

Illustrated shop packet

Cut list / part drawings / joint details / machining / assembly

20 parts / 25 joints / 3 components

7.34 board feet

Generated 9/7/2026 / kerf allowance 1/8"

Shop use

Part and joint references are generated from the resolved GrainDraft model. Teal areas identify removed material in reference views. Dimension labels and machining schedules are authoritative; drawings are not full-scale templates.

Resolve blocking model issues before fabrication. Confirm actual lumber, grain, moisture, cutter diameter, machine datum, workholding and safe tool operation at the bench.

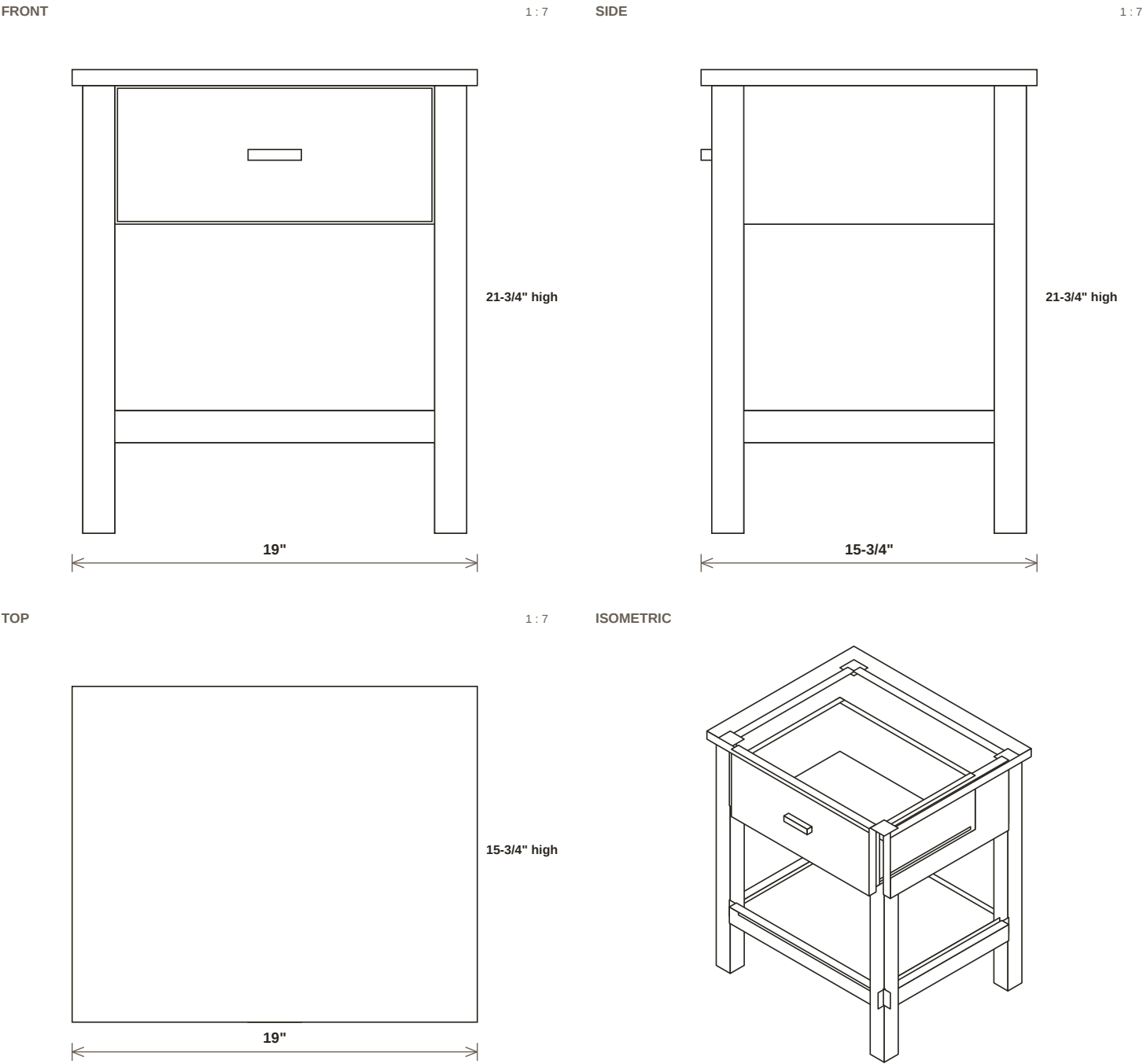
Master cut list

Rough allowance is added to length and width; finished thickness is unchanged.

Ref	Part	Qty	Component	Rough L	Rough W	Finished T	Material	BF	Rate	Cost
P01	Table Top	1	Side Table Frame	19-1/8"	15-7/8"	3/4"	Neutral Wood	1.56	\$6.00/BF	\$9.35
P02	Front Left Leg	1	Side Table Frame	21-1/8"	1-5/8"	1-1/2"	Neutral Wood	0.33	\$6.00/BF	\$1.97
P03	Front Right Leg	1	Side Table Frame	21-1/8"	1-5/8"	1-1/2"	Neutral Wood	0.33	\$6.00/BF	\$1.97
P04	Back Left Leg	1	Side Table Frame	21-1/8"	1-5/8"	1-1/2"	Neutral Wood	0.33	\$6.00/BF	\$1.97
P05	Back Right Leg	1	Side Table Frame	21-1/8"	1-5/8"	1-1/2"	Neutral Wood	0.33	\$6.00/BF	\$1.97
P06-P07	Upper Rail (2)	2	Side Table Frame	12-13/16"	6-5/8"	3/4"	Neutral Wood	0.86	\$6.00/BF	\$5.15
P08	Upper Back Rail	1	Side Table Frame	16-1/16"	6-5/8"	3/4"	Neutral Wood	0.54	\$6.00/BF	\$3.24
P09-P10	Lower Rail (2)	2	Side Table Frame	16-1/16"	1-5/8"	3/4"	Neutral Wood	0.25	\$6.00/BF	\$1.49
P11-P12	Lower Rail (2)	2	Side Table Frame	12-13/16"	1-5/8"	3/4"	Neutral Wood	0.20	\$6.00/BF	\$1.19
P13	Lower Shelf	1	Lower Shelf	15-1/8"	13-1/8"	3/4"	Neutral Wood	1.02	\$6.00/BF	\$6.09
P14	Flush Drawer Fascia	1	Four-wall Drawer	14-7/8"	6-3/8"	3/4"	Neutral Wood	0.48	\$6.00/BF	\$2.88
P15-P16	Drawer Wall (2)	2	Four-wall Drawer	14-5/8"	5-1/8"	1/2"	Neutral Wood	0.50	\$6.00/BF	\$3.02
P17-P18	Drawer Wall (2)	2	Four-wall Drawer	10-7/8"	5-1/8"	1/2"	Neutral Wood	0.37	\$6.00/BF	\$2.24
P19	Drawer Bottom	1	Four-wall Drawer	14-1/8"	10-3/8"	1/4"	Neutral Wood	0.25	\$6.00/BF	\$1.49
P20	Drawer Pull	1	Four-wall Drawer	2-5/8"	5/8"	1/2"	Neutral Wood	0.00	\$6.00/BF	\$0.03
TOTAL		20						7.34		\$44.06

General arrangement

What the finished piece measures. Every other page is subordinate to this one.



Overall 19" wide x 15-3/4" deep x 21-3/4" high

All three orthographic views share one scale, so a dimension taken from one transfers to another.

How to read this packet

Five minutes here saves an afternoon at the bench.

References

P01, P02 ... name boards. The number appears on the isometric, in the cut list, on the part sheet and in the assembly steps, and always means the same board.

A range like P06-P07 is one sheet covering identical boards. Make as many as the Qty column says.

J1, J2 ... name joints. A card headed J1-J6 is one joint specification cut six times, not six different joints.

Dimensions

Every dimension is in inches, to the nearest 1/16 unless the joint needs finer, in which case it prints to 1/64.

Length is the longest dimension of a board, width the next, thickness the least - regardless of how the part is oriented in the finished piece. A leg 21 inches tall is 21 inches LONG here.

Rough length and width include the trim allowance. Finished thickness does not: it is what the board measures when it comes off the planer.

A part sheet measures every feature from one marked datum corner. Measure from that corner too - accumulating from feature to feature stacks the errors.

Marking and grain

Mark a face side and a face edge on every board as it comes off the planer, and take every measurement from those two surfaces.

The grain arrow on a part sheet runs along the length of the board. On a drawer bottom or a panel, it also says which way the panel is free to move.

The joints in this project

Mortise and tenon - a tongue on the end of one part (the tenon) housed in a matching hole in the other (the mortise). The shoulders around the tenon are what pull tight; the tenon itself only has to fit.

Box joint - interlocking square fingers at a corner. Every finger on one part lines up with a socket on the other, so the two are cut from one jig setting one finger apart.

Dado - a flat-bottomed groove across a board that another board sits in.

Rabbet - an L-shaped step along an edge, usually to receive a back or a bottom.

Screwed - a clearance hole in the near part and a pilot in the far one, so the screw pulls the two together instead of holding them apart.

Method

Joinery instructions in this packet are written for: Power tools. Table saw, router, drill press. The settings below are the ones you dial in.

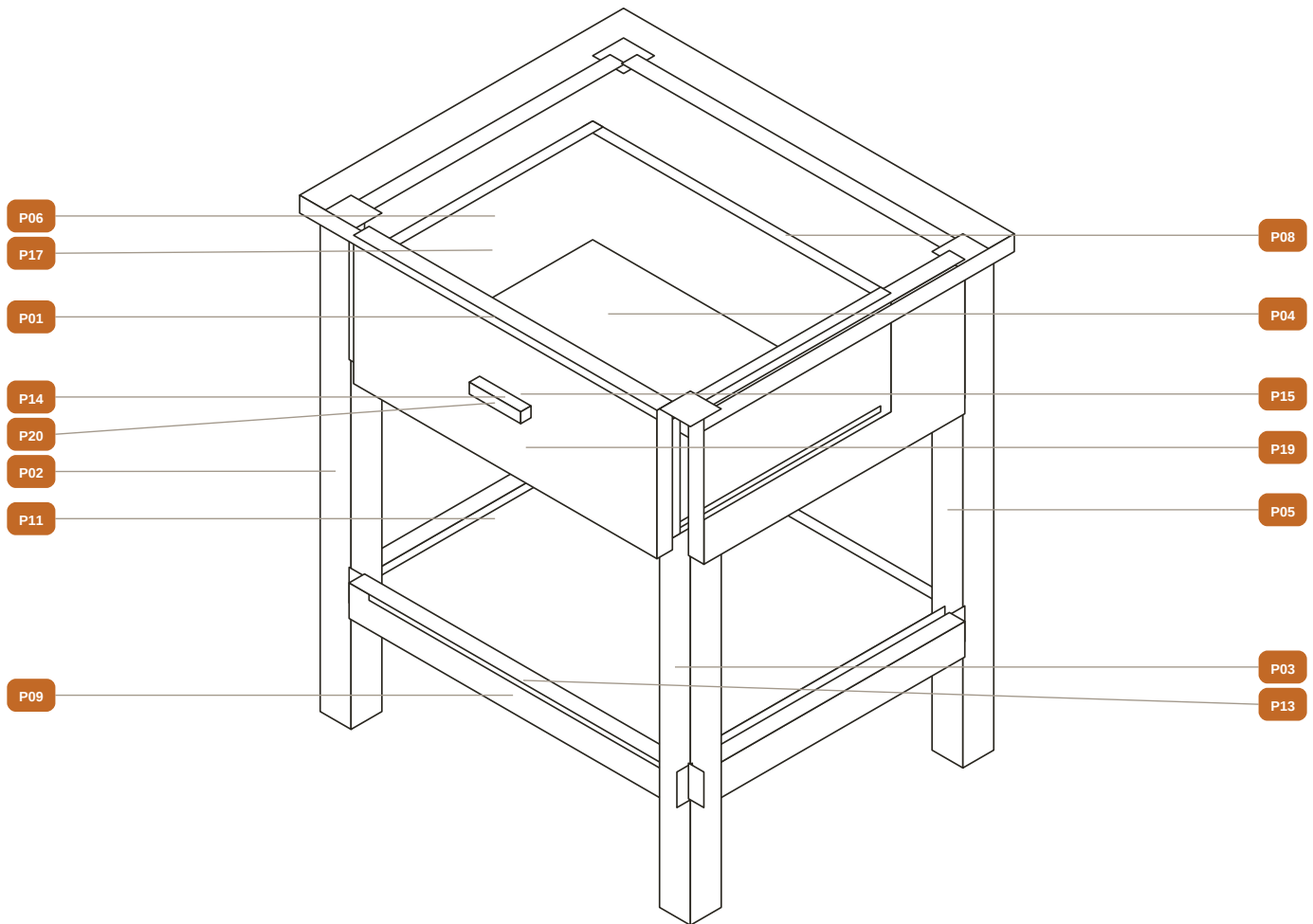
Dimensions never change between methods. Only the way you reach them does.

Drawings are fitted to the page and are not 1:1 templates. Where a drawing and a printed dimension disagree, the dimension is right.

Indexed assembly overview

Use part references to move from the model to the cut list, part sheets and joint details.

part reference



Overall 19" wide x 15-3/4" deep x 21-3/4" high

Numbered isometric. Bubbles carry the part reference used by the cut list, the part sheets and the joint cards.

Side Table Frame

P01 Table Top / P02 Front Left Leg / P03 Front Right Leg / P04 Back Left Leg / P05 Back Right Leg / P06-P07 Upper Rail (2) / P08 Upper Back Rail / P09-P10 Lower Rail (2) / P11-P12 Lower Rail (2)

Lower Shelf

P13 Lower Shelf

Four-wall Drawer

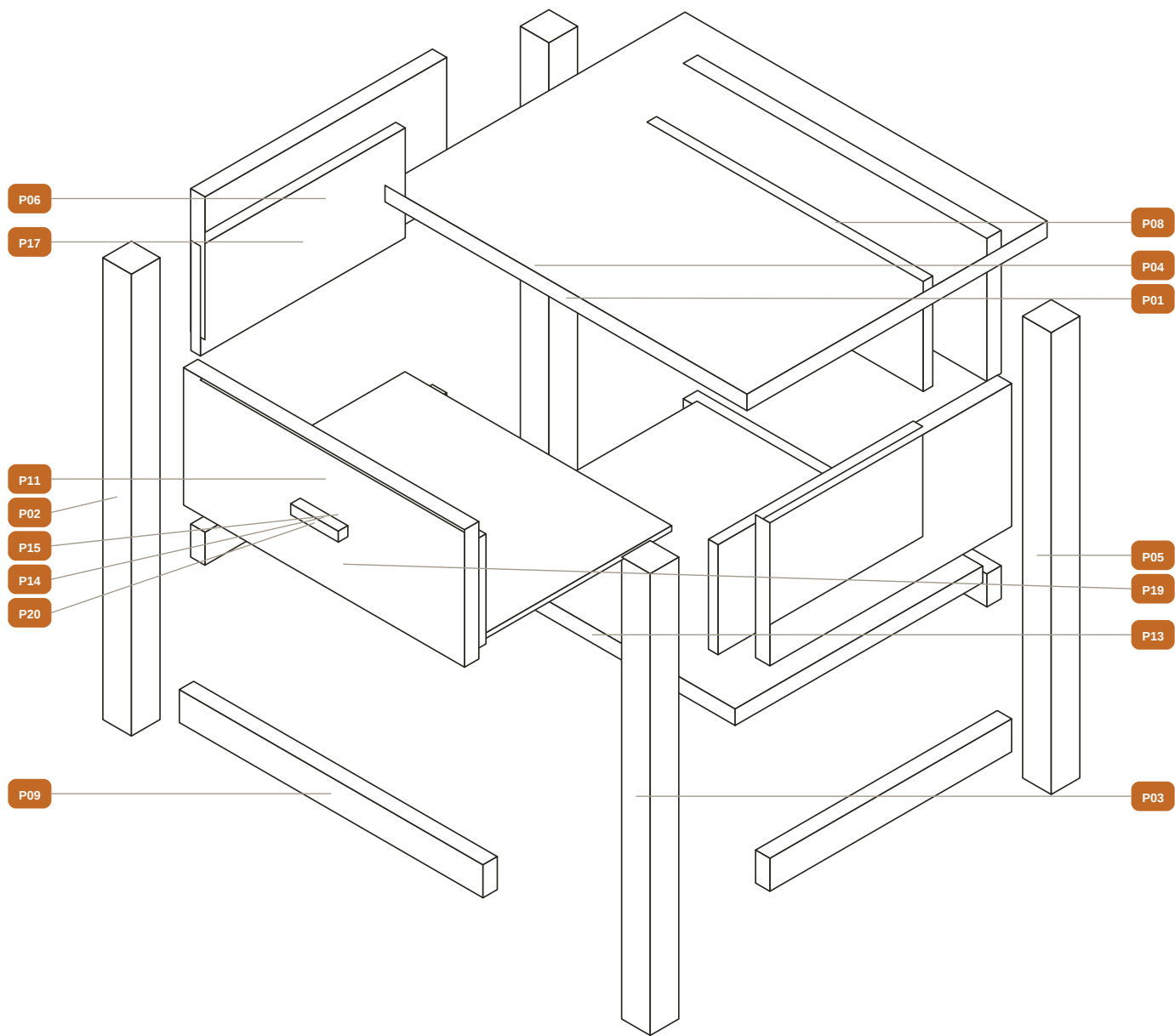
P14 Flush Drawer Fascia / P15-P16 Drawer Wall (2) / P17-P18 Drawer Wall (2) / P19 Drawer Bottom / P20 Drawer Pull

Not joined in the model: P01 Table Top. Decide how these are fixed before you build - the packet cannot tell you, because the model does not say.

Exploded view

Where each part goes, and which way round it goes there.

part reference



Parts are drawn pulled straight out from the centre of the piece. Nothing rotates on the way in.

Dimensioned part sheets

Sheets 1-2 of 15, covering 20 boards

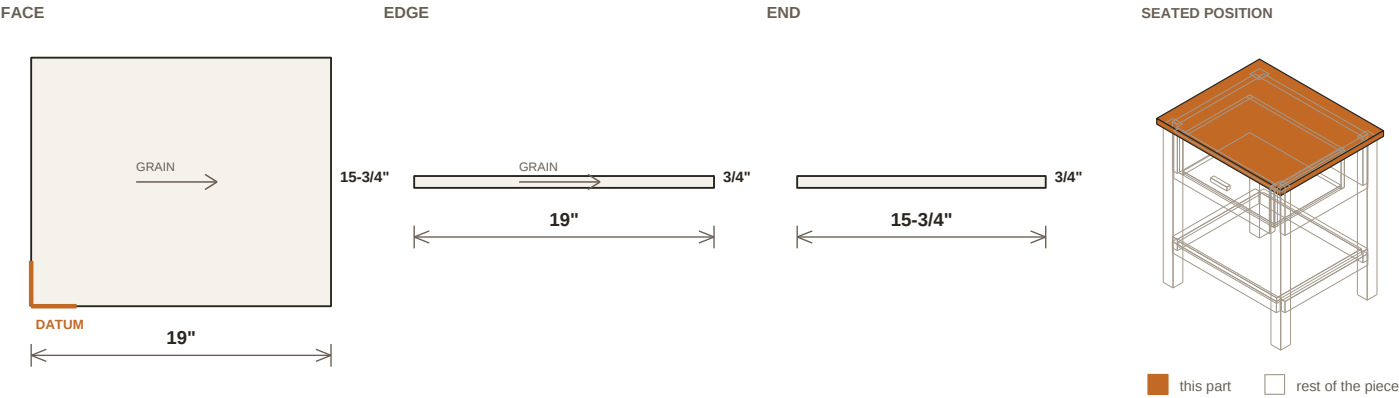
material removed, near face removed, far face datum / this part

P01 Table Top

Side Table Frame / Neutral Wood

19" long × 15-3/4" wide × 3/4" thick, finished

Views are dimensioned references, not 1:1 cutting templates.



Views at 1 : 12 - measure by the numbers, not off the page

Joinery: none

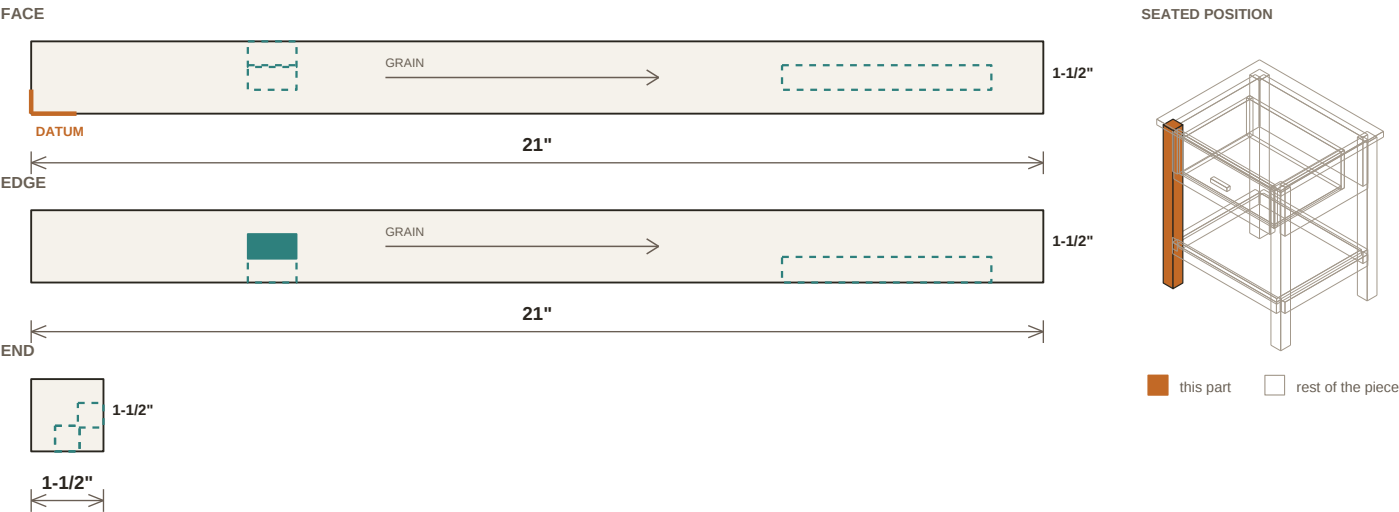
No joinery on this part. Mill to the finished dimensions above.

P02 Front Left Leg

Side Table Frame / Neutral Wood

21" long × 1-1/2" wide × 1-1/2" thick, finished

Make 1. HANDED - mirror image of P03, not interchangeable with it.



Views at 1 : 4 - measure by the numbers, not off the page

Joinery: J1 / J7 / J11

J1: 15-37/64" from the left end, 1/2" from the near edge, 4-11/32" x 33/64" (far side)

+ 6 more operations - see Machining

Dimensioned part sheets

Sheets 3-4 of 15, covering 20 boards

material removed, near face removed, far face datum / this part

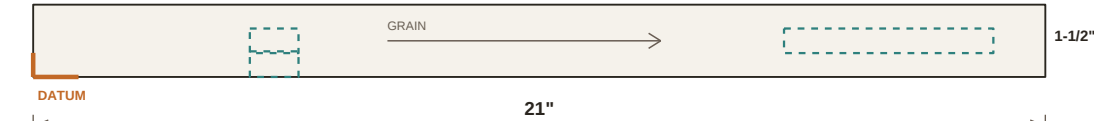
P03 Front Right Leg

Side Table Frame / Neutral Wood

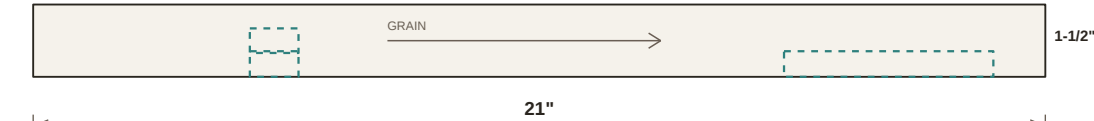
21" long × 1-1/2" wide × 1-1/2" thick, finished

Make 1. HANDED - mirror image of P02, not interchangeable with it.

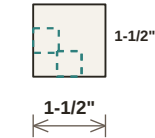
FACE



EDGE



END



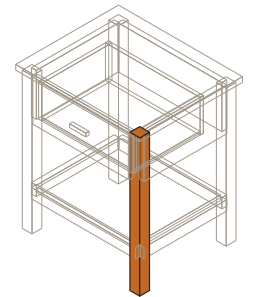
Views at 1 : 4 - measure by the numbers, not off the page

Joinery: J3 / J8 / J13

J3: 15-37/64" from the left end, 1/2" from the near edge, 4-11/32" x 33/64" (far side)

+ 1 more operations - see Machining

SEATED POSITION



this part rest of the piece

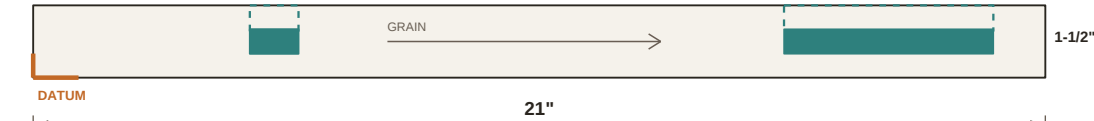
P04 Back Left Leg

Side Table Frame / Neutral Wood

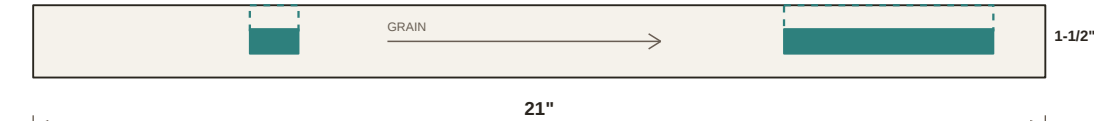
21" long × 1-1/2" wide × 1-1/2" thick, finished

Make 1. HANDED - mirror image of P05, not interchangeable with it.

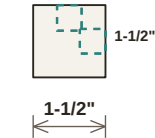
FACE



EDGE



END



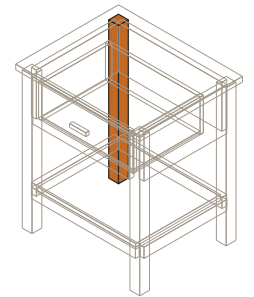
Views at 1 : 4 - measure by the numbers, not off the page

Joinery: J2 / J5 / J9 / J12

J2: 15-37/64" from the left end, 1/2" from the near edge, 4-11/32" x 33/64"

+ 2 more operations - see Machining

SEATED POSITION



this part rest of the piece

Dimensioned part sheets

Sheets 5-6 of 15, covering 20 boards

material removed, near face removed, far face datum / this part

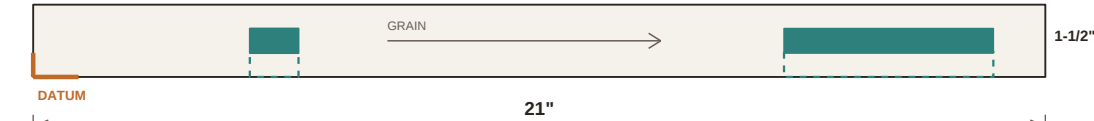
P05 Back Right Leg

Side Table Frame / Neutral Wood

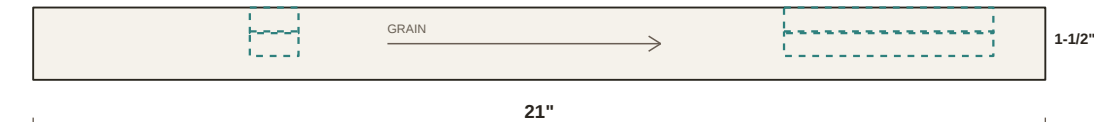
21" long x 1-1/2" wide x 1-1/2" thick, finished

Make 1. HANDED - mirror image of P04, not interchangeable with it.

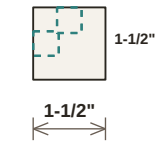
FACE



EDGE



END



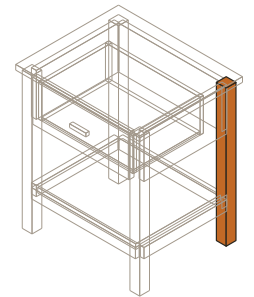
Views at 1 : 4 - measure by the numbers, not off the page

Joinery: J4 / J6 / J10 / J14

J4: 15-37/64" from the left end, 1/2" from the near edge, 4-11/32" x 33/64"

+ 1 more operations - see Machining

SEATED POSITION



this part rest of the piece

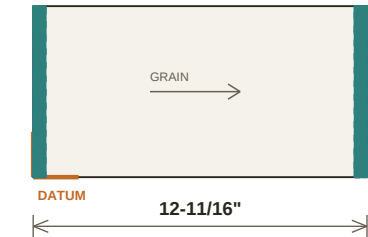
P06-P07 Upper Rail (2)

Side Table Frame / Neutral Wood

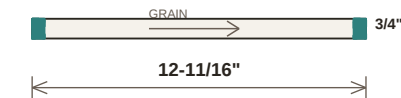
12-11/16" long x 6-1/2" wide x 3/4" thick, finished

Make 2 identical - one setup, 2 parts.

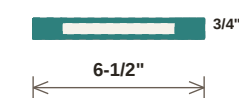
FACE



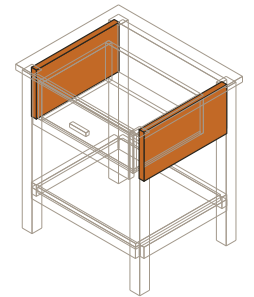
EDGE



END



SEATED POSITION



this part rest of the piece

Views at 1 : 7 - measure by the numbers, not off the page

Joinery: J1 / J2

J1: 0" from the left end, 0" from the near edge, 15/32" x 1-5/64"

J1: 0" from the left end, 5-27/64" from the near edge, 15/32" x 1-5/64"

J1: 0" from the left end, 0" from the near edge, 15/32" x 6-1/2" (far side)

J1: 0" from the left end, 0" from the near edge, 15/32" x 6-1/2"

J2: 12-7/32" from the left end, 0" from the near edge, 15/32" x 1-5/64"

J2: 12-7/32" from the left end, 5-27/64" from the near edge, 15/32" x 1-5/64"

+ 3 more operations - see Machining

Dimensioned part sheets

Sheets 7-8 of 15, covering 20 boards

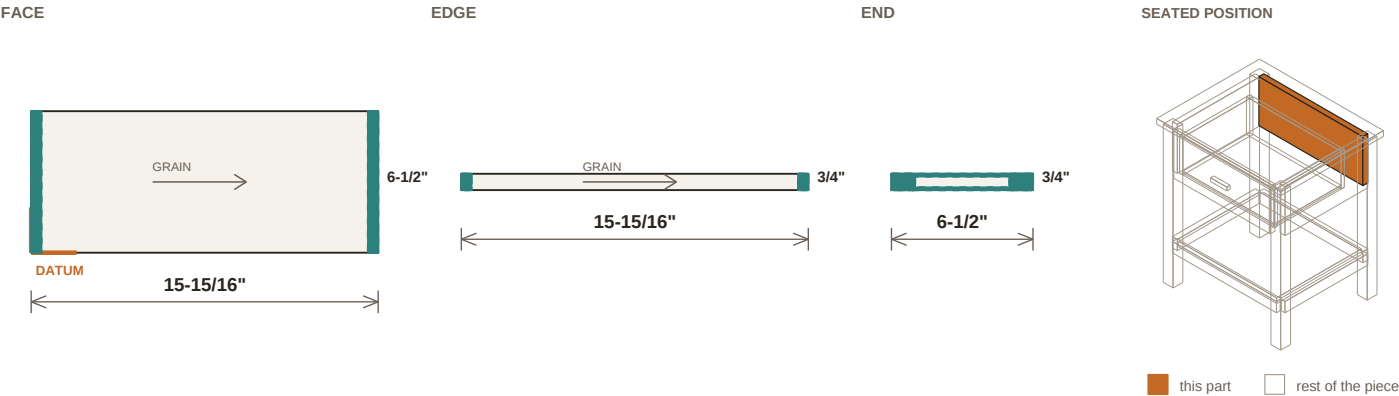
material removed, near face removed, far face datum / this part

P08 Upper Back Rail

Side Table Frame / Neutral Wood

15-15/16" long × 6-1/2" wide × 3/4" thick, finished

Views are dimensioned references, not 1:1 cutting templates.

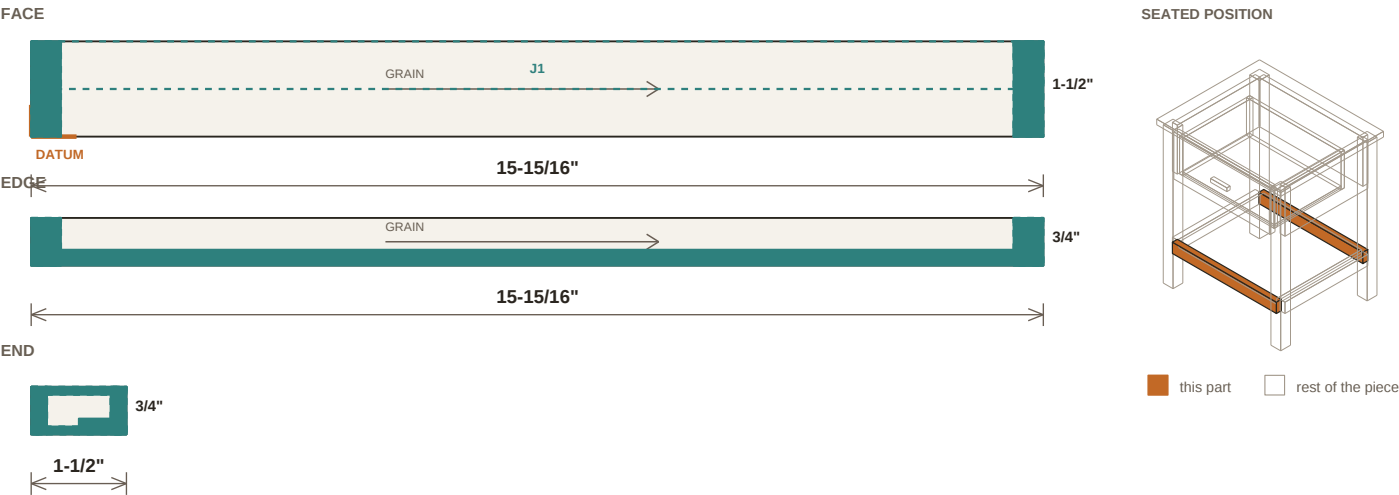


P09-P10 Lower Rail (2)

Side Table Frame / Neutral Wood

15-15/16" long × 1-1/2" wide × 3/4" thick, finished

Make 2 identical - one setup, 2 parts.



Dimensioned part sheets

Sheets 9-10 of 15, covering 20 boards

material removed, near face removed, far face datum / this part

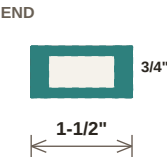
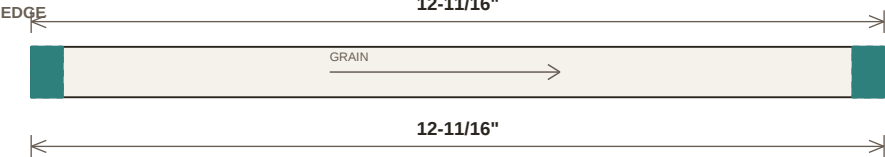
P11-P12 Lower Rail (2)

Side Table Frame / Neutral Wood

12-11/16" long × 1-1/2" wide × 3/4" thick, finished

Make 2 identical - one setup, 2 parts.

FACE



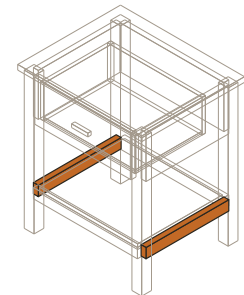
Views at 1 : 3 - measure by the numbers, not off the page

Joinery: J11 / J12

J1: 0" from the left end, 0" from the near edge, 15/32" × 1/4"

+ 3 more operations - see Machining

SEATED POSITION



this part rest of the piece

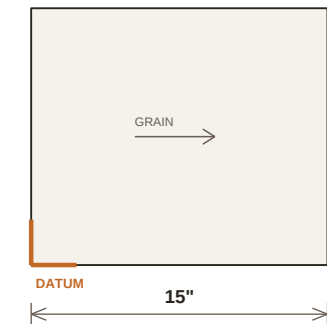
P13 Lower Shelf

Lower Shelf / Neutral Wood

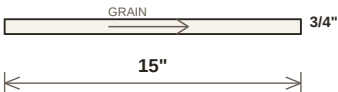
15" long × 13" wide × 3/4" thick, finished

Views are dimensioned references, not 1:1 cutting templates.

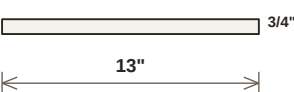
FACE



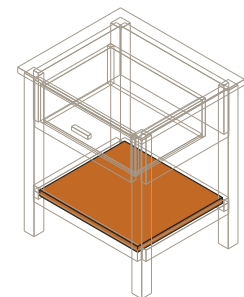
EDGE



END



SEATED POSITION



this part rest of the piece

Views at 1 : 10 - measure by the numbers, not off the page

Joinery: J19 / J20

No joinery on this part. Mill to the finished dimensions above.

Dimensioned part sheets

Sheets 11-12 of 15, covering 20 boards

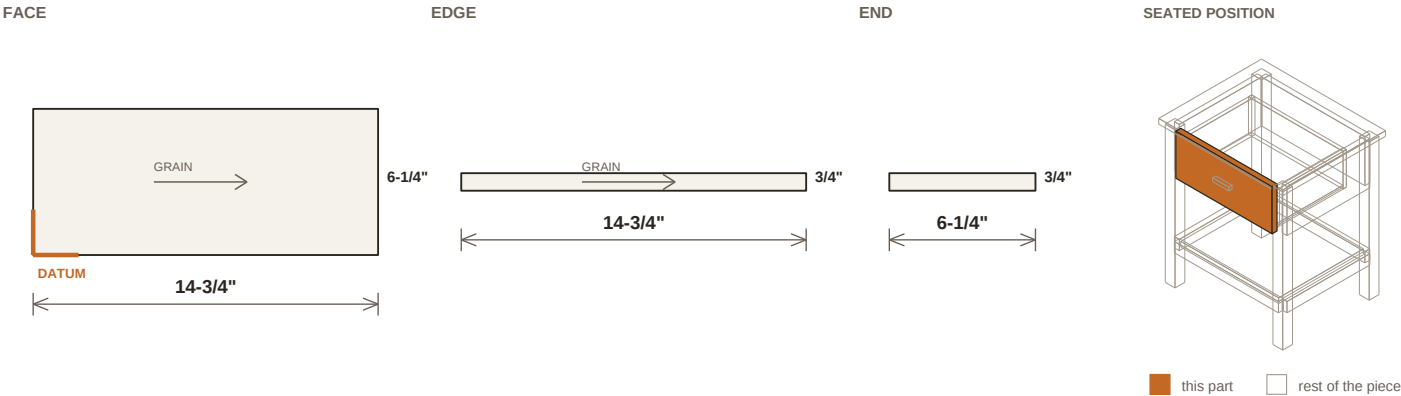
material removed, near face removed, far face datum / this part

P14 Flush Drawer Fascia

Four-wall Drawer / Neutral Wood

14-3/4" long x 6-1/4" wide x 3/4" thick, finished

Views are dimensioned references, not 1:1 cutting templates.

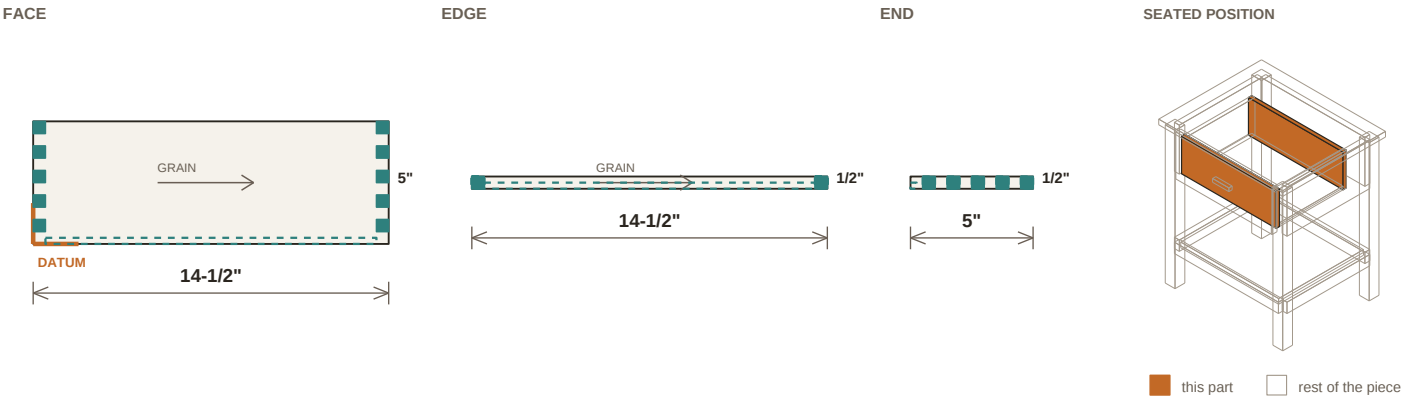


P15-P16 Drawer Wall (2)

Four-wall Drawer / Neutral Wood

14-1/2" long x 5" wide x 1/2" thick, finished

Make 2 identical - one setup, 2 parts.



Dimensioned part sheets

Sheets 13-14 of 15, covering 20 boards

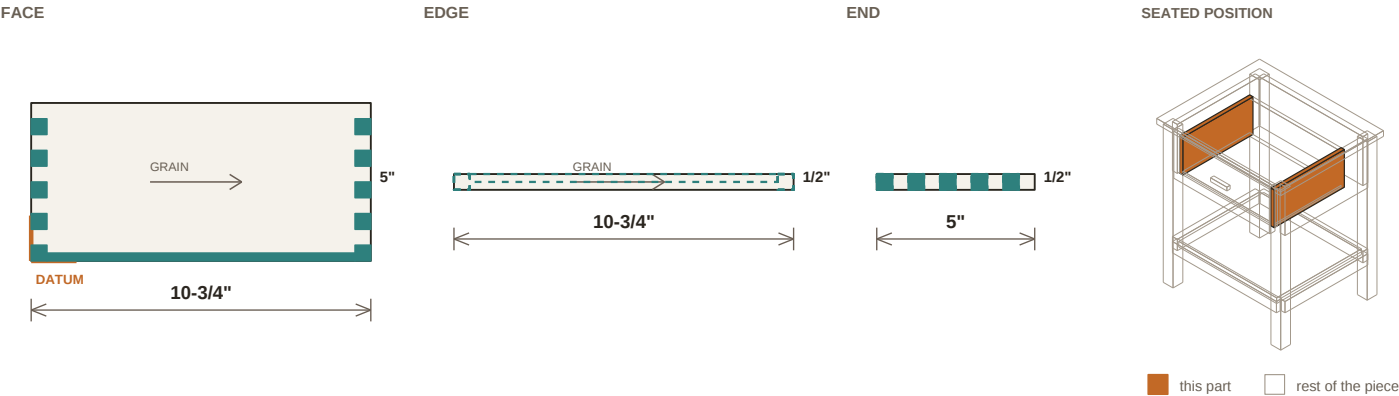
material removed, near face removed, far face datum / this part

P17-P18 Drawer Wall (2)

Four-wall Drawer / Neutral Wood

10-3/4" long × 5" wide × 1/2" thick, finished

Make 2 identical - one setup, 2 parts.

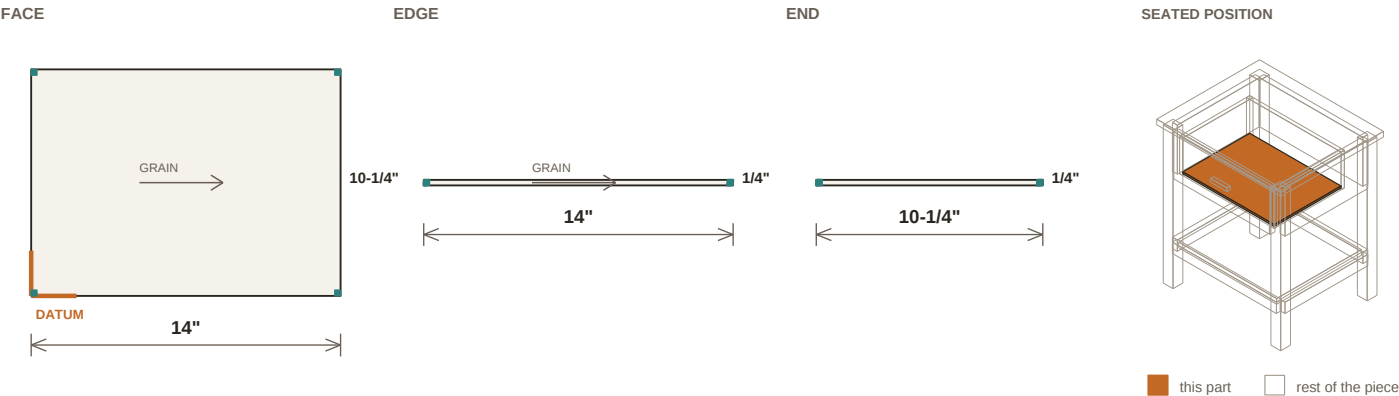


P19 Drawer Bottom

Four-wall Drawer / Neutral Wood

14" long × 10-1/4" wide × 1/4" thick, finished

Views are dimensioned references, not 1:1 cutting templates.



Dimensioned part sheets

Sheets 15-15 of 15, covering 20 boards

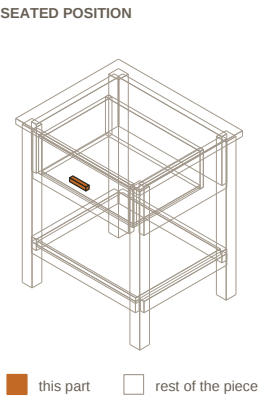
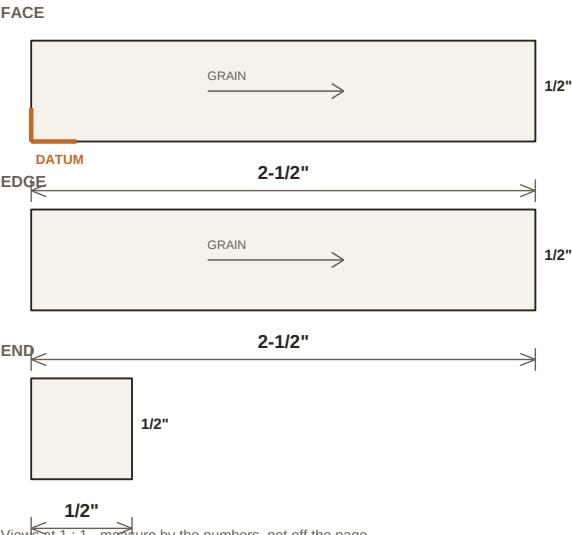
material removed, near face removed, far face datum / this part

P20 Drawer Pull

Four-wall Drawer / Neutral Wood

2-1/2" long x 1/2" wide x 1/2" thick, finished

Views are dimensioned references, not 1:1 cutting templates.



Joinery: J25

J25 Drill and drive - Clearance hole 9/64" through the near part / Pilot hole 3/32" into the far part / Screws 2 x #6 1" flat

Joint detail sheets

One card per joint specification. Identical joints are counted, not repeated.

male / tenon female / mortise rest of the piece

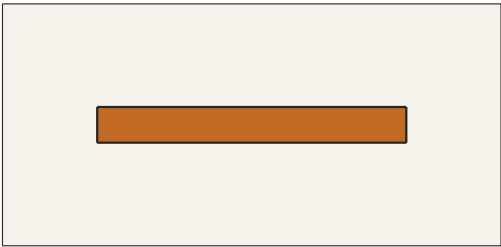
J1-J6 Mortise and tenon

6x identical

P06 -> P02 / Upper Left Rail -> Front Left Leg

4-21/64" x 1/2" tenon, 15/32" long; mortise 17/32" deep

MALE / Upper Left Rail



4-21/64"

Tenon 4-21/64" x 1/2" x 15/32" long

Mortise 4-11/32" x 33/64" x 17/32" deep

Rectangular matched profile / 1/64" fit clearance / 1/4" bit

Power tools:

Cut the mortise - Cutter 1/2" / Length 4-11/32" / Depth 17/32"

Cut the tenon cheeks - Blade height 1/8" / Stop 15/32" from the blade

Cut the edge shoulders - Blade height 1-5/64" / Stop 15/32" from the blade

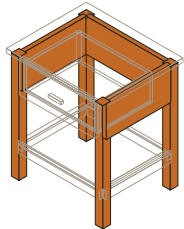
Reconcile the corners - Corner radius 1/8"

FEMALE / Front Left Leg



4-11/32"

WHERE IT GOES



SECTION



15/32" in, 17/32" deep
1/16" glue gap - intended

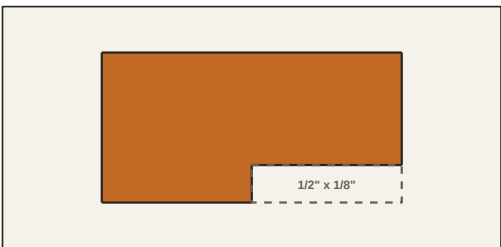
J7-J8 Mortise and tenon

2x identical

P09 -> P02 / Lower Front Rail -> Front Left Leg

1" x 1/2" tenon, 15/32" long; mortise 17/32" deep

MALE / Lower Front Rail



1"

Tenon 1" x 1/2" x 15/32" long

Mortise 1-1/64" x 33/64" x 17/32" deep

Finished male notch 1/2" x 1/8" (width x height) at lower-right / retained 1/2" width and 3/8" height

Matched compound pair / 2 male + 2 female regions / 1/64" fit clearance / 1/4" bit

Power tools:

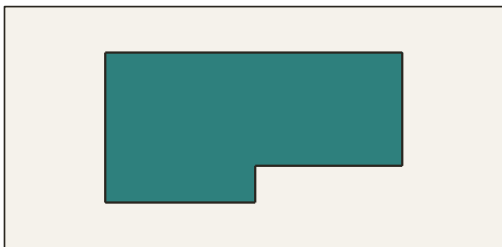
Cut the mortise - Cutter 1/2" / Length 1-1/64" / Depth 17/32"

Cut the tenon cheeks - Blade height 1/8" / Stop 15/32" from the blade

Cut the edge shoulders - Blade height 1/4" / Stop 15/32" from the blade

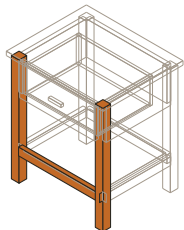
Reconcile the corners - Corner radius 1/8"

FEMALE / Front Left Leg



1-1/64"

WHERE IT GOES



SECTION



15/32" in, 17/32" deep
1/16" glue gap - intended

Joint detail sheets

One card per joint specification. Identical joints are counted, not repeated.

male / tenon female / mortise rest of the piece

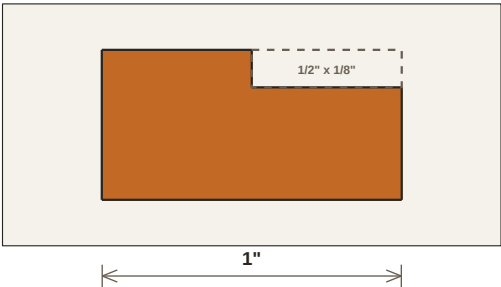
J9-J10 Mortise and tenon

2x identical

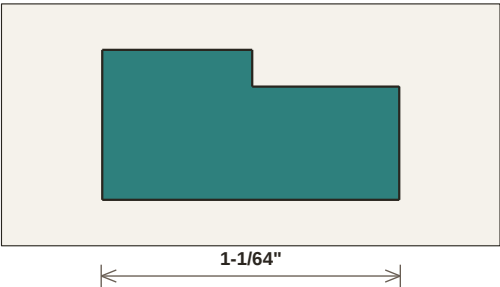
P10 -> P04 / Lower Back Rail -> Back Left Leg

1" x 1/2" tenon, 15/32" long; mortise 17/32" deep

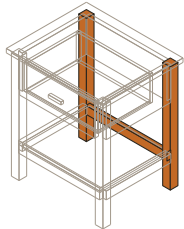
MALE / Lower Back Rail



FEMALE / Back Left Leg



WHERE IT GOES



SECTION



15/32" in, 17/32" deep
1/16" glue gap - intended

Tenon 1" x 1/2" x 15/32" long

Mortise 1-1/64" x 33/64" x 17/32" deep

Finished male notch 1/2" x 1/8" (width x height) at upper-right / retained 1/2" width and 3/8" height

Matched compound pair / 2 male + 2 female regions / 1/64" fit clearance / 1/4" bit

Power tools:

Cut the mortise - Cutter 1/2" / Length 1-1/64" / Depth 17/32"

Cut the tenon cheeks - Blade height 1/8" / Stop 15/32" from the blade

Cut the edge shoulders - Blade height 1/4" / Stop 15/32" from the blade

Reconcile the corners - Corner radius 1/8"

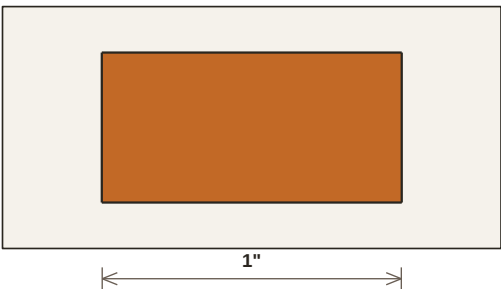
J11-J14 Mortise and tenon

4x identical

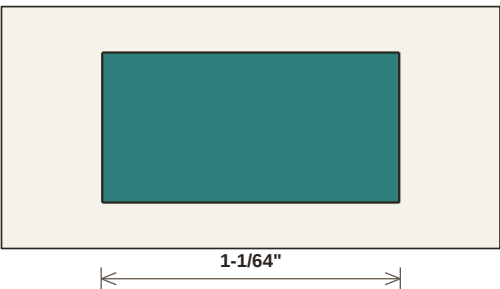
P11 -> P02 / Lower Left Rail -> Front Left Leg

1" x 1/2" tenon, 15/32" long; mortise 17/32" deep

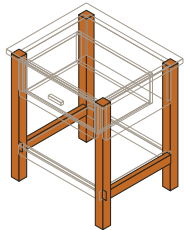
MALE / Lower Left Rail



FEMALE / Front Left Leg



WHERE IT GOES



SECTION



15/32" in, 17/32" deep
1/16" glue gap - intended

Tenon 1" x 1/2" x 15/32" long

Mortise 1-1/64" x 33/64" x 17/32" deep

Rectangular matched profile / 1/64" fit clearance / 1/4" bit

Power tools:

Cut the mortise - Cutter 1/2" / Length 1-1/64" / Depth 17/32"

Cut the tenon cheeks - Blade height 1/8" / Stop 15/32" from the blade

Cut the edge shoulders - Blade height 1/4" / Stop 15/32" from the blade

Reconcile the corners - Corner radius 1/8"

Joint detail sheets

One card per joint specification. Identical joints are counted, not repeated.

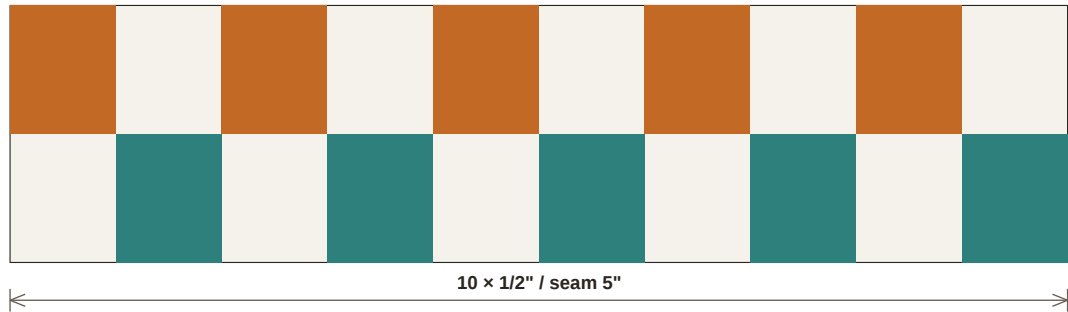
male / tenon female / mortise rest of the piece

J15-J18 Box joint

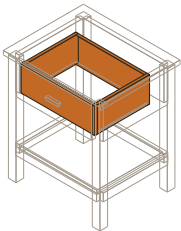
4x identical

P17 -> P15 / Drawer Left Wall -> Drawer Front Wall

10 fingers of 1/2" / 1/2" stepped band - Drawer Left Wall 5x0.500" @ 1/2" deep / Drawer Front Wall 5x0.500" @ 1/2" deep



WHERE IT GOES



Drawer Left Wall: 5 sockets · 1/2" blade depth

Drawer Front Wall: 5 sockets · 1/2" blade depth

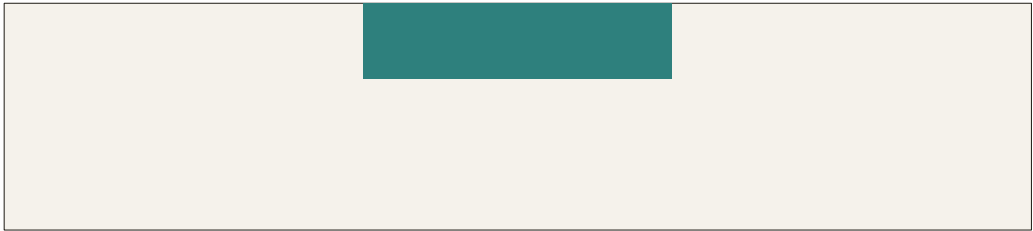
Power tools:

Cut the fingers on a box-joint jig - Key width 1/2" / Blade height Drawer Left Wall 33/64", Drawer Front Wall 33/64" / Passes 10 per part

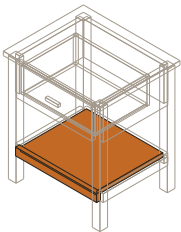
J19 Dado

P13 -> P09 / Lower Shelf -> Lower Front Rail

3/4" wide x 1/4" deep on the front edge



WHERE IT GOES



3/4" wide x 1/4" deep on the front edge

Power tools:

Cut the dado - Dado width 3/4" / Blade height 1/4"

Joint detail sheets

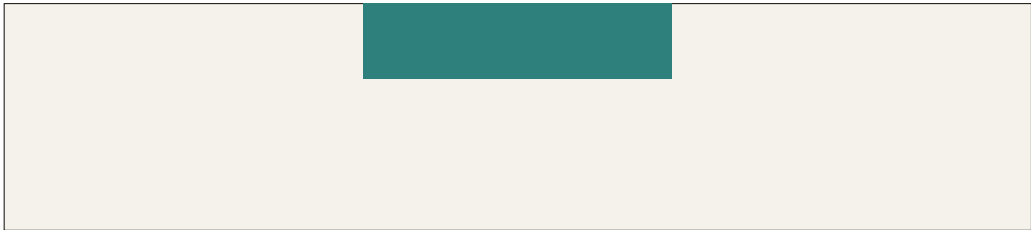
One card per joint specification. Identical joints are counted, not repeated.

male / tenon female / mortise rest of the piece

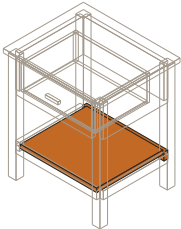
J20 Dado

P13 -> P10 / Lower Shelf -> Lower Back Rail

3/4" wide x 1/4" deep on the back edge



WHERE IT GOES



3/4" wide x 1/4" deep on the back edge

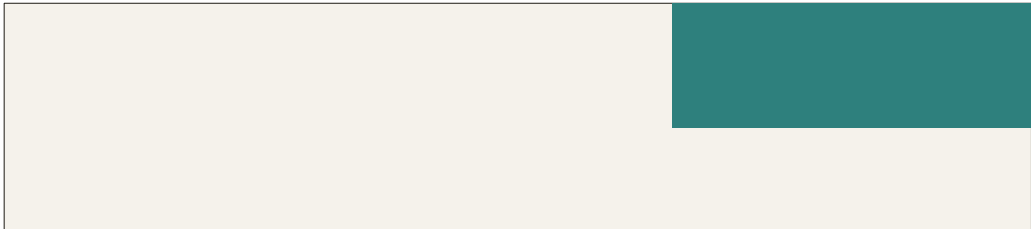
Power tools:

Cut the dado - Dado width 3/4" / Blade height 1/4"

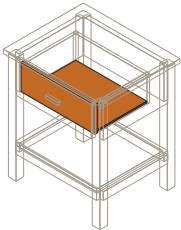
J21 Rabbet

P19 -> P15 / Drawer Bottom -> Drawer Front Wall

1/4" x 1/4" on the front edge



WHERE IT GOES



1/4" x 1/4" on the front edge

Power tools:

Cut the rabbet - Dado width 1/4" / Blade height 1/4"

Joint detail sheets

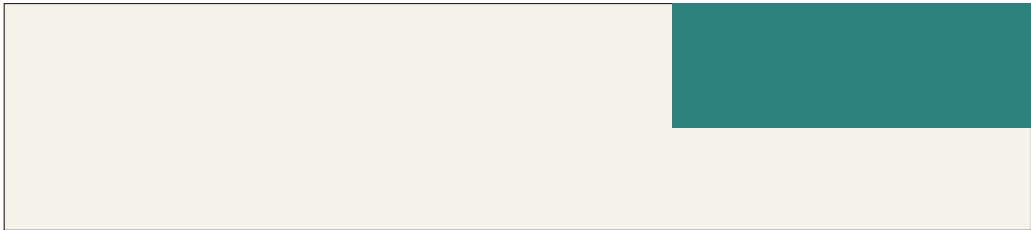
One card per joint specification. Identical joints are counted, not repeated.

male / tenon female / mortise rest of the piece

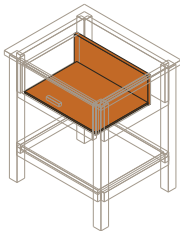
J22 Rabbet

P19 -> P16 / Drawer Bottom -> Drawer Back Wall

1/4" x 1/4" on the back edge



WHERE IT GOES



1/4" x 1/4" on the back edge

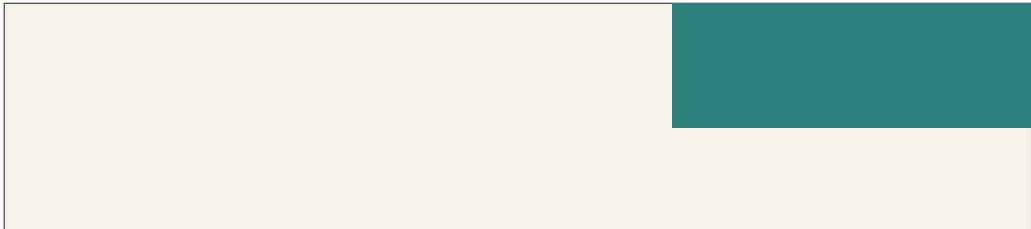
Power tools:

Cut the rabbet - Dado width 1/4" / Blade height 1/4"

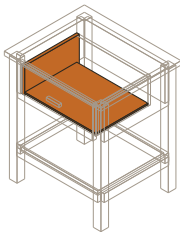
J23 Rabbet

P19 -> P17 / Drawer Bottom -> Drawer Left Wall

1/4" x 1/4" on the left end



WHERE IT GOES



1/4" x 1/4" on the left end

Power tools:

Cut the rabbet - Dado width 1/4" / Blade height 1/4"

Joint detail sheets

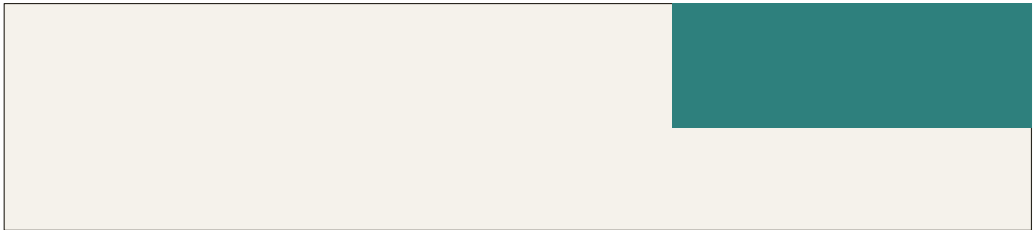
One card per joint specification. Identical joints are counted, not repeated.

male / tenon female / mortise rest of the piece

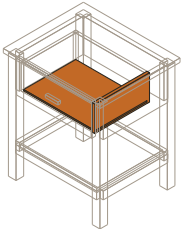
J24 Rabbet

P19 -> P18 / Drawer Bottom -> Drawer Right Wall

1/4" x 1/4" on the right end



WHERE IT GOES



1/4" x 1/4" on the right end

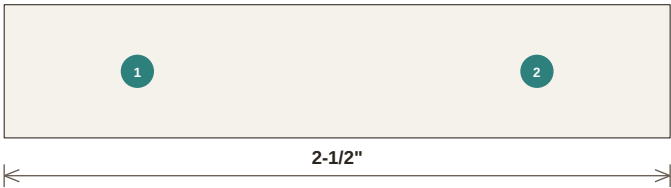
Power tools:

Cut the rabbet - Dado width 1/4" / Blade height 1/4"

J25 Screwed

P20 -> P14 / Drawer Pull -> Flush Drawer Fascia

2 x #6 1" flat through the back edge



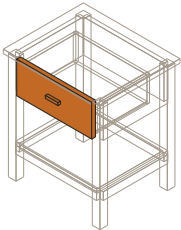
2 holes on the acting part

#1: 1/2" from left / 1/4" from bottom

#2: 2" from left / 1/4" from bottom

#6 x 1" / pre-drill to the machining schedule

WHERE IT GOES



Power tools:

Drill and drive - Clearance hole 9/64" through the near part / Pilot hole 3/32" into the far part / Screws 2 x #6 1" flat

Machining

Power tools - Table saw, router, drill press. The settings below are the ones you dial in.

 check before you cut the rest  ruins stock if skipped

Before any joinery

- Mill every board flat, square and to the finished thickness on the cut list before any joinery is cut. Joinery referenced off a twisted board is twisted.
- Mark a face side and a face edge on each board and take every measurement from those two surfaces throughout.
- Leave parts long where the cut list shows a rough length, and cut to final length only after the shoulders are cut.

J1-J6

Mortise and tenon

cut 6

Same setup for: J1 P06+P02 J2 P06+P04 J3 P07+P03 J4 P07+P05 J5 P08+P04 J6 P08+P05

Cut the mortise - Front Left Leg

Cutter 1/2"

Length 4-11/32"

Depth 17/32"

Router with an edge guide in passes of about 1/8", or drill the waste out on the drill press and pare the walls to the lines. Cut the mortises before the tenons: it is far easier to fit a tenon to a mortise than the other way round. The mortise is 1/16" deeper than the tenon is long. That is deliberate: it gives glue somewhere to go so the shoulders can still pull tight.

Check: Cut one, then fit an offcut milled to the tenon thickness. Adjust before cutting the rest.

Cut the tenon cheeks - Upper Left Rail

Blade height 1/8"

Stop 15/32" from the blade

Dado stack, board flat on the table. Cut one cheek, flip the board face-for-face and cut the other at the same blade height - the tenon then lands centred even if the stock is a hair over or under thickness.

Cut the edge shoulders - Upper Left Rail

Blade height 1-5/64"

Stop 15/32" from the blade

Stand the board on edge against the fence or a tenoning jig and take the narrow shoulders at the same stop setting.

Reconcile the corners - Upper Left Rail + Front Left Leg

Corner radius 1/8"

A routed mortise leaves 1/8" radiused ends. Square them with a chisel, or round the tenon corners to the same radius with a rasp - either works, but do all eight the same way.

Check: Dry-fit. The shoulders should close with no light showing before any glue is opened.

J7-J8

Mortise and tenon

cut 2

Same setup for: J7 P09+P02 J8 P09+P03

Cut the mortise - Front Left Leg

Cutter 1/2"

Length 1-1/64"

Depth 17/32"

Router with an edge guide in passes of about 1/8", or drill the waste out on the drill press and pare the walls to the lines. Cut the mortises before the tenons: it is far easier to fit a tenon to a mortise than the other way round. The mortise is 1/16" deeper than the tenon is long. That is deliberate: it gives glue somewhere to go so the shoulders can still pull tight.

Check: Cut one, then fit an offcut milled to the tenon thickness. Adjust before cutting the rest.

Cut the tenon cheeks - Lower Front Rail

Blade height 1/8"

Stop 15/32" from the blade

Dado stack, board flat on the table. Cut one cheek, flip the board face-for-face and cut the other at the same blade height - the tenon then lands centred even if the stock is a hair over or under thickness.

Cut the edge shoulders - Lower Front Rail

Blade height 1/4"

Stop 15/32" from the blade

Stand the board on edge against the fence or a tenoning jig and take the narrow shoulders at the same stop setting.

Reconcile the corners - Lower Front Rail + Front Left Leg

Corner radius 1/8"

A routed mortise leaves 1/8" radiused ends. Square them with a chisel, or round the tenon corners to the same radius with a rasp - either works, but do all eight the same way.

Check: Dry-fit. The shoulders should close with no light showing before any glue is opened.

Machining (continued)

Power tools - Table saw, router, drill press. The settings below are the ones you dial in.

 check before you cut the rest  ruins stock if skipped

J9-J10

Mortise and tenon

cut 2

Same setup for: J9 P10+P04 J10 P10+P05

Cut the mortise - Back Left Leg

Cutter 1/2"

Length 1-1/64"

Depth 17/32"

Router with an edge guide in passes of about 1/8", or drill the waste out on the drill press and pare the walls to the lines. Cut the mortises before the tenons: it is far easier to fit a tenon to a mortise than the other way round. The mortise is 1/16" deeper than the tenon is long. That is deliberate: it gives glue somewhere to go so the shoulders can still pull tight.

Check: Cut one, then fit an offcut milled to the tenon thickness. Adjust before cutting the rest.

Cut the tenon cheeks - Lower Back Rail

Blade height 1/8"

Stop 15/32" from the blade

Dado stack, board flat on the table. Cut one cheek, flip the board face-for-face and cut the other at the same blade height - the tenon then lands centred even if the stock is a hair over or under thickness.

Cut the edge shoulders - Lower Back Rail

Blade height 1/4"

Stop 15/32" from the blade

Stand the board on edge against the fence or a tenoning jig and take the narrow shoulders at the same stop setting.

Reconcile the corners - Lower Back Rail + Back Left Leg

Corner radius 1/8"

A routed mortise leaves 1/8" radiused ends. Square them with a chisel, or round the tenon corners to the same radius with a rasp - either works, but do all eight the same way.

Check: Dry-fit. The shoulders should close with no light showing before any glue is opened.

J11-J14

Mortise and tenon

cut 4

Same setup for: J11 P11+P02 J12 P11+P04 J13 P12+P03 J14 P12+P05

Cut the mortise - Front Left Leg

Cutter 1/2"

Length 1-1/64"

Depth 17/32"

Router with an edge guide in passes of about 1/8", or drill the waste out on the drill press and pare the walls to the lines. Cut the mortises before the tenons: it is far easier to fit a tenon to a mortise than the other way round. The mortise is 1/16" deeper than the tenon is long. That is deliberate: it gives glue somewhere to go so the shoulders can still pull tight.

Check: Cut one, then fit an offcut milled to the tenon thickness. Adjust before cutting the rest.

Cut the tenon cheeks - Lower Left Rail

Blade height 1/8"

Stop 15/32" from the blade

Dado stack, board flat on the table. Cut one cheek, flip the board face-for-face and cut the other at the same blade height - the tenon then lands centred even if the stock is a hair over or under thickness.

Cut the edge shoulders - Lower Left Rail

Blade height 1/4"

Stop 15/32" from the blade

Stand the board on edge against the fence or a tenoning jig and take the narrow shoulders at the same stop setting.

Reconcile the corners - Lower Left Rail + Front Left Leg

Corner radius 1/8"

A routed mortise leaves 1/8" radiused ends. Square them with a chisel, or round the tenon corners to the same radius with a rasp - either works, but do all eight the same way.

Check: Dry-fit. The shoulders should close with no light showing before any glue is opened.

Machining (continued)

Power tools - Table saw, router, drill press. The settings below are the ones you dial in.

 check before you cut the rest  ruins stock if skipped

J15-J18Box jointcut 4

Same setup for: J15 P17+P15 J16 P18+P15 J17 P17+P16 J18 P18+P16

Cut the fingers on a box-joint jig - Drawer Left Wall + Drawer Front Wall

- Key width 1/2"
- Blade height Drawer Left Wall 33/64", Drawer Front Wall 33/64"
- Passes 10 per part

Table saw or router table with a box-joint jig. Set the key 1/2" from the blade and the same width. Cut every socket on the first part, then start the second part with its edge over the key - that one-finger offset is what makes the two halves interlock. The blade height is set proud of the mating stock so the fingers stand slightly out and are sanded flush after glue-up.

Check: Cut a test pair in scrap of the same thickness first. A jig off by a few thousandths compounds across every finger.

Watch out: Back the cut with a sacrificial fence. Box joints tear out badly on the exit face.

J19Dado

Cut the dado - Lower Front Rail

- Dado width 3/4"
- Blade height 1/4"

Dado stack at the joint width, or two passes with a straight bit against a router fence. Clamp a stop so every matching part is cut at one setting - a dado that walks 1/32 between parts shows as a twisted carcass.

Check: Set the width from the mating board: 3/4" is what the model says the partner measures, and real stock is rarely exactly that.

J20Dado

Cut the dado - Lower Back Rail

- Dado width 3/4"
- Blade height 1/4"

Dado stack at the joint width, or two passes with a straight bit against a router fence. Clamp a stop so every matching part is cut at one setting - a dado that walks 1/32 between parts shows as a twisted carcass.

Check: Set the width from the mating board: 3/4" is what the model says the partner measures, and real stock is rarely exactly that.

J21Rabbet

Cut the rabbet - Drawer Front Wall

- Dado width 1/4"
- Blade height 1/4"

Dado stack buried in a sacrificial fence, or a rabbeting bit in the router table. Cut with the face side down so the visible shoulder is the one the table references.

Check: Set the width from the mating board: 1/4" is what the model says the partner measures, and real stock is rarely exactly that.

J22Rabbet

Cut the rabbet - Drawer Back Wall

- Dado width 1/4"
- Blade height 1/4"

Dado stack buried in a sacrificial fence, or a rabbeting bit in the router table. Cut with the face side down so the visible shoulder is the one the table references.

Check: Set the width from the mating board: 1/4" is what the model says the partner measures, and real stock is rarely exactly that.

J23Rabbet

Cut the rabbet - Drawer Left Wall

- Dado width 1/4"
- Blade height 1/4"

Dado stack buried in a sacrificial fence, or a rabbeting bit in the router table. Cut with the face side down so the visible shoulder is the one the table references.

Check: Set the width from the mating board: 1/4" is what the model says the partner measures, and real stock is rarely exactly that.

Machining (continued)

Power tools - Table saw, router, drill press. The settings below are the ones you dial in.

 check before you cut the rest  ruins stock if skipped

J24Rabbet

Cut the rabbet - Drawer Right Wall

- Dado width 1/4"
- Blade height 1/4"

Dado stack buried in a sacrificial fence, or a rabbeting bit in the router table. Cut with the face side down so the visible shoulder is the one the table references.

Check: Set the width from the mating board: 1/4" is what the model says the partner measures, and real stock is rarely exactly that.

J25Screwed

Drill and drive - Drawer Pull -> Flush Drawer Fascia

- Clearance hole 9/64" through the near part
- Pilot hole 3/32" into the far part
- Screws 2 x #6 1" flat

The clearance hole is what pulls the joint tight: without it the near board rides on the threads and holds the parts apart. Pilot depth at least the length of the screw in the far part - this species splits if you skip it.

Check: Clamp the joint closed before drilling so the parts cannot shift as the screw pulls.

Hardware and tooling

Quantities are rolled up by exact specification. Tooling is what the power tools route needs.

Qty	Hardware
2	#6 1" flat head, coarse thread

Tools for this packet

1/2" bit / Box-joint jig with a 1/2" key / Countersink / Drill/driver / Router or drill press / Table saw or router table / Table saw with dado stack / Table saw with dado stack, or router with a straight bit / Tenoning jig or a tall fence

Assembly

Dry-fit every stage before glue touches it.

■ goes on now ■ already built □ not made yet

Before you start

All machining is done first - see the Machining pages. Have clamps, cauls and a damp cloth within reach before any glue is opened, and dry-clamp each stage completely before committing to it.

STAGE 1 Sub-assembly 1 - Side Table Frame

Adds P02, P03, P04, P05, P06, P07, P08, P09, P10, P11, P12

12. Attach Front Left Leg to Lower Front Rail (P02 + P09)

Test-fit the tenon, then glue the shoulders and clamp Front Left Leg into Lower Front Rail

13. Attach Lower Left Rail to Front Left Leg (P11 + P02)

Test-fit the tenon, then glue the shoulders and clamp Lower Left Rail into Front Left Leg

14. Attach Front Right Leg to Lower Front Rail (P03 + P09)

Test-fit the tenon, then glue the shoulders and clamp Front Right Leg into Lower Front Rail

15. Attach Lower Right Rail to Front Right Leg (P12 + P03)

Test-fit the tenon, then glue the shoulders and clamp Lower Right Rail into Front Right Leg

16. Attach Back Left Leg to Lower Left Rail (P04 + P11)

Test-fit the tenon, then glue the shoulders and clamp Back Left Leg into Lower Left Rail

17. Attach Upper Left Rail to Front Left Leg (P06 + P02)

Test-fit the tenon, then glue the shoulders and clamp Upper Left Rail into Front Left Leg

18. Attach Upper Left Rail to Back Left Leg (P06 + P04)

Test-fit the tenon, then glue the shoulders and clamp Upper Left Rail into Back Left Leg

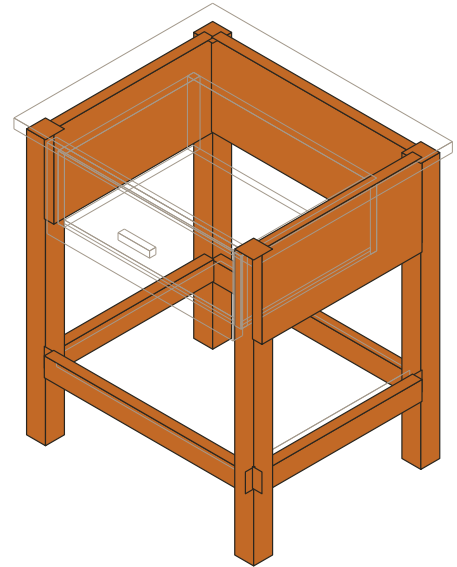
19. Attach Lower Back Rail to Back Left Leg (P10 + P04)

Test-fit the tenon, then glue the shoulders and clamp Lower Back Rail into Back Left Leg

20. Attach Back Right Leg to Lower Back Rail (P05 + P10)

Test-fit the tenon, then glue the shoulders and clamp Back Right Leg into Lower Back Rail

Check: shoulders closed with no light showing, diagonals equal within 1/16, and the sub-assembly flat on the bench before you clamp it hard.



STAGE 2 Sub-assembly 2 - Four-wall Drawer

Adds P14, P15, P16, P17, P18, P19, P20

26. Attach Drawer Front Wall to Drawer Bottom (P15 + P19)

Glue Drawer Front Wall into the rabbet in Drawer Bottom

27. Attach Drawer Left Wall to Drawer Front Wall (P17 + P15)

Glue the 10 fingers, clamp across the joint

28. Attach Drawer Left Wall to Drawer Bottom (P17 + P19)

Glue Drawer Left Wall into the rabbet in Drawer Bottom

29. Attach Drawer Back Wall to Drawer Left Wall (P16 + P17)

Glue the 10 fingers, clamp across the joint

30. Attach Drawer Back Wall to Drawer Bottom (P16 + P19)

Glue Drawer Back Wall into the rabbet in Drawer Bottom

31. Attach Drawer Right Wall to Drawer Front Wall (P18 + P15)

Glue the 10 fingers, clamp across the joint

32. Attach Drawer Right Wall to Drawer Back Wall (P18 + P16)

Glue the 10 fingers, clamp across the joint

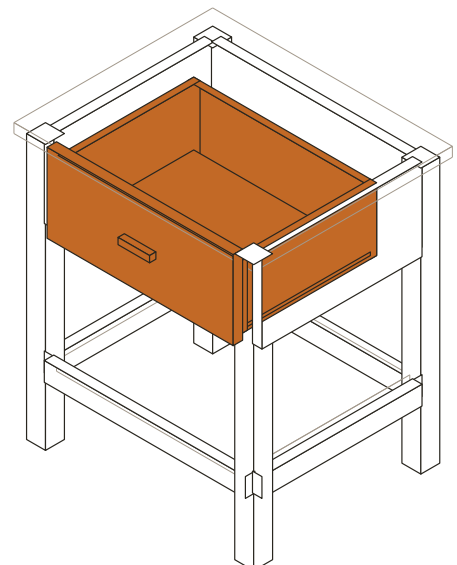
33. Attach Drawer Right Wall to Drawer Bottom (P18 + P19)

Glue Drawer Right Wall into the rabbet in Drawer Bottom

34. Fasten Drawer Pull to Flush Drawer Fascia (P20 + P14)

2 × #6 1" coarse through Drawer Pull into Flush Drawer Fascia

Check: shoulders closed with no light showing, diagonals equal within 1/16, and the sub-assembly flat on the bench before you clamp it hard.



Assembly (continued)

Dry-fit every stage before glue touches it.

goes on now
 already built
 not made yet

STAGE 3 Final assembly

Adds P01, P09, P10, P13

35. Attach Lower Shelf to Lower Front Rail (P13 + P09)

Glue Lower Shelf into the dado in Lower Front Rail

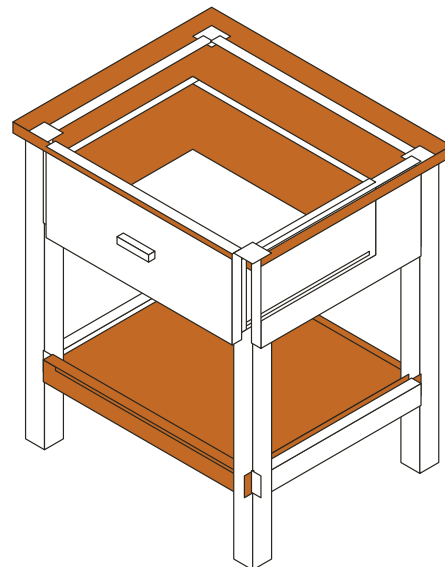
36. Attach Lower Shelf to Lower Back Rail (P13 + P10)

Glue Lower Shelf into the dado in Lower Back Rail

37. Unattached parts (P01)

Table Top - no joints defined yet

Check: measure both diagonals across the assembled frame - equal within 1/16 means it is square. Check it sits flat on a known-flat surface before the glue sets.



Validation report

This report captures the model state at export time. Errors are blocking fabrication findings.

Status	Ref	Code	Finding	Suggested action
INFO	J7	joint-feature-matched-mortise	Front Left Leg's mortise matches Lower Front Rail's finished stepped/haunched tenon profile after 1 housing cut (12.5% of the original tenon section removed).	-
INFO	J8	joint-feature-matched-mortise	Front Right Leg's mortise matches Lower Front Rail's finished stepped/haunched tenon profile after 1 housing cut (12.5% of the original tenon section removed).	-
INFO	J9	joint-feature-matched-mortise	Back Left Leg's mortise matches Lower Back Rail's finished stepped/haunched tenon profile after 1 housing cut (12.5% of the original tenon section removed).	-
INFO	J10	joint-feature-matched-mortise	Back Right Leg's mortise matches Lower Back Rail's finished stepped/haunched tenon profile after 1 housing cut (12.5% of the original tenon section removed).	-
INFO	J15	boxjoint-stepped-band	Stepped box joint - 0.500" finger band on Drawer Front Wall; shoulders 0" / 14".	-
INFO	J15	joint-feature-stopped-housing	Drawer Left Wall and Drawer Front Wall housing cuts stop at the structural box-joint band; the housed panel receives matching relief.	-
INFO	J16	boxjoint-stepped-band	Stepped box joint - 0.500" finger band on Drawer Front Wall; shoulders 14" / 0".	-
INFO	J16	joint-feature-stopped-housing	Drawer Right Wall and Drawer Front Wall housing cuts stop at the structural box-joint band; the housed panel receives matching relief.	-
INFO	J17	boxjoint-stepped-band	Stepped box joint - 0.500" finger band on Drawer Back Wall; shoulders 0" / 14".	-
INFO	J17	joint-feature-stopped-housing	Drawer Left Wall and Drawer Back Wall housing cuts stop at the structural box-joint band; the housed panel receives matching relief.	-
INFO	J18	boxjoint-stepped-band	Stepped box joint - 0.500" finger band on Drawer Back Wall; shoulders 14" / 0".	-
INFO	J18	joint-feature-stopped-housing	Drawer Right Wall and Drawer Back Wall housing cuts stop at the structural box-joint band; the housed panel receives matching relief.	-
WARN	J25	edge-distance	Screws sit under 1/4" from the edge of the contact - risk of tear-out	-
WARN	J25	split-risk	Flush Drawer Fascia's 3/4" section may split under a #6 - pre-drill	-
INFO	J25	pilot-info	Pilot 3/32" in Flush Drawer Fascia, clearance 9/64" in Drawer Pull	-

A clean report means GrainDraft found no modeled conflict under its current rules; it is not a substitute for inspecting real stock, machine setup or safe woodworking practice.