

Tip #34 Planers

Shopsmith has two models of planers: the Thickness Planer and the Professional Planer. The Thickness Planer mounts on the Mark V (Figure 21-1) or a Shopsmith Power Stand. The Professional Planer has its own stand and motor (Figure 21-2).

In terms of what it does, the planer might be the simplest power tool in a home woodworking shop. Yet, simple as it is, when teamed with other power tools, the planer gives you everything you need to transform all kinds of lumber into useful, beautiful and fun projects. It gives you greater freedom to work with hardwood, softwood, even trees from your backyard or logs from your wood pile. Adding a planer is a great step toward achieving a totally self-sufficient home woodworking shop.

Don't confuse the planer with the jointer. The planer is not the best tool to use for straightening cupped or warped stock. These defects should be removed with the jointer before you plane the stock.

A planer performs only two basic tasks, but it does these very, very well:

One: It planes the surface of a workpiece so that it's smooth and flat. Sometimes this means it will remove a large amount of stock in several passes (such as when you're planing a really rough piece of lumber). At other times it can be set to take off just a small amount (when you want to get an extremely smooth, final surface).

Two: The planer will plane any number of boards to the exact same thickness.

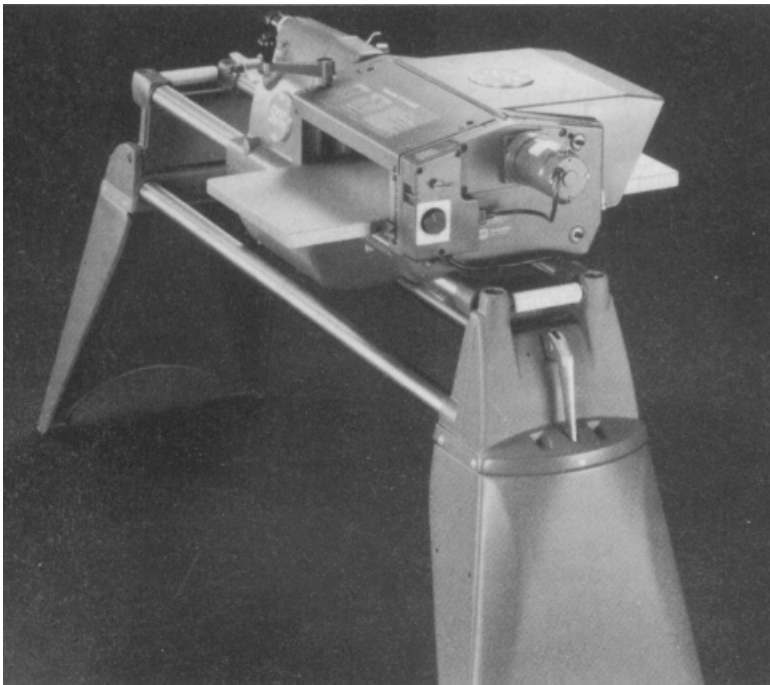


Figure 21-1. The Thickness Planer can be mounted on the Mark V, as shown, or on a Shopsmith Power Stand.

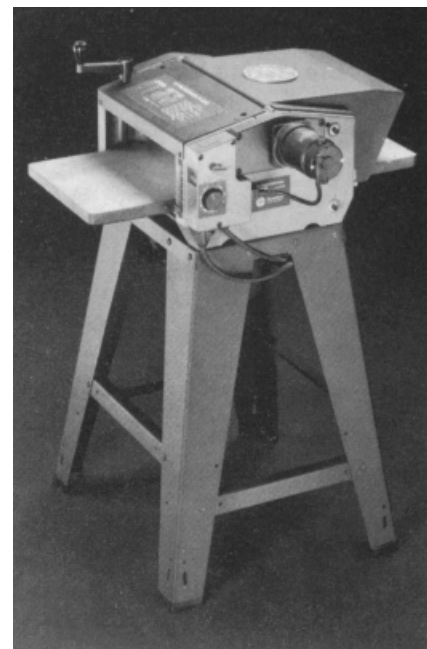


Figure 21-2. The Professional Planer has its own stand with its own motor.

PLANERS-SETUP AND FEATURES

To set up your planer, follow the instructions in the Owners Manual that came with your planer.

As you work with the planer, you'll find that it has several special features:

- The planer will plane stock from 4" down to 3/32" thick. It can handle boards from 1" up to 12" wide. The length of stock is limited only to what you can safely control.
- The cutterhead revolves on two sealed ball bearings and holds three precision-ground steel knives. Each knife is 12-1/4" long and rests on three knife leveling screws so that you don't have to match grind the knives. With the knives installed, the cutterhead is 2-1/4" in diameter.
- The table surface is 28" long and 12-1/2" Wide. The table is held parallel to the cutterhead by four threaded posts. The vertical position can be adjusted from 3/32" to 4" away from the cutting edge of the knives.
- The 1/20 horsepower variable-speed feed motor feeds stock through the planer. The actual feed rate at any given feed control setting will vary depending on the depth of cut, sharpness of the knives and width of the stock.

KNIFE MOUNTING SYSTEM

The cutterhead holds three knives. Each knife is held in the cutter-head by two metal wedges with four locking screws through each wedge. In all, eight locking screws hold each knife in place.

In addition, the knives themselves are wedge-shaped. Each knife is slightly thicker at the bottom than it is at the top. When properly seated, the wedges and the knives interlock. **Warning: Use only Shopsmith Planer Knives in your planer. Other brands of knives are not wedge-shaped and will not seat properly in the cutterhead. Using off-brands of knives is extremely dangerous. Check the wedge locking screws immediately if an unusual noise, vibration, or uneven cuts develop and after every 10 hours of use.**

There are also three knife leveling screws under each end and under the middle of each knife. These screws allow you to adjust all three knives to precisely the same height without the need for costly and time consuming match grinding.

PLANER SAFETY

Warning: Before using the planer, read and understand these important safety instructions:

Danger Zone-The planer danger zone is separated physically by the infeed and outfeed shields. It is extremely dangerous to place your hands inside or under the shields. This rule applies not only when the planer is running, but whenever the planer is plugged in. The danger zone also extends 6' directly in front and to the rear of the stock being planed because the planer can kick stock and chips in both directions.

Always stand to the right side (the switch side gives you maximum control) of the planer and keep your hands from under the infeed and outfeed shields whenever the planer is plugged in. There is one exception to this rule:

You must put your hands in front of or behind the openings to feed and receive stock. But don't put your hands into the openings or stand so that your body is in line with these openings.

- Wear proper eye and ear protection, and a dust mask.

- Keep the infeed and outfeed shields in place and locked down. Never operate the planer without the protective shields in place and properly secured.
- Don't let your fingers be pinched between the stock and the table. Release the stock as soon as the infeed roller grabs it.
- Never reach under the infeed or outfeed shield to adjust a workpiece or brush away wood chips while the planer is running. Turn off and unplug the machine, let the cutterhead come to a complete stop, then reach in with a push stick or similar wooden or plastic tool. Never reach under the infeed or outfeed shield with a metal tool. You could nick the knives.
If you need to reach under the infeed or outfeed shield with your hands, turn off and unplug the machine and let the cutterhead come to a complete stop before doing so.
- When planing glued-up stock, make sure glue joints are strong. Glue the stock and leave it clamped for at least 24 hours before planing.
- Plane dry, properly cured wood only. Wet sawdust and shavings will adhere to the knives, causing the machine to cut poorly. The moisture will also rust the knives and other ferrous metal parts of the planer.
- Never plane 'secondhand' lumber. Hitting a nail or screw will ruin the planer knives and possibly cause injury.
- Don't plane wood that has large, loose knots and other imperfections which might cause the board to split or fly loose.
- Never plane painted or varnished wood, plywood, or particle board-these materials will ruin your planer knives.
- Always plane with the grain direction of the wood.
- Don't plane stock less than 1" wide or over 12" wide. If the stock is too narrow, the antikickback fingers will not catch it. If it's too wide, it may jam between the sides of the planer.
- Don't plane stock less than 12" long. If the stock is too short, it will not feed properly and you will have to reach into the danger zone in order to plane it.
- Don't plane stock that's higher than it is wide as it sits on the table. (This is sometimes called edge planing.) Edge planing is dangerous because the board can easily tip over and be kicked back.
- The stock should remain parallel to the sides of the planer table as it's fed through the machine. If a board begins to drift to one side, very carefully shift it back into position by pushing against one side or the other with a push stick.
- Don't push or pull a board through the planer. Let the machine do the work.
- If the stock stops feeding, immediately turn off and unplug the planer and wait until it stops. Lower the table and remove the stock. See what caused the jam; then correct the problem. Never force a jammed board.
- If a strange noise or vibration develops, immediately turn off and unplug the planer. Do not operate the machine again until you have found and corrected the problem.
- When removing large amounts of stock, the best and safest way is to make several passes. The maximum depth of cut on the thickness planer is 3/32" for most operations. The maximum depth of cut for the professional planer is 1/8". Most operations require that you take a shallower depth of cut.
- Don't plane boards of different thicknesses in the same pass. Because the planer must be adjusted for the thicker board, the rollers would not hold the thinner board securely and it might be kicked back.
- Feed just one board into the planer at a time. Never plane two or more boards side by side-one board may interfere with the others.
- When working with long or heavy boards, support the work with one or two roller stands placed 1' to 4' out from the machine.