

Portable Circular Saw

I. Competencies

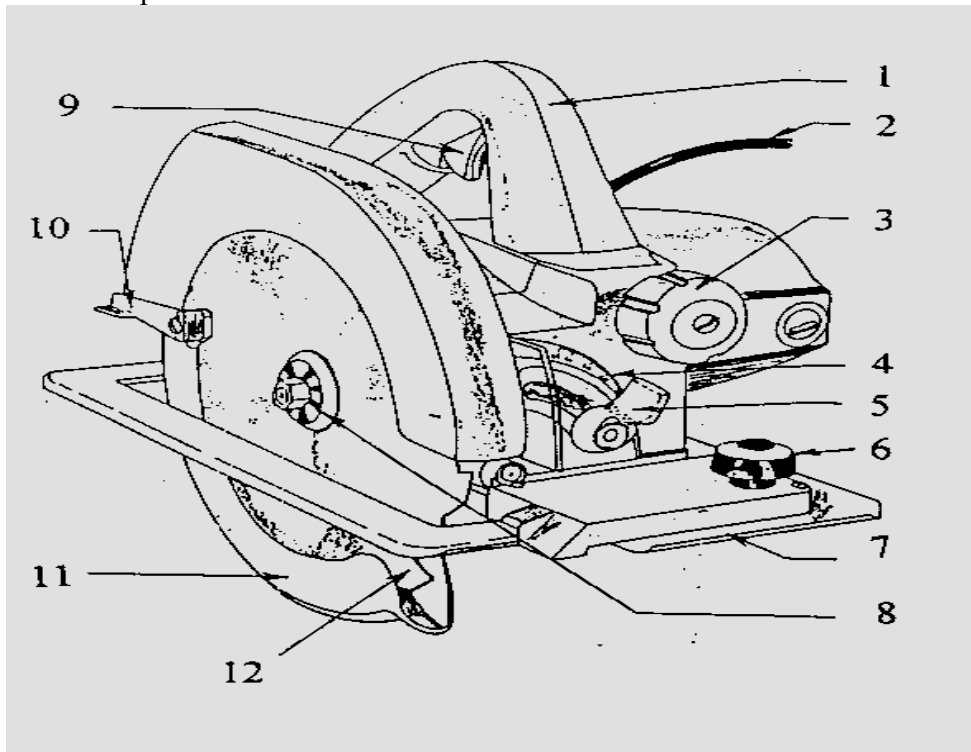
Given a properly functioning portable circular saw, accessories, instruction and demonstration of use, each student will be able to:

- A. Identify the major parts of the portable circular saw.
- B. Pass a written test on safety and operating procedures of the portable circular saw with 100 percent accuracy.
- C. Demonstrate ability to use the portable circular saw, following suggested safety rules and correct operation procedures.

II. Instructional Materials and Procedures

A. Identification of basic portable circular saw parts.

- | | |
|------------------------|-------------------------|
| 1. Handle | 7. Tilting Base |
| 2. Electrical cord | 8. Anti-Kickback Clutch |
| 3. Guide knob | 9. Trigger Switch |
| 4. Angle Scale | 10. Guard Lift Handle |
| 5. Tilt Lock Knob | 11. Retractable Guard |
| 6. Rip Guide Lock Knob | 12. Blade |



B. Portable Circular Saw Safety

1. Wear safety glasses and hearing protection.
2. Stock must be well supported so the kerf will not close, bind the blade, and cause a kickback
3. Support thin materials near the cut; Clamp small pieces to a sturdy base before cutting.
4. Adjust the depth of cut so the ends of three teeth are visible as the blade extends through the stock, 1/4" teeth extension is maximum.
5. Before using a saw, check the base and angle adjustments to be sure they are tight.
6. Locate the electrical cord so it will not become entangled in the work or be cut by the saw blade.
7. Always place the saw base on the stock with the blade not touching the material before starting the saw.
8. Keep both hands on the saw if two handles are provided.
9. Make sure the saw blade has topped rotating before putting the saw down.
10. Always unplug the saw to make adjustments or to change blades.
11. Always use sharp blades and keep the blade guard functional.
12. Do not overextend or over reach and lose your balance when using the portable circular saw.
13. Try to saw materials so that saw dust will not be thrown or blown in the operators face.

C. Portable Circular Saw Operating Procedures

1. Select the correct blade for the type of cut being made and the type of material being cut.
2. Adjust the saw base so the blade extends through the material being cut by no more than 1/4"
3. Mark material so that a good visible line is present to help guide the cut.

4. Align the saw blade on the waste side of the cut line. The line should still be visible after the cut has been made.
5. Use one hand to grasp the saw guard lift handle and retract the retractable (movable) guard a little to get the cut started.
6. Align the cut line on the material with the proper notch or mark on the saw base to get the desired location of the cut. Most saws will have more than one notch or mark so the operator can adjust the saw position to get the desired cut.
7. Push the saw through the material at a steady pace. Avoid going too fast, this condition can be recognized by noticeable reduction in the RPM's of the saw blade.
8. For long straight cuts a guide can be clamped to the material and the saw base can be pushed along the guide.
9. For long cuts the operator may desire to lock the trigger switch in the "on" position. Be sure to check and see that the ON/OFF lock on the trigger switch is functioning properly.
10. To make a "plunge" or internal cut in a piece of material rest the front of the base on the material, retract the retractable guard, hold the saw good and sturdy, turn the switch on, and slowly lower the saw blade into the material. Continue to push the saw blade down until the blade cuts completely through the material.

III. Safety Test

Portable Circular Saw Safety and Operations Test

Name _____ Class _____ Date _____

Multiple Choice - Place the letter of the most correct answer on the answer sheet.

1. The saw blade should extend through the material being cut by _____ inches.
 - a. 1/8
 - b. 1/4
 - c. 1/2
 - d. 1

2. Material should be well supported when being cut with the portable circular saw to _____ .
 - a. keep it from falling over
 - b. so the cut can be made quickly
 - c. to prevent damaging the material
 - d. to prevent binding the saw blade and causing a kickback

3. To make a long straight cut with the portable circular saw _____ .
 - a. clamp a guide on the material.
 - b. such cuts can not be made with a portable circular saw.
 - c. move the saw rapidly through the cut.
 - d. move the saw slowly through the cut so it can be guided straight.

4. Before putting the saw down after a cut has been made _____ .
 - a. unplug the saw
 - b. make sure the cover is over the blade
 - c. make sure the blade has stopped rotating
 - d. all of these

5. If the saw operator over extends himself/herself when cutting with the portable circular saw, what is likely to happen?
 - a. Break the saw blade.
 - b. Strain their arm.
 - c. Will get off-balance, fall and cause an accident
 - d. Cut through the power cord.

6. When should a portable circular saw operator unplug the saw?
 - a. After each cut
 - b. When making adjustments to the saw.
 - c. When changing saw blades
 - d. Both b and c

7. What personal protection safety equipment should be worn by the portable circular saw operators?
 - a. Safety glasses
 - b. Safety glasses and hearing protection
 - c. Safety glasses, hearing protection, and respirator
 - d. Safety glasses, hearing protection, respirator, and gloves

8. The blade on the portable circular saw should be aligned _____ when making a cut.
 - a. on the waste side of the marking line
 - b. on the marking line
 - c. 1/4 inch away from the marking line
 - d. 1/2 inch away from the marking line

9. What symptom will the saw operator notice when a cut is made too fast with the portable circular saw?
 - a. Saw dust chips will be large.
 - b. The operational noise made by the saw will increase.
 - c. The saw blade will dull rapidly.
 - d. The saw blade Rpm's will decrease.

10. To make a plunge cut with the portable circular saw the operator should _____.
 - a. uncover the blade and slowly lower the saw blade into the material being cut.
 - b. rest the heel of the saw base on the material, uncover the blade and slowly lower the blade into the material being cut.
 - c. rest the front of the saw base on the material, uncover the blade and slowly lower the blade into the material being cut.
 - d. lock the saw in stationary position, turn it on and raise the material into the saw blade.

IV. Performance Test for the Portable Circular Saw

The student performs the following while operating the portable circular saw.

	Yes	No	N/A
1. Safety glasses are worn while the saw is being used.	___	___	___
2. Hearing protectors and gloves are worn when the portable circular saw is being operated.	___	___	___
3. The portable circular saw is held firmly in both hands before the switch is turned on.	___	___	___
4. The portable circular saw has stopped rotating before the saw is laid down.	___	___	___
5. The portable circular saw is positioned so that saw dust and grit are thrown away from the operator and others working in the area.	___	___	___
6. The electrical and extension cords are positioned away from the work being performed.	___	___	___
7. When the blade is replaced on the portable disk grinder the electric cord is unplugged.	___	___	___
8. The student can remove and replace the blade disk on the portable circular saw.	___	___	___
9. The student can safely control the saw and perform satisfactory cuts.	___	___	___

Comments _____

I do hereby certify that the student has satisfactorily demonstrated ability to operate the portable circular saw by passing this performance test.

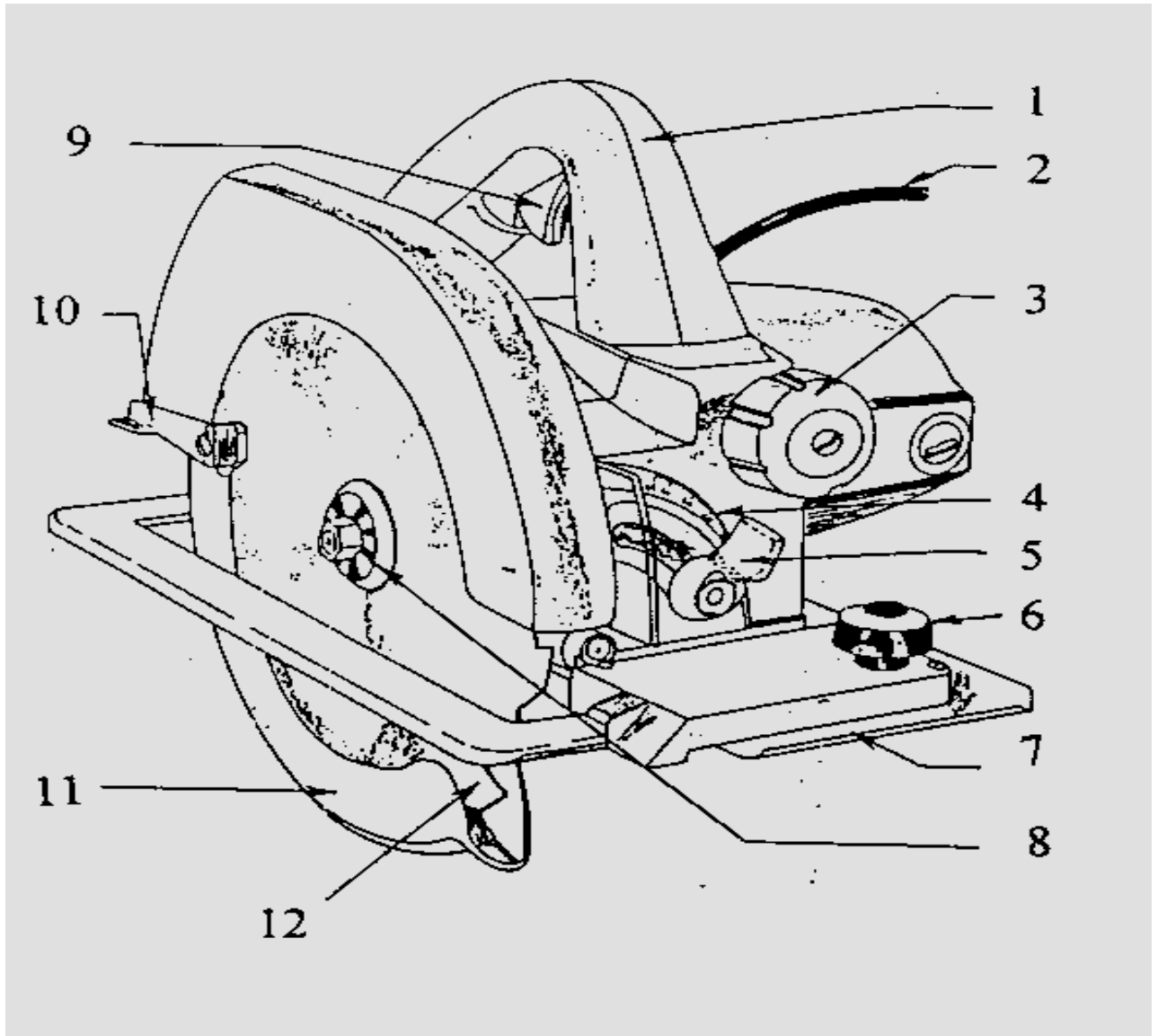
Student Date Teacher Date

Portable Circular Saw Identification Test

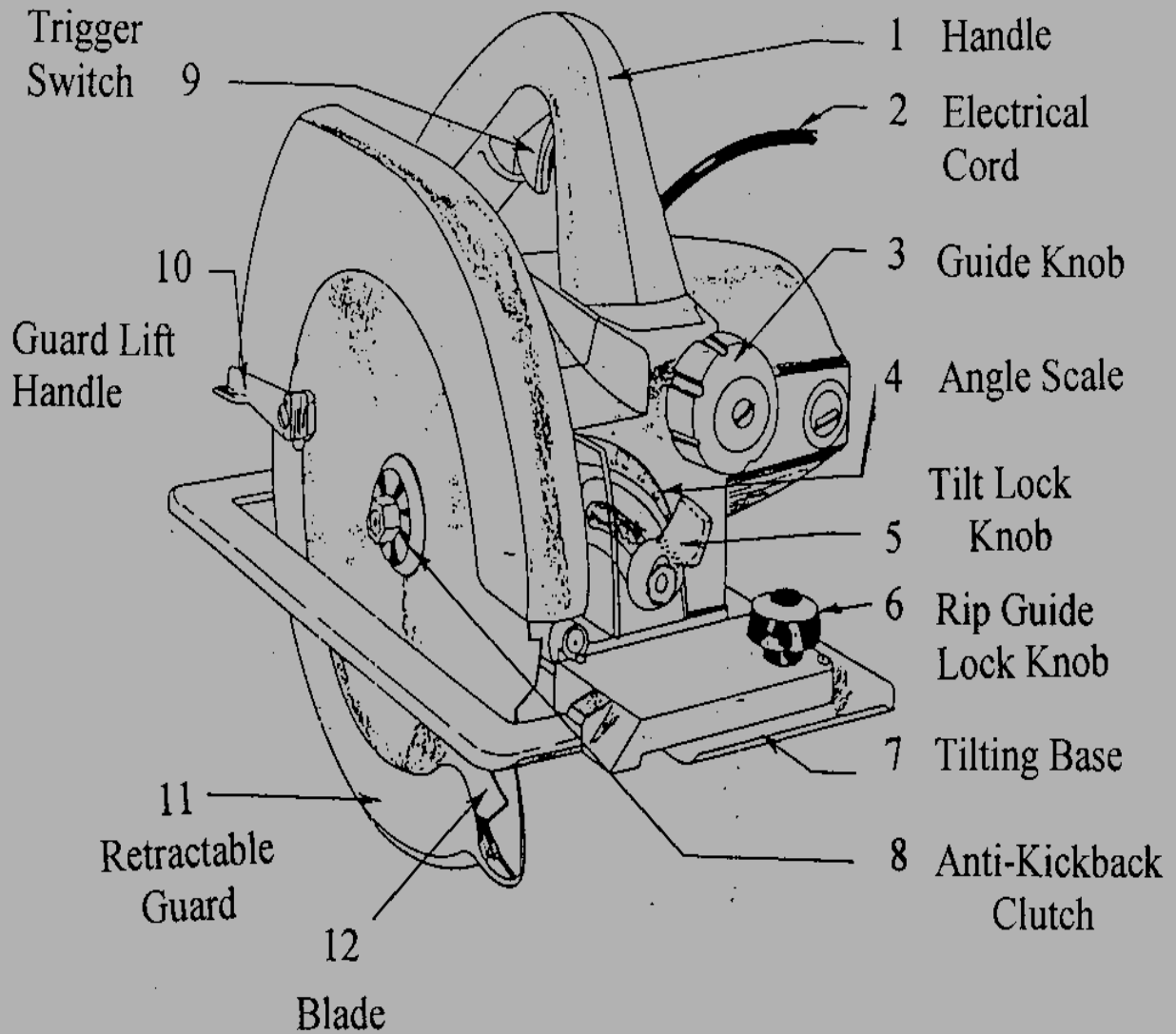
Name _____

Match the number of each portable circular saw part with the correct part name.

- | | |
|--------------------------------|----------------------------|
| ___ A. Angle Scale | ___ H. Handle |
| ___ B. Anti-Kickback
Clutch | ___ I. Retractable Guard |
| ___ C. Blade | ___ J. Rip Guide Lock Knob |
| ___ D. Electrical cord | ___ K. Tilt Lock Knob |
| ___ E. Guard Lift Handle | ___ L. Tilting Base |
| ___ F. Guide knob | ___ M. Trigger Switch |



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