

360 SLED KIT PLANS



PROJECT OVERVIEW

The ZEROPLAY 360 Sled and accompanying fence combines the ease and accuracy of ZEROPLAY Guide Bars with the versatility of the dovetail grid system. Depending on which grooves the Dovetail Hardware are in, the fence can be positioned at any angle, while the ZEROPLAY Guide Bar keeps the sled parallel to the blade. The same grooves can be used to add stops, and secure material with MATCHFIT Dovetail clamps - allowing you to make cuts with your hands clear of the blade, safely and repeatably.

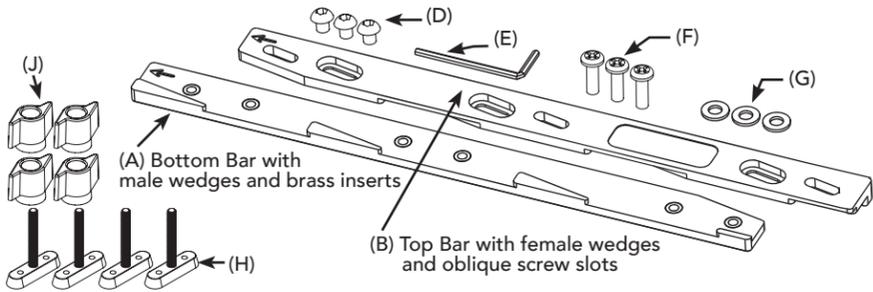
TOOLS & MATERIALS

- | | |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Tools and Materials | - 3/4" void-free plywood, 22"x 20" (Baltic birch is best) |
| - Table Saw | - Single ZEROPLAY Guide Bar |
| - Router table | - 1/2" forstner bit |
| - MATCHFIT Dovetail Router bit, or comparable 14°, 1/2" diameter dovetail router bit | - 1/4" standard drill bit |
| - 1/4" straight router bit | - MATCHFIT Dovetail Hardware |

**NOTE* Make sure your table saw's miter slot and rip fence are parallel to the blade before following these instructions.*

INCLUDED ITEMS

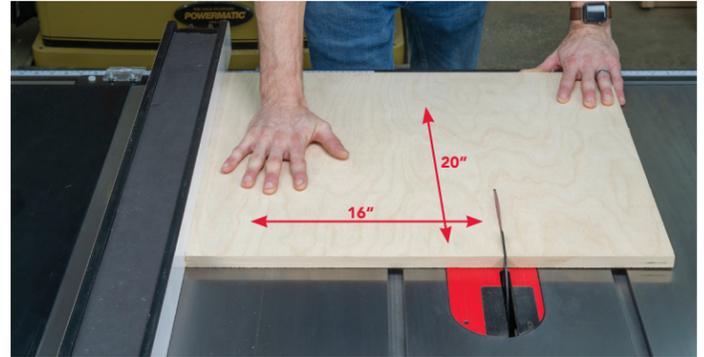
Parts for ZEROPLAY 360 Sled Kit	Qty	Part#
(A) ZEROPLAY™ Bottom Guide Bar	1	ZP-P1
(B) ZEROPLAY™ Top Guide Bar	1	ZP-P2
(D) #8-32 x 3/16" Button Head Screws	3	ZP-H1
(E) 3/32 Hex Wrench	1	ZP-H2
(F) #8-32 x 1/2" Pan Head Machine Screws	3	ZP-H3
(G) #10 Flat Washers	3	ZP-H4
(H) 10-32 1-1/2" Track Screws	4	DV-HL5
(J) 10-32 Wing Knobs	4	GR-H52



STEP 1

CUT THE STOCK TO SIZE

To create the body of the 360 sled, cut a piece of good quality 3/4" plywood oversized 22" x 20" on the table saw. Next, in a single cut, cut the piece down to finish at 16" x 20". The off-cut will be used to build the fence in STEP 5.

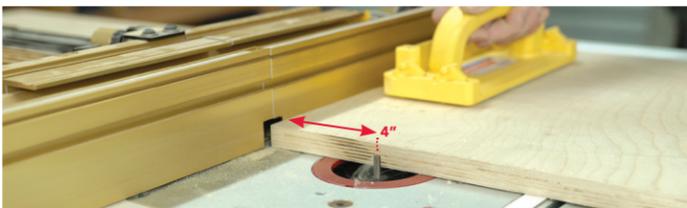


Make sure all dimensions are accurate and corners are 90 degrees.

STEP 2

CUT RELIEF GROOVES

- Dovetail tracks are 4" apart on center. Whether using a router table or a handheld router, all measurements in these instructions reference from the center of the router bit.
- If your router is less than 1-1/2 horsepower, cutting relief grooves prior to routing dovetail tracks is strongly recommended.
- Set a 1/4" straight bit to a cutting depth of 11/32", and set your router table fence to 4". Cut the four outside grooves by running each side along the fence, rotating the workpiece 90 degrees after each cut. This will create evenly spaced intersecting relief grooves on all four sides.
- After all four cuts are made, set fence to 8", repeat previous step.

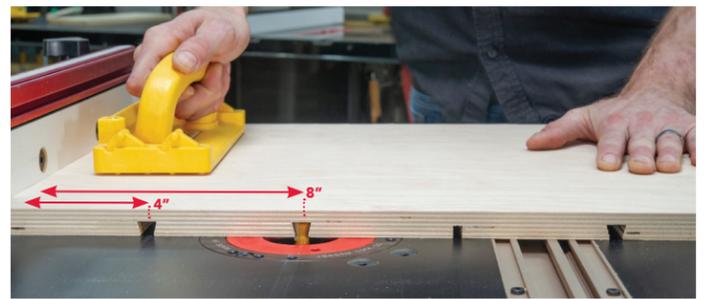


**NOTE* On the 8" fence setting, only cut once down the center groove on the 20" length, this will help avoid any extra widening.*

STEP 3

ROUTE DOVETAIL TRACKS

- Use a 1/2" 14-degree dovetail router bit, set to a cutting depth of 3/8".
- Test route a piece of scrap wood and test the Dovetail Hardware to ensure that the dovetail bit is the correct profile, set to the correct depth.
- If the Dovetail Hardware fits in the test track and remains below the material surface when being pulled up, repeat the process used to route relief grooves outlined in STEP 2.



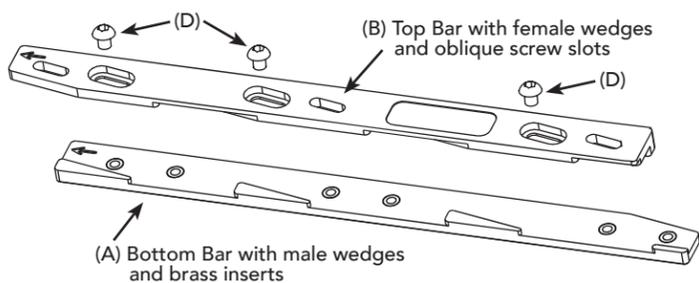
STEP 4

STEP 4A - INSTALL ZEROPLAY GUIDE BAR

Stack the (B) ZP Top Bar (with oblique screw slots) onto the (A) ZP Bottom Bar (with brass inserts), with arrows facing upward and pointing towards the front.

STEP 4B

Loosely Insert the three (3) button head screws (D) through the counter-bored slots of the ZP Top Bar using the hex key included. Make sure the two bars still slide freely.



STEP 4

STEP 4C - INSTALL ZEROPLAY GUIDE BAR - CONTINUED

Insert two nickels in the bottom of the miter slot, then place the ZEROPLAY Miter Bar assembly at its narrowest setting on top of the nickels. With one finger, hold the Bottom Bar in position. With the other finger, gently slide the Top Bar near the arrow location in the direction of the arrows shown in figure 4C1. Once the Bottom Bar contacts the left wall of the miter slot and the Top Bar is barely touching the right wall of the miter slot, tighten the button screws.



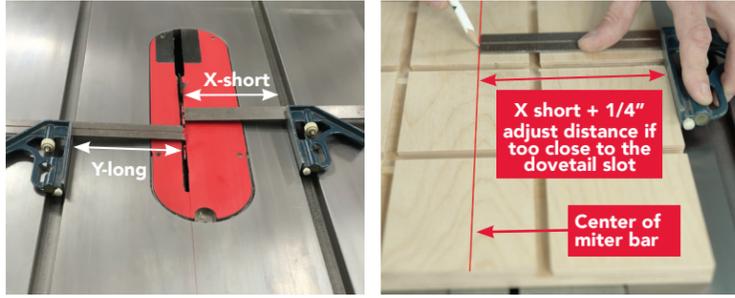
- The Miter Bar should just barely touch the sides of the miter slot. Pushing too hard will make the Miter Bar too snug and difficult to move.
- Once button screws (D) are tightened with the nickels still in place, slide the miter bar back and forth through the slot to ensure that it moves smoothly with no side-to-side play.

STEP 5

STEP 5A - INSTALL ZEROPLAY MITER BAR TO SLED

Using an adjustable square, measure distances from both miter slot edge closest to the blade to the edge of a carbide tip (i.e. X-Short is 5-1/4" and Y-Long is 6")

Use the X-Short measurement and add 1/4" (i.e. 5-1/2") and draw parallel lines to both 20" and 16" edges of the 360 sled. These will be the center drilling lines for the miter bar and the sled can be oriented horizontally or vertically. And there will be a small gap between the blade and sled regardless of orientation.



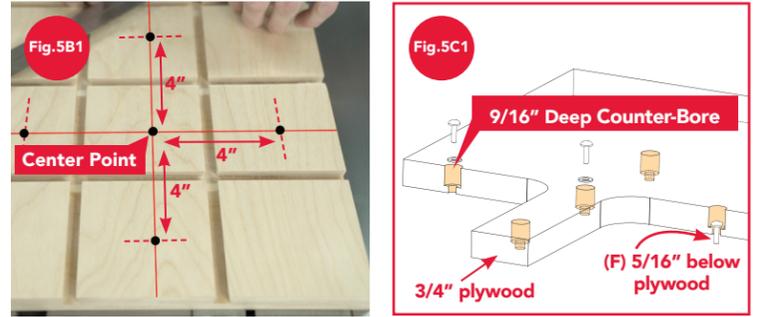
STEP 5

STEP 5B - INSTALL ZEROPLAY MITER BAR TO SLED - CONTINUED

Mark all dotted lines 4" from the center point in each direction shown. This allows you to use the sled in either miter slot both longways and sideways. (Fig.5B1)

STEP 5C

Using a 1/2" diameter forstner bit, counter-bore the mounting holes 9/16" deep then drill 1/4" diameter thru-holes in the center of each counter-bored hole. (Fig.5C1) Make sure screw extends under the plywood around 5/16" for attaching ZEROPLAY Miter Bar.



STEP 5

STEP 5D

Attach Miter Bar to the bottom of the sled from the top using the included panhead screws (F), without tightening the screws completely. Use a carpenter's square to square up the sled with the edge of the table saw top, then tighten panhead screws to secure the Miter Bar to the sled.



A clear board was used for illustration purposes.

To use the 360 sled both longways and sideways, install the guide bar so that the center mounting hole is the same distance from two perpendicular edges.

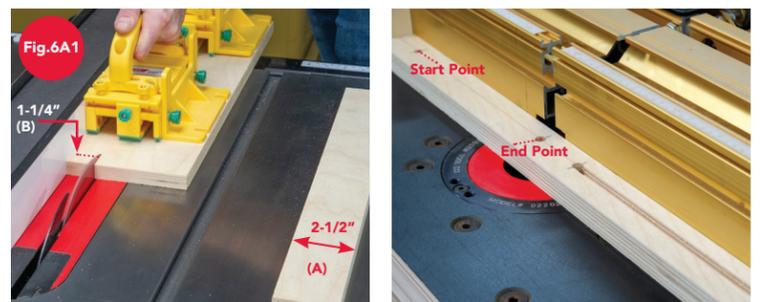
STEP 6

STEP 6A - BUILD 360 FENCE

From the off-cut piece left over from Step 1, cut a 2-1/2" strip (A), and a 1-1/4" strip (B) (Fig.6A1).

STEP 6B

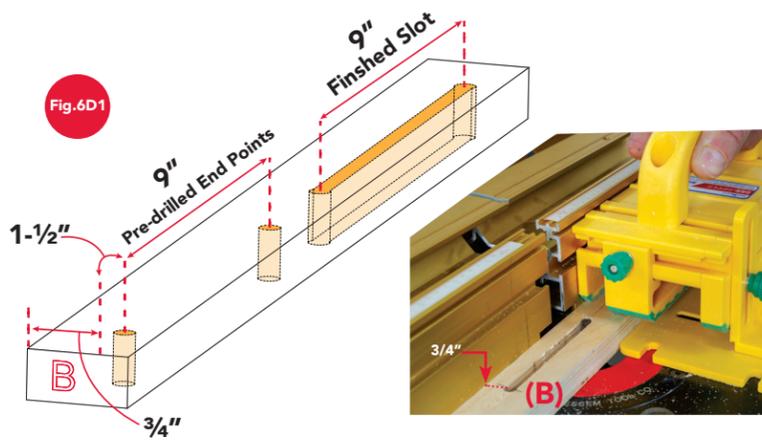
Mark lines at 1-1/2" and 9" in from each end, and 3/4" in from one edge of the strip (B). Drill 5/16" diameter thru holes at these locations. These holes will be the beginning and end points of the dovetail hardware slots.



STEP 6

STEP 6C - BUILD 360 FENCE - CONTINUED

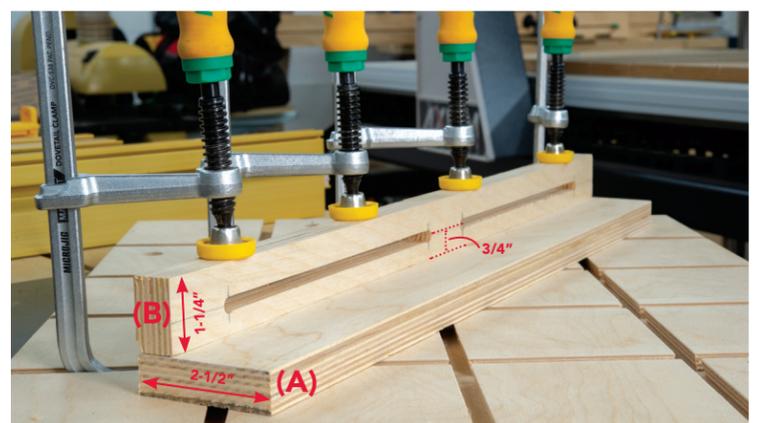
- Using a 1/4" straight bit, set fence to 3/4" and route between pre-drilled endpoints, removing 1/8" of material per pass. Flip workpiece end-over-end and repeat until both slots are routed all the way through strip (B).



STEP 6

STEP 6D - BUILD 360 FENCE - CONTINUED

Glue and clamp the edge of the 1-1/4" strip (B) to the face of the 2-1/2" strip (A), forming a 90 degree L-shape.



STEP 6

STEP 6E - BUILD 360 FENCE - CONTINUED

- On the outer face of the 2-1/2" strip (A), route a 3/8" deep dovetail track down the center - your router table fence should be set to 1-1/4".
- Sand and chamfer finished 360 fence to soften edges, if desired.



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