

Jointer

I. Competencies

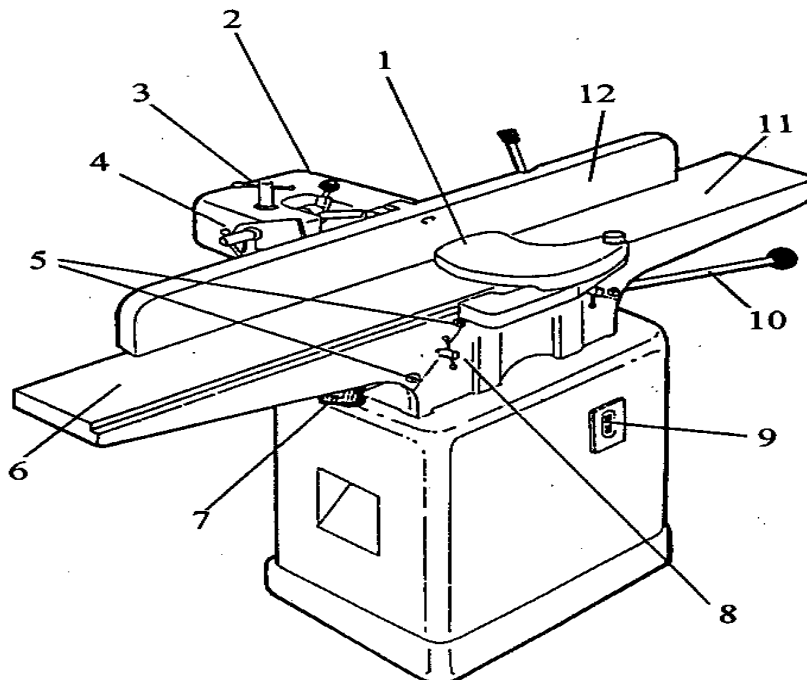
Given a properly adjusted jointer, instruction and demonstration of use, each student will be able to:

- A. Identify the major parts of the jointer.
- B. Complete a written test on the safety and operating procedures of the jointer with 100% accuracy.
- C. Demonstrate, on a performance test, acceptable ability to safely edge, rabbet, bevel, and chamfer stock with the jointer.

II. Instructional Materials and Procedures

A. Identification of Basic Jointer Parts:

- | | |
|---------------------------|---------------------------------|
| 1. Cutterhead guard | 7. Rear Table Raising Handwheel |
| 2. Fence Lock Plunger | 8. Table Lock Handle |
| 3. Fence Slide Lock Screw | 9. Off/On Switch |
| 4. Tilt Lock | 10. Front Table Adjusting Arm |
| 5. Gib Screws | 11. Infeed Table |
| 6. Outfeed Table | 12. Fence |



B. Jointer Safety

1. Secure permission from the instructor before operating the jointer.
2. Wear industrial quality eye and ear protection while using the jointer.
3. Before operating the jointer, remove jewelry (rings, watches, bracelets, etc.) and confine all loose clothing and long hair. Protective type footwear should also be worn.
4. Keep the floor area clean and free of scrap material, sawdust, and oil or grease to minimize the danger of tripping or slipping. Anti-skid floor strips are recommended on the floor where the operator normally stands.
5. Use the safety guard at all possible times. (Some jointers require the safety guard to be removed when cutting rabbets).
6. Never joint the end of stock less than 10" wide.
7. Check the stock carefully before jointing to be sure it is free of finishes, knots, nails or other objects.
8. Always use an approved push block or push stick when jointing stock that does not provide a distance of safety for your hands.
9. Never joint stock less than 12" inches long. As the board starts over the cutterhead, the corner is very likely to catch, throwing the wood out of your hand and allowing the fingers to drop into the revolving cutterhead.
10. Always stand to the left and out of line of the cutterhead knives.
11. Always disconnect the power source when servicing the jointer.
12. Never adjust the jointer while the cutterhead is turning.
13. Never make cuts of more than 1/16" on softwoods and 1/32" on hardwoods
14. Check to see that all locks are tightened securely before using the jointer.
15. Maintain your balance when operating the jointer; do not overreach or use excessive force to perform any operation. Establish a comfortable position prior to starting.
16. Never move hands directly over the cutterhead. Keep hands at least 12 inches from the cutterhead at all times.
17. Use an assistant when jointing long pieces of stock.
18. Turn off the power and allow the jointer to stop before leaving the area.
19. Remember the function of the jointer is to straighten the edge of lumber and therefore, should not be used as a surfacer or planer.

20. Keep the knives sharp and properly adjusted. Dull knives are more likely to cause kickback. Knives out of adjustment, either cutting on an angle or one knife adjusted lower or higher than the others, will cause excessive cutting and may be a safety hazard.
21. Do not engage in horseplay, talk to others, or look around while operating the jointer.

C. Jointer Operating Procedures

1. Jointing and edging

- a. Always have the cutterhead guard in place when jointing.
- b. Use a try square to determine if the fence is perpendicular to the table. Adjust if necessary.
- c. Adjust the infeed table to achieve the desired cutting depth. (Usually less than 1/16" for softwoods and 1/32" for hardwoods).
- d. Always use a hold down push block to joint stock less than 3" wide or less than 1/2" in thickness.
- e. Adjust the fence to expose the amount of cutterhead surface required for the cut being made.
- f. When jointing hold stock tightly against the fence. If the edge has a large concave or convex shape, cut it straight on the table saw before jointing. Lumber with small convex or concave edges should have one edge straightened on the jointer and the second edge cut on the table saw.
- g. Feed stock through the jointer so it will cut with the grain of the wood.
- h. Push stock with the right hand, hold stock against fence with left hand.
- i. Do not allow the hand to pass directly above the cutterhead while applying pressure to the stock. Keep hand(s) at least 12" away from the cutterhead.
- j. Do not joint lumber with extremely rough or irregular edges..
- k. Make as many passes as needed to complete operation.
- l. Do not leave the jointer until the cutterhead has completely stopped.

2. Rabbeting

- a. Lay out and mark the exact size of the rabbet on the front edge of the board. Position the fence the width of the rabbet away from the front edge of the table.
- b. Remove the guard, if necessary, for your jointer. Use extreme care when cutterhead is off.
- c. Lower the infeed table 1/32" at a time and make successive cuts until the desired depth of rabbet has been obtained. It is easier and safer to make several shallow cuts than to make the full rabbet cut in one pass.
- d. Always use a push block when rabbeting on the jointer.

- e. Lock the infeed table securely in position.
 - f. Do not lean over the jointer.
 - g. Turn the jointer off to make any adjustments.
 - h. Always replace the cutterhead guard immediately after rabbeting is complete.
3. Beveling and chamfering
- a. Adjust the jointer fence to the desired angle using the tilt gage or a sliding t-bevel square.
 - b. Greater accuracy and a safer working position is possible with the fence tilted toward the operator.
 - c. When the fence is tilted secure a scrap piece of stock to the outfeed table with a clamp to prevent the stock from sliding away from the fence as it comes across the jointer.
 - d. Make shallow cuts until desired depth is reached.
 - e. Make coarse grain cuts first when beveling around all four edges.
 - f. When beveling material less than 3" wide, use beveled push blocks and apply pressure toward the fence.

III. Safety Test

Jointer Safety and Operation Test

NAME _____ DATE _____ CLASS _____

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

1. Which of the following jobs cannot be done with the jointer?
 - a. Rabbeting
 - b. Chamfering
 - c. Grooving
 - d. Beveling

2. Before leaving the jointer, one should _____.
 - a. have the cutterhead guard in place
 - b. turn the switch to the off position
 - c. make sure the cutterhead has stopped turning
 - d. all of the above

3. The maximum cut recommended for one pass with the jointer on softwoods is _____.
 - a. 1/32 inch
 - b. 1/16 inch
 - c. 3/16 inch
 - d. 1/4 inch

4. The primary purpose of the jointer in the agricultural mechanics shop is to _____.
 - a. cut rabbets
 - b. edge stock
 - c. cut chamfers
 - d. cut bevels

5. Which of the following operation(s) cannot be done with the cutter-head guard in place?
 - a. Edging
 - b. Beveling
 - c. Rabbeting
 - d. All of the above

6. When beveling or chamfering, the operator should _____.
 - a. remove the guard
 - b. cut freehand without the fence
 - c. tilt the fence over the table
 - d. perform these operations only on the table saw

7. The only time it is permissible to remove the cutterhead guard on the jointer is to cut a _____.
- long taper
 - short taper
 - rabbet
 - groove
8. When squaring the edge of a piece of wood on the jointer, which of the following is not true _____.
- the stock is fed into the jointer with the grain
 - the fence must be adjusted to 90 degrees
 - loose knots should be removed prior to making the cut
 - the infeed and outfeed tables must be adjusted to the same heights
9. The shortest piece of stock you should ever attempt to edge joint is _____.
- 6 inches long
 - 8 inches long
 - 10 inches long
 - 12 inches long
10. The adjustment for depth of cut on the jointer is made by setting the _____.
- outfeed table
 - infeed table
 - cutterhead
 - cutterhead knives
11. The fence should be set at a 90 degree angle for most edge jointing. To check the angle of the fence _____.
- use a sliding t-bevel
 - check the tilt scale
 - use a try square
 - use a framing square
12. Stock less than _____ inches in width will always require the use of a hold down push block to push the material across the jointer.
- 2"
 - 3"
 - 4"
 - 5"
13. Never joint the end of stock that is less than _____.
- 8 inches wide
 - 10 inches wide
 - 12 inches wide
 - 14 inches wide

14. When using the jointer, you should stand _____?
- to the right of the jointer
 - to the left of the jointer
 - in front of the jointer
 - behind the jointer
15. When jointing long pieces of stock, you should _____.
- use an assistant
 - joint half of the stock from each end
 - use a push stick
 - set the jointer for 1/8 inch cuts
16. If you are not sure how to perform an operation on the jointer, you should _____.
- ask the instructor for assistance
 - ask another student for assistance
 - refer to the operator's manual
 - read about it in the textbook
17. When performing a woodworking operation on the jointer, you should attempt to complete it in _____.
- one pass over the jointer
 - two passes over the jointer
 - three passes over the jointer
 - as many passes as needed
18. Stock should be pushed through the jointer with _____.
- either hand
 - both hands
 - the right hand
 - the left hand
19. Hands and fingers should never come closer than _____ inches to the cutterhead when push blocks or push sticks are not used.
- 8 inches
 - 10 inches
 - 12 inches
 - 16 inches
20. Stock _____ inches wide and less should be edge jointed only if push blocks or push sticks are used.
- 2 inches
 - 3 inches
 - 4 inches
 - 6 inches

IV. Performance Test for the Jointer

The student performs the following while edging, beveling, chamfering and rabbeting:

	Yes	No	N/A
1. Safety glasses are worn.	___	___	___
2. The cutterhead guard is used on all cuts except rabbet cuts.	___	___	___
3. Clothing and jewelry are not worn.	___	___	___
4. The depth of cut is set for no more than 1/16 inch.	___	___	___
5. Jointer tables are clear of tools and other materials.	___	___	___
6. The jointer fence is set at the correct angle.	___	___	___
7. Stock is fed properly onto the jointer with the grain.	___	___	___
8. A push stick or push block is used on narrow and thick stock.	___	___	___
9. Adjustments to the jointer are made with the power off.	___	___	___
10. Correct procedures are used in jointing stock.	___	___	___
11. Work procedures are safe and acceptable.	___	___	___

Comments: _____

I hereby certify that the student has satisfactorily demonstrated ability to operate the jointer by passing the above performance test.

Signed (Student)

Date

Signed (Teacher)

Date

Jointer Parts Identification Test

Name _____

Match the number of each jointer part with the letter of the correct part name.

___ A. Fence Lock Plunger

___ G. Cutterhead Guard

___ B. Tilt Lock

___ H. Fence Slide Lock Screw

___ C. Outfeed Table

___ I. Gib Screws

___ D. Table Lock Handle

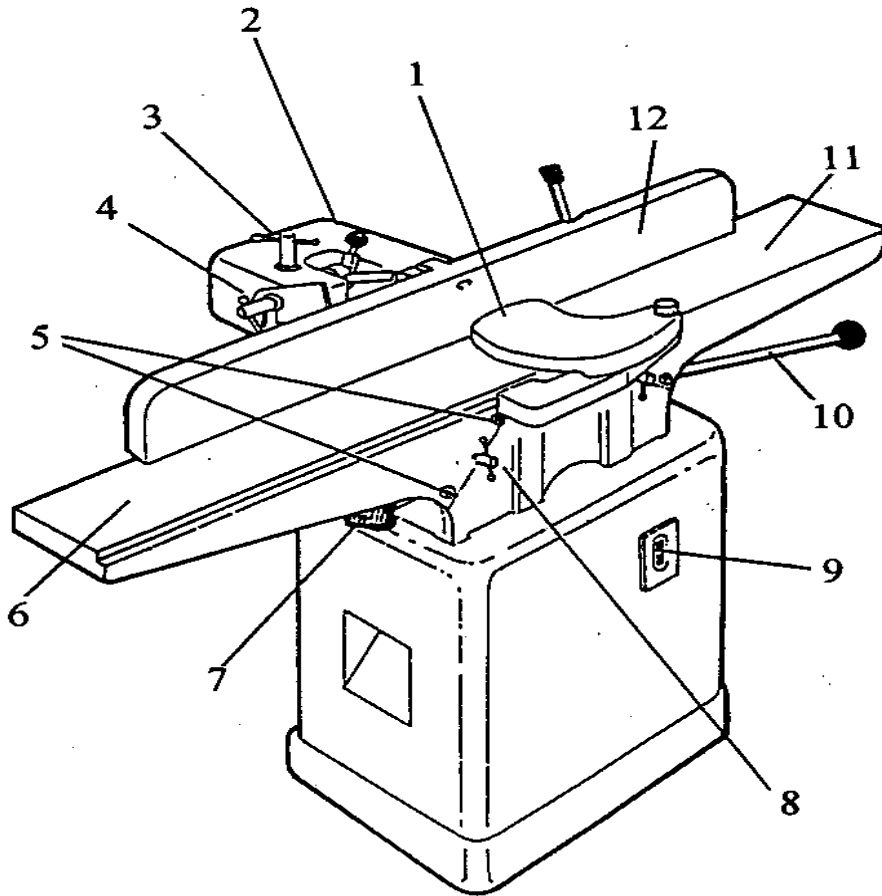
___ J. Rear Table Raising Handwheel

___ E. Front Table Adjusting Arm

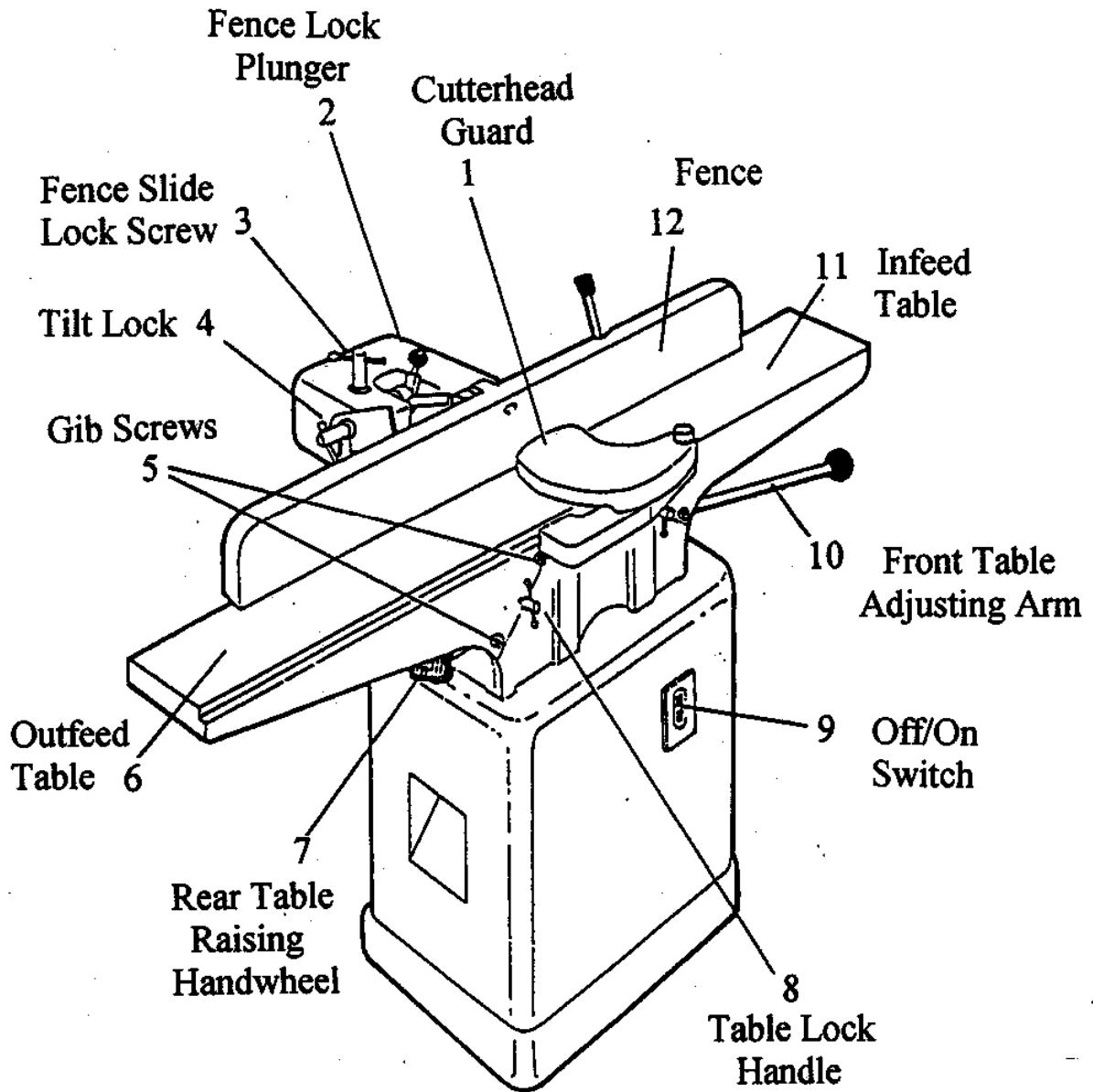
___ K. Off/On Switch

___ F. Fence

___ L. Infeed Table



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