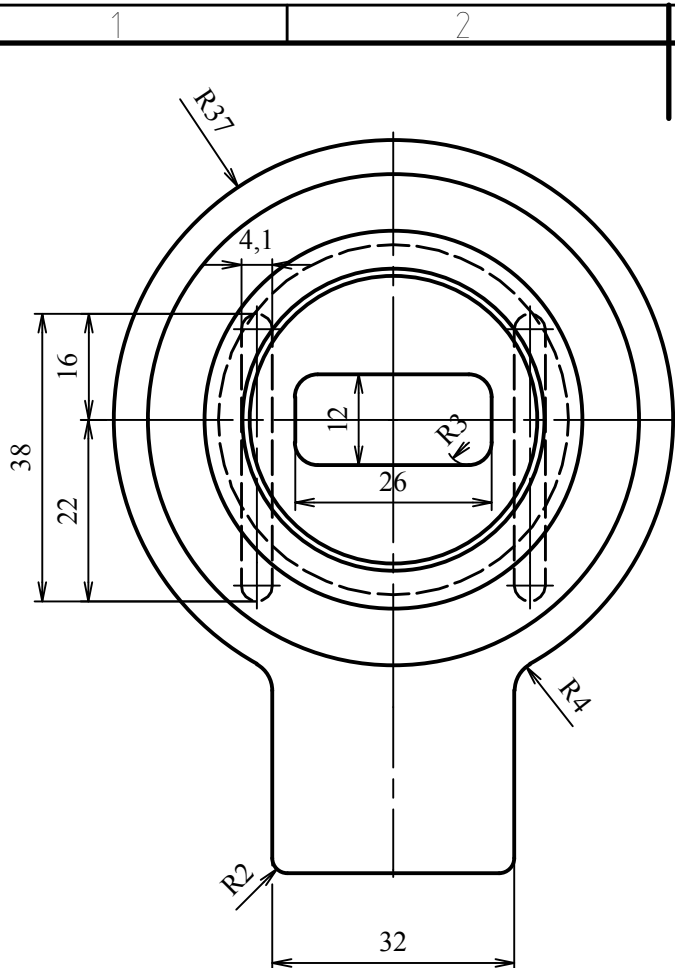
| INDEX                          | ZMENA    | DATUM      | PODPIS | <b>SOŠ - Strojnícka<br/>POVAŽSKÁ BYSTRICA</b> |                   |
|--------------------------------|----------|------------|--------|-----------------------------------------------|-------------------|
| ZNACKA MATERIALU               | 11600    |            | T.O.   | HMOTNOST kg                                   | MIERKA            |
| ZNACKA MATERIALU               | 50x70x70 |            |        |                                               | 1:1               |
| POM.ZARIADENIE                 |          |            |        | STN                                           | TR.C.             |
| VYPRACOVAL : Bc. Jozef Biernát |          | NORM. REF. |        | POZNAMKA                                      | C.KUSOVNIKU       |
| PRESKUSAL :                    |          |            |        | STARY V.                                      | C. v. MN 3 FR-004 |
| TECHNOLOG :                    |          | SCHVALIL:  |        |                                               |                   |
| NAZOV                          | ČELUSŤ 3 |            |        |                                               |                   |
|                                |          |            |        | LISTOV                                        | LIST              |



Technical drawing of a mechanical part (Fig. 1.10). The part is a rectangular block with a width of 9 mm and a total height of 46 mm. It features two vertical slots, each 7 mm wide, spaced 7 mm apart. The slots are 46 mm deep. The part is shown in a cross-section view with hatching.

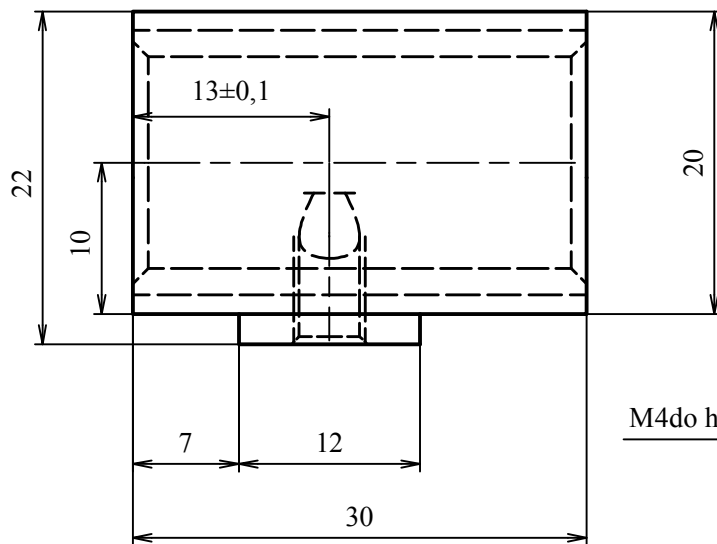


|                                |       |            |        |                                                     |                   |
|--------------------------------|-------|------------|--------|-----------------------------------------------------|-------------------|
| INDEX                          | ZMENA | DATUM      | PODPIS | <b>SOŠ - Strojnícka</b><br><b>POVAŽSKÁ BYSTRICA</b> |                   |
|                                |       |            |        |                                                     |                   |
| ZNACKA MATERIÁLU 11600         |       |            | T.O.   | HMOTNOST kg                                         | MIERKA            |
| ZNACKA MATERIÁLU 50x70x70      |       |            |        |                                                     | 1:1               |
| POM.ZARIADENIE                 |       |            |        | STN                                                 | TR.C.             |
| VYPRACOVAL : Bc. Jozef Biernát |       | NORM. REF. |        | POZNAMKA                                            | C.KUSOVNIKU       |
| PRESKUSAL :                    |       |            |        |                                                     |                   |
| TECHNOLOG :                    |       | SCHVALIL:  |        | STARÝ V.                                            | C. V. MN 3 FR-005 |
| NAZOV<br>ČELUSŤ 4              |       |            |        | LISTOV                                              | LIST              |

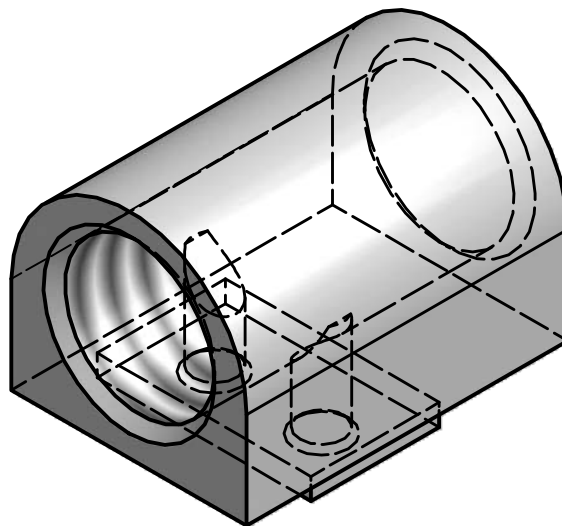
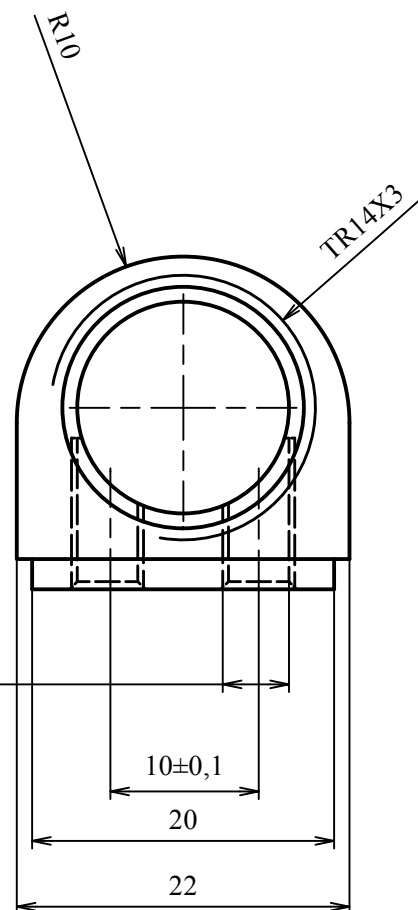


| INDEX            | ZMENA         | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                 |
|------------------|---------------|------------|--------|---------------------------------------|-----------------|
| ZNACKA MATERIALU | 12060,0       |            | T.O.   | HMOTNOST kg                           | MIERKA          |
| ZNACKA MATERIALU | 30x80x102     |            |        |                                       | 1:1             |
| POM.ZARIADENIE   |               |            |        | STN                                   | TR.C.           |
| VYPRACOVAL :     | Biernat Jozef | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU     |
| PRESKUSAL :      |               |            |        | STARY V.                              | C. V. MN3FR-006 |
| TECHNOLOG :      |               | SCHVALIL:  |        |                                       |                 |
| NAZOV            |               |            |        |                                       |                 |
| TOČNICA          |               |            |        | LISTOV                                | LIST            |



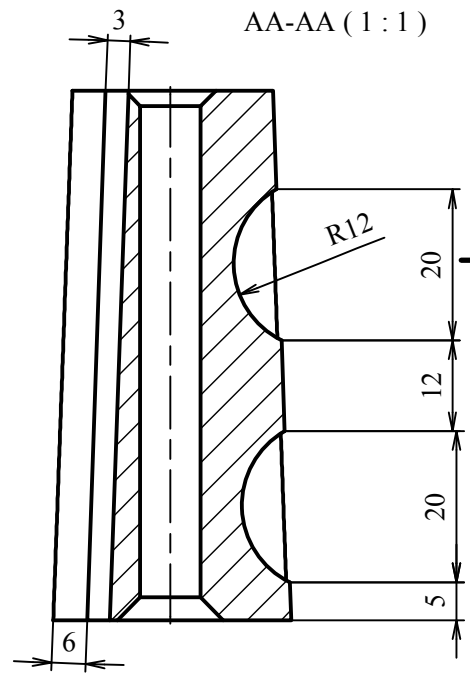
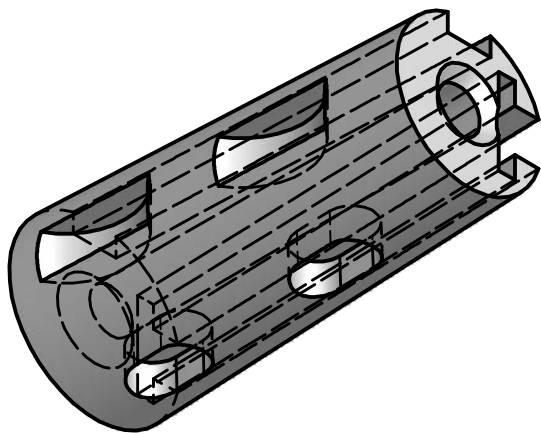
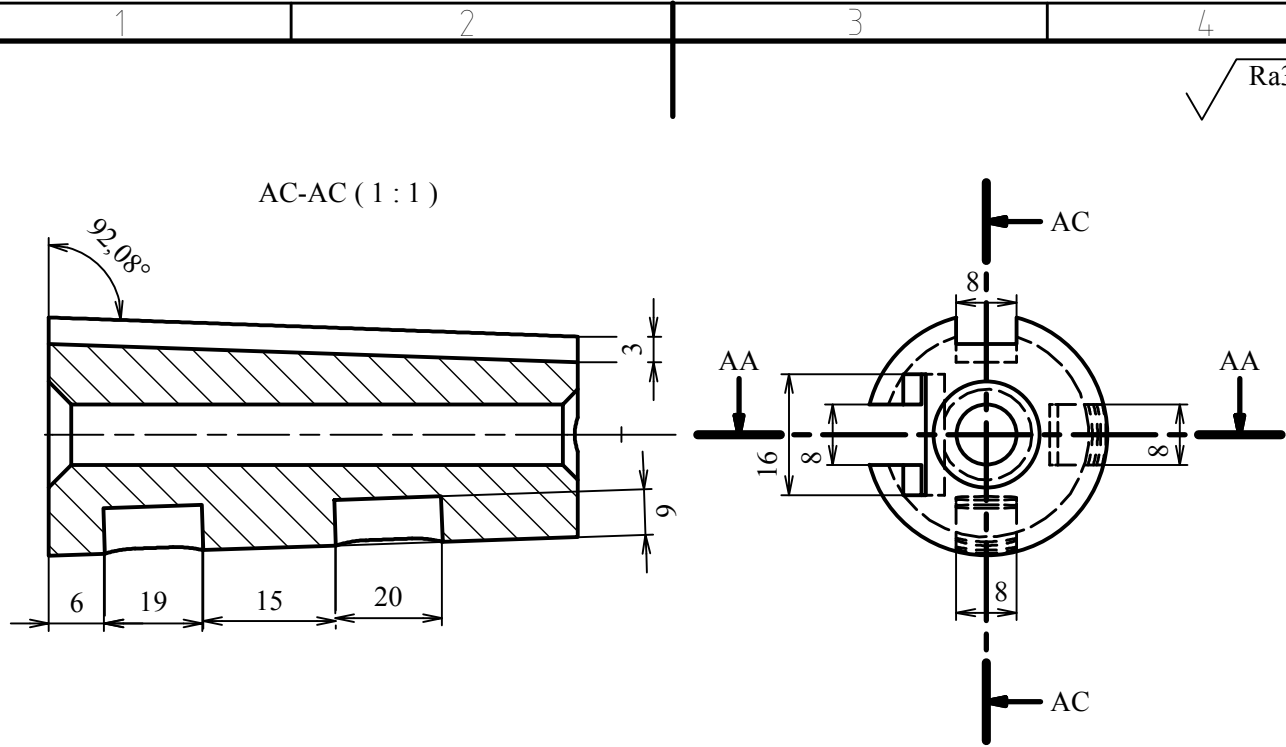


M4do hlb.10



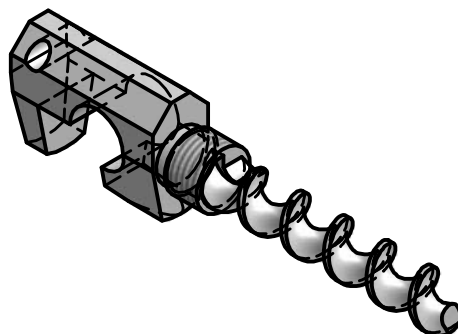
| INDEX                      | ZMENA | DATUM      | PODPIS | <b>SOŠ - Strojnícka</b><br><b>POVAŽSKÁ BYSTRICA</b> |                 |
|----------------------------|-------|------------|--------|-----------------------------------------------------|-----------------|
|                            |       |            |        |                                                     |                 |
| ZNACKA MATERIÁLU Zliatina  |       | T.O.       |        | HMOTNOST kg                                         | MIERKA          |
| ZNACKA MATERIÁLU 25x25x35  |       |            |        |                                                     | 2:1             |
| POM.ZARIADENIE             |       |            |        | STN                                                 | TR.C.           |
| VYPRACOVAL : Biernat Jozef |       | NORM. REF. |        | POZNAMKA                                            | C.KUSOVNIKU     |
| PRESKUSAL :                |       |            |        |                                                     |                 |
| TECHNOLOG :                |       | SCHVALIL:  |        | STARÝ V.                                            | C. V. MN3FR-008 |
| NAZOV                      |       |            |        |                                                     |                 |
| MATICA                     |       |            |        | LISTOV                                              | LIST            |





| INDEX                      | ZMENA  | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                 |
|----------------------------|--------|------------|--------|---------------------------------------|-----------------|
| ZNACKA MATERIALU           | 11600  |            | T.O.   | HMOTNOST kg                           | MIERKA          |
| ZNACKA MATERIALU           | Ø55x75 |            |        |                                       | 1:1             |
| POM.ZARIADENIE             |        |            |        | STN                                   | TR.C.           |
| VYPRACOVAL : Biernat Jozef |        | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU     |
| PRESKUSAL :                |        |            |        | STARY V.                              | C. V. MN3FR-010 |
| TECHNOLOG :                |        | SCHVALIL:  |        |                                       |                 |
| NAZOV                      |        |            |        |                                       |                 |
| KUŽEL                      |        |            |        | LISTOV                                | LIST            |





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√ Ra1,6

A

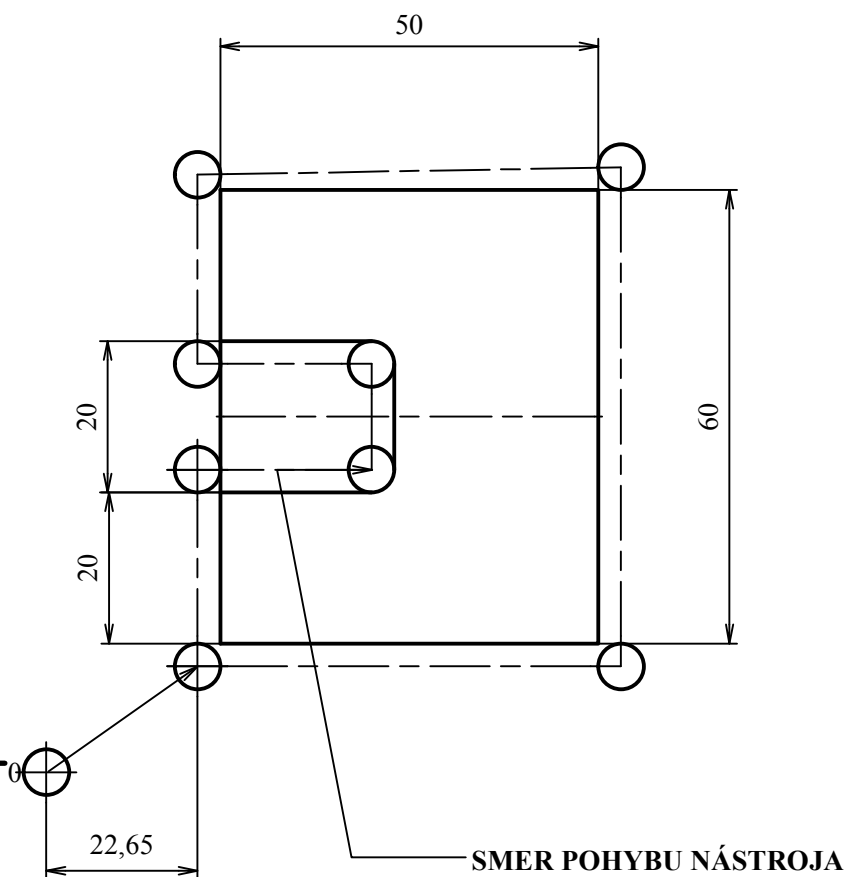
B

C

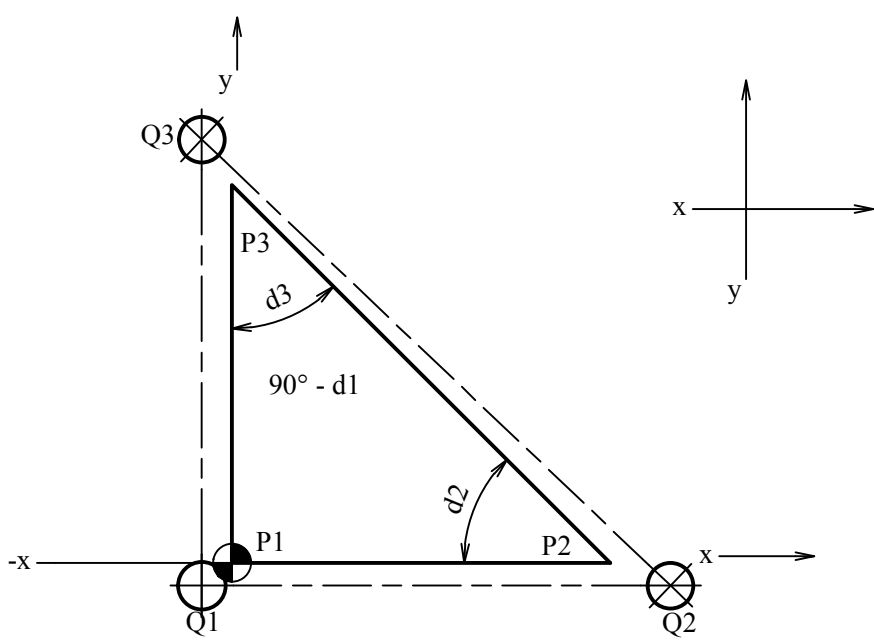
D

E

F



| INDEX             | ZMENA         | DATUM      | PODPIS | <b>SOŠ - Strojnícka<br/>POVAŽSKÁ BYSTRICA</b> |                 |
|-------------------|---------------|------------|--------|-----------------------------------------------|-----------------|
| ZNACKA MATERIALU  | Tvrdé drevo   |            | T.O.   | HMOTNOST kg                                   | MIERKA          |
| ZNACKA MATERIALU  | 40x60x70      |            |        |                                               | 1:1             |
| POM.ZARIADENIE    |               |            |        | STN                                           | TR.C.           |
| VYPRACOVAL :      | Biernat Jozef | NORM. REF. |        | POZNAMKA                                      | C.KUSOVNIKU     |
| PRESKUSAL :       |               |            |        |                                               |                 |
| TECHNOLOG :       |               | SCHVALIL:  |        | STARY V.                                      | C. V. MN3FR-013 |
| NAZOV             |               |            |        |                                               |                 |
| <b>PODLOŽKA 2</b> |               |            |        | LISTOV                                        | LIST            |



√ Ra1,6

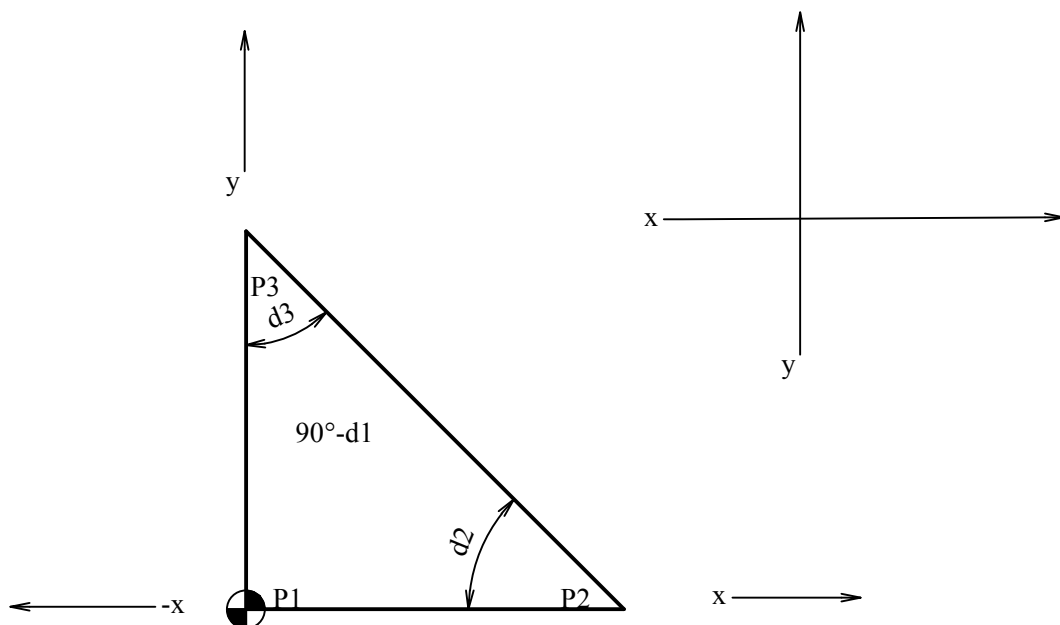
| INDEX                      | ZMENA | DATUM      | PODPIS | <b>SOŠ - Strojnícka</b><br><b>POVAŽSKÁ BYSTRICA</b> |                 |
|----------------------------|-------|------------|--------|-----------------------------------------------------|-----------------|
|                            |       |            |        |                                                     |                 |
| ZNACKA MATERIALU 11600     |       |            | T.O.   | HMOTNOST kg                                         | MIERKA          |
| ZNACKA MATERIALU 20x50x50  |       |            |        |                                                     | 1:1             |
| POM.ZARIADENIE             |       |            |        | STN                                                 | TR.C.           |
| VYPRACOVAL : Biernat Jozef |       | NORM. REF. |        | POZNAMKA                                            | C.KUSOVNIKU     |
| PRESKUSAL :                |       |            |        |                                                     |                 |
| TECHNOLOG :                |       | SCHVALIL:  |        | STARY V.                                            | C. V. MN3FR-014 |
| NAZOV                      |       |            |        |                                                     |                 |
| <b>TROJUHOLNÍK</b>         |       |            |        | LISTOV                                              | LIST            |
|                            |       |            |        |                                                     |                 |

1

2

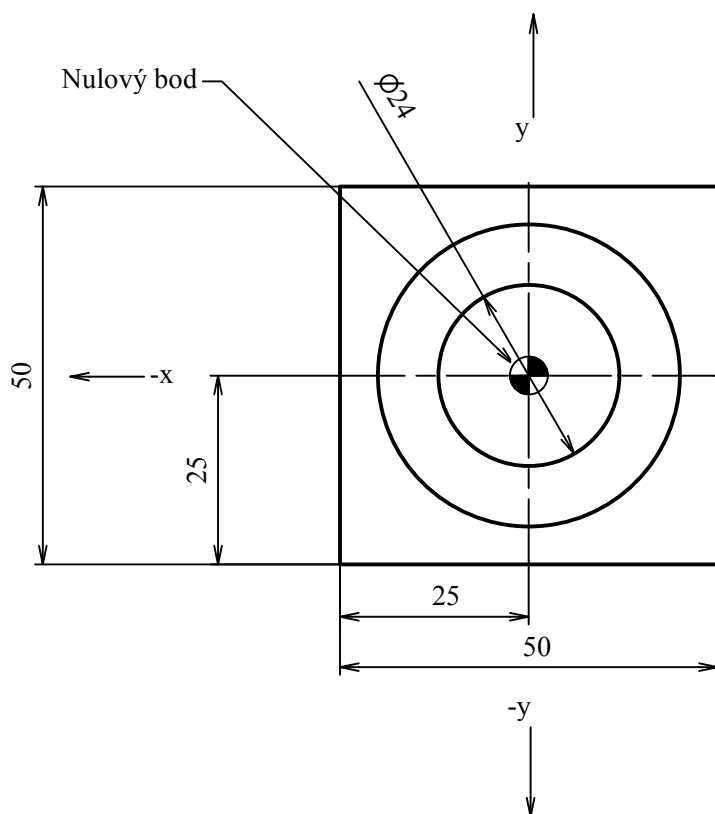
3

4

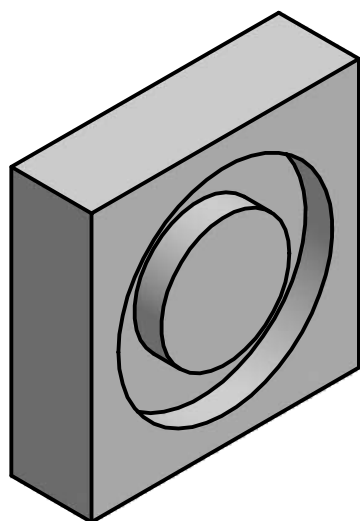
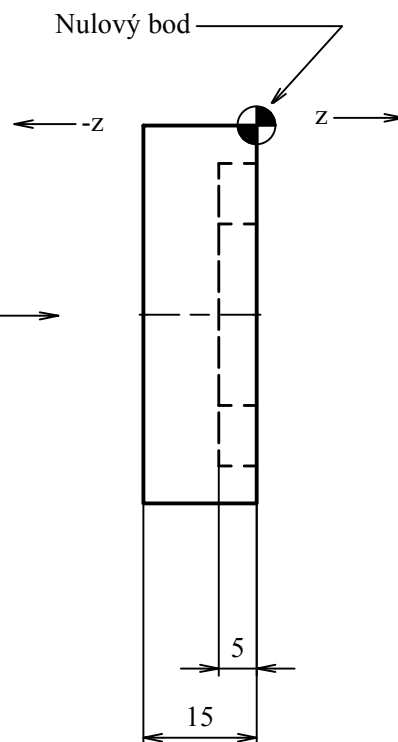
 $\sqrt{Ra1,6}$ 

|                            |       |            |        |                                               |                 |
|----------------------------|-------|------------|--------|-----------------------------------------------|-----------------|
| INDEX                      | ZMENA | DATUM      | PODPIS | <b>SOŠ - Strojnícka<br/>POVAŽSKÁ BYSTRICA</b> |                 |
| ZNACKA MATERIALU 11600     |       | T.O.       |        | HMOTNOST kg                                   | MIERKA          |
| ZNACKA MATERIALU 20x50x50  |       |            |        |                                               | 1:1             |
| POM.ZARIADENIE             |       |            |        | STN                                           | TR.C.           |
| VYPRACOVAL : Biernat Jozef |       | NORM. REF. |        | POZNAMKA                                      | C.KUSOVNIKU     |
| PRESKUSAL :                |       |            |        | STARY V.                                      | C. V. MN6FR-015 |
| TECHNOLOG :                |       | SCHVALIL:  |        |                                               |                 |
| NAZOV                      |       |            |        |                                               |                 |
| <b>TROJUHOLNÍK</b>         |       |            |        | LISTOV                                        | LIST            |



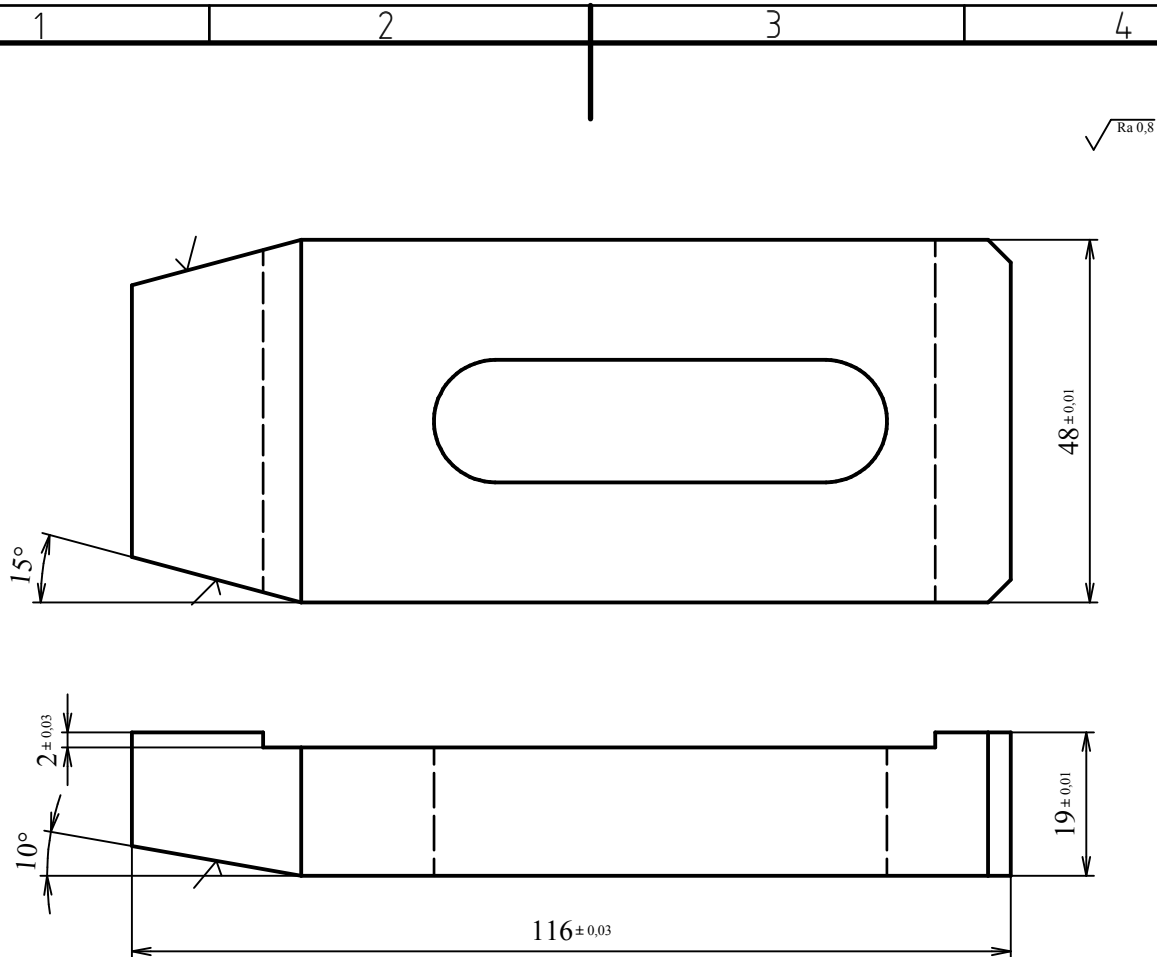


Kruhov interpolcia



|                           |       |            |        |                                       |                 |
|---------------------------|-------|------------|--------|---------------------------------------|-----------------|
| INDEX                     | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                 |
| ZNACKA MATERIALU 11 600   |       |            | T.O.   | HMOTNOST kg                           | MIERKA          |
| ZNACKA MATERIALU 50x50x20 |       |            |        |                                       | 1:1             |
| POM.ZARIADENIE            |       |            |        | STN                                   | TR.C.           |
| VYPRACOVAL : Bc. Biernat  |       | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU     |
| PRESKUSAL :               |       |            |        |                                       |                 |
| TECHNOLOG :               |       | SCHVALIL:  |        | STARY V.                              | C. V. MN3FR-017 |
| NAZOV                     |       |            |        |                                       |                 |
| KOCKA 1                   |       |            |        | LISTOV                                | LIST            |





| INDEX                      | ZMENA  | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|--------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |        |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |        |            |        |                                       | 1:1              |
| POM.ZARIADENIE             |        |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |        | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |        |            |        |                                       |                  |
| TECHNOLOG :                |        | SCHVALIL:  |        | STARY V.                              | C. V. MN 3 B 001 |
| NAZOV                      | Upínka |            |        | LISTOV LIST                           |                  |

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 $\sqrt{\text{Ra } 0,8}$ 

A

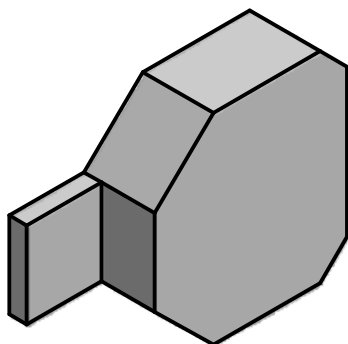
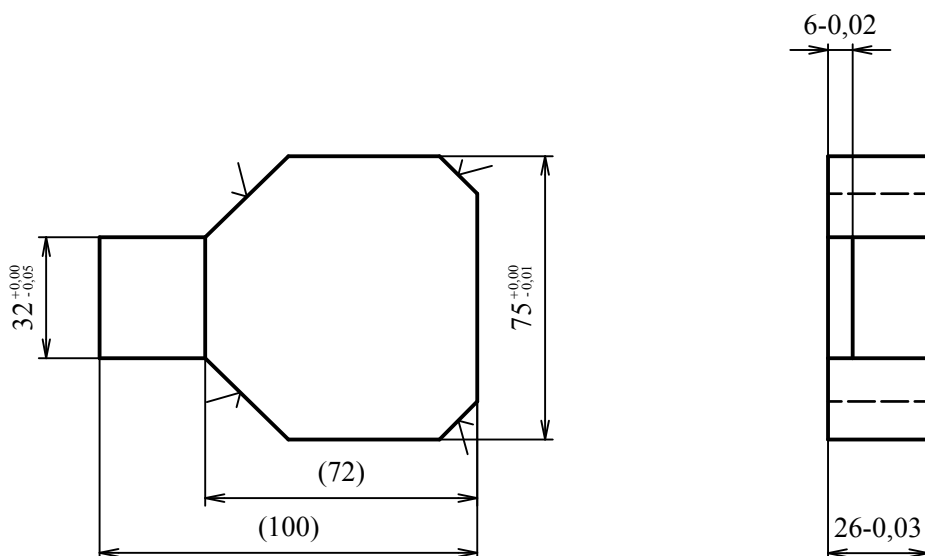
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| INDEX                      | ZMENA   | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|---------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |         |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |         |            |        |                                       | 1:1              |
| POM.ZARIADENIE             |         |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |         | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |         |            |        |                                       |                  |
| TECHNOLOG :                |         | SCHVALIL:  |        | STARÝ V.                              | C. V. MN 3 B 002 |
| NAZOV                      | Točnica |            |        | LISTOV                                | LIST             |

1 2 3 4

$\sqrt{Ra\ 0,8}$

A

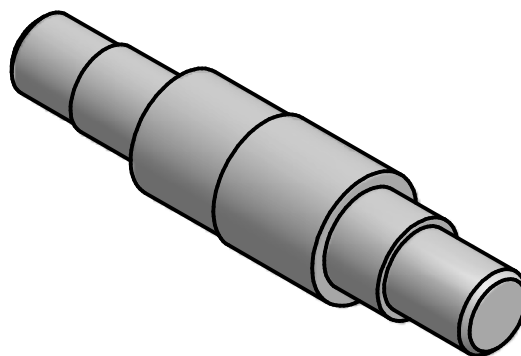
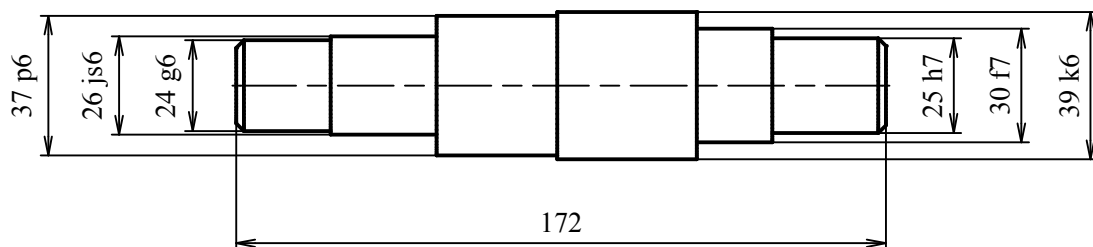
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| INDEX                      | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|-------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |       |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |       |            |        |                                       | 1:2              |
| POM.ZARIADENIE             |       |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |       | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |       |            |        |                                       |                  |
| TECHNOLOG :                |       | SCHVALIL:  |        | STARY V.                              | C. V. MN 3 B 003 |
| NAZOV                      | Trň   |            |        | LISTOV                                | LIST             |

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0.8  
✓

A

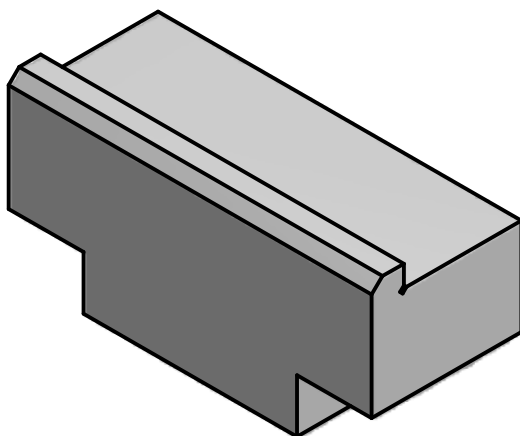
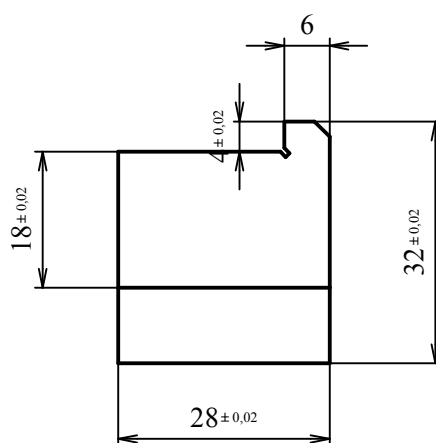
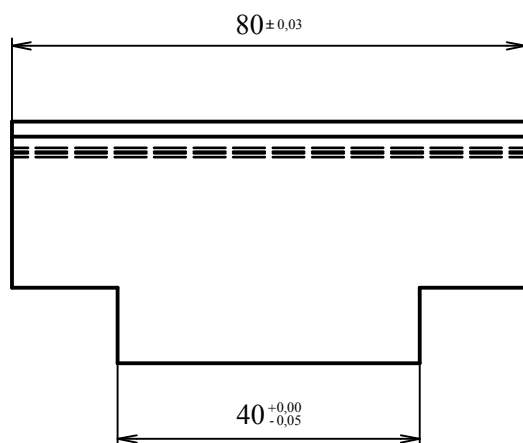
B

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| INDEX                      | ZMENA            | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|------------------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |                  |            | T.O.   | HMOTNOST kg                           | MIERKA 1:1       |
| ZNACKA MATERIALU           |                  |            |        |                                       |                  |
| POM.ZARIADENIE             |                  |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |                  | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |                  |            |        |                                       |                  |
| TECHNOLOG :                |                  | SCHVALIL:  |        | STARÝ V.                              | C. V. MN 3 B 004 |
| NAZOV                      | Pohyblivá čelusť |            |        | LISTOV                                | LIST             |

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 $\sqrt{Ra\ 0,8}$ 

A

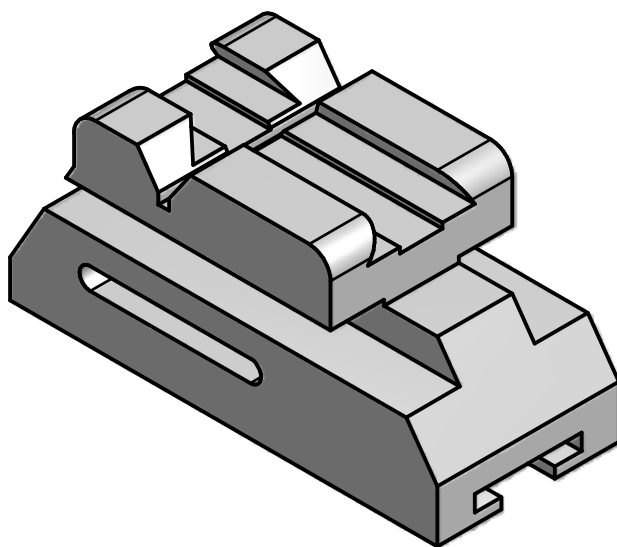
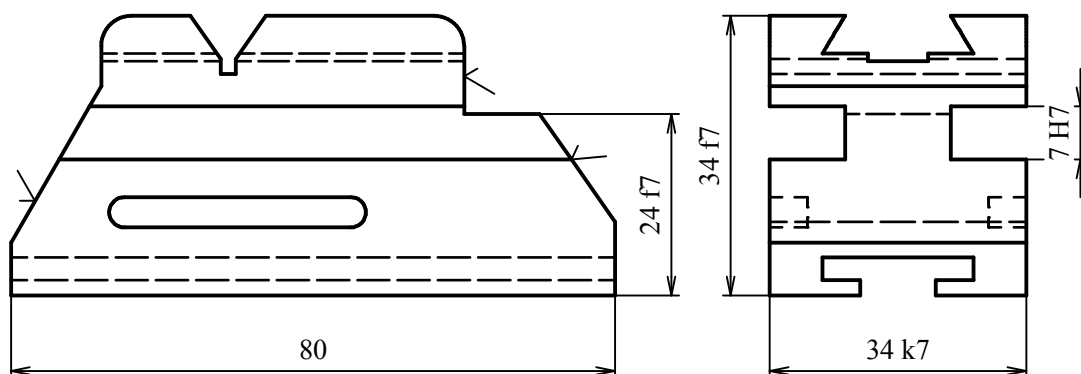
B

C

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| INDEX                      | ZMENA  | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|--------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |        |            | T.O.   | HMOTNOST kg                           | MIERKA 1:1       |
| ZNACKA MATERIALU           |        |            |        |                                       |                  |
| POM.ZARIADENIE             |        |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |        | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |        |            |        |                                       |                  |
| TECHNOLOG :                |        | SCHVALIL:  |        | STARY V.                              | C. V. MN 3 B 005 |
| NAZOV                      | Prizma |            |        | LISTOV                                | LIST             |

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 $\sqrt{Ra\ 0,8}$ 

A

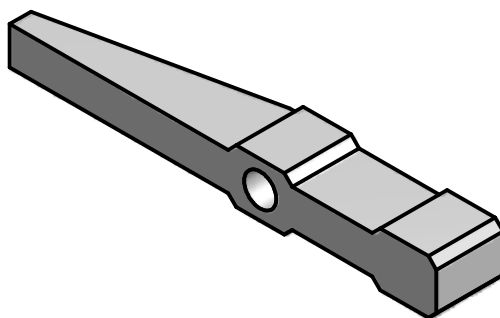
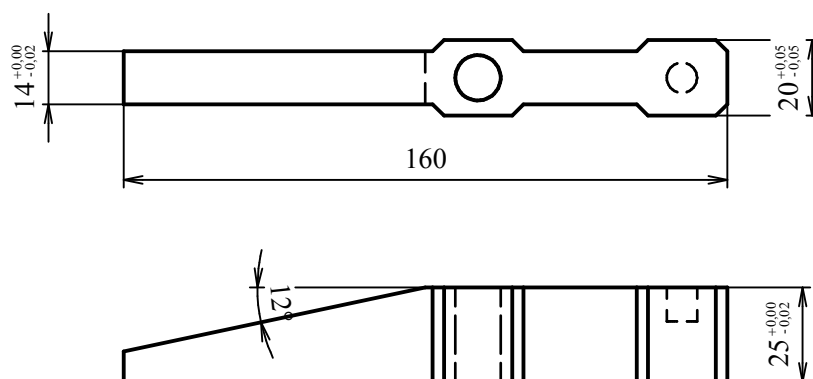
B

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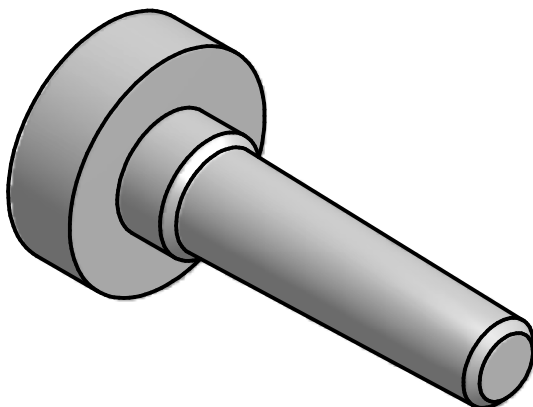
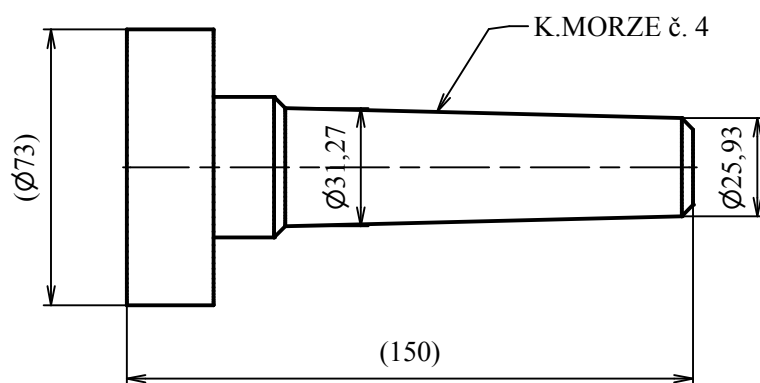
E

F

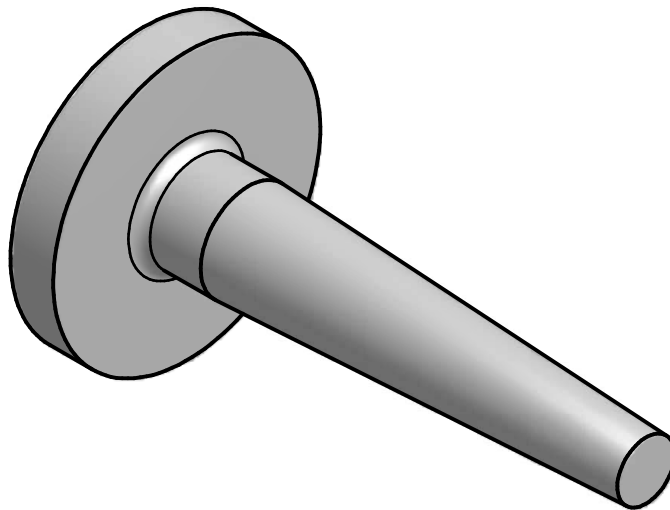
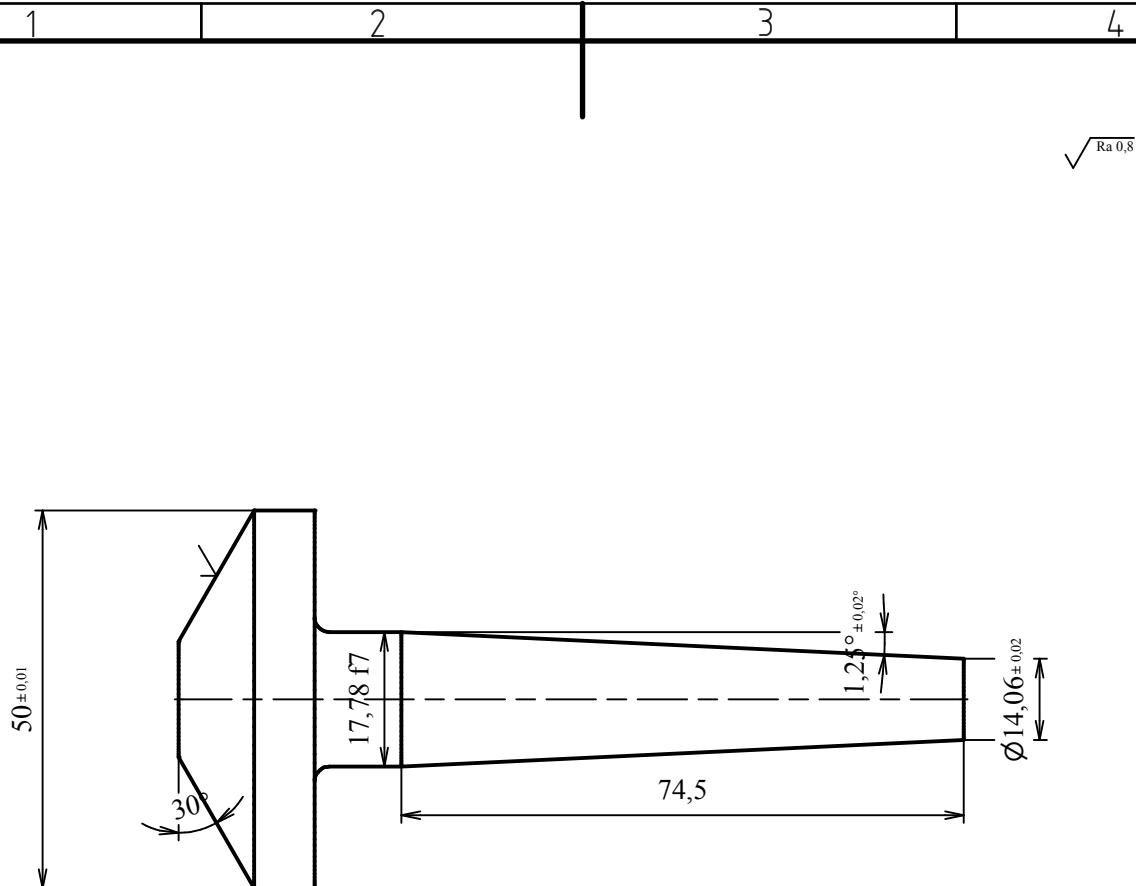


|                            |               |            |        |                                       |                  |
|----------------------------|---------------|------------|--------|---------------------------------------|------------------|
| INDEX                      | ZMENA         | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU           |               |            | T.O.   | HMOTNOST kg                           | MIERKA<br>1:2    |
| ZNACKA MATERIALU           |               |            |        |                                       |                  |
| POM.ZARIADENIE             |               |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |               | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |               |            |        |                                       |                  |
| TECHNOLOG :                |               | SCHVALIL:  |        | STARY V.                              | C. V. MN 3 B 006 |
| NAZOV                      | Spodná čelusť |            |        |                                       |                  |
|                            |               |            |        | LISTOV                                | LIST             |

✓<sub>Ra 0,8</sub>



| INDEX                      | ZMENA  | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|--------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |        |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |        |            |        |                                       | 1:2              |
| POM.ZARIADENIE             |        |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |        | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |        |            |        |                                       |                  |
| TECHNOLOG :                |        | SCHVALIL:  |        | STARY V.                              | C. V. MN 3 B 007 |
| NAZOV                      | Teleso |            |        | LISTOV                                | LIST             |



| INDEX                      | ZMENA    | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|----------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |          |            | T.O.   | HMOTNOST kg                           | MIERKA 1:1       |
| ZNACKA MATERIALU           |          |            |        |                                       |                  |
| POM.ZARIADENIE             |          |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |          | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |          |            |        |                                       |                  |
| TECHNOLOG :                |          | SCHVALIL:  |        | STARÝ V.                              | C. V. MN 3 B 008 |
| NAZOV                      | Fr. kľúč |            |        | LISTOV                                | LIST             |

1

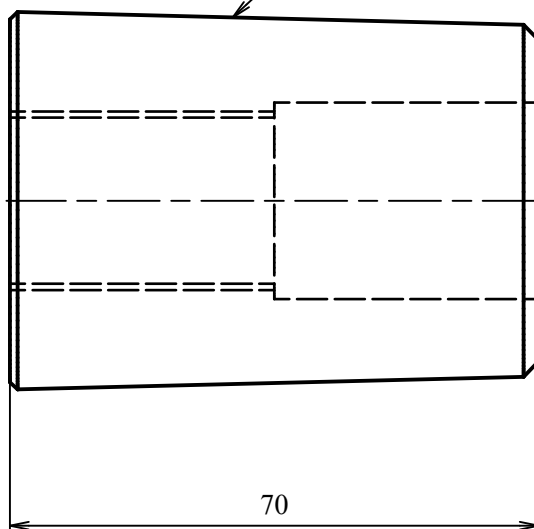
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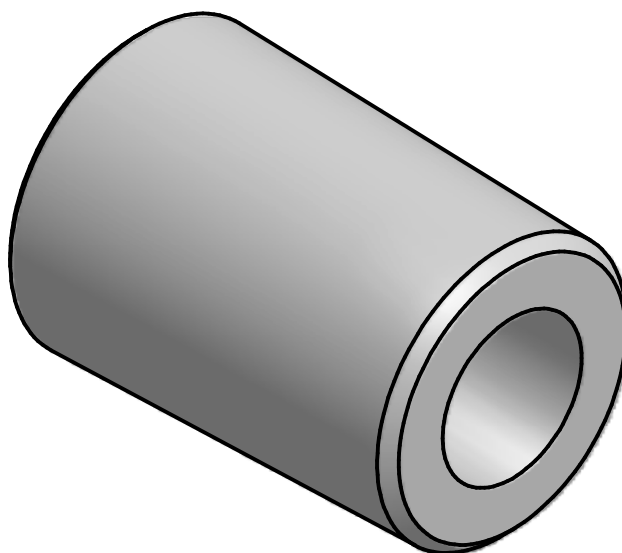
4

 $\sqrt{Ra\ 0,8}$ 

K. Metr. č.50



70



|                            |       |            |        |                                       |                  |
|----------------------------|-------|------------|--------|---------------------------------------|------------------|
| INDEX                      | ZMENA | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
| ZNACKA MATERIALU           |       |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |       |            |        |                                       | 1:1              |
| POM.ZARIADENIE             |       |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |       | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |       |            |        |                                       |                  |
| TECHNOLOG :                |       | SCHVALIL:  |        | STARÝ V.                              | C. V. MN 3 B 009 |
| NAZOV                      | Doraz |            |        |                                       |                  |
|                            |       |            |        | LISTOV                                | LIST             |

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 $\sqrt{Ra\ 0,8}$ 

A

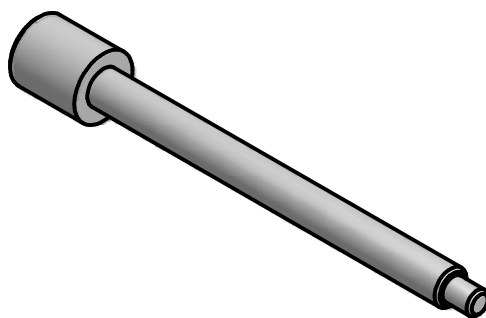
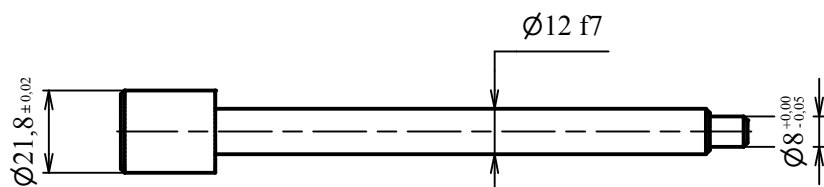
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| INDEX                      | ZMENA              | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|--------------------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |                    |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |                    |            |        |                                       | 1:2              |
| POM.ZARIADENIE             |                    |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |                    | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |                    |            |        |                                       |                  |
| TECHNOLOG :                |                    | SCHVALIL:  |        | STARÝ V.                              | C. V. MN 3 B 010 |
| NAZOV                      | Rozpínacia skrutka |            |        | LISTOV                                | LIST             |

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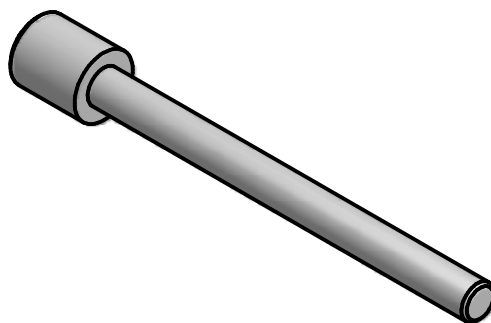
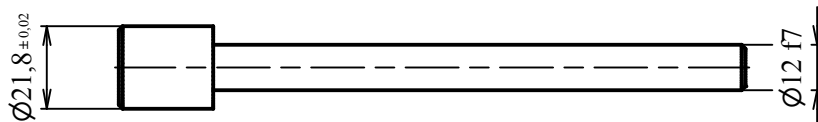
B

C

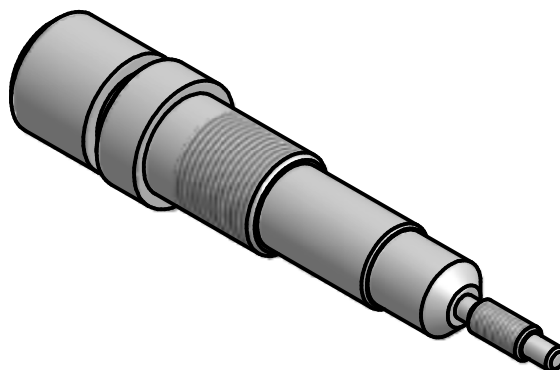
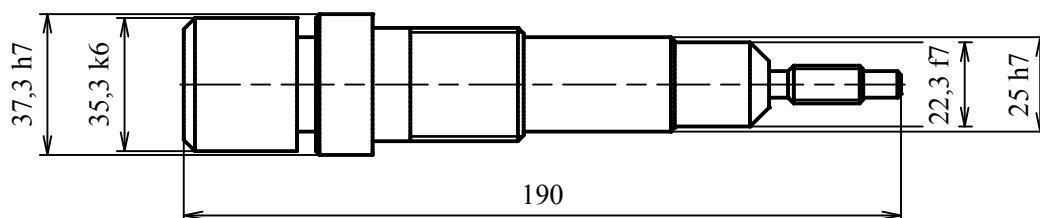
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 $\sqrt{Ra\ 0.8}$ 

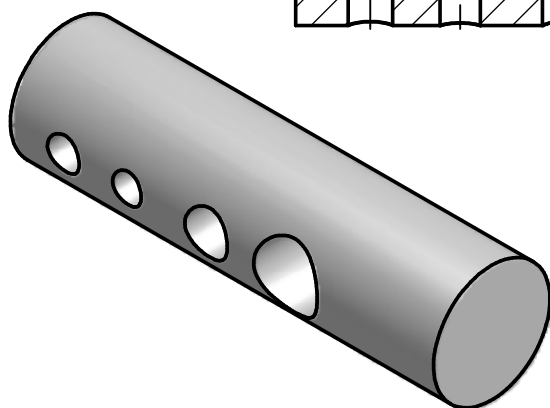
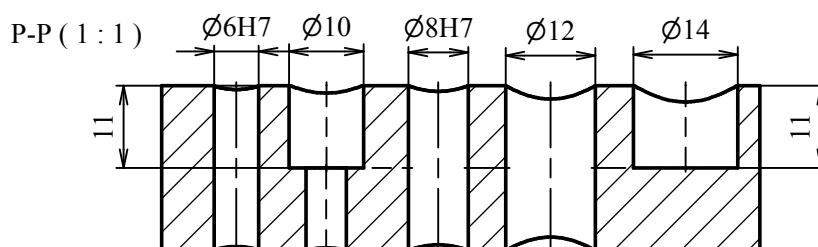
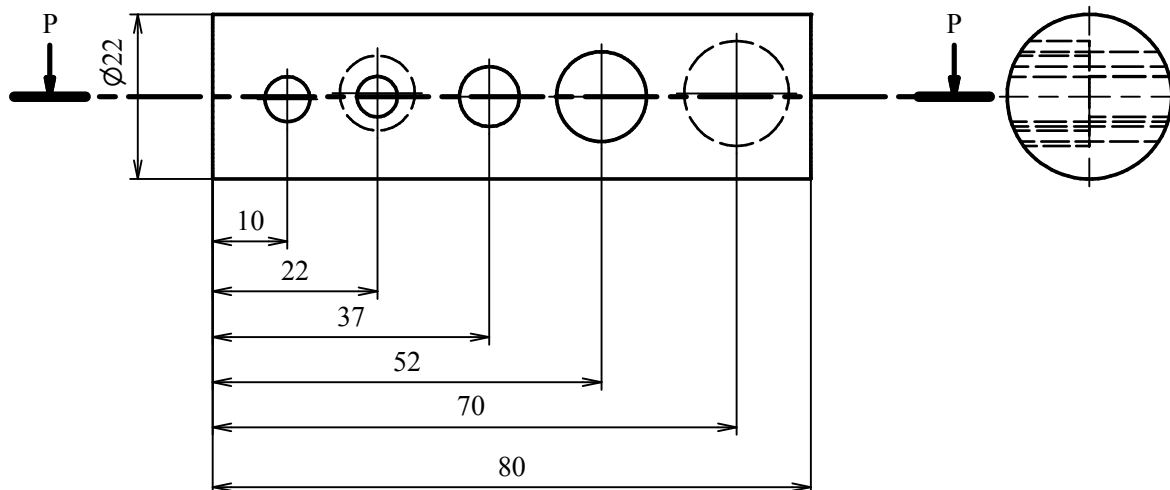
| INDEX                      | ZMENA              | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|--------------------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |                    |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |                    |            |        |                                       | 1:2              |
| POM.ZARIADENIE             |                    |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |                    | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |                    |            |        |                                       |                  |
| TECHNOLOG :                |                    | SCHVALIL:  |        | STARY V.                              | C. V. MN 3 B 011 |
| NAZOV                      | Sťahovacia skrutka |            |        | LISTOV                                | LIST             |



| INDEX                      | ZMENA    | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAŽSKÁ BYSTRICA |                  |
|----------------------------|----------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU           |          |            | T.O.   | HMOTNOST kg                           | MIERKA           |
| ZNACKA MATERIALU           |          |            |        |                                       | 1:2              |
| POM.ZARIADENIE             |          |            |        | STN                                   | TR.C.            |
| VYPRACOVAL : Bc. Hrabovský |          | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :                |          |            |        |                                       |                  |
| TECHNOLOG :                |          | SCHVALIL:  |        | STARY V.                              | C. V. MN 3 B 012 |
| NAZOV                      | Hriadel' |            |        | LISTOV                                | LIST             |

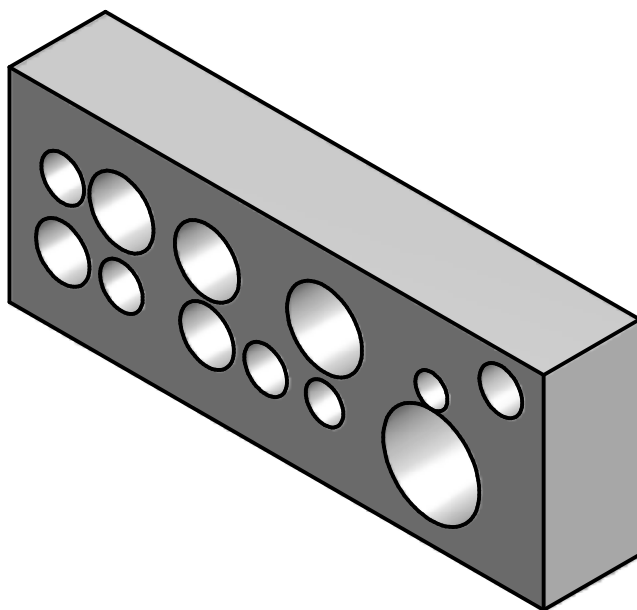
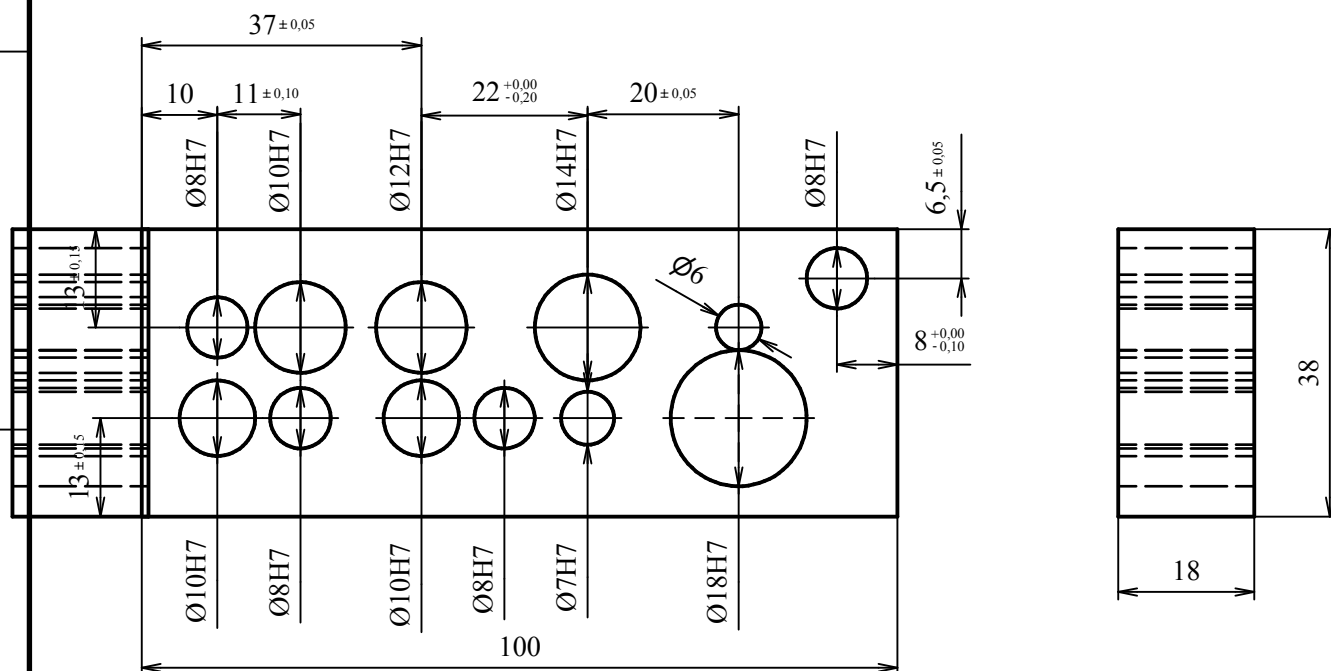
# Téma : 1.4.1. - VRTANIE OTVOROV PRESNÝCH ROZOSTUPOV

$\sqrt{Ra\ 3.2}$



| INDEX            | ZMENA            | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |                   |
|------------------|------------------|------------|--------|---------------------------------------|-------------------|
| ZNACKA MATERIALU | 11 600           |            | T.O.   | HMOTNOST kg                           | MIERKA<br>1 : 1   |
| ZNACKA MATERIALU | Ø22x80           |            |        |                                       |                   |
| POM.ZARIADENIE   |                  |            |        | STN                                   | TR.C.             |
| VYPRACOVAL :     | Bc. Kresán Jozef | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU       |
| PRESKUSAL :      |                  |            |        |                                       |                   |
| TECHNOLOG :      |                  | SCHVALIL:  |        | STARY V.                              | C. V. MN-3-VR-000 |
| NAZOV            | HRIADEL          |            |        | LISTOV                                | LIST              |

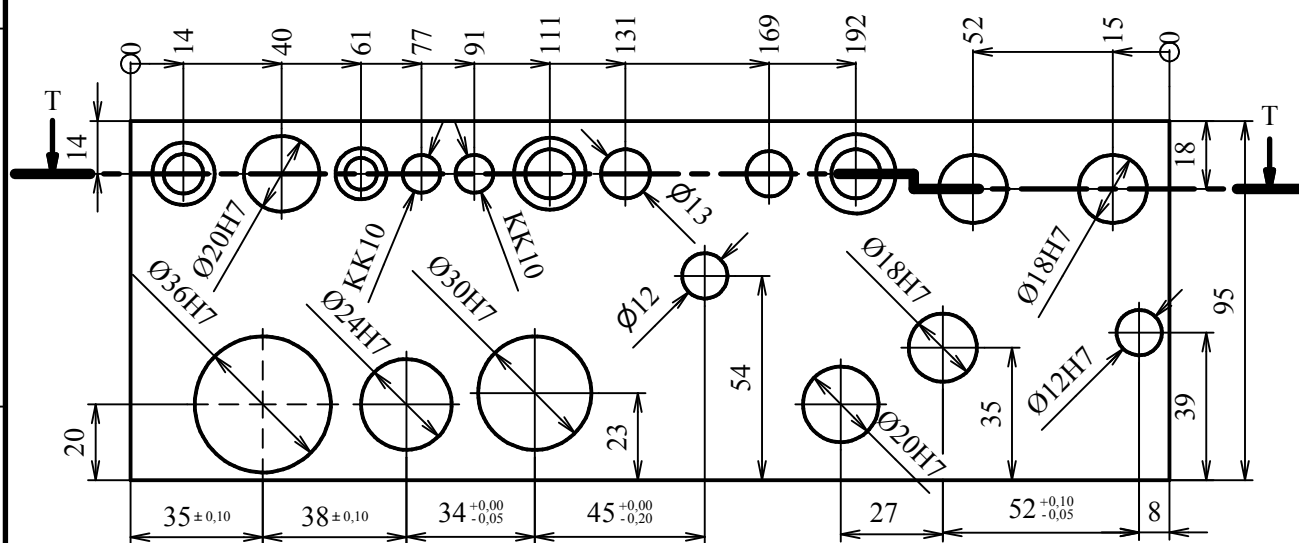
# Téma : 1.4.1. - VRTANIE OTVOROV PRESNÝCH ROZOSTUPOV



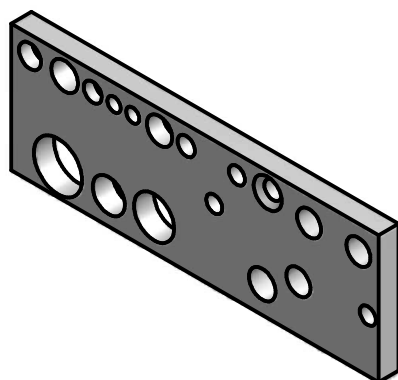
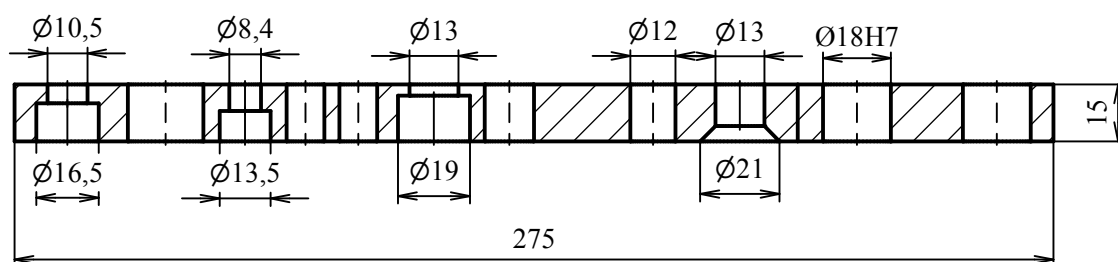
| INDEX            | ZMENA            | DATUM      | PODPIS      | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |       |
|------------------|------------------|------------|-------------|---------------------------------------|-------|
| ZNACKA MATERIALU | 11.600           | T.O.       | HMOTNOST kg | MIERKA                                | 1 : 1 |
| ZNACKA MATERIALU | 20x40x105        |            |             |                                       |       |
| POM.ZARIADENIE   |                  |            | STN         | TR.C.                                 |       |
| VYPRACOVAL :     | Bc. Kresán Jozef | NORM. REF. | POZNAMKA    | C.KUSOVNIKU                           |       |
| PRESKUSAL :      |                  |            |             |                                       |       |
| TECHNOLOG :      |                  | SCHVALIL:  | STARÝ V.    | C. V. MN-3-VR-001                     |       |
| NAZOV            | PODLOŽKA         |            |             | LISTOV                                | LIST  |

# Téma : 1.4.1 - VRTANIE OTVOROV PRESNÝCH ROZOSTUPOV

$\sqrt{Ra\ 1.6}$



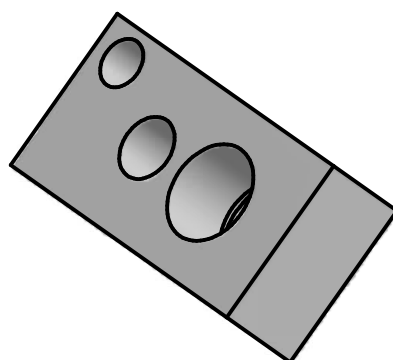
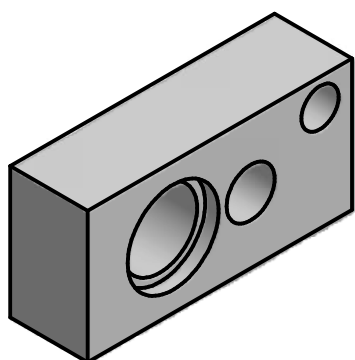
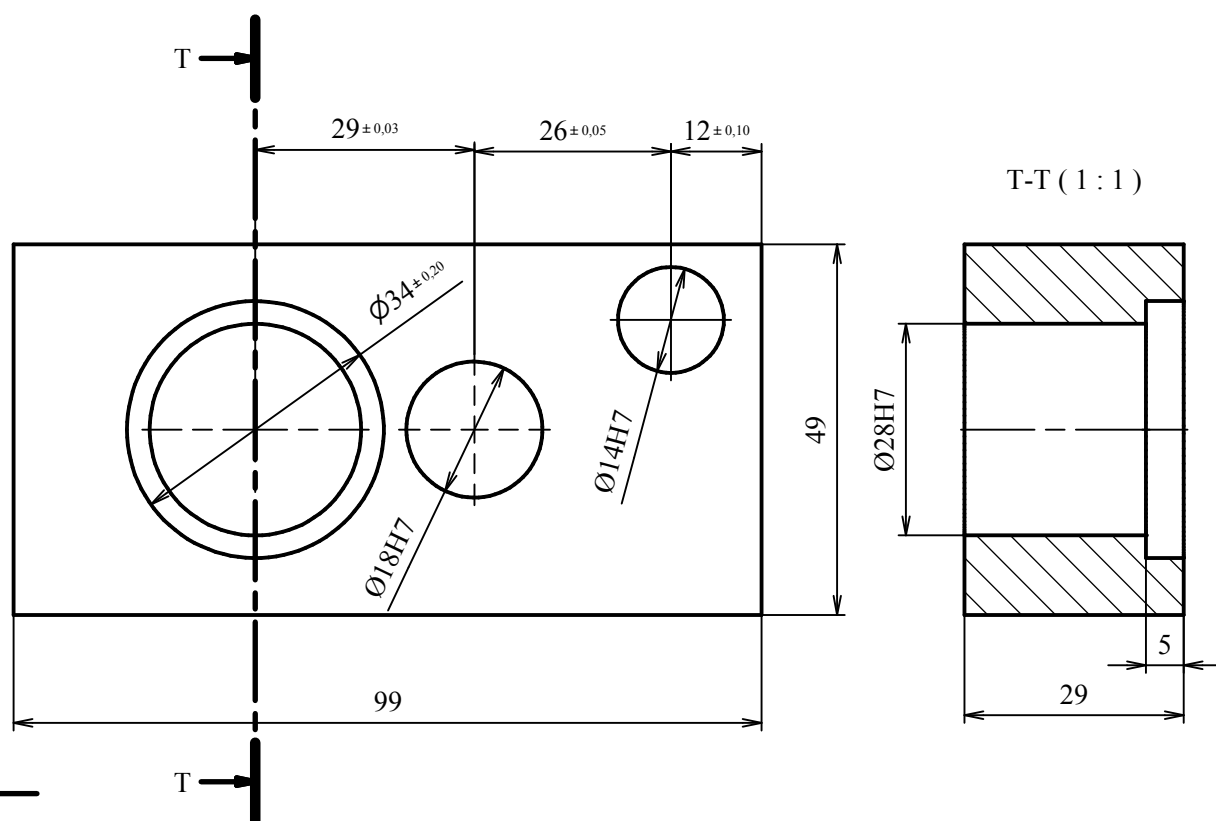
T-T (1 : 2)



| INDEX            | ZMENA            | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |                   |
|------------------|------------------|------------|--------|---------------------------------------|-------------------|
| ZNACKA MATERIALU | 11.700           |            | T.O.   | HMOTNOST kg                           | MIERKA<br>1 : 2   |
| ZNACKA MATERIALU | 16x100x280       |            |        | STN                                   | TR.C.             |
| POM.ZARIADENIE   |                  |            |        | POZNAMKA                              | C.KUSOVNIKU       |
| VYPRACOVAL :     | Bc. Kresáň Jozef | NORM. REF. |        | STARY V.                              | C. V. MN-3-VR-002 |
| PRESKUSAL :      |                  | SCHVALIL:  |        |                                       |                   |
| TECHNOLOG :      |                  |            |        |                                       |                   |
| NAZOV            | SEKERA           |            |        | LISTOV                                | LIST              |

# Téma : 1.4.2. -VŔTANIE OTVOROV NA VODOROVNEJ VŔTAČKE

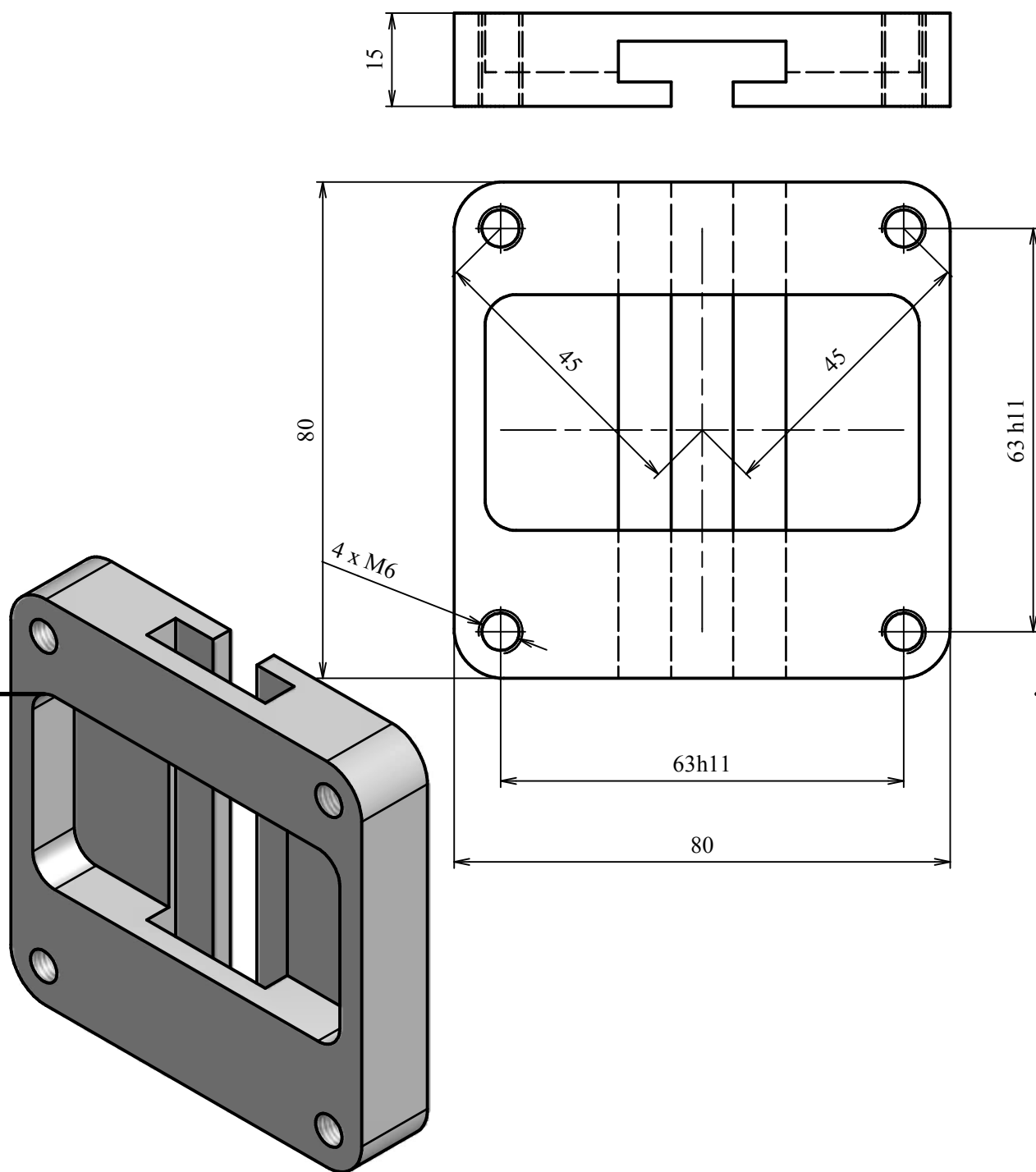
$\sqrt{Ra\ 1.6}$



| INDEX            | ZMENA            | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |                   |
|------------------|------------------|------------|--------|---------------------------------------|-------------------|
| ZNACKA MATERIALU | 11.375           |            | T.O.   | HMOTNOST kg                           | MIERKA            |
| ZNACKA MATERIALU | 30x50x105        |            |        |                                       | 1 : 1             |
| POM.ZARIADENIE   |                  |            |        | STN                                   | TR.C.             |
| VYPRACOVAL :     | Bc. Kresáň Jozef | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU       |
| PRESKUSAL :      |                  |            |        |                                       |                   |
| TECHNOLOG :      |                  | SCHVALIL:  |        | STARY V.                              | C. V. MN-3-VR-003 |
| NAZOV            | KOCKA            |            |        | LISTOV                                | LIST              |

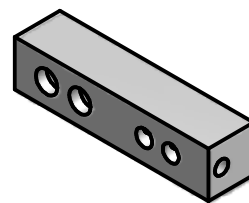
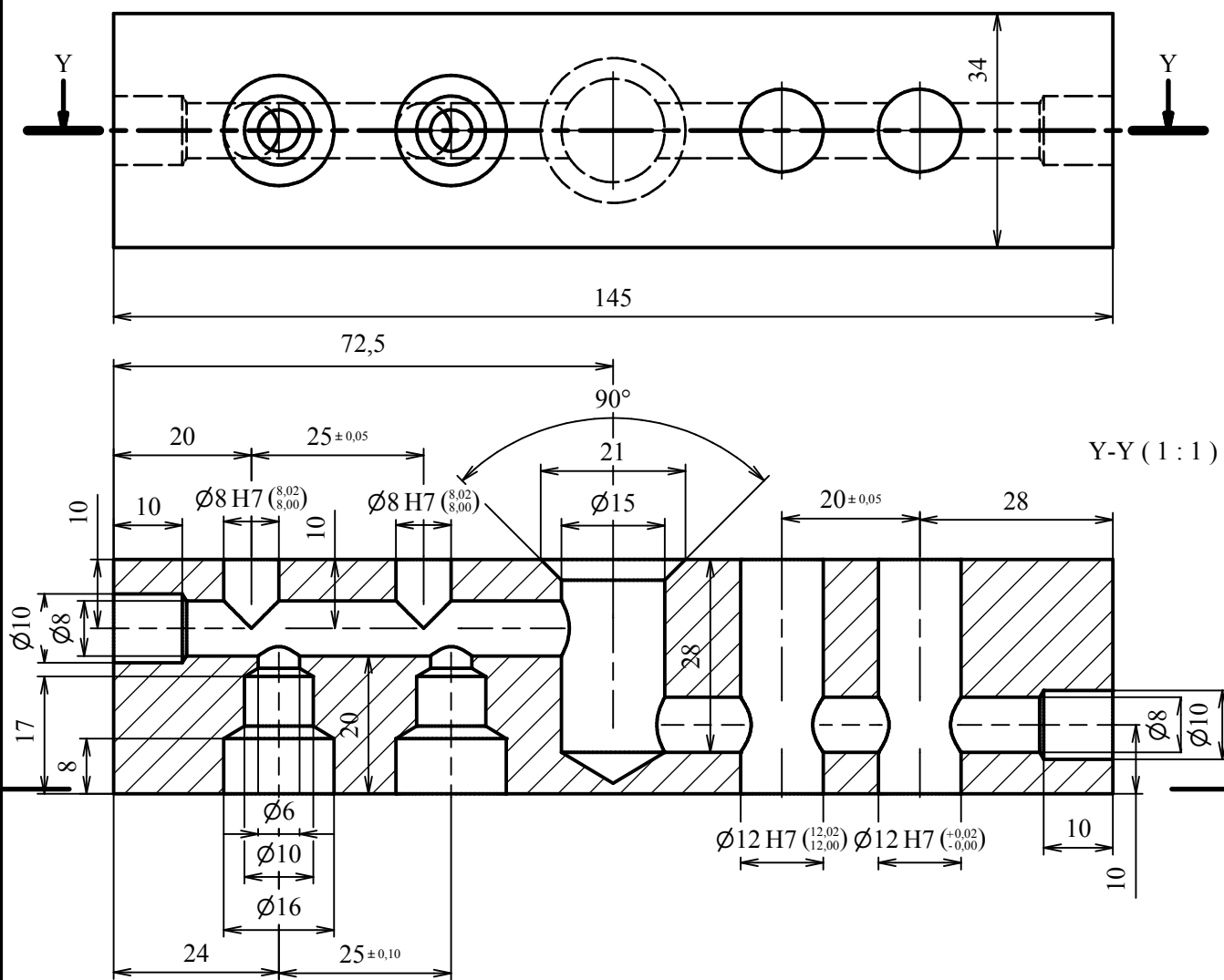
# Téma : 1.4.2 -VŔTANIE NA VODOROVNEJ VŔTAČKE

√ Ra 1.6



| INDEX            | ZMENA            | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |                   |
|------------------|------------------|------------|--------|---------------------------------------|-------------------|
| ZNACKA MATERIALU | 11.600           |            | T.O.   | HMOTNOST kg                           | MIERKA            |
| ZNACKA MATERIALU | 18x85x85         |            |        |                                       |                   |
| POM.ZARIADENIE   |                  |            |        | STN                                   | TR.C.             |
| VYPRACOVAL :     | Bc. Kresán Jozef | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU       |
| PRESKUSAL :      |                  |            |        |                                       |                   |
| TECHNOLOG :      |                  | SCHVALIL:  |        | STARY V.                              | C. V. MN-3-VR-004 |
| NAZOV            | DRŽIAK           |            |        |                                       |                   |
|                  |                  |            |        | LISTOV                                | LIST              |

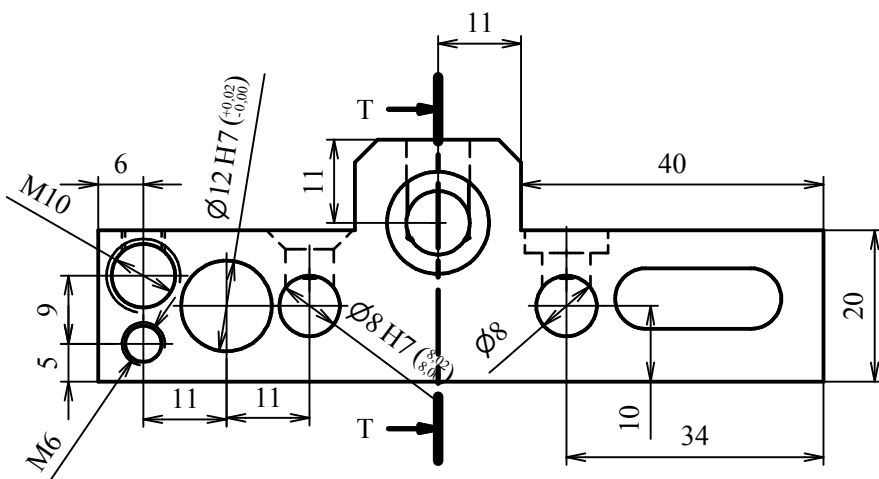
# Téma : 1.4.4. - POUŽÍVANIE ZLOŽENÝCH A ZLÚČENÝCH NŠTROJOV



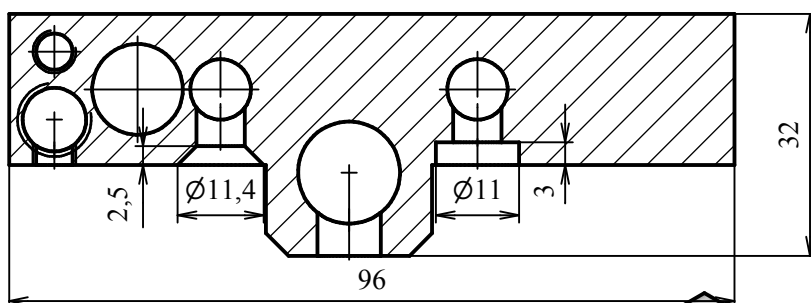
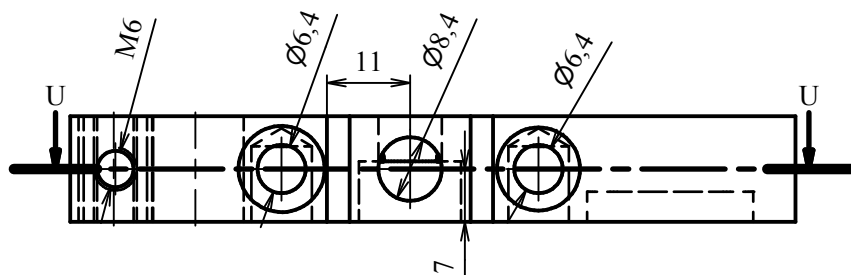
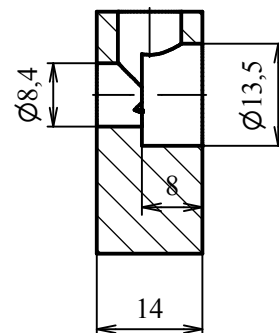
| INDEX | ZMENA                         | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |                   |
|-------|-------------------------------|------------|--------|---------------------------------------|-------------------|
|       |                               |            |        | HMOTNOST kg                           | MIERKA 1 : 1      |
|       | ZNACKA MATERIALU 11.373       |            | T.O.   |                                       |                   |
|       | ZNACKA MATERIALU 40x40x150    |            |        |                                       |                   |
|       | POM.ZARIADENIE                |            |        | STN                                   | TR.C.             |
|       | VYPRACOVAL : Bc. Kresán Jozef | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU       |
|       | PRESKUSAL :                   |            |        |                                       |                   |
|       | TECHNOLOG :                   | SCHVALIL:  |        | STARÝ V.                              | C. V. MN-3-VR-005 |
|       | NAZOV                         |            |        |                                       |                   |
|       | KOCKA                         |            |        | LISTOV                                | LIST              |

# Téma : 1.4.5. - SÚBORNÁ PRÁCA

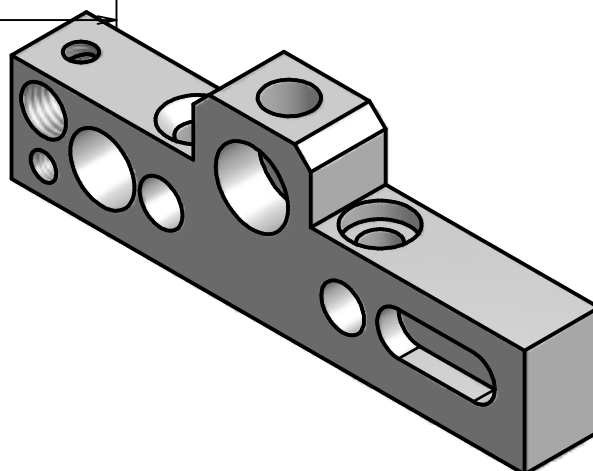
√ Ra 1,6



T-T (1:1)



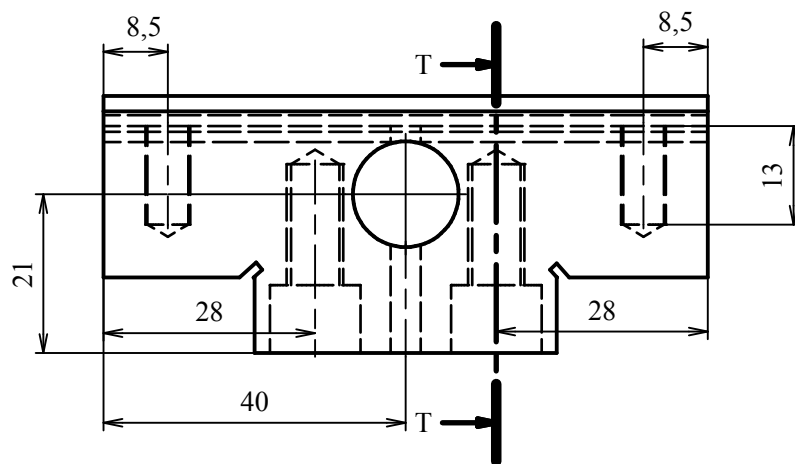
U-U (1:1)



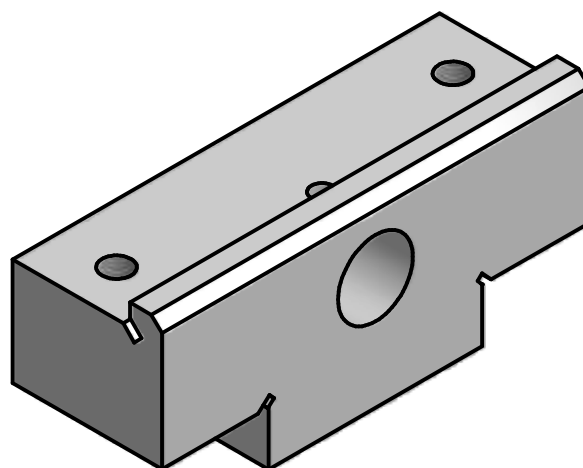
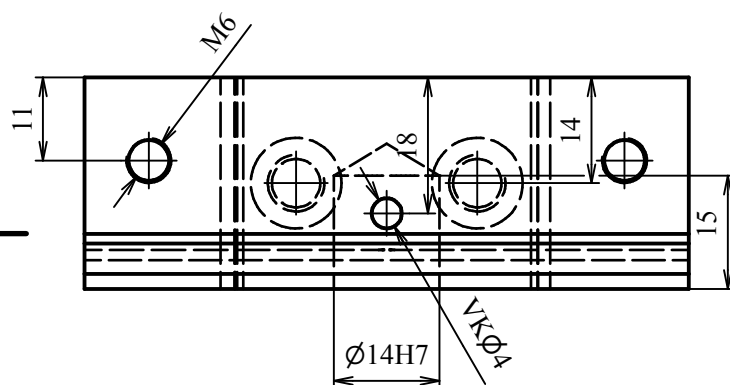
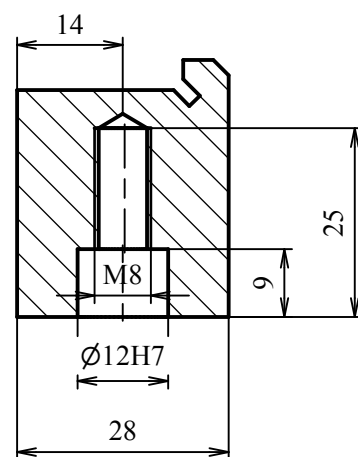
| INDEX            | ZMENA            | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |                   |
|------------------|------------------|------------|--------|---------------------------------------|-------------------|
| ZNACKA MATERIALU | 11.600           |            | T.O.   | HMOTNOST kg                           | MIERKA            |
| ZNACKA MATERIALU | 18x35x100        |            |        |                                       | 1 : 1             |
| POM.ZARIADENIE   |                  |            |        | STN                                   | TR.C.             |
| VYPRACOVAL :     | Bc. Kresáň Jozef | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU       |
| PRESKUSAL :      |                  |            |        |                                       |                   |
| TECHNOLOG :      |                  | SCHVALIL:  |        | STARÝ V.                              | C. V. MN-3-VR-006 |
| NAZOV            | Súborná práca    |            |        | LISTOV                                | LIST              |

# SÚBORNÁ PRÁCA

√ Ra 3.2



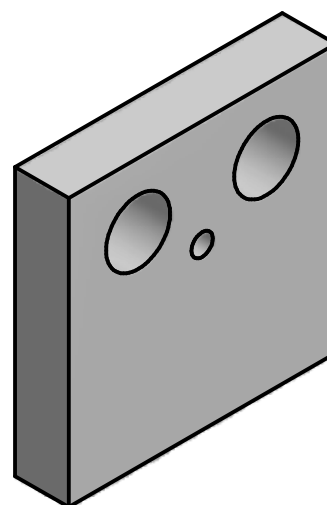
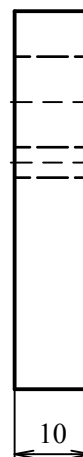
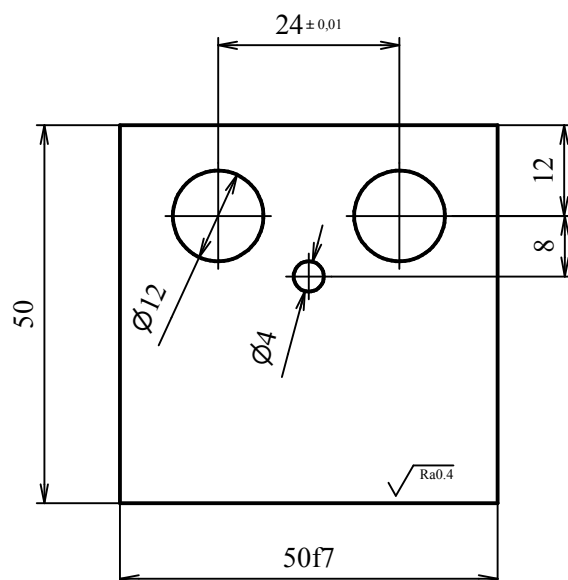
T-T (1:1)



| INDEX            | ZMENA            | DATUM      | PODPIS | SOŠ - Strojnícka<br>POVAZSKA BYSTRICA |                  |
|------------------|------------------|------------|--------|---------------------------------------|------------------|
| ZNACKA MATERIALU | 11 600           |            | T.O.   | HMOTNOST kg                           | MIERKA 1:1       |
| ZNACKA MATERIALU | 35x35x85         |            |        |                                       |                  |
| POM.ZARIADENIE   |                  |            |        | STN                                   | TR.C.            |
| VYPRACOVAL :     | Bc. Kresán Jozef | NORM. REF. |        | POZNAMKA                              | C.KUSOVNIKU      |
| PRESKUSAL :      |                  |            |        |                                       |                  |
| TECHNOLOG :      |                  | SCHVALIL:  |        | STARY V.                              | C. v. MN3-VR-007 |
| NAZOV            | ČELUŠŤ           |            |        | LISTOV                                | LIST             |

✓ Ra 1.6

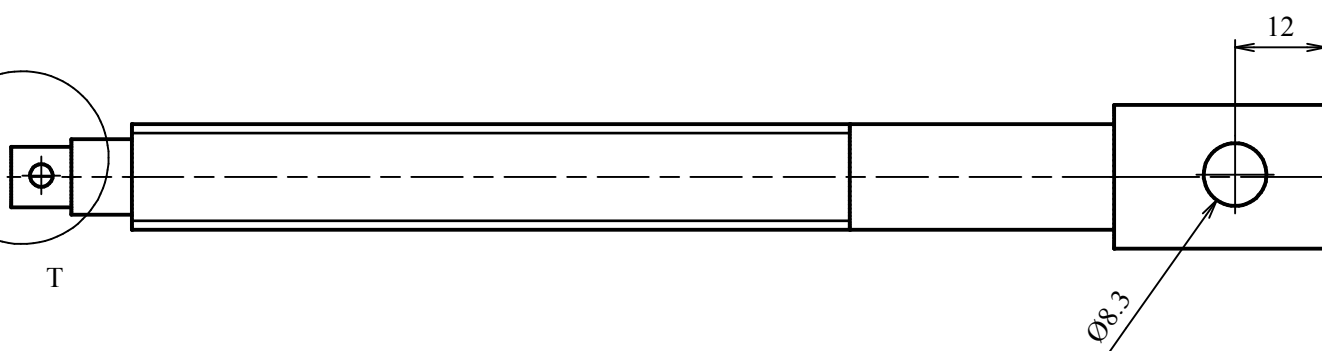
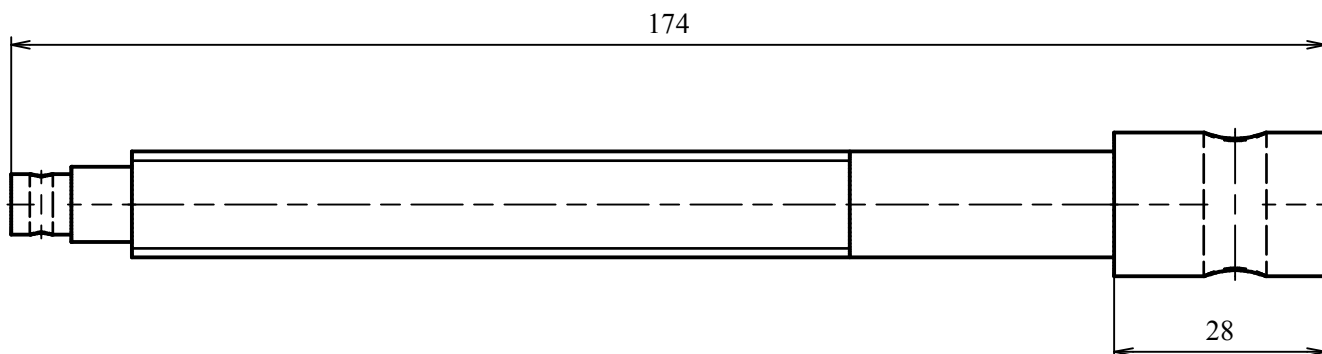
## KONTROLNÁ PRÁCA



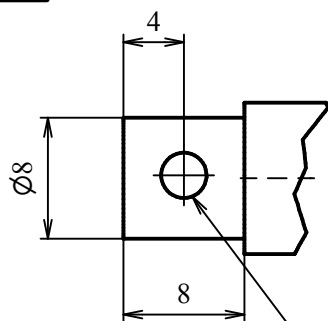
|                       |                               |            |        |                                               |                     |
|-----------------------|-------------------------------|------------|--------|-----------------------------------------------|---------------------|
| INDEX                 | ZMENA                         | DATUM      | PODPIS | <b>SOŠ - Strojnícka<br/>POVAZSKA BYSTRICA</b> |                     |
|                       |                               |            |        | HMOTNOST kg                                   | MIERKA <b>1 : 1</b> |
|                       | ZNACKA MATERIALU 11.373       |            | T.O.   |                                               |                     |
|                       | ZNACKA MATERIALU 12x55x60     |            |        |                                               |                     |
|                       | POM.ZARIADENIE                |            |        | STN                                           | TR.C.               |
|                       | VYPRACOVAL : Bc. Kresáň Jozef | NORM. REF. |        | POZNAMKA                                      | C.KUSOVNIKU         |
|                       | PRESKUSAL :                   |            |        |                                               |                     |
|                       | TECHNOLOG :                   | SCHVALIL:  |        | STARÝ V.                                      | C. V. MN3-VR-008    |
| NAZOV                 |                               |            |        |                                               |                     |
| <b>VODIACA VLOŽKA</b> |                               |            |        |                                               |                     |
|                       |                               |            |        | LISTOV                                        | LIST                |

# KONTROLNÁ PRÁCA

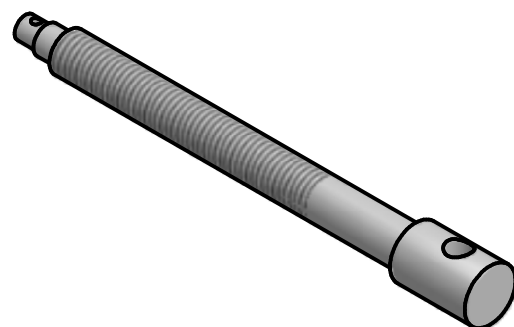
√ Ra 1.6



T (2 : 1)



Ø3 - VRTAŤ PRI MONTÁŽI



|                         |                  |            |        |                                               |                        |
|-------------------------|------------------|------------|--------|-----------------------------------------------|------------------------|
| INDEX                   | ZMENA            | DATUM      | PODPIS | <b>SOŠ - Strojnícka<br/>POVAZSKA BYSTRICA</b> |                        |
| ZNACKA MATERIALU        | 11.107           | T.O.       |        | HMOTNOST kg                                   | MIERKA<br><b>1 : 1</b> |
| ZNACKA MATERIALU        | Ø20x197          |            |        |                                               |                        |
| POM.ZARIADENIE          |                  |            |        | STN                                           | TR.C.                  |
| VYPRACOVAL :            | Bc. Kresáň Jozef | NORM. REF. |        | POZNAMKA                                      | C.KUSOVNIKU            |
| PRESKUSAL :             |                  |            |        |                                               |                        |
| TECHNOLOG :             | SCHVALIL:        |            |        | STARY V.                                      | C. V. MN-3-VR-013      |
| NAZOV<br><b>SKRUTKA</b> |                  |            |        | LISTOV LIST                                   |                        |