

~ FABRICATION ~



METALWORK

OPERATING INSTRUCTIONS



METALWORK

INTRODUCING

the



METAL CUTTING LATHE



Colchester (or other) Geared Turning Lathe

Access Level 2 (see Metal Workshop induction Guide on Access Levels)

Symmetric Cutting and Shaping of metal or plastic materials between one or two centres

PPE Basic

- Suitable workcoat (provided)
- Spectacles, goggles or faceshield rated to BS/EN 166 (provided)
- Sturdy boots will help keep your feet on a slippery floor

What to do before use

- CHECK the machine is in GOOD working order and generally clean
- ENSURE the floor SURROUNDING the machine is also clean and free from oil, swarf or clutter
- ENSURE all guards that are fitted are functional BEFORE operating
- ENSURE all START and STOP controls are functional BEFORE operating
- ENSURE Emergency Stop or foot-brakes are functional BEFORE operating
- ENSURE that the automatic feed or other automatic functions are DISABLED BEFORE the machine is switched on
- ENSURE turning tools are SHARP
- SET the rotational speed of the machine appropriate for the material
- ENSURE all hair is tied back, ties and work badges are kept inside work coat, loose clothing secured inside work coat

How to Use the Geared Turning Lathe

- Bring guard over work (if interlocked, or otherwise)
- Put ON eye protection; faceshield, spectacles or goggles
- DO NOT wear gloves AT ALL with this machine

- **If the machine has a local ‘isolator’, turn to ON**
- **Switch ON machine via local GREEN/BLACK ON controls – this usually starts the oil pumps but DOES NOT start the chuck rotation**
- **Most lathes have the chuck START on a lever on the machine ‘saddle’. Move the lever OUT AND DOWN for DOWNWARD rotation (relative to the operator) – this is the normal cutting direction for tools and drills**
- **SLOWLY bring the cutting tool face up to the surface of the work using the saddle controls – coarse parallel feed, cross feed and compound slide feed for small movements and when cutting a short taper**
- **Most Steels require an oil-based COOLANT – apply via bottle dropper – DO NOT flood area**
- **Non-Ferrous metals, such as Aluminium require Light Paraffin coolants.**
- **Brass is regarded as ‘free-cutting’, so will NOT need coolant**
- **Plastics, such as Nylon, MAY require coolant, such as water**
- **Once the work is completed, move the lever UP AND IN to STOP the chuck power**
- **You may slow the chuck down using the foot brake but WITH CARE – pressing TOO HARD will fade the brake pads. You should be looking to STOP the CHUCK inside of 10 SECONDS**
- **Once stopped, OPEN the chuck guard and switch OFF the machine at the machine isolator (if it has one) OR the wall-mounted box**
- **Take out your work, not forgetting to REMOVE the chuck key**
- **REMOVE the tools from the tool post**
- **RESET the chuck speed to the LOWEST setting**
- **ISOLATE the lathe at the wall, unless ALREADY done so**
- **CLEAN down AS MUCH swarf using a suitable sweeping brush and pan – you MUST be wearing safety spectacles for this work**
- **DO NOT pick up the swarf using hands**
- **Put all swarf – even if covered by oil in a bin DEDICATED ONLY to oily, metal swarf waste**
- **Oily rags MUST be put in a separate container. They must NOT be put into general waste bins – especially if the bins have materials such as sawdust or paper in them**

Date

I verify that I have read and understood the information detailed within this document

Name

Signature