Between the dotted lines are questions pertaining to the same category. This is for randomizing questions so that students do not receive the same questions over and over again if retaking the quiz. There would be 29 questions on this MANUAL MILL quiz. (Correct answers have an asterisk.)

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The manual mill is typically used for finishing processes.

True  
False

The main purpose of the manual mill is to rough cut my material.

True  
False

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The manual mill can be used with most metals, plastics, and woods.

True  
False

The manual mill can perform operations on any material.

True   
False

The manual mill can perform operations on hardened metals.

True  
False

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I must wear proper PPE to operate the manual mill.

True  
False

It is always important to pay attention to hair, clothing, and jewelry when operating the manual mill.

True  
False

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The manual mill is only used for drilling and tapping holes.

True  
False

Facing, drilling, tapping, and cutting away material are some of the most common operations when using the manual mill.

True  
False

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The spindle speed (rpm) must be changed with the machine on and the spindle spinning.

True  
False

The spindle speed (rpm) can only be changed when the machine is off and the spindle is not spinning.

True  
False

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I choose high gear or low gear based on my spindle speed (rpm).

True  
False

High gear is to be used for spindle speeds higher than 600 rpm.

True  
False

Low gear is to be used for spindle speeds lower than 1000 rpm.

True  
False

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The manual mill table operates in only two directions, x and z.

True  
False

The manual mill table has adjustment wheels to move in the x, y, and z directions.

True  
False

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End mills and drill bits are the main tools used in the manual mills.

True  
False

End mills can be recognized by their pointed end.

True  
False

End mills are typically used for facing and removing material.

True  
False

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When using the manual mill, I must choose the correct tool based on my operation.

True  
False

There are multiple collet sizes to choose from.

True  
False

When using a drill bit I need to select the correct size collet.

True  
False

When using an end mill I need to install it into the drill chuck to create my tool.

True  
False

The correct collet is selected by choosing the one which most closely fits the end mill.

True  
False

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If I am machining the same material on the manual mill and performing multiple different operations I can use the same speeds.

True  
False

If I am unsure of the correct speed for my material and operation on the manual mill I should ask a TA.

True  
False

The machine operation to be completed affects the correct speeds as much as the material of my part.

True  
False

The type of machine operation and the material to be machined are the biggest factors in determining speeds for the manual lathe.

True  
False

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The green button on the manual mill is the “on” switch.

True  
False

Take extra care with the “on” button on the manual mills as some of the green lights illuminate and others do not.

True  
False

Once the green button is pressed on the manual mill the spindle will spin.

True  
False

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Different operations on the manual mill require different tools.

True  
False

Facing and drilling commonly use the same tool.

True  
False

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Power feeds are available only in the x and y directions on the manual mill.

True  
False

Power feeds apply the tool at a constant speed, which means a smoother surface finish on my part.

True  
False

Power feeds are turned on using switches on the boxes on each of the directional handwheels.

True

False

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The directional switch on the manual mill is actually used to put the machine in low or high gear for spindle speeds.

True  
False

Forward on the directional switch of the manual mill is for low gear.

True  
False

The directional switch, which indicates high or low gear, is located next to the green “on” button at the top of the manual mill.

True  
False

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The RPM readout and adjustment knob is located on the control panel, near the directional switch.

True  
False

The RPM knob should be adjusted as you have your eye on the readout.

True  
False

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The digital RPM readout shows the high gear RPM on the top display and the low gear RPM on the bottom display.

True  
False

All RPM numbers on the digital readout displays are to be multiplied by ten.

True  
False

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The analog RPM readout is read using the top numbers for the low gear and the bottom numbers for the high gear.

True  
False

All RPM numbers on the analog readout are to be multiplied by ten. For example, when the analog readout reads 80 rpm, it’s actually 800 rpm.

True  
False

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The spindle should be all the way up before the chuck or collet is loaded.

True  
False

The spindle must be unlocked when the chuck or collet is loaded and released.

True  
False

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The blue drawbar button is for loading and the red button for releasing.

True  
False

When loading it is important to slide the tool into the spindle and hold it in place prior to holding the blue drawbar button in.

True  
False

I only need to hold the blue drawbar button for one second when loading the tool.

True  
False

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When I release the collet or chuck I should pull down strongly on it to help it come free from the spindle.

True  
False

When releasing the collet or chuck I should have my hand ready underneath it to gently catch it.

True  
False

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When loading or releasing a collet the end mill should be installed.

True  
False

I must remove the end mill from the collet before loading or releasing from the spindle.

True  
False

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When loading or releasing a drill chuck the tool must be installed.

True  
False

I should remove the tool from the drill chuck before loading or releasing from the spindle.

True  
False

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Drill bits are meant to remove material using the top or side of the tool.

True  
False

End mills are meant to remove the material using the top or side of the tool.

True  
False

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I should ask a TA to help me determine proper power feeds’ speeds.

True  
False

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If I do not know I should ask a TA to help me determine proper spindle speeds (rpm).

True  
False

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The TA’s will clean the manual mill for me after I leave.

True  
False

It is my responsibility to clean the manual mill when I am finished using it.

True  
False

Scraps from clean up belong in the large blue bins in the lab.

True  
False

I should use a rag to clean up all chips and scraps from the manual mill.

True  
False

I should use the broom, brushes, and dust pans to clean the manual mill when I am finished using it.

True  
False

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When clamping my part in the manual mill vise I need to use parallels found in the drawer labeled parallel bars.

True  
False

I only need to use parallel bars when my part is too tall for the vise.

True  
False

I should always use parallel bars when clamping my part in the vise.

True  
False

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The manual mill can perform operations on cylindrical materials.

True  
False

The manual mill has distinct vices for materials of different geometries.

True  
False

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My part must be tightly clamped in the vice before I can begin any operations.

True  
False

There is often more than one way to securely clamp a part in a vise, which depends on the geometry of my stock and the geometry of the material I intend to remove.

True  
False

There is only one way to securely clamp each part in a vise, which depends on the geometry of my stock and the geometry of the material I intend to remove.

True  
False