

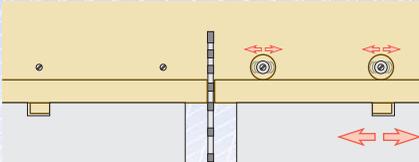


Shop Notes

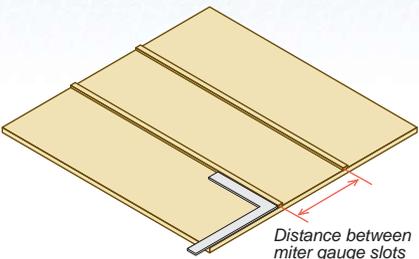
Panel Cutting Sled

Panel cutting sleds are essential for safely and accurately cutting wide boards on a table saw.

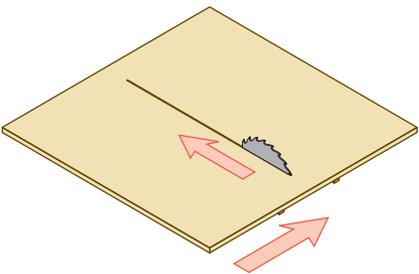
The common failing of shop-built panel sleds is the fit of the wooden runners riding in the miter gauge slots. The wood swells and shrinks depending on the weather, and over time it wears down where it rubs against the miter slot. In this design, the spacing between the runners can be adjusted. Because of this, the runners themselves do not need to be as tight in their slots as would usually be necessary to achieve square cuts. The adjustment is accomplished by loosening screws set in oversized bores and easing the two halves of the sled closer or further apart. (1) This also creates a nearly zero-clearance situation where the blade penetrates the sled. The sled is assembled on the saw, using the top and miter gauge slots to keep it flat and properly spaced.



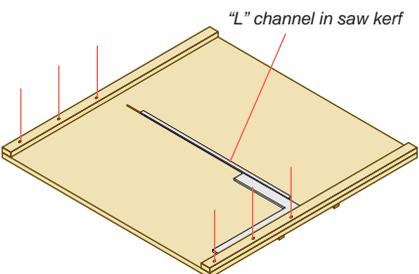
1) Adjustable spacing between runners.



2) Securing runners to the underside of the base.



3) Cutting the saw kerf in the base.



4) Adding cleats to the base.

Prepare the parts as shown in the plan. It is important that the runners be the hardest wood you can find, and absolutely straight. Drill and countersink them for 6 small flathead woodscrews each. Glue and screw the runners to the underside of the base, keeping them square to the edge, parallel with each other, and spaced to match your tablesaw miter gauge slots. (2) Wipe off any glue squeeze-out.

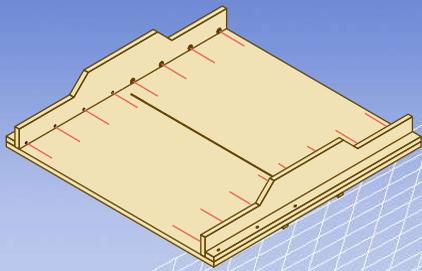
Lower the blade on the tablesaw. Set the sled base into the miter slots so that when raised, the blade will penetrate the base about 8 inches in from the back edge. Push the base to the right as far as it will go against the miter gauge slot, and clamp the base to the saw. Turn on the saw and slowly raise the blade until it penetrates about 1 inch. Turn off the saw, lower the blade slightly, and unclamp the base. Turn the saw back on and cut a kerf that stops about 8 inches short of the near edge of the base. (3)

Lower the blade. Insert a section of "L" channel or a strip of wood about an inch wide and the thickness of the saw blade into the slot in the base. Use a framing square held against the channel or wood strip to square up and attach the cleats to the base, but only on the left side of the blade position. (4)

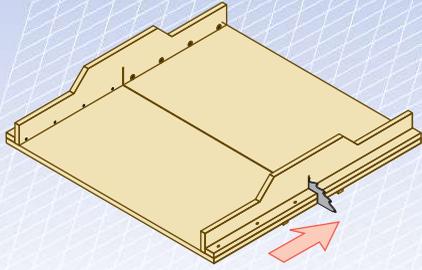
Connect the two bridges to the cleats with countersunk flathead wood screws on one side of the blade, and with round head screws and a fender washer in the oversized borings on the other side. (5)

Remove the sled from the saw, and raise the blade about 2 inches above the table top. Run the sled completely through the saw while keeping it pushed to the right against the miter slots. (6) The right-hand side of the base should now be free.

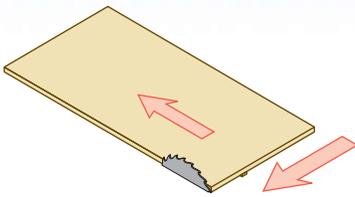
Remove the left side of the sled with its attached bridges. The next step is to trim the right half of the base. Run it through the saw, this time pushing to the left against the miter gauge slot. (7)



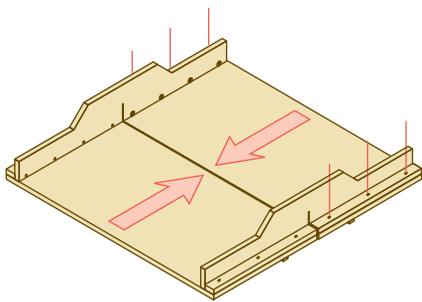
5) Secure the bridges to the cleats.



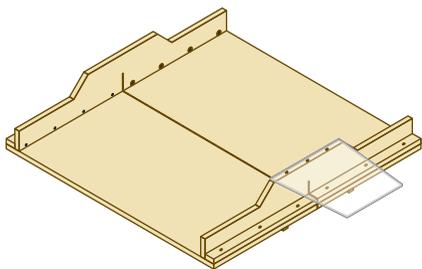
6) Extend the slot completely through the base and cleats.



7) Trim the right half of the base.



8) Secure the right half of the base to the cleats.

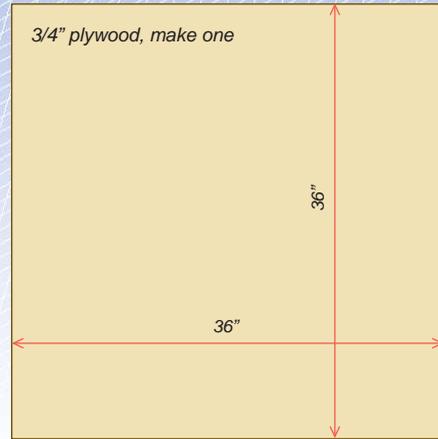


9) Simple acrylic safety shield.

Lower the blade. Return the left half of the sled to the saw. With both runners in their respective miter gauge slots, secure the right side of the base to the cleats while lightly squeezing the two halves together. (8)

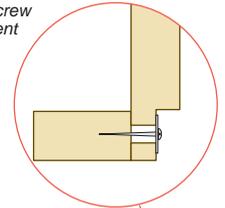
The sled is completed with an acrylic blade guard. As an additional precaution, the miter gauge slots in my home-built out-feed table end where the rear bridge reaches blade top dead center. Lubricate the underside of the sled with paste wax to reduce friction.

Base

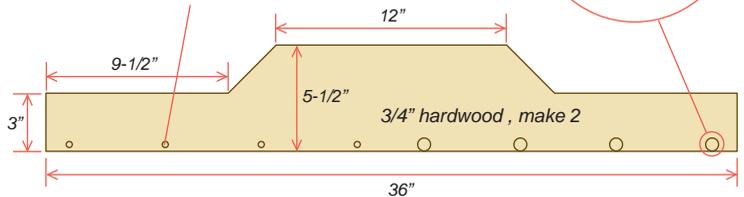


Bridges

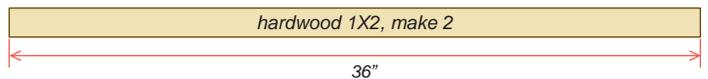
Oversized bore to accept round head screw and fender washer to allow for adjustment



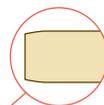
Drill and countersink for FH screws



Cleats



Runners



Taper both ends of the runners slightly to make insertion into miter gauge slots easier.

Runner, hardwood -loose fit to miter gauge slot, make



Section through sled

