THE CENTRE LATHE

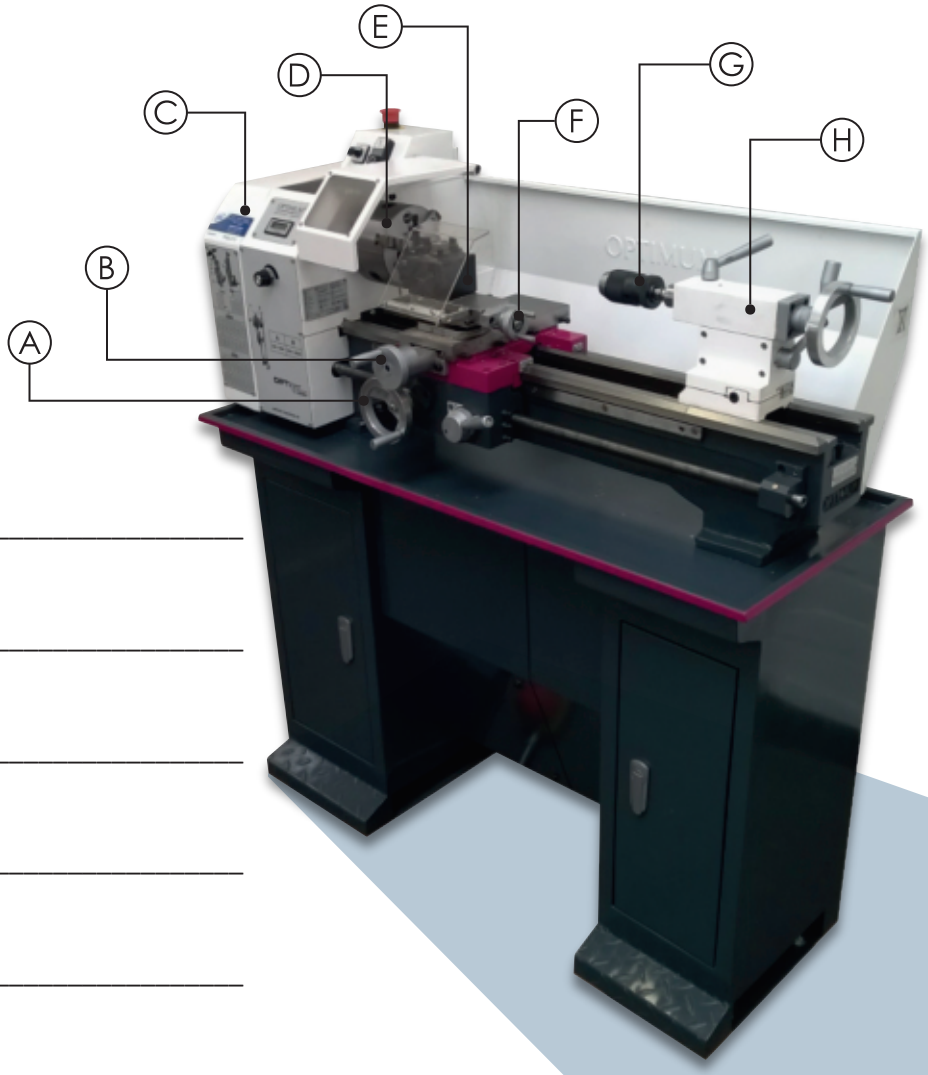
EXAM KNOWLEDGE

You will learn to use the centre lathe during class.

It is essential that you learn about the centre lathe and the various things you can do with it.

Use these notes and questions to help you study.

Name:_____



State the name of part A

_____

State the name of part B

_____

State the name of part C

_____

State the name of part D

_____

State the name of part E

_____

State the name of part F

_____

State the name of part G

_____

State the name of part H

_____

THIS MACHINE HAS NO BRAIN...
SO USE YOUR OWN!

Safety is always the first priority when using any machine.

If you don't know how to use something it is best to stay clear of it. In your time in the DETstudio, you will have been taught how to safely use a centre lathe.

Centre lathes can be large, complex and scary machines.

Can you remember fully all the safety instructions you were given...?

Describe four safety precautions a user must take on the centre lathe.

_____

_____

_____

_____

Describe two safety precautions a user must take on their person.

_____

_____

_____

_____

NEED TO KNOW

What materials have you been using in class?

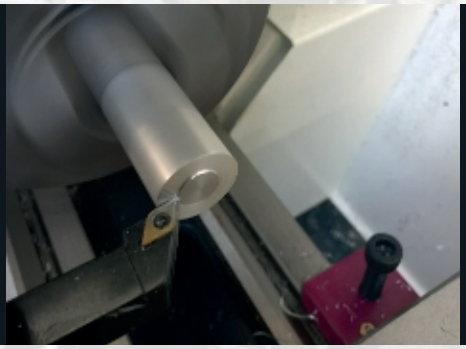
It is likely it was aluminium, brass or mild steel.

Aluminium and **brass** are both non-ferrous metals, meaning they contain no iron. This makes them suitable for items that go outside as the won't rust. What else do you know about **non-ferrous** metals?

Mild steel, which is a lot heavier and is a **ferrous metal**, does contain iron and can rust.

...You must know about these materials for your exam...

THE CENTRE LATHE



PROCESS 1

State the name of process 1

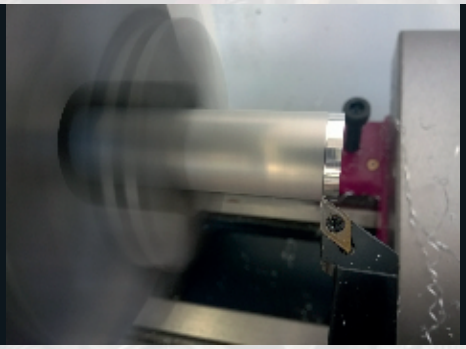
_____

Describe the purpose of process 1

_____

_____

_____



PROCESS 2

State the name of process 2

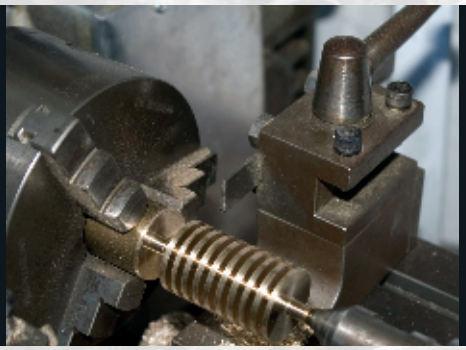
_____

Describe the purpose of process 2

_____

_____

_____



PROCESS 3

State the name of the tool used in process 3

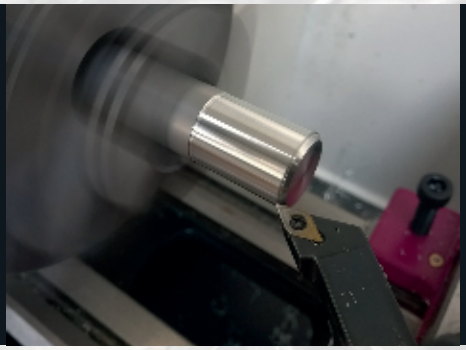
_____

Describe the purpose of process 3

_____

_____

_____



PROCESS 4

State the name of process 4

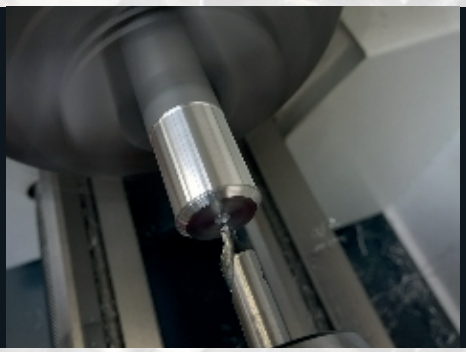
_____

Describe the purpose of process 4

_____

_____

_____



PROCESS 5

State the name of the tool used in process 5

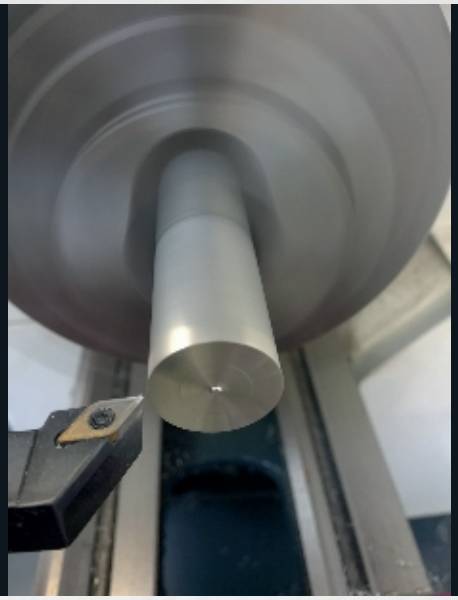
_____

Describe the purpose of process 5

_____

_____

_____



WHAT WENT WRONG?

A student used the lathe to smooth the end surface of the material.

After completing the operation, a ‘pip’ was left on surface.

Explain what caused this ‘pip’ to be left.

Describe how to stop this ‘pip’ from occurring.

You should use sketches to support your answer.

WHAT WENT WRONG?

After reducing the diameter of a bar of metal, the student noticed lines on the outer circumference of the metal.

Explain what caused these line to form.

Describe how to stop these lines from occurring.

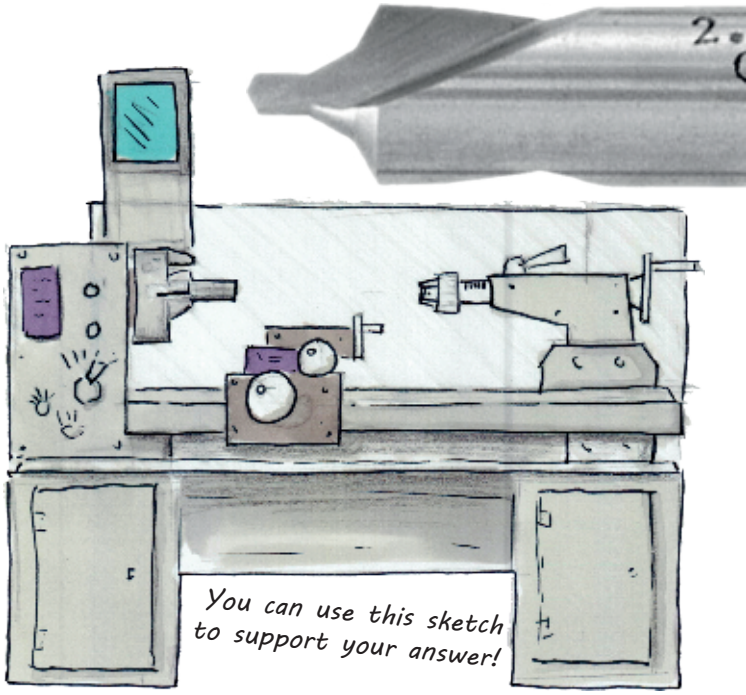
You should use sketches to support your answer.

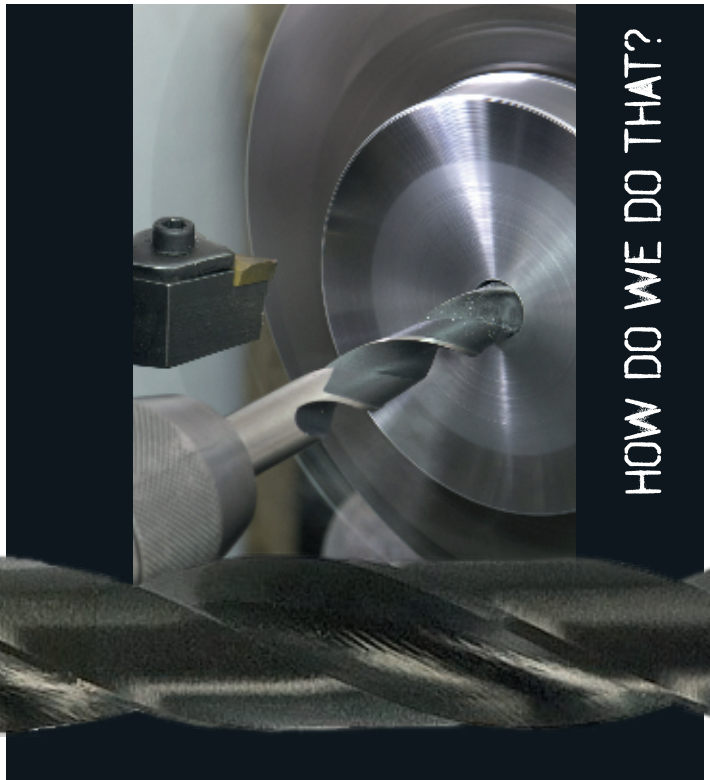
CENTRE DRILLING

A student is trying to drill a blind hole to a depth of 40mm.

Describe how a blind hole can be drilled to the required depth.

You should use sketches to support your answer.





HOLD ON... | ADDING TEXTURE

A particular tool is used to measure the diameter of metal.

State the correct name of the tool used.

_____

Material can be drilled with two types of hole.

State the correct names to the two types of hole

_____

_____

A special tool is used to apply a texture to metal in a lathe.

State the correct name of the tool used.

_____

State whether the lathe must run quickly or slowly when applying a texture.

_____

Texture can be applied to material for aesthetic reasons.

Describe another reason for applying a texture to material.

_____

_____

_____

_____

NEED TO KNOW

It is crucial that you remember the proper names of tools, machine parts and processes.

You will be expected to use proper names and descriptions when sitting your exam.

It may be worth practicing remembering these names by giving this booklet to a friend so they can ask you questions...

...How much can you remember?

MAKE ME THIS...

A sketch for a metal component is shown below.

Describe the stages required to manufacture this component.

You should use sketches to support your answer.