|  |  |
| --- | --- |
| Drill Press | 1 |
| tool use |

**Drill Press**

A drill press is a combination of tool different tools; a press and a drill. The press function uses mechanical advantage to increase leverage. The drill is mounted as part of the press to make drilling more precise and efficient.

**Safety and Use**

Proper eye protection must be worn—operate only with instructor’s permission and after proper instructions have been received.

1. Always use a piece of scrap aluminum or soft material and set the table or stop to keep from drilling into the tabletop.

2. Use a clamp or vise grips to secure/fasten your wood to the table.

3. Make sure that your scrap wood, good wood, and any clamp you are using are the ONLY objects on the table. Other objects can get caught in the machine and cause injuries.

4. Use a “V-block” clamp round or irregular shaped stock.

5. Select the right size and type of bit.

6. Use a center punch for a guide whenever possible. Always use a center punch when drilling into metal.

7. Do not panic if the bit gets stuck in the metal. Turn the machine off. When it has completely

stopped, remove the bit from the metal

8. Select the correct drilling speed. For metal or hard woods and large drill bits you should use a slower speed.

9. Always remove the chips from the table after the machine is turned off and is no longer moving.

Use a table brush, never your hands.

10. As with any machine, if it is not working properly you should always turn it off, unplug it, and tell a teacher.



* **The Head:**The head is where all the wired parts and the control panel is usually situated. You can see how and regulate how your machine would function with the help of the head.
* **The Spindle:**This is the part which does the main drilling. You can switch between different types of spindles depending on your needs. There can be a whole separate article about drill press spindles.
* **The Spindle Chuck:** This is where you put your spindle and adjust it according to your needs. The chuck can be both removal and non-removable, but it usually catches and releases the spindle with easy function technology.
* **The Motor:**This is where the main power comes from. The motor can be situated in both the head or near the chuck depending on the brand. There are different motor types each allowing different forces of power.
* **The Table:** The table usually comes with an adjustable function. You can lower or rotate the table according to your needs. There are different types of holes preserved in the table, and sometimes, even some locks are provided by the manufacturers.
* **The Base:**The base is usually made with a solid element that keeps the whole thing together. It keeps the press sturdy and right in one place.
* **The Column:** The column is the base for aligning the spindle, the head, the motor and the spindle chuck. It can be lowered down, and it is usually manually operated.

***Drill Press Written Test***

Use the correct heading and write the answers on your own paper. Use the BEST answer to complete the

following:

1. You **(\_ Should \_ Should not)** use a piece of scrap aluminum or soft material and a clamp or vise grip when using

the drill press.

2/3. Objects other than your material and clamps **(\_ Should \_ Should not)** be removed from the table top because they can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Use a **(\_ C-Block \_ V-Block)** to clamp down irregular stock.

5. The type of bit you select for drilling **(\_ Is \_ Is not)** important.

6. You **(\_ Should \_ Should not)** use a center punch when drilling into metal or hard woods.

7. You should use a **(\_ Faster \_ Slower)** drill speed when drilling into metals with

larger drill bits.

8/9. **(\_ Do \_ Do not) panic** if the bit gets stuck in the wood, you should:

10. You should remove chips from the table with your **(\_ Hand \_ Table broom).**

11. As with any machine, if it is NOT working properly you should:

List five safety procedures you should do before you operate this machine:

12.

13.

14.

15.

16.

**Drill Press Hands-On Test**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subject: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What does it do? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Why is it useful? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Can the student identify this machine (point to it)? **(**􀂆**Yes** 􀂆**No)**

4. Identify the following parts:

􀂆On/off switch 􀂆Head support safety collar 􀂆Column

􀂆Tilting table 􀂆Motor 􀂆Tilt angle lock knob

􀂆Base 􀂆Belt guard

􀂆Key chuck 􀂆Depth stop

􀂆Pilot wheel feed 􀂆Table-locking clamp

5. Safety procedures followed before using the machine:

􀂆Shirt tucked in 􀂆Z87 safety glasses

􀂆Hair secured 􀂆Checks kick back zone

􀂆Remove jewelry 􀂆Gets help from/helps partner as needed

6. Procedures for operating machine (teacher designate):

􀂆Depth stop—makes sure that it is set to avoid drilling into the tabletop.

􀂆Scrap wood—uses to avoid drilling into the tabletop.

􀂆Left hand—holds the wood flat or it’s clamped down.

􀂆Right hand—guides the wheel feed (or vice versa).

􀂆Feet—facing the machine.

􀂆Key chuck—tightens down the chuck key in at least two places *(righty tighty /lefty loosy)*.

􀂆Eyes—watching to see where the bit is going and making sure that the body goes nowhere near it.

7. Makes two safe and successful operations:

a) 􀂆**Yes** 􀂆**No**

b) 􀂆**Yes** 􀂆**No**

8. Makes sure that the machine has been shut down properly, that the area is clean, and puts tools away. 􀂆**Yes** 􀂆**No**