

SCHEMA DE ORIENTARE

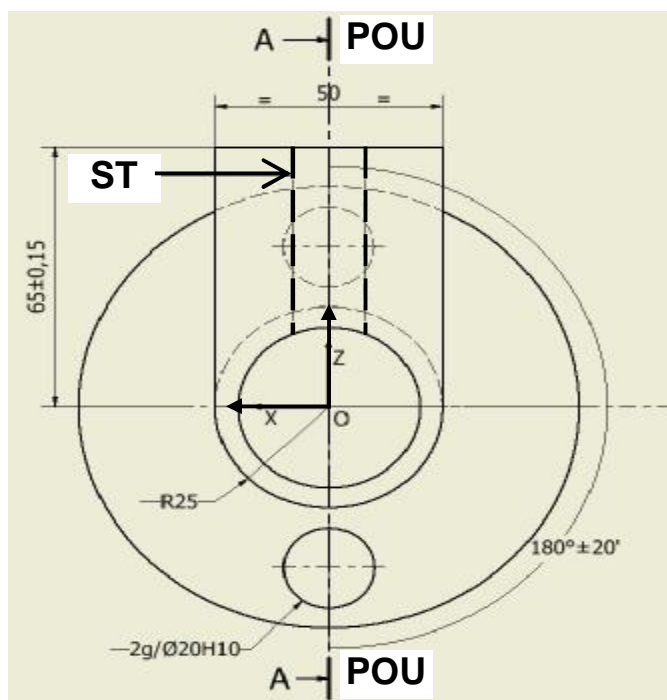
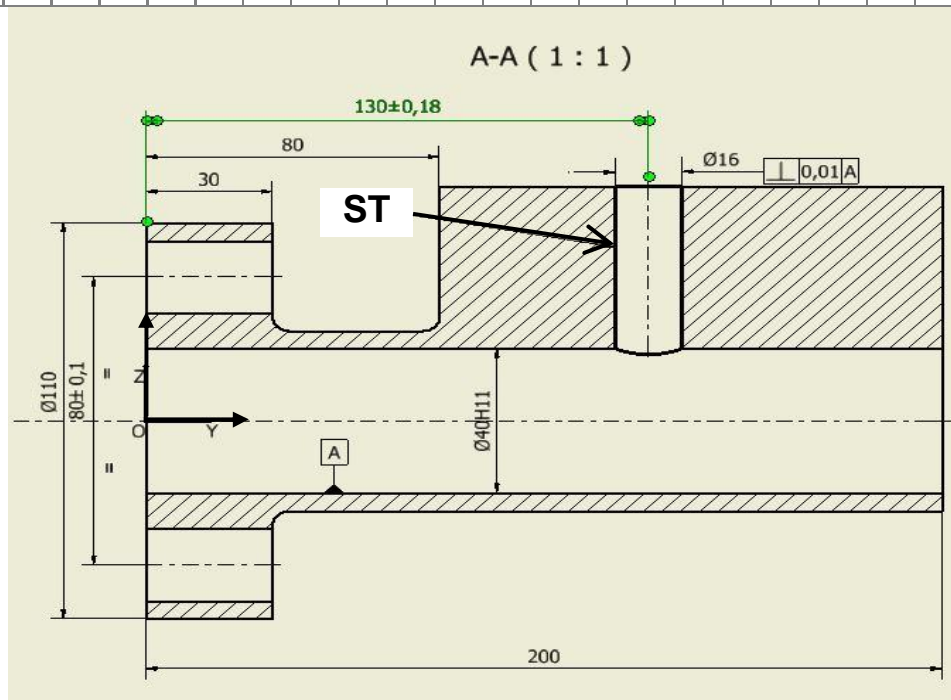
Nr tema **EX**

Reper: **AX CU FLANSA**

Suprafata tinta ST - caracteristici principale

Proces	Burghiere $\Phi 16 \times 25\text{mm}$
Rugozitate	Degrosare – $12,5\mu\text{m}$
Tolerante	$130\pm 0,18$; $65\pm 0,15$; 180 ± 20

Schita cotata



1. Suprafata de prelucrat (tinta) – ST

- < sistem de axe OXYZ
- < caracterizare:
 - suprafata cilindrica interioara – $D=16\text{mm}$, $L=45\text{mm}$
 - proces de prelucrare – burghiere
 - operatie tehnologica – gaurire

2. Conditii (restrictii) geometrice ale ST

- < cota de pozitie fata de SPF / $130\pm 0.18\text{mm}$
- < cota de pozitie fata de SCI-1 [A] / $65\pm 0.15\text{mm}$
- < perpendicularitatea axei fata de axa SCI-1 [A] / axa S axa S1
- < pozitia simetrica a axei in planul P_{YOZ} (POU)/ axa S $\approx 25+25 \in \text{POU}$

3. Baze de cotare – BC: tip de suprafata, dimensiuni, conditii

- < BC-1 este SCI-1 [A]
 - suprafata cilindrica interioara lunga – $D_1=40\text{H}11\text{mm}$, $L_1=200\text{mm}$; rezulta $L_1/D_1=5 (>3)$
 - conditii de cotare: cota $65\pm 0.15\text{mm}$
perpendicularitate axa S fata de axa S1
- < BC-2 este SPF
 - suprafata plana frontala (inelara) – $D_3=110\text{mm}$, $D_1=40\text{mm}$;
 - conditii de cotare: cota $130\pm 0.18\text{mm}$
- < BC-3 este SCI-2
 - suprafata cilindrica interioara scurta – $D_2=20\text{H}10\text{mm}$, $L_2=30\text{mm}$; rezulta $L_2/D_2=1.5 (<3)$
 - conditii de cotare: cota $180^\circ \pm 20'$
simetrie in planul P_{YOZ}
axele S, S1, S2 coplanare in POU

4. Baze de orientare – BO: tip de baza, grade de libertate

- < BO-1 este BC-1 / SCI-1 [A]
 - baza dubla de centrare
 - grade de libertate blocate = 4
planul P_{XOY} : translatie tz + rotatie rx
planul P_{YOZ} : translatie tx + rotatie rz
 - se propune: DORN CILINDRIC

- < **BO-2** este BC-2 / SPF
 - baza de sprijin
 - grade de libertate blocate = 1
planul P_{xOz} : translatie t_y
 - se propune: REAZEM PLAN / GULER

- < **BO-3** este BC-3 / SCI-2
 - baza sprijin (orientare unghiulara)
 - grade de libertate blocate = 1
planul P_{xOz} / POU : rotatie r_y
 - se propune: BOLT FREZAT

5. Elemente de orientare : forma si dimensiuni constructive, material, conditii tehnice speciale

- < **Dorn cilindric pentru baza BO-1 / SCI-1 [A]**
 - dimensiuni: adaptate conform Tab 4.11 [Volum 1] – “Bolt de centrare tip I $d=40mm$ ”
 - material: Otel laminat de calitate, usor aliat OLC15
 - tratament termic: calire (pentru durificarea suprafetei de centrare)

Figura 1

	L	L1/L3	L2	D1	d1	d2	h1	D2/f
Dimensiune [mm]	220	170/50	130	40	20	18	6	39/3
Toleranta [μm]				h6 0 -0.016	n6 +0.028 +0.015			
Rugozitate [μm]		0.8		0.8	0.8	6.3	6.3	

$L1 = (0.8 \div 0.85) L_1$ (SCI-1)
 $D1 = D_1$
 $D2 = D1 - 1mm$
 $L3 = l + H$ (Guler) = 39 + 10 --> $L3=50mm$

< **Reazem plan / Guler** pentru baza BO-2 / SPF

- dimensiuni: adaptate conform Tab 4.2 [Volum 1], proiectate – *“Placa de sprijin tip I L/H=100/10mm”*
- material: Otel laminat de calitate, usor aliat OLC15
- tratament termic: cementare + calire (pentru durificarea suprafetei de asezare)

Figura 2

	D	D0	H	d	d1	d2	t
Dimensiune [mm]	100	70.5	10	41	6.6	11	4.8
Toleranta [μm]			h6 0 -0.011				
Rugozitate [μm]	6.3		0.8	3.2	3.2		

$d = d1(n6) \text{ (Dorn)} + 1\text{mm}$

$D0 \approx 0.5(D+d1)$

4 gauri pentru surub cu cap cilindric crestat M6 x 20mm

< **Bolt frezat** pentru baza BO-3 / SCI-2

- dimensiuni: adaptate conform Tab 4.111 [Volum 1], proiectate– *“Bolt de centrare tip II d=20mm”*
- material: Otel laminat de calitate, usor aliat OLC15
- tratament termic: calire (pentru durificarea suprafetei de centrare)

Figura 3

	L	h	h1	d	d1	B	b	d2/f
Dimensiune [mm]	38	10	4	20	12	18	4	19/1
Toleranta [μm]				h6 0 0.013	n6 +0.023 +0.012			
Rugozitate [μm]	3.2	1.6	6.3	0.8	0.8			

$d = D_2 \text{ (SCI-2)}$

$B \approx (0.8 \div 0.9) d$

$b \approx (0.2 \div 0.3) d$

$d2 = d - 1\text{mm}$

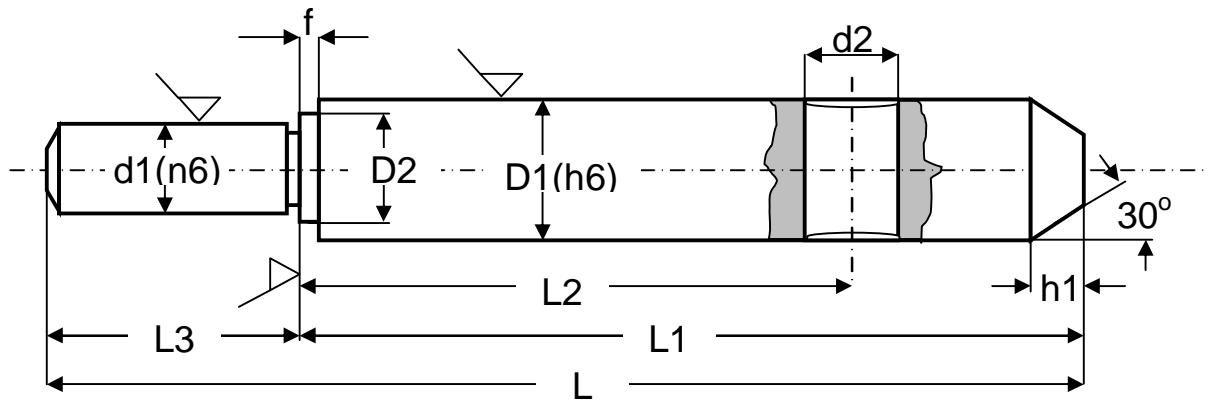


Figura 1

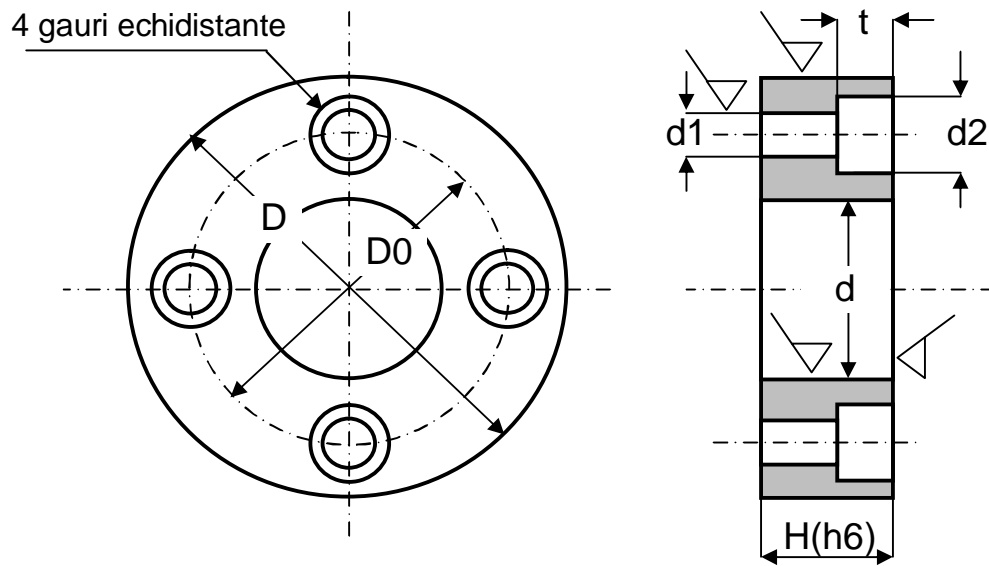


Figura 2

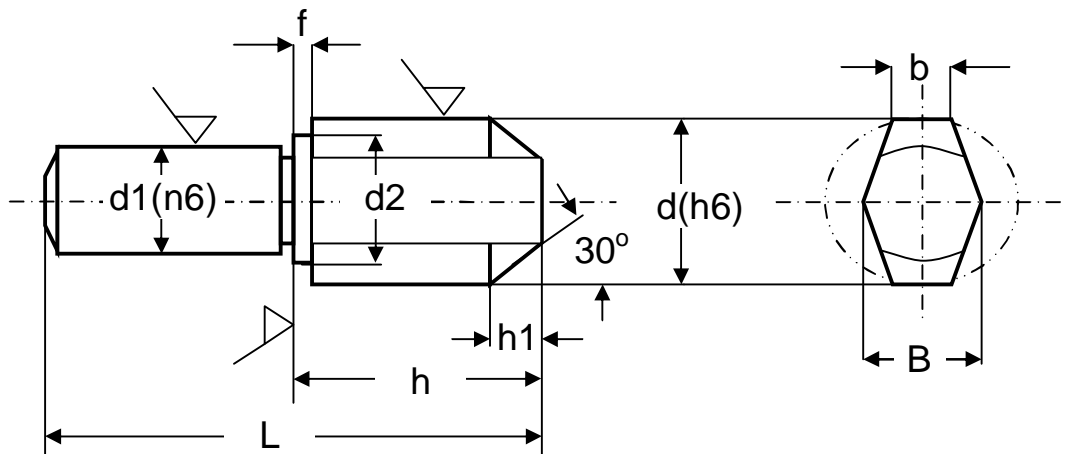
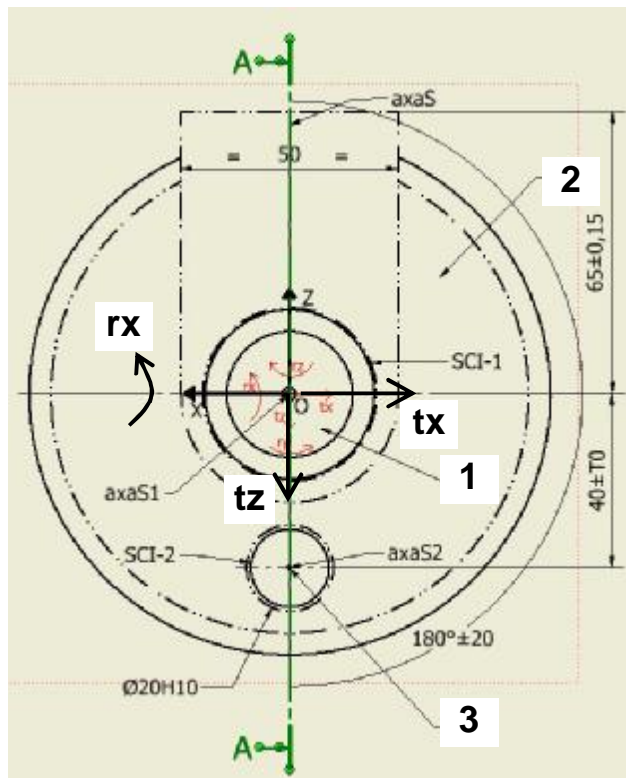
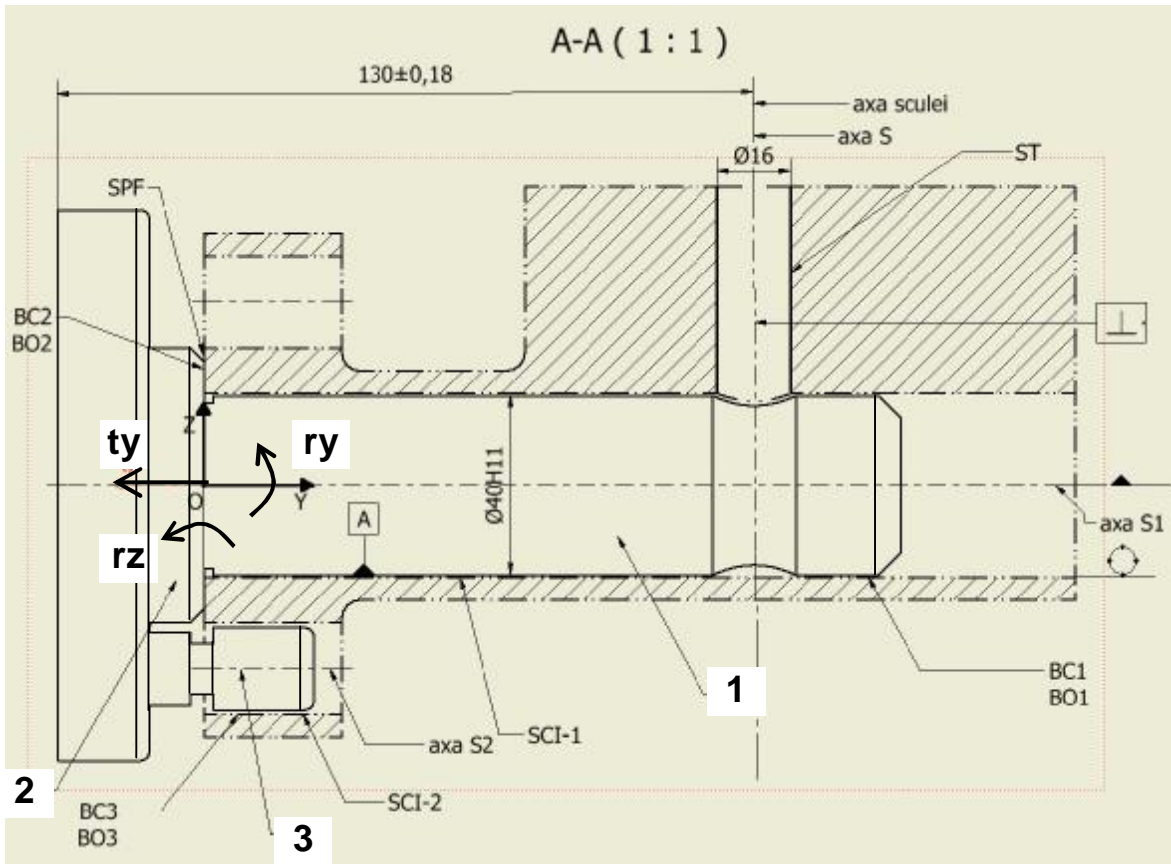


Figura 3

6. Schema mecanismului de orientare



7. Mecanismului de orientare – vedere 3D

