

Trade of Sheet Metalwork

Module 2:	Geometry and Pattern Development
Unit 11:	Common Central Sphere
	Phase 2

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Document Release History

Date	Version	Comments
02/08/06	First draft	
04/03/14	2.0	SOLAS transfer

Module 2 – Geometry and Pattern Development

Unit 11 – Common Central Sphere

Duration – 12 Hours

Learning Outcome:

By the end of this unit each apprentice will be able to:

- Identify the conditions where the common central sphere method is applied
- Locate the centre for the common sphere
- Determine the sphere diameter
- Locate joint lines
- Develop the patterns including all allowances

Key Learning Points:

Rk	Application of common central sphere.
D	Centre location for sphere.
D	Development of patterns.
D	Intersection solutions.
D	Interpretation of central sphere geometry.
Rk	Determination of joint lines.
D	Cylinder/Cone intersections.

Training Resources:

- Drawing instruments, equipment and materials
- Textbook: The Geometry of Sheet Metalwork
- Instructor handouts, drawings

Exercise:

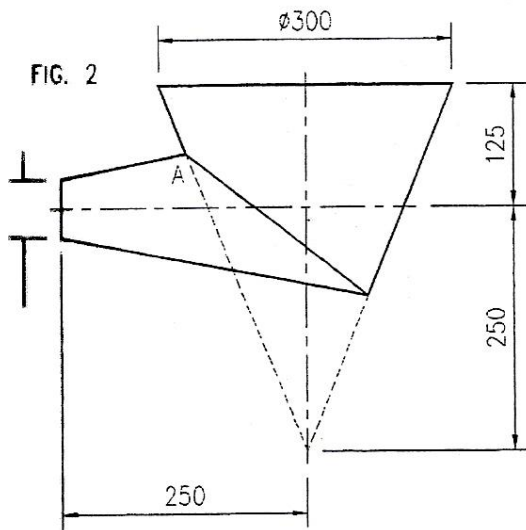
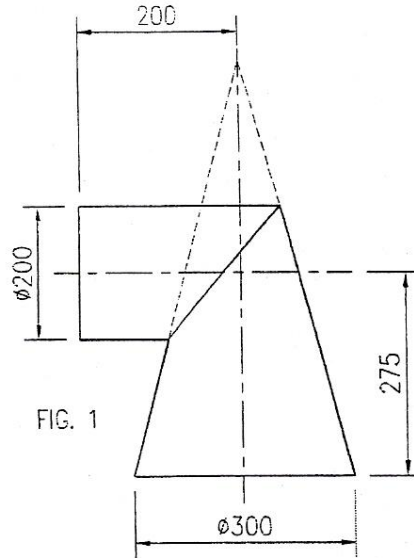
Sample exercise - Figure 1.

Key Learning Points Code:

M = Maths **D** = Drawing **RK** = Related Knowledge **Sc** = Science
P = Personal Skills **Sk** = Skill **H** = Hazards

Exercise/Procedure Instructions
Answer Samle Questions

1. Fig.1 shows the elevation of a revolving cowl.
 (a) Use the Common Central Sphere to determine the joint line.
 (b) Develop halp patterns for each part. Scale 1 : 5



2. Fig 2 shows two intersecting right cones.
 (a) Draw the given view and determine the diameter of the Common Central Sphere.
 (b) Draw the joint line.
 (c) Develop a half pattern for cone A. Scale 1 : 5

3. Fig.3 shows a cone intersected by a pipe.
 (a) Draw the given view including the joint line.
 (b) Develop a half pattern for each part. Scale 1 : 5

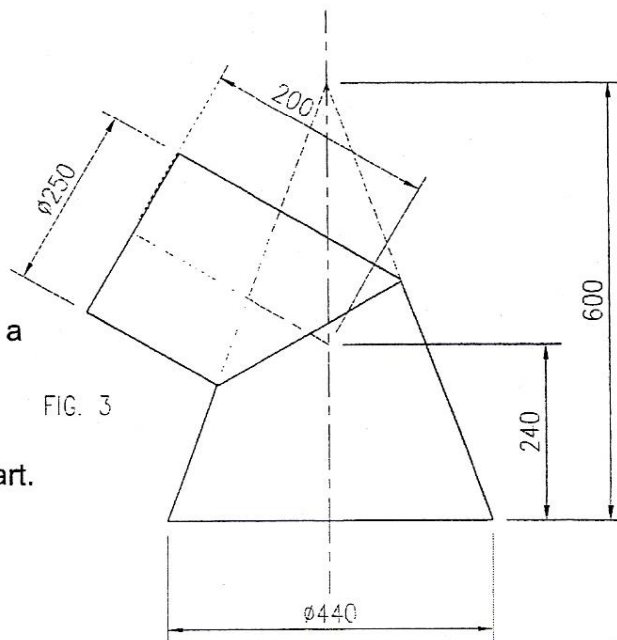


Figure 1 - Common Central Sphere

Common Central Sphere

The CCS or Common Central Sphere is used to determine the joint line between two or more intersecting pipes or cones.

Figure 1 gives excellent examples of the application of the CCS.

Self Assessment

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