

## Planer

### I. Competencies

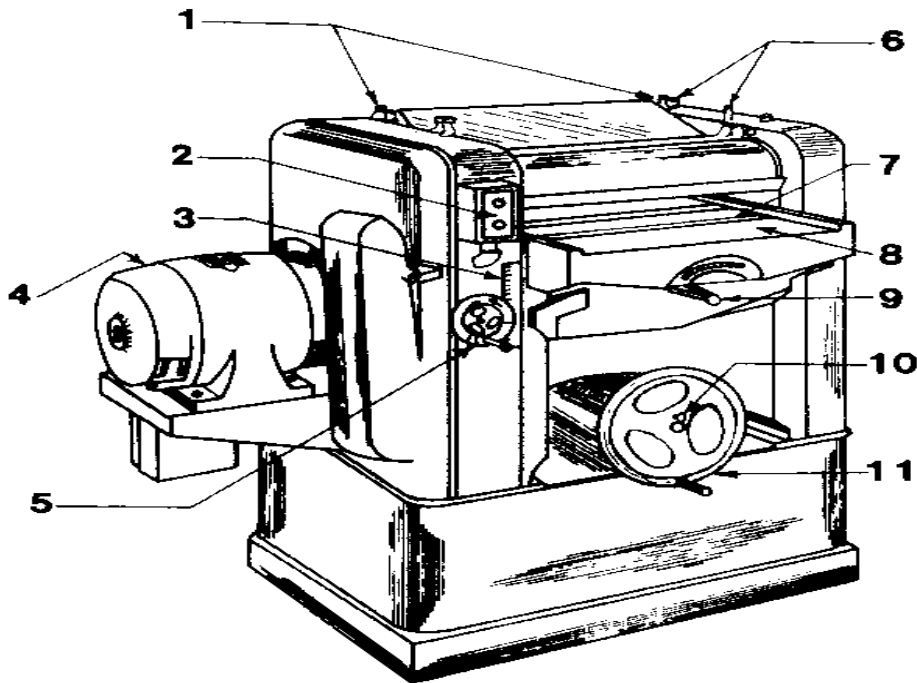
Given a properly adjusted planer, instruction and demonstration of use, each student will be able to:

- A. Identify the major parts of the planer.
- B. Pass a written test on safety and operating procedures of the planer with a minimum of 100% accuracy.
- C. Demonstrate, on a performance test acceptable, ability to surface lumber with the thickness planer.

### II. Instructional Material and Procedures

#### A. Identification of Basic Planer Parts:

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| 1. Pressure bar adjusting screws | 6. Infeed and outfeed roll adjusting |
| 2. Off/On Switch                 | 7. Bed roll                          |
| 3. Depth of cut scale            | 8. Bed                               |
| 4. Motor                         | 9. Bed roll adjusting lever          |
| 5. Variable speed control        | 10. Handwheel lock                   |
|                                  | 11. Bed elevating handwheel          |



## B. Planer Safety

1. Use industrial quality eye protection, ear protectors, and footwear.
2. Keep the work area around the planer free from scraps, sawdust, oil or grease. The use of anti-skid floor strips is recommended for the floor area around the planer.
3. Before starting the planer, clear the machine and table area of chips, tools, or other matter.
4. Keep hands away from any moving parts.
5. Never look around, carry on a conversation, or “horseplay” while using the planer.
6. Use a helper or a support stand to off-bear the lumber when planing. An off-bearer only supports and moves with the stock as it comes through the planer.
7. Disconnect the electrical service in the circuit breaker before making any service adjustments to the planer or before changing blades.
8. Remove jewelry such as finger rings, bracelets, and watches. These items have the potential to get caught in the machine or on the material while planing.

## C. Planer Operating Procedures

1. Make certain all guards are in place and securely fastened.
2. Never stand or walk directly behind the machine when it is in operation.
3. Do not overload the planer by trying to cut more than the capacity of the machine. The depth of cut will depend upon the width of the lumber, rate of feed and the kind of lumber.
4. The depth of cut should never be set at more than 1/16 inch.
5. Make sure the board to be planed is free of knots, paint, varnish, nails, dirt, and grease.
6. Feed lumber into the planer with the grain of the wood.

7. When feeding material into the machine, stand to the side nearest the switch. Never stand behind a piece of lumber being planed, as kickbacks can cause serious injury.
8. If the planer becomes overloaded during the cut stop the machine, wait until the cutter head completely stops, then lower the table to clear the work. Kickbacks may occur if the stock is removed from the planer before the cutter head stops.
9. Never force material through the planer. If the lumber does not feed properly, stop the machine and have the instructor help you correct the feed problem.
10. Feed only one board through the planer at a time. Kickbacks can occur while attempting to surface more than one board at a time.
11. Pass lumber around the planer, not over it, when running lumber through the planer a second time.
12. Never attempt to surface lumber that is shorter than the distance between the infeed and outfeed rollers.
13. Never plane lumber less than  $\frac{1}{4}$ " thick unless a slave board is used.
14. When finished planing turn the machine off and wait until all moving parts have stopped before leaving the work area.
15. Bed rollers should be adjusted at maximum height when surfacing rough lumber and at minimum height after the lumber has been smoothed on both sides.
16. The variable speed control should be set at maximum feet per minute when only a rough finish is desired and at low feet per minute when a fine finish is desired on the board.

III. Safety Test

**Planer Safety and Operation Test**

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

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

1. The maximum amount of cut recommended for a thickness planer is \_\_\_\_\_.
  - a. 1/32 inch
  - b. 1/16 inch
  - c. 1/8 inch
  - d. 1/4 inch
  
2. Before operating a planer, articles of clothing such as ties and coats, should be \_\_\_\_\_.
  - a. removed
  - b. kept away from the blades
  - c. held out of the way by another student while you are planing
  - d. worn with caution
  
3. Which item(s) should not be worn when operating the planer \_\_\_\_\_.
  - a. lapel pins
  - b. finger rings
  - c. long earrings
  - d. necklaces
  - e. all of the above
  
4. Industrial quality protective equipment should be worn for the protection of \_\_\_\_\_.
  - a. eyes
  - b. ears
  - c. feet
  - d. all of the above
  
5. Before starting the planer \_\_\_\_\_.
  - a. make sure that all guards are in place and securely fastened
  - b. clear the area of scraps, sawdust, oil, or grease
  - c. clear the machine and table area of chips, tools, or other matter
  - d. all of the above

6. Never stand or walk directly behind the planer when in operation because \_\_\_\_\_.
- sawdust will get in your face
  - a kickback may occur causing a serious injury
  - knots may fly out and hit you
  - it is difficult to get to the off-on switch quickly if the need arises
7. The purpose of the off-bearer when using the planer is to \_\_\_\_\_.
- pull the stock through the planer
  - support and pull the stock through the planer
  - support and move with the stock as it comes through the planer
  - remove sawdust, support and help pull stock through the planer
8. Which type of stock should never be run through the planer?
- painted stock
  - green stock
  - over dried stock
  - extra long stock
9. If the lumber being planed stops part way through the cut \_\_\_\_\_.
- stop the planer, remove and discard the board
  - wait until the cutterhead completely stops and readjust the planer
  - lower the table to free the stock and keep cutting
  - either b or c
10. When leaving the planer work area \_\_\_\_\_.
- turn the machine off
  - turn the machine off and leave
  - turn the machine off and clean up
  - turn the machine off and wait until all moving parts stop before leaving the planer work area.
11. How many boards can be fed safely through the planer at one time?
- 1
  - 2
  - 3
  - It depends on the size of the planer

12. While using the planer, serious accidents can be caused by \_\_\_\_\_.
- “horseplay”
  - carrying on a conversation with a friend
  - standing behind a board as it travels through the machine
  - all of the above
13. The depth of cut depends on the \_\_\_\_\_.
- width of lumber
  - rate of feed
  - kind of lumber
  - all of the above
14. Lumber should be fed into the planer \_\_\_\_\_.
- first, on edge
  - against the grain
  - with the grain
  - only with the operator standing within 18” of the planer
15. Never attempt to surface lumber that is \_\_\_\_\_.
- shorter than the distance between the infeed and outfeed rollers
  - less than 3/8 inch thick
  - cracked
  - all of the above
16. When planing rough sawed lumber the planer bed rolls should be adjusted to a \_\_\_\_\_.
- minimum clearance
  - low clearance
  - medium clearance
  - high clearance
17. To obtain a fast rough finish on lumber, the planer variable speed control should be adjusted to \_\_\_\_\_.
- slowest feet per minute
  - medium feed per minute
  - fastest feet per minute
  - the variable speed adjustment does not influence the type of finish, it only controls speed of the surfacing operation

Student \_\_\_\_\_

**IV. Performance Test for the Planer**

The student performs the following while surfacing with the thickness planer.

	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Safety glasses are worn when operating the planer.	___	___	___
2. Ear protection is worn when operating the planer.	___	___	___
3. Clothing and jewelry worn are not safety hazards.	___	___	___
4. Depth of cut adjustments are correct.	___	___	___
5. Bed roller height is adjusted correctly.	___	___	___
6. The variable speed control is adjusted correctly.	___	___	___
7. A helper or support stand is used to off-bear the planed lumber.	___	___	___
8. The operator stands to the side of the board while it is being planed.	___	___	___
9. Work procedures of the operator are acceptable.	___	___	___

Comments: \_\_\_\_\_

\_\_\_\_\_

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

\_\_\_\_\_  
Signed (Student)                      Date

\_\_\_\_\_  
Signed (Teacher)                      Date

## Planer Parts Identification Test

Name \_\_\_\_\_

Match the correct number with the correct part name.

\_\_\_ A. Depth of cut scale

\_\_\_ B. Bed

\_\_\_ C. Pressure bar adjusting screws

\_\_\_ D. Motor

\_\_\_ E. Bed elevating handwheel

\_\_\_ F. Infeed and outfeed roll adjusting screws

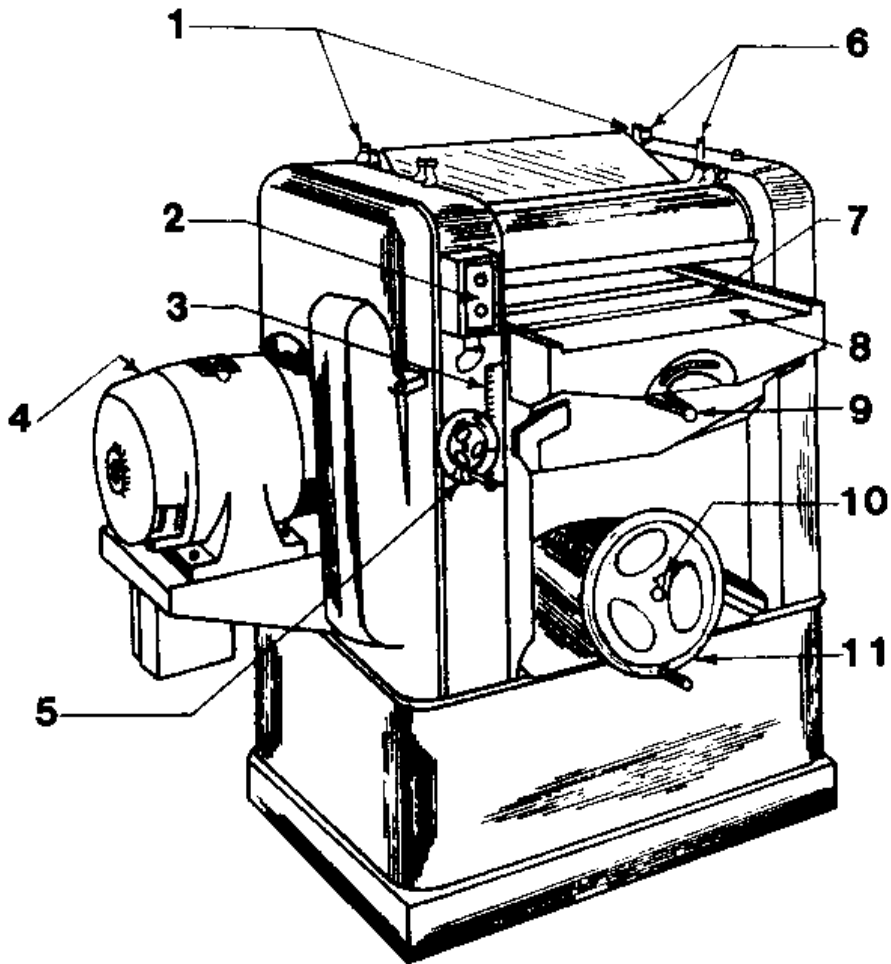
\_\_\_ G. Bed roll adjusting lever

\_\_\_ H. Handwheel lock

\_\_\_ I. Switch

\_\_\_ J. Variable speed control

\_\_\_ K. Bedroll





# BASIC PLANER PARTS

