Drawer Lock Bits

⚠ *For better safety, use this bit only on a router table with a fence* ***– not free hand.***

This bit can be used to create two styles of drawer lock joint, either half-blind or through, as shown in **Figure 1**. There are a few considerations when selecting either half-blind joints or through joints. Getting the bit set-up for cutting half-blind joints is a bit easier than for through joints, but half-blind joints require thicker stock and the routing removes more material.

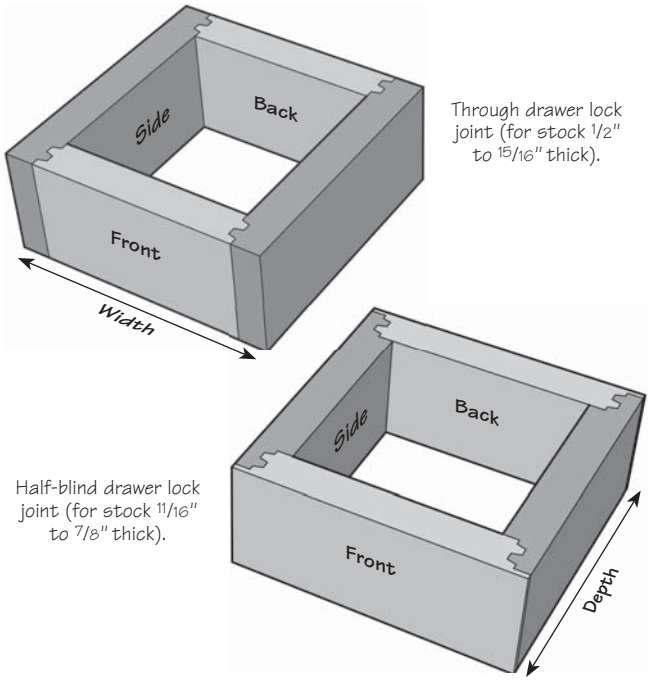


Figure 1: Drawer lock styles.

Cutting Through Drawer Lock Joints

1. Prepare the drawer sides, front and back. The length of the sides should be equal to the desired outside depth of the drawer. The length of the front and back pieces should be 5/16″ **longer** than the inside width of the drawer. Prepare some trial pieces of the same thickness (length and width unimportant). The thickness of the front and back may be different than the thickness of the sides.
2. Set the height of the bit so that the middle tapered edge is aligned with the center line of the front piece, as shown in **Figure 2**. This can be set by eye, or by setting the top of the bit above the router table by half the stock thickness plus 0.30″.

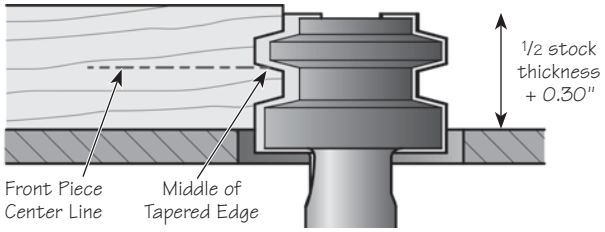


Figure 2: Setting the bit height.

3. Set the router fence so that the front surface is flush with (or just proud of) the inner cutting edge, as shown in **Figure 3**.

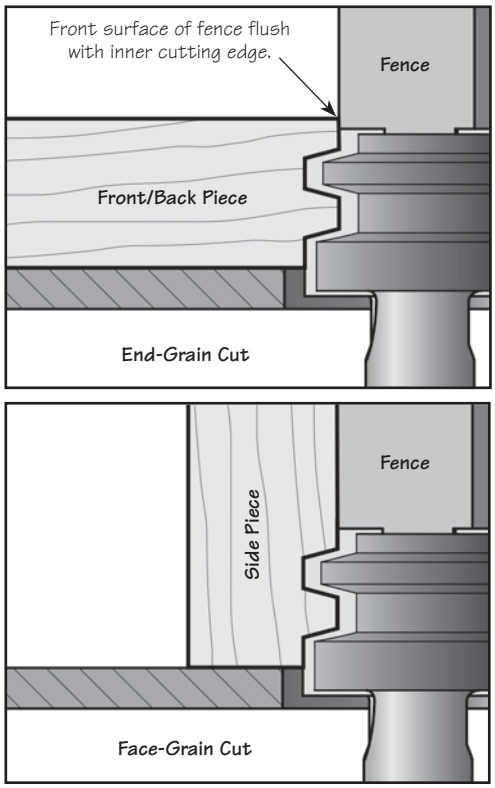


Figure 3: Setting the fence.

4. Using the trial pieces, create an end-grain and face-grain cut representing the front/back and sides of the drawer, respectively. Note that each piece is routed with the fence in the same location, as shown in **Figure 3**.

5. Test the fit and make adjustments as necessary. When assembled, the vertical faces of the cuts should mate together, as shown in **Figure 4**. There should be a small gap between the diagonal faces. **Table 1** below illustrates the typical fit problems and how to solve them.
6. Once the bit and fence are set to produce the proper fit, rout all the drawer pieces.

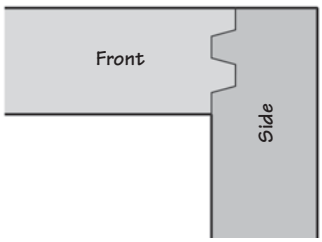
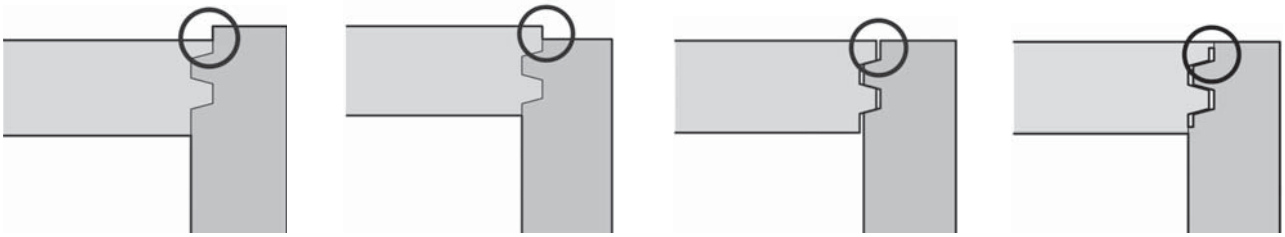


Figure 4: Ideal fit.

Table 1: Troubleshooting Through Joints



Problem: Sides project beyond front.	**Problem:** Front projects beyond sides.	**Problem:** Gaps between the vertical faces.	**Problem:** Gaps and shoulders.
Cause: Bit too high.	**Cause:** Bit too low.	**Cause:** Fence exposes too little bit.	**Cause:** Fence exposes too much bit.
Solution: Lower bit.	**Solution:** Raise bit.	**Solution:** Adjust fence for deeper cut.	**Solution:** Adjust fence for shallower cut.

Cutting Half-Blind Drawer Lock Joints

1. Prepare the drawer sides, front and back. The length of the front and back pieces should be equal to the desired outside width of the drawer. The length of the side pieces should be 13/16″ **longer** than the inside depth of the drawer. Prepare some trial pieces of the same thickness (length and width unimportant). The thickness of the front and back may be different than the thickness of the sides.
2. Set the bit height to 19/32″. Position the fence so the center of the tapered cutting profile is aligned with the side workpiece center line (see **Figure 5**). This can be set by eye, or with the bit projecting one half the material thickness plus 0.08″ (approx. 5/64″).
3. Using the trial pieces, create an end-grain and face-grain cut representing the front/back and sides of the drawer, respectively. Note that each piece is routed with the fence in the same location, as shown in **Figures 5** and **6**.

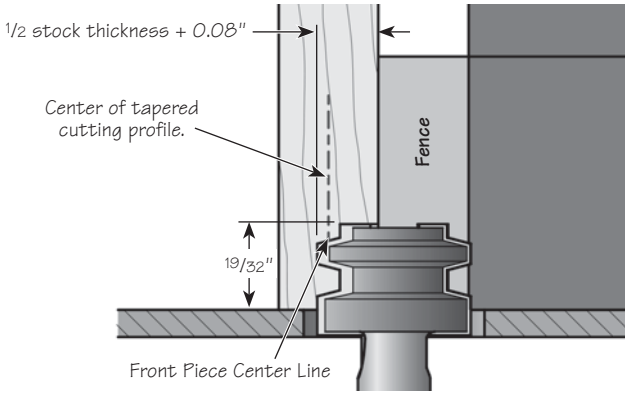


Figure 5: Setting the bit height.

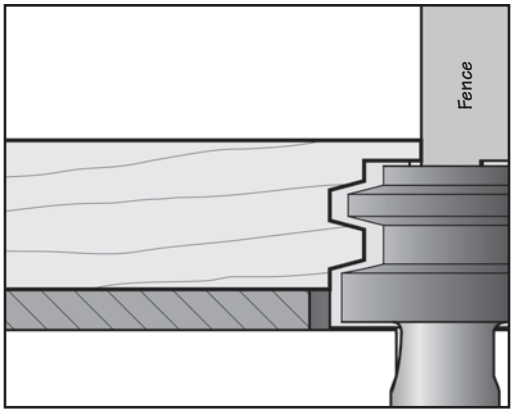


Figure 6: End-grain cut.

4. Test the fit and make adjustments as necessary. When assembled, the diagonal faces of the cuts should mate together, as shown in **Figure 7**. There should be a small gap between the vertical faces. **Table 2** below illustrates the typical fit problems and how to solve them.

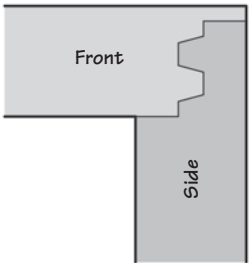
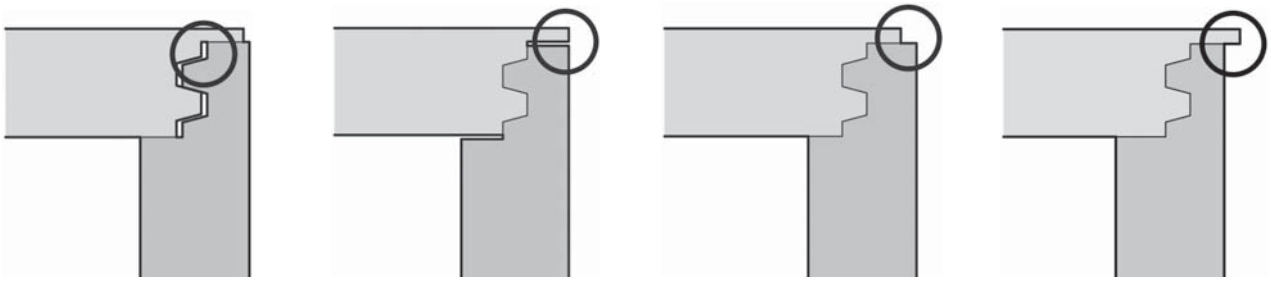


Figure 7: Ideal fit.

5. Once the bit and fence are set to produce the proper fit, rout all the drawer pieces.

Table 2: Troubleshooting Half-Blind Joints



Problem: Large gaps in joint.	**Problem:** Gaps on outside edges.	**Problem:** Front piece is short of side piece.	**Problem:** Front piece extends beyond side piece.
Cause: Bit too high.	**Cause:** Bit too low.	**Cause:** Fence exposes too little bit.	**Cause:** Fence exposes too much bit.
Solution: Lower bit.	**Solution:** Raise bit.	**Solution:** Adjust fence for deeper cut.	**Solution:** Adjust fence for shallower cut.

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