

QUESTION 4: MECHANICAL ASSEMBLY

Given:

- The exploded isometric drawing of the parts of a pulley jack assembly, showing the position of each part relative to all the others
- Orthographic views of each of the parts of the pulley jack assembly

Instructions:

- Answer this question on page 6.
- Draw, to scale 1 : 1 and in third-angle orthographic projection, the following views of the assembled parts of the pulley jack assembly:

4.1 A sectional front view on cutting plane A-A, as seen from the direction of the arrow shown on the exploded isometric drawing. The cutting plane is shown on the right view of the base (part 1).

4.2 The right view. Show **only the left half** of the right view by applying the convention for the presentation of a symmetrical object.

NOTE:

- Planning is essential.
- Apply the convention of symmetry on the right view only.
- ALL drawings must comply with the guidelines as contained in the SANS 10111.
- The bearing (part 3) must be drawn in convention in the front view.
- The bearing (part 3) must be drawn in detail, showing only TWO balls, in the right view.
- The shaft (part 2) must be drawn in its lowest position so that point S will be at the indicated position.
- Show THREE faces of the M24 nut in the front view.
- Add cutting plane A-A.
- NO hidden detail is required.

[94]

PARTS LIST			
PART	QUANTITY	MATERIAL	
1	BASE	1	CAST IRON
2	SHAFT	1	MILD STEEL
3	BEARING	1	MILD STEEL
4	ADJUSTING COLLAR	1	MILD STEEL
5	M24 NUT	1	MILD STEEL
6	FORK	1	CAST IRON
7	PULLEY	1	CAST IRON
8	PIN	1	MILD STEEL

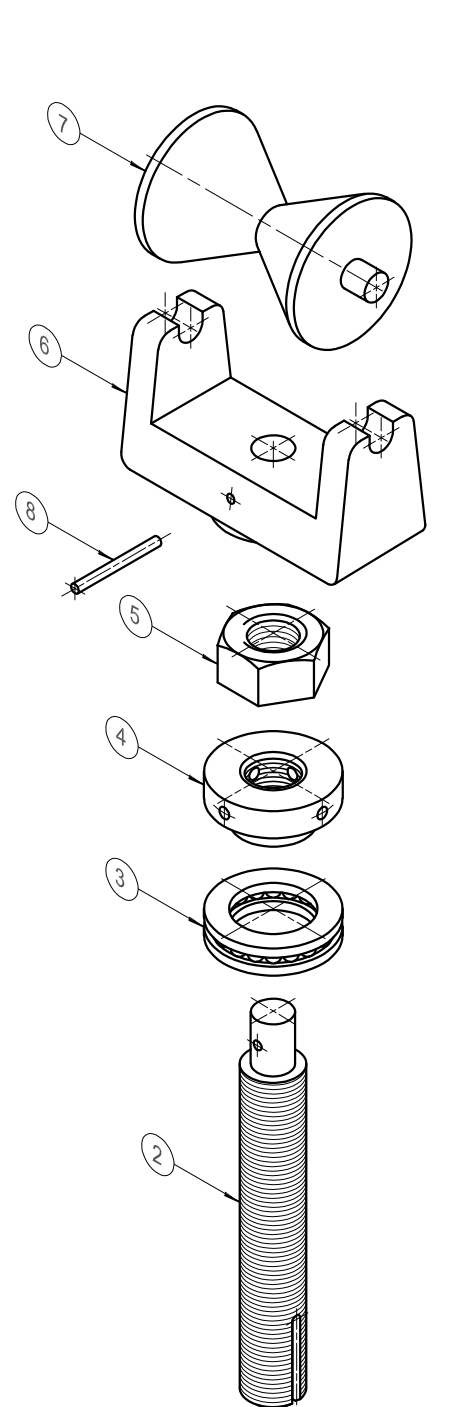
JT ENGINEERS
 72 PERKINS STREET
 NORTH END 6001
 www.jteng.co.za
 041 313 1574

PULLEY JACK

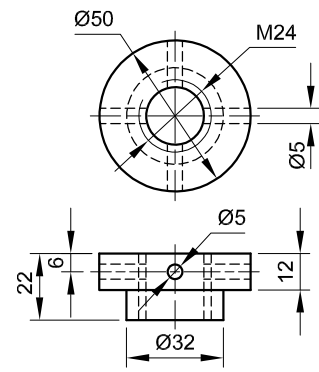
ALL DIMENSIONS ARE IN MILLIMETRES



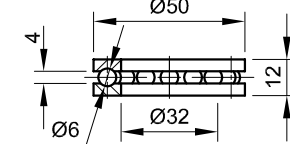
5



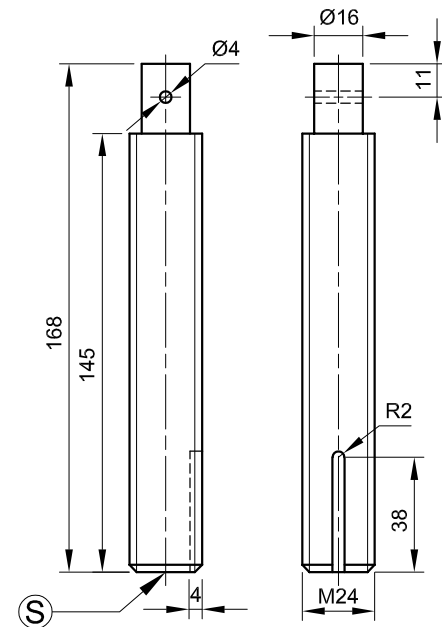
EXPLODED ISOMETRIC DRAWING



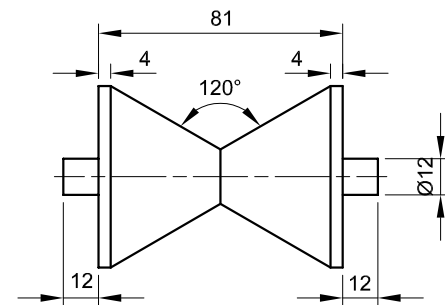
ADJUSTING COLLAR [4]



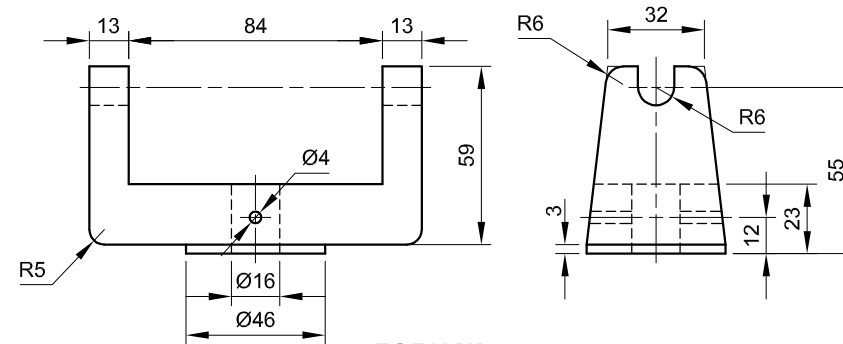
BEARING [3]



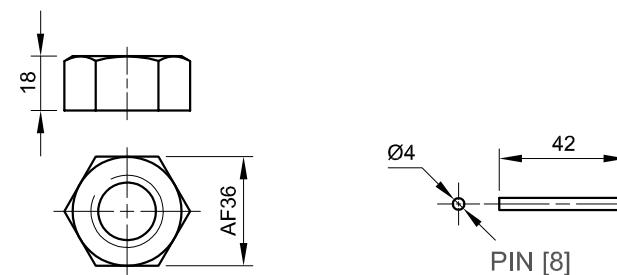
SHAFT [2]



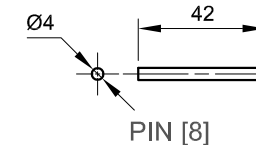
PULLEY [7]



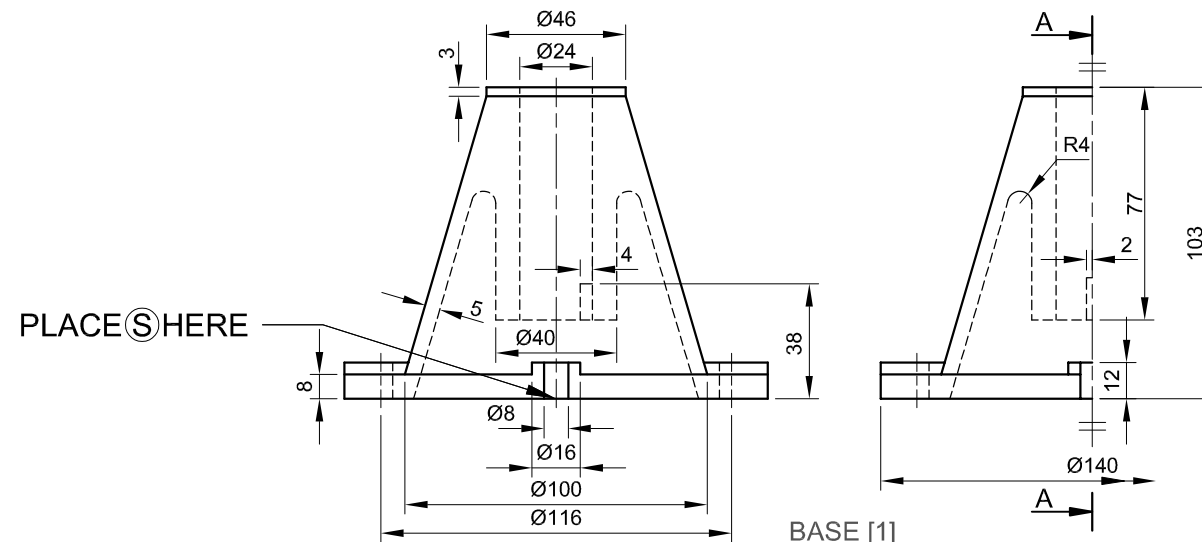
FORK [6]



M24 NUT [5]



PIN [8]



BASE [1]

PLACE S HERE



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FOR OFFICIAL USE ONLY	
INCORRECT ORTHOGRAPHIC PROJECTION	
INCORRECT OVERALL SCALE	
INCORRECT HATCHING	
PARTS NOT ASSEMBLED	
TOTAL PENALTIES (-)	

ASSESSMENT CRITERIA

SECTIONAL FRONT VIEW

		POSSIBLE	OBTAINED	SIGN	MODERATED
1	BASE	13			
2	SHAFT	8½			
3	BEARING	6			
4	ADJUSTING COLLAR	6½			
5	M24 NUT	6			
6	FORK	9½			
7	PULLEY	8½			
8	PIN	1			
SUBTOTAL		59			

RIGHT VIEW

1	BASE	5			
2	BEARING	5			
3	ADJUSTING COLLAR	1½			
4	M24 NUT	2½			
5	FORK	3			
6	PULLEY	1			
SUBTOTAL		18			

GENERAL

1	CENTRE LINES	4			
2	ASSEMBLY	7			
3	CONVENTION	3			
4	CUTTING PLANE	3			
SUBTOTAL		17			
TOTAL		94			

PENALTIES(-)

GRAND TOTAL

Initials: _____
 Surname: _____
 Task: 10.2 - Page: 10.8

