

Technique for cutting a haunched tenon to a scribed line with WoodRat® using our precision stop, brass gauge bars and aluminum guide rails



Mark tenon cuts

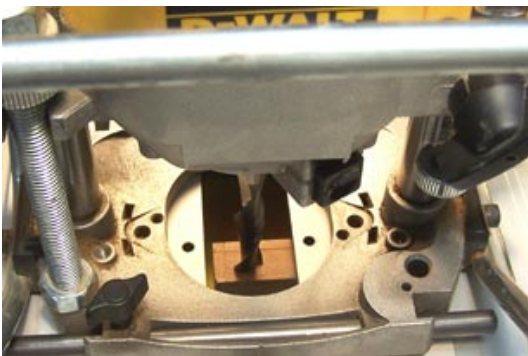
Scribe a line on tenon board where first tenon cheek is to be cut and also where haunch is to be cut.

A line is not needed for second cheek because this cut is determined by width of desired tenon and will be set using the gauge bars.



Clamp tenon board

Securely clamp the tenon board to WoodRat sliding bar using center cam clamp and fixed fence. The board should be flush with base plate of machine.



Zero router bit

Chuck a 1/2" spiral or straight cutter in router, zero the bit on top of tenon board and lock the router plunge lock.



Set depth stop for tenon length

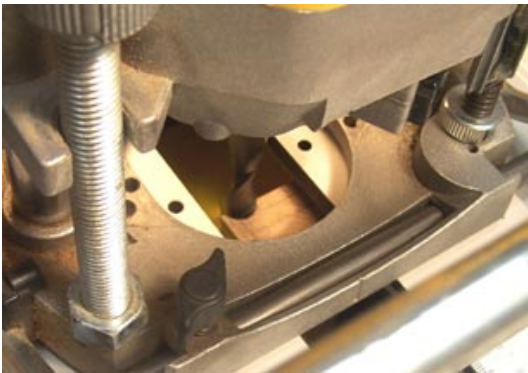
Select a gauge bar(s) that is same width as desired tenon length, place the gauge bar(s) in router depth stop mechanism, set and lock the depth stop.

When the gauge bars are removed the depth stop will be set for tenon length.



Plunge the bit

Remove the gauge bars from router depth stop mechanism, push router so bit is behind the tenon board, release router plunge lock then plunge the bit to depth of depth stop and re-lock the plunge lock.



Cut to scribed line

Turn on router. With your hand on plunge bar, slowly pull router bit into tenon board until the bit edge touches your scribed line.



Tighten star knob

With the router bit at scribed line, tighten the star knob to secure the router.

Only the tenon board will move during cheek cut. Router and bit remain in fixed position.



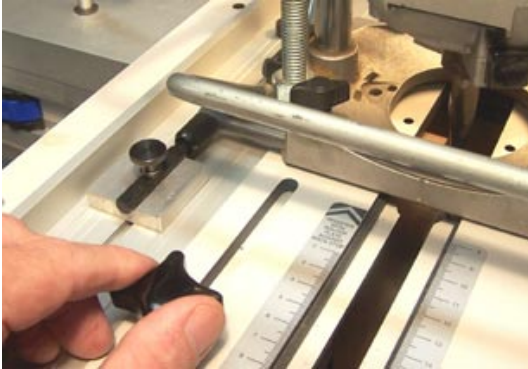
Cut first cheek

Use WoodRat power feed to cut cheek. Turn the handle clockwise for a climb cut. This eliminates any breakout along the cheek cut. Reverse direction and make a cut again in opposite direction. This pulls the tenon flush with machine face and leaves a smooth finish.



Set stop for second cheek cut

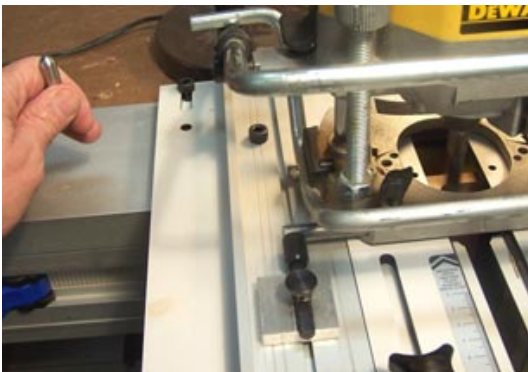
Router moves forward for second cheek cut. With star knob still tight, position precision stop in t-slot of guide rails. Stop bar should be in router edge guide holes. Use gauge bar(s) to set the precision stop a distance from stop bar equal to width of desired tenon plus width of cutter (since the cutter moves to other side of tenon).



Position router

Remove the gauge bars, loosen the star knob and pull router forward until stop bar is flush with precision stop face. Re-tighten the star knob to secure router for second cheek cut.

This positioning determines width of tenon.



Cut second cheek

Use WoodRat power feed to cut second cheek. Turn the handle counter-clockwise for a climb cut. This eliminates breakout.



Raise cutter for haunch

After cutting both cheeks, position the bit next to tenon side to be haunched. Before cutting haunch, the bit must be raised for panel groove (usually $\frac{1}{4}$ "). Release router plunge lock, raise the router and insert a brass gauge bar of correct size in depth stop mechanism. Lower depth stop onto gauge bar then re-lock plunge lock.



Cut to scribed line for haunch

Remove gauge bar and turn on router. With bit positioned next to side to be haunched, slowly power feed tenon board into cutter until the bit edge touches your scribed line for haunch.



Cut haunch

Push/pull router to complete haunch cut.



Examine tenon

With climb cuts there should be no breakout. Tenon size was precisely determined by gauge bars and stop settings. You can setup for any width tenon using a combination of gauge bars and the micro-adjust feature of our precision stop.

For production of multiple tenons of same size use 2 stops, set a stop for each cheek then use the stops to cut the cheeks of all tenons.



For the haunch, re-clamp the tenon boards and repeat haunch cuts without changing clamp position.

Please email us at info@thecraftsmangallery.com with any corrections or improvements to these techniques. Our techniques are similar, but not the same as in WoodRat manual.