Base cabinet

Overall size: 24-1/2" W × 24" D × 34-1/2" H



Parts	Sheets and boards	Saw kerf	Units
18 (13 different)	**6**	**1/8"**	**Inches**

Materials to buy

Qty	Material	Label in plan	Board feet
2	3/4" Birch Plywood, 4' × 8'	Sheet A, Sheet B	
1	1/4" Birch Plywood, 4' × 8'	Sheet C	
2	4/4 Maple, 5-1/2" × 8'	Board D, Board E	7.3
1	1/4" Maple Plywood, 4' × 8'	Sheet F	
1	Amerock Everett 3-3/4" (96 mm) bar pull, matte black	Hardware	
22	Domino tenons 6 × 40	Hardware	
2	Everbilt Frameless soft-close inset hinge, nickel, pair	Hardware	
18	Kreg pocket screws 1-1/4" coarse thread	Hardware	

Qty	Material	Label in plan	Board feet
4	Kreg pocket screws 1-1/4" fine thread	Hardware	

Cost

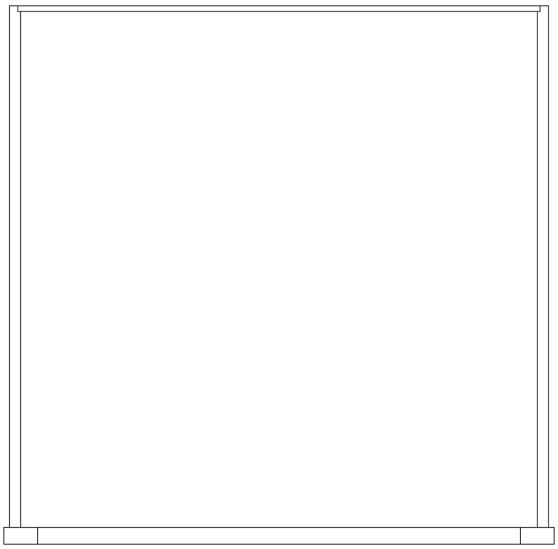
In USD, at this project's prices

Qty	Item	Price	Per	Total
1	4/4 Maple, 5-1/2" × 8' (3.7 board feet)	$6.50	a board foot	$23.83
1	3/4" Birch Plywood, 4' × 8'	$75.00	a sheet	$75.00
1	1/4" Birch Plywood, 4' × 8'	$45.00	a sheet	$45.00
1	1/4" Maple Plywood, 4' × 8'	$54.00	a sheet	$54.00
1	Amerock Everett 3-3/4" (96 mm) bar pull, matte black (1 needed)	$6.00	a pack of 1	$6.00
1	Everbilt Frameless soft-close inset hinge, nickel, pair (2 needed)	$12.00	a pack of 2	$12.00
22	Domino tenons 6 × 40	$0.25	each	$5.50
18	Kreg pocket screws 1-1/4" coarse thread	$0.08	each	$1.44
4	Kreg pocket screws 1-1/4" fine thread	$0.08	each	$0.32
Wood				**$197.83**
Hardware				**$25.26**
Total				**$223.09**
$124.01 of the wood is offcuts and kerf (63%), counted in Wood above.				
Priced at what Optimize sheets packs the parts onto: 4 instead of the 6 they're on now.				

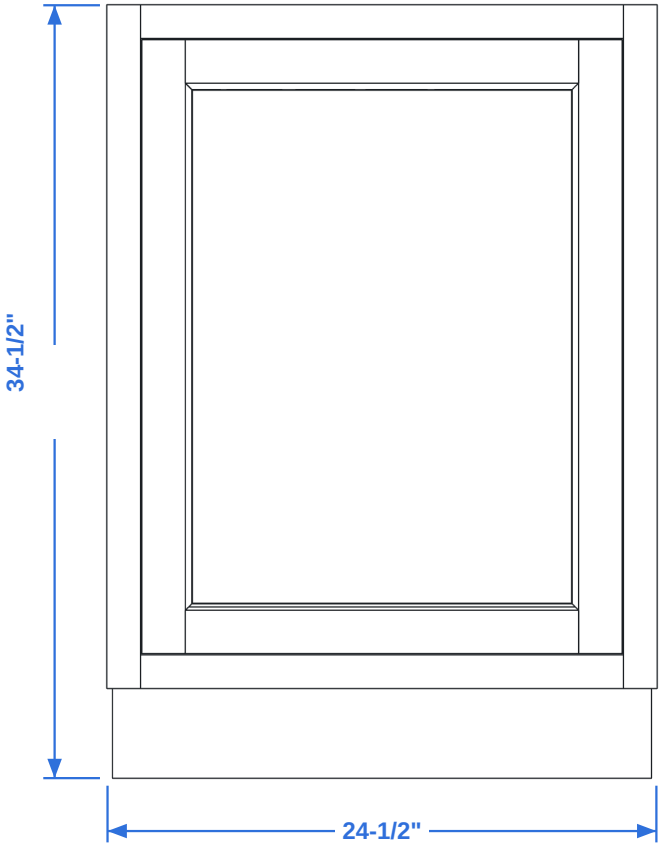
Views

Use the written dimensions; don't scale the drawing.

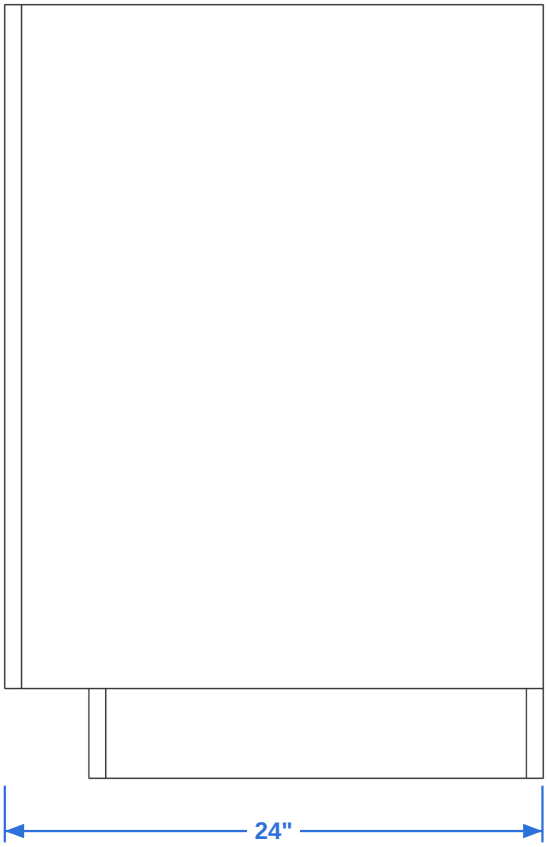
Top



Front

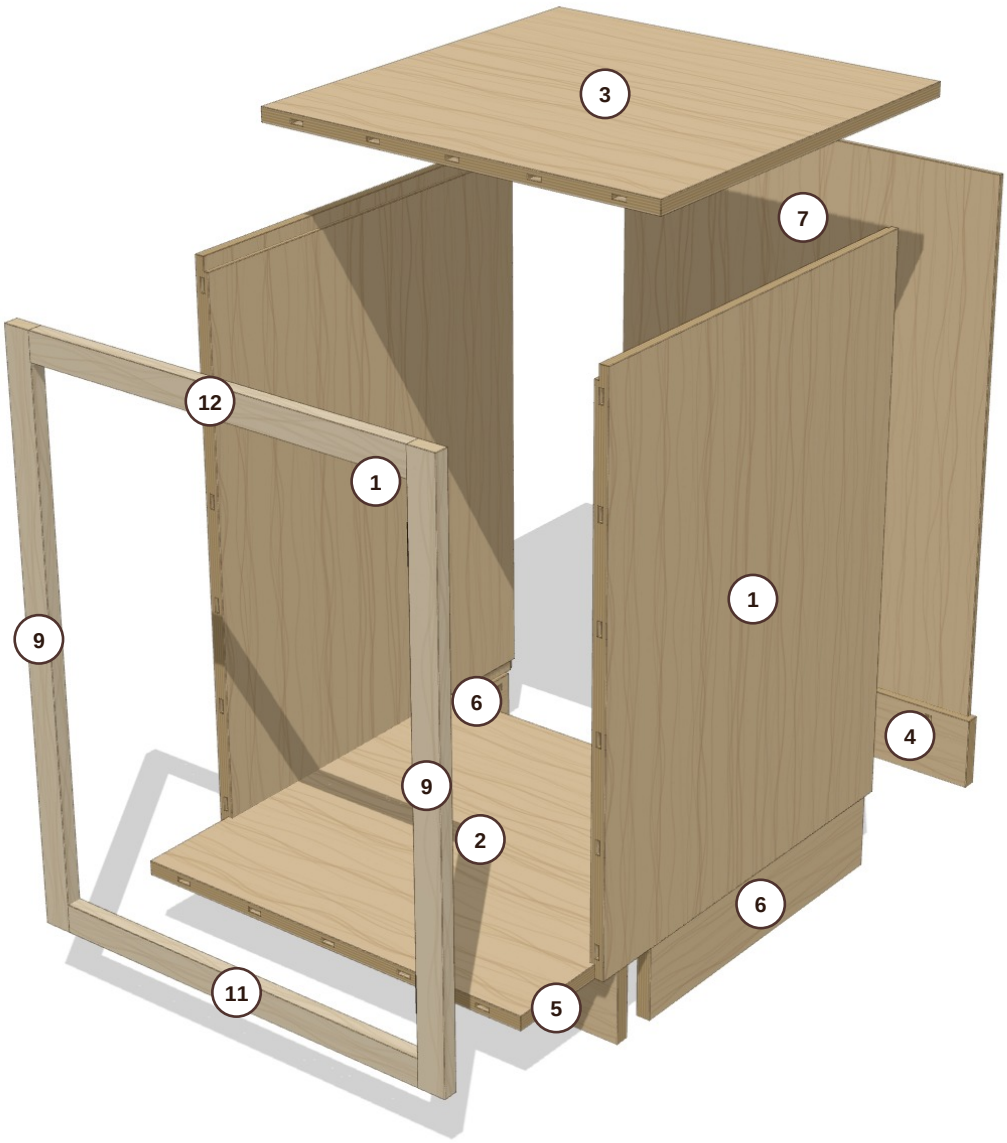


Right side



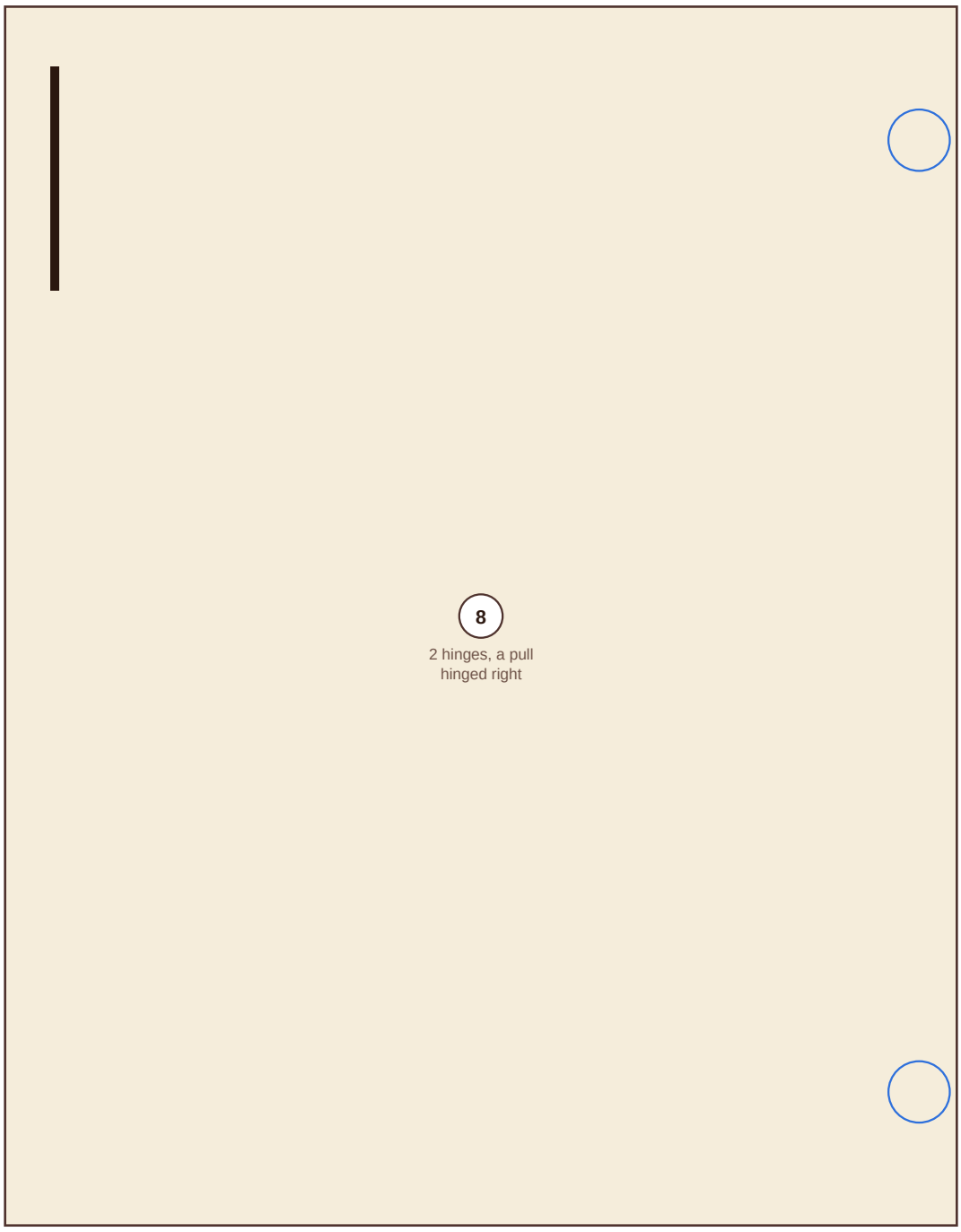
Exploded view: the carcase

Every part by its number in the cut list



Exploded view: doors and hardware

Seen from the front, spread apart



Cut list

Length runs with the grain

#	Part	Qty	Length	Width	Thick	Material	From	Grain
1	Base side	2	30-1/2"	23-1/4"	3/4"	Birch Plywood	A	Length
2	Base bottom	1	23"	23"	3/4"	Birch Plywood	B	Length
3	Base top	1	23"	23"	3/4"	Birch Plywood	B	Length
4	Base toe-kick back rail	1	24"	4"	3/4"	Birch Plywood	B	Length
5	Base toe-kick front rail	1	24"	4"	3/4"	Birch Plywood	B	Length
6	Base toe-kick cross rail	2	18-3/4"	4"	3/4"	Birch Plywood	B	Length
7	Base back	1	30-1/2"	23-1/4"	1/4"	Birch Plywood	C	Length
8	Door 1 stile	2	27-3/8"	2-1/4"	3/4"	Hard Maple	D	Length, keep, moves 1/32"
9	Face frame stile	2	30-1/2"	1-1/2"	3/4"	Hard Maple	D	Length
10	Door 1 rail	2	17-5/8"	2-1/4"	3/4"	Hard Maple	D, E	Length, keep, moves 1/32"
11	Face frame bottom rail	1	21-1/2"	1-1/2"	3/4"	Hard Maple	D	Length
12	Face frame top rail	1	21-1/2"	1-1/2"	3/4"	Hard Maple	D	Length
13	Door 1 panel	1	23-9/16"	17-9/16"	1/4"	Maple Plywood	F	Length, keep

Doors and face frames

How each is made

Door or frame	How it's made
Door 1	Frame and panel: cope and stick, 2-1/4" stiles and 2-1/4" rails, a 1/4" × 3/8" groove; flat maple plywood panel. The panel floats: glue only the stiles and rails.
Face frame	2 stiles, a top rail and a bottom rail in hard maple; pocket screws; stiles proud of the sides; fastened to the case with Dominos (DF 500).

Assembly

Which parts join, and how

Part	Joins	Joinery	Each	Where
Base side ×2	Base bottom	Rabbet	1	at the left end
Base side ×2	Base top	Rabbet	1	at the right end
Base side ×2	Base back	Rabbet	1	on the top edge
Base side ×2	Face frame stile	Domino DF 500, 6 × 40 tenons	6	front edge
Base bottom	Face frame bottom rail	Domino DF 500, 6 × 40 tenons	5	front edge
Base top	Face frame top rail	Domino DF 500, 6 × 40 tenons	5	front edge
Base toe-kick back rail	Base bottom	Kreg pocket screws 1-1/4" coarse	5	top edge
Base toe-kick front rail	Base bottom	Kreg pocket screws 1-1/4" coarse	5	top edge
Base toe-kick cross rail ×2	Base toe-kick back rail	Kreg pocket screws 1-1/4" coarse	2	back end

Part	Joins	Joinery	Each	Where
Base toe-kick cross rail ×2	Base toe-kick front rail	Kreg pocket screws 1-1/4" coarse	2	front end
Face frame top rail	Face frame stile	Kreg pocket screws 1-1/4" fine	1	left end
Face frame top rail	Face frame stile	Kreg pocket screws 1-1/4" fine	1	right end
Face frame bottom rail	Face frame stile	Kreg pocket screws 1-1/4" fine	1	left end
Face frame bottom rail	Face frame stile	Kreg pocket screws 1-1/4" fine	1	right end
Door 1 stile	Door 1 panel	Stick and groove	1	on the bottom edge
Door 1 stile	Door 1 panel	Stick and groove	1	on the top edge
Door 1 rail	Door 1 panel	Stick and groove	1	on the top edge
Door 1 rail ×2	Door 1 stile	Cope and stick	1	left end
Door 1 rail ×2	Door 1 stile	Cope and stick	1	right end
Door 1 rail	Door 1 panel	Stick and groove	1	on the bottom edge

Joinery

From the left end and top edge as drawn in the diagrams

#	Part	Joint	Size	Where	Face
1	Base side ×2	Rabbet	3/4" wide × 1/4" deep	at the left end	Mirror pair
1	Base side ×2	Rabbet	1/4" wide × 3/8" deep	on the top edge	Mirror pair
1	Base side ×2	Loose tenon mortises	6 for 6 × 40 tenons (DF 500), 25 mm deep	on the bottom edge	Mirror pair
1	Base side ×2	Rabbet	3/4" wide × 1/4" deep	at the right end	Mirror pair
2	Base bottom	Loose tenon mortises	5 for 6 × 40 tenons (DF 500), 25 mm deep	on the bottom edge	Centered
3	Base top	Loose tenon mortises	5 for 6 × 40 tenons (DF 500), 25 mm deep	on the bottom edge	Centered
4	Base toe-kick back rail	Pocket holes	5 for 1-1/4" coarse screws, Kreg 3/4" setting	on the top edge	Top
5	Base toe-kick front rail	Pocket holes	5 for 1-1/4" coarse screws, Kreg 3/4" setting	on the top edge	Underside
6	Base toe-kick cross rail ×2	Pocket holes	2 for 1-1/4" coarse screws, Kreg 3/4" setting	at the left end	Mirror pair
6	Base toe-kick cross rail	Pocket holes	2 for 1-1/4" coarse screws, Kreg 3/4" setting	at the right end	Mirror pair

#	Part	Joint	Size	Where	Face
	×2				
8	Door 1 stile	Stick and groove	groove 1/4" wide × 3/8" deep, 3/8" ovolo profile on the front edge	on the bottom edge	Top
8	Door 1 stile	Stick and groove	groove 1/4" wide × 3/8" deep, 3/8" ovolo profile on the front edge	on the top edge	Top
9	Face frame stile	Loose tenon mortises	6 for 6 × 40 tenons (DF 500), 15 mm deep	1-1/16" from the left end, 1/2" from the top edge	Underside
9	Face frame stile	Loose tenon mortises	6 for 6 × 40 tenons (DF 500), 15 mm deep	1-1/16" from the left end, 3/4" from the top edge	Underside
10	Door 1 rail	Stick and groove	groove 1/4" wide × 3/8" deep, 3/8" ovolo profile on the front edge	on the top edge	Top
10	Door 1 rail	Cope	ovolo cope with a 1/4" tongue, 3/8" long, 2-1/4" wide	at the left end	Centered
10	Door 1 rail	Cope	ovolo cope with a 1/4" tongue, 3/8" long, 2-1/4" wide	at the right end	Centered
10	Door 1 rail	Cope	ovolo cope with a 1/4" tongue, 3/8" long, 2-1/4" wide	at the left end	Centered
10	Door 1 rail	Stick and groove	groove 1/4" wide × 3/8" deep, 3/8" ovolo profile on the front edge	on the bottom edge	Top
10	Door 1 rail	Cope	ovolo cope with a 1/4" tongue, 3/8" long, 2-1/4" wide	at the right end	Centered
11	Face frame bottom rail	Pocket holes	1 for 1-1/4" fine screws, Kreg 3/4" setting	at the left end	Underside
11	Face frame bottom rail	Loose tenon mortises	5 for 6 × 40 tenons (DF 500), 15 mm deep	1-1/16" from the left end, 1" from the top edge	Underside
11	Face frame bottom rail	Pocket holes	1 for 1-1/4" fine screws, Kreg 3/4" setting	at the right end	Underside
12	Face frame top rail	Pocket holes	1 for 1-1/4" fine screws, Kreg 3/4" setting	at the left end	Underside
12	Face frame top rail	Loose tenon mortises	5 for 6 × 40 tenons (DF 500), 15 mm deep	1-1/16" from the left end, 1/4" from the top edge	Underside
12	Face frame top rail	Pocket holes	1 for 1-1/4" fine screws, Kreg 3/4" setting	at the right end	Underside
9	Face frame stile	Hinge plates	2 plates	On the inside edge, centred on its thickness; 4-9/16", 25-15/16" up from the bottom	Inside
8	Door 1 stile	Hinge cups	2 × 35 mm, 1/2" deep	7/8" in from the right edge; 3" from the top (24-3/8" from the bottom), 24-3/8" from the top (3" from the bottom)	Inside

Hardware

Tenons and screws

Qty	Item	On parts
1	Amerock Everett 3-3/4" (96 mm) bar pull, matte black	8
22	Domino tenons 6 × 40	
2	Everbilt Frameless soft-close inset hinge, nickel, pair	8
18	Kreg pocket screws 1-1/4" coarse thread	
4	Kreg pocket screws 1-1/4" fine thread	

Hardware to buy

Prices change: check them on the store page

Packs	Item	Where
1	Amerock Everett 3-3/4" (96 mm) bar pull, matte black (1 needed, 1 a pack). BP37104MB.	Home Depot, Home Depot Internet # 324117355 https://www.homedepot.com/p/Amerock-Everett-3-3-4-in-96mm-Modern-Matte-Black-Bar-Cabinet-Pull-BP37104MB/324117355
1	Everbilt Frameless soft-close inset hinge, nickel, pair (2 needed, 2 a pack). 9235951.	Home Depot, Home Depot Internet # 302992164 https://www.homedepot.com/p/Everbilt-Frameless-Soft-Close-Nickel-Inset-Cabinet-Hinges-1-Pair-9235951/302992164

Leftovers

Usable offcuts after cutting

Piece	Length	Width	Thick	Material
Offcut A1	96"	5/8"	3/4"	Birch Plywood
Offcut A2	65-1/2"	23-7/8"	3/4"	Birch Plywood
Offcut A3	34-3/4"	23-1/4"	3/4"	Birch Plywood
Offcut B1	96"	20-3/4"	3/4"	Birch Plywood
Offcut B2	49-3/4"	23"	3/4"	Birch Plywood
Offcut B3	10"	4"	3/4"	Birch Plywood
Offcut C1	96"	24-5/8"	1/4"	Birch Plywood
Offcut C2	65-3/8"	23-1/4"	1/4"	Birch Plywood
Offcut D1	16-1/4"	5-1/2"	3/4"	Hard Maple
Offcut D3	8-7/8"	2-1/4"	3/4"	Hard Maple
Offcut D4	21-1/2"	5/8"	3/4"	Hard Maple
Offcut D5	3-3/4"	3-7/8"	3/4"	Hard Maple
Offcut D7	27-3/8"	3/4"	3/4"	Hard Maple
Offcut D8	17-5/8"	1-1/2"	3/4"	Hard Maple
Offcut E1	78-1/4"	5-1/2"	3/4"	Hard Maple
Offcut E2	17-5/8"	3-1/8"	3/4"	Hard Maple

Piece	Length	Width	Thick	Material
Offcut F1	96"	30-5/16"	1/4"	Maple Plywood
Offcut F2	72-5/16"	17-9/16"	1/4"	Maple Plywood

Layout

Where each shelf and divider goes, from one edge

Mark mating parts together from the same reference edge, or use a story stick or a spacer block, so each pair matches even if your tape is off.

1 Base side: up from the bottom edge (30-1/2" long)

The other Base side has the same marks: mark them together.

#	Part	On	Bottom of shelf	Top of shelf
2	Base bottom	Right face	0"	3/4"
3	Base top	Right face	29-3/4"	30-1/2"



1 Base side: up from the bottom edge (30-1/2" long)

The other Base side has the same marks: mark them together.

#	Part	On	Bottom of shelf	Top of shelf
2	Base bottom	Left face	0"	3/4"
3	Base top	Left face	29-3/4"	30-1/2"

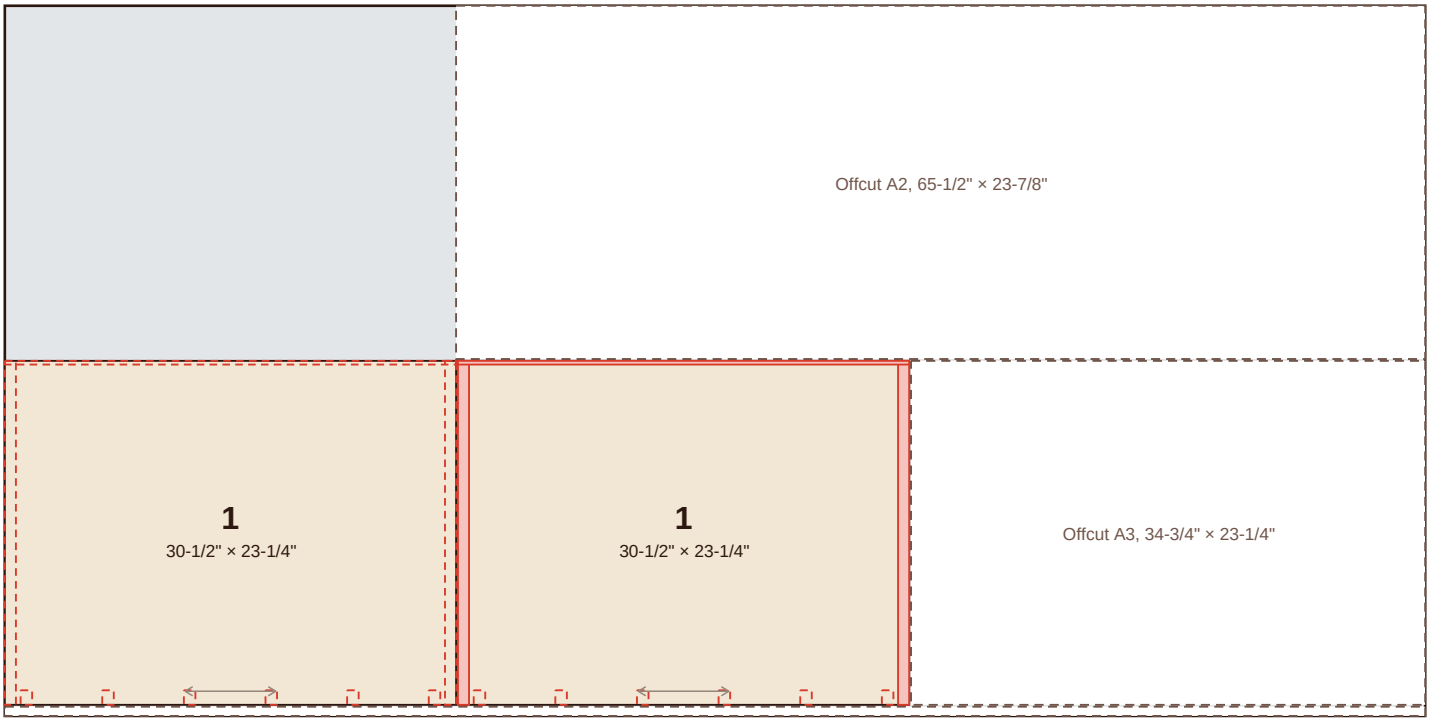


Cutting diagrams

Grey gaps are saw kerf (1/8"). Red is joinery.

Sheet A 3/4" Birch Plywood, 4' × 8'

31% used



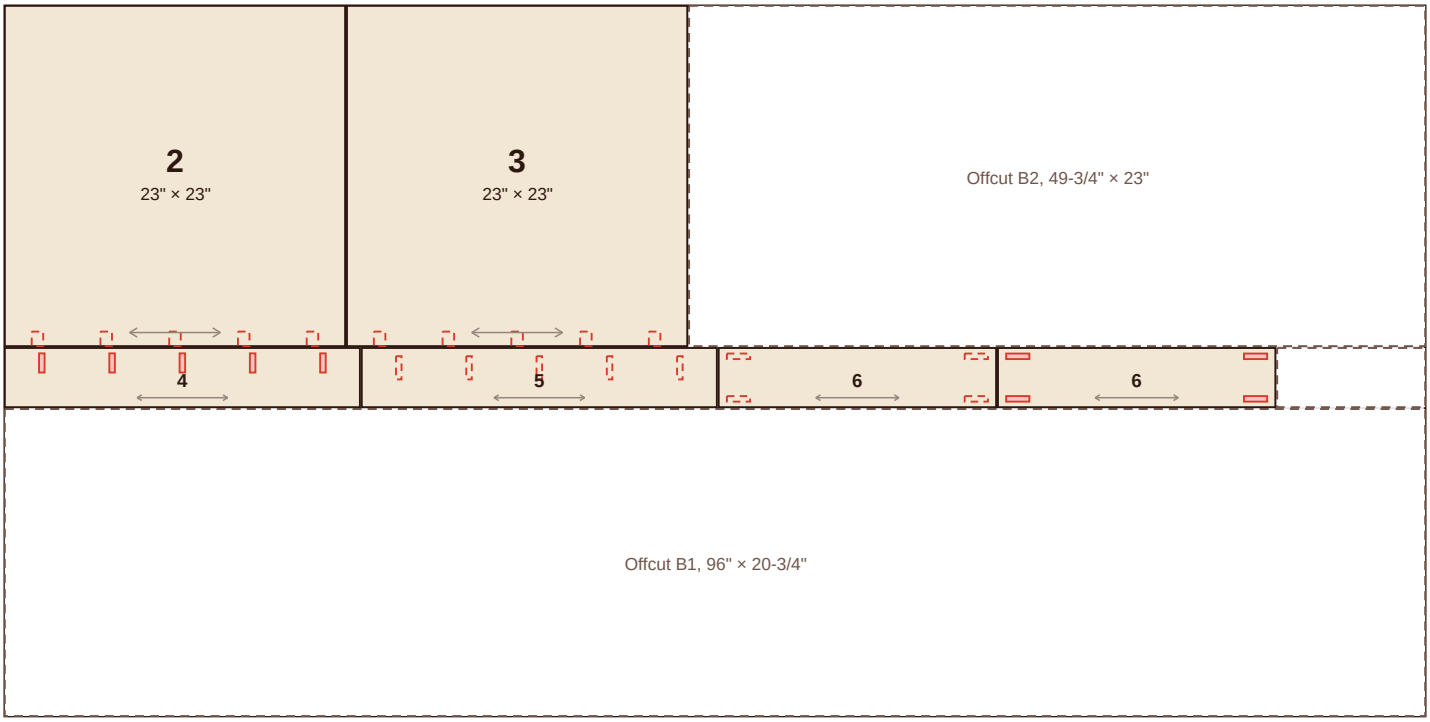
96" long, grain runs left to right

48" wide

1 Base side ×2 30-1/2" × 23-1/4"

Sheet B 3/4" Birch Plywood, 4' × 8'

30% used

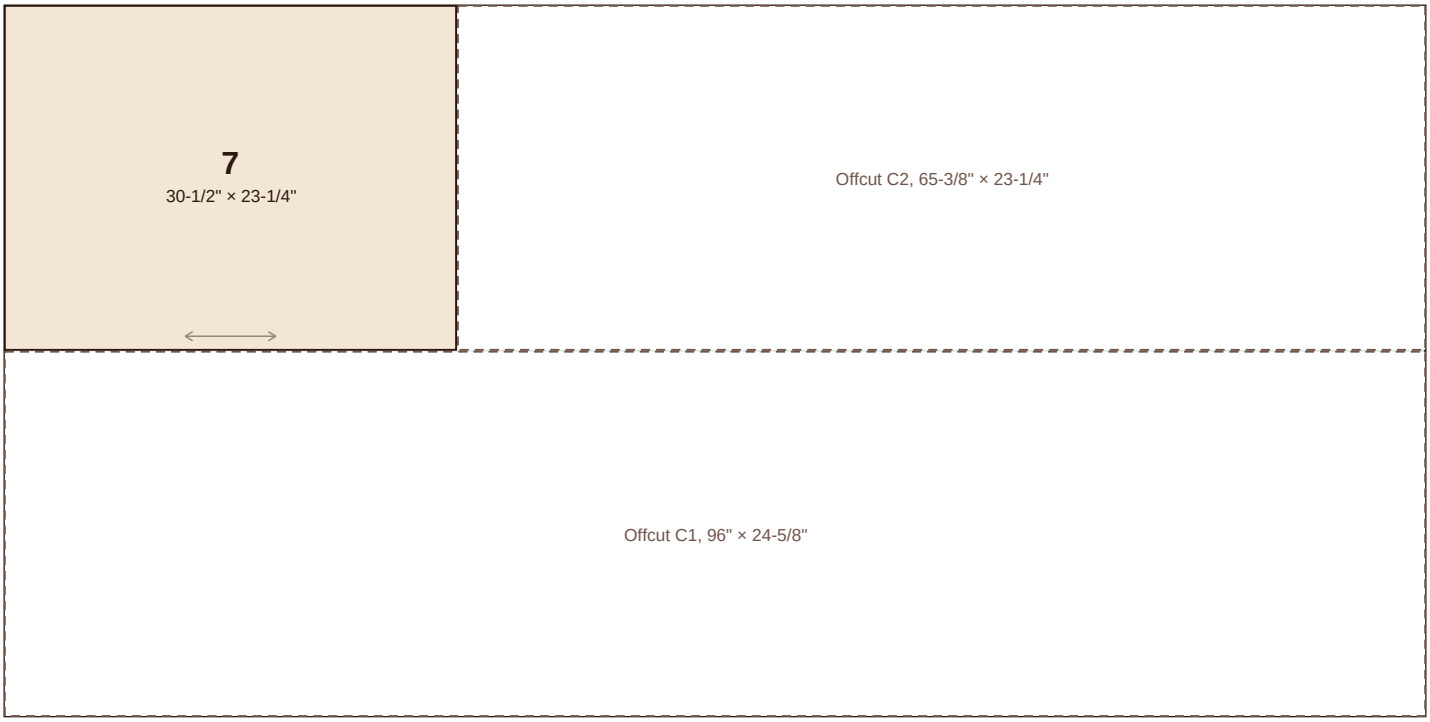


96" long, grain runs left to right

48" wide

2	Base bottom	23" × 23"	**3**	Base top	23" × 23"
4	Base toe-kick back rail	24" × 4"	**5**	Base toe-kick front rail	24" × 4"
6	Base toe-kick cross rail ×2	18-3/4" × 4"			

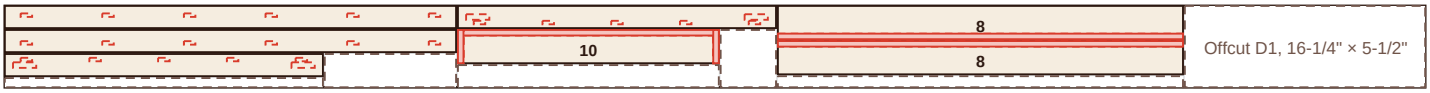
Sheet C 1/4" Birch Plywood, 4' × 8' — 15% used



96" long, grain runs left to right — 48" wide

7	Base back	30-1/2" × 23-1/4"

Board D 4/4 Maple, 5-1/2" × 8' — 60% used



96" long, grain runs left to right — 5-1/2" wide

8	Door 1 stile ×2	27-3/8" × 2-1/4"	**9**	Face frame stile ×2	30-1/2" × 1-1/2"
10	Door 1 rail	17-5/8" × 2-1/4"	**11**	Face frame bottom rail	21-1/2" × 1-1/2"
12	Face frame top rail	21-1/2" × 1-1/2"			

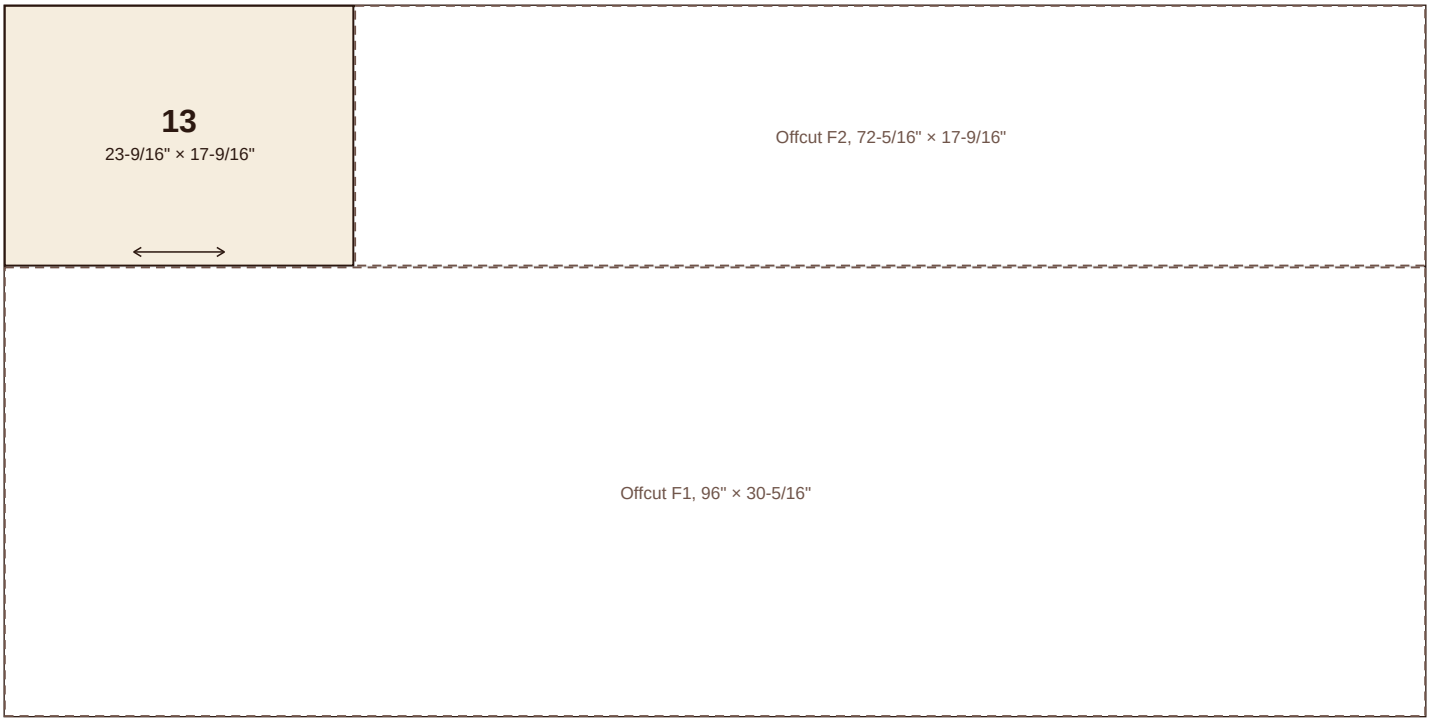
Board E 4/4 Maple, 5-1/2" × 8' — 8% used



96" long, grain runs left to right — 5-1/2" wide

10	Door 1 rail	17-5/8" × 2-1/4"

Sheet F 1/4" Maple Plywood, 4' × 8' 9% used



96" long, grain runs left to right 48" wide

13 Door 1 panel 23-9/16" × 17-9/16"

Cut sequence

Check off each step as you go

- [ ] **1** Get Sheet A: 3/4" Birch Plywood, 4' × 8'.
- [ ] **2** From Sheet A, rip a strip 23-7/8" wide for Strip.
- [ ] **3** From Offcut A1, rip a strip 23-1/4" wide for Strip.
- [ ] **4** From Strip (Sheet A), crosscut a piece 30-1/2" long for Base side.
- [ ] **5** From Offcut A3, crosscut a piece 30-1/2" long for Base side.
- [ ] **6** Get Sheet B: 3/4" Birch Plywood, 4' × 8'.
- [ ] **7** From Sheet B, rip a strip 23" wide for Strip.
- [ ] **8** From Strip (Sheet B), crosscut a piece 23" long for Base bottom.
- [ ] **9** From Offcut B2, crosscut a piece 23" long for Base top.
- [ ] **10** From Offcut B1, rip a strip 4" wide for Strip.
- [ ] **11** From Strip (Sheet B), crosscut a piece 24" long for Base toe-kick back rail.
- [ ] **12** From Offcut B3, crosscut a piece 24" long for Base toe-kick front rail.
- [ ] **13** From Offcut B3, crosscut a piece 18-3/4" long for Base toe-kick cross rail.
- [ ] **14** From Offcut B3, crosscut a piece 18-3/4" long for Base toe-kick cross rail.
- [ ] **15** Get Sheet C: 1/4" Birch Plywood, 4' × 8'.
- [ ] **16** From Sheet C, rip a strip 23-1/4" wide for Strip.
- [ ] **17** From Strip (Sheet C), crosscut a piece 30-1/2" long for Base back.
- [ ] **18** In Base side (Sheet A), cut 3 rabbets to fit the mating parts (sizes under Joinery).
- [ ] **19** In Base side (Sheet A), cut 3 rabbets to fit the mating parts (sizes under Joinery).
- [ ] **20** In Base toe-kick front rail (Sheet B), cut 5 pocket holes (Kreg 3/4" setting) to fit the mating parts (sizes under Joinery).
- [ ] **21** In Base toe-kick back rail (Sheet B), cut 5 pocket holes (Kreg 3/4" setting) to fit the mating parts (sizes under Joinery).
- [ ] **22** In Base toe-kick cross rail (Sheet B), cut 2 pocket holes (Kreg 3/4" setting) to fit the mating parts (sizes under Joinery).
- [ ] **23** In Base toe-kick cross rail (Sheet B), cut 2 pocket holes (Kreg 3/4" setting) to fit the mating parts (sizes under Joinery).
- [ ] **24** In Base toe-kick cross rail (Sheet B), cut 2 pocket holes (Kreg 3/4" setting) to fit the mating parts (sizes under Joinery).
- [ ] **25** In Base toe-kick cross rail (Sheet B), cut 2 pocket holes (Kreg 3/4" setting) to fit the mating parts (sizes under Joinery).

- [ ] **26** Get Board D: 4/4 Maple, 5-1/2" × 8'.
- [ ] **27** From Board D, cut Face frame stile to 30-1/2" long × 1-1/2" wide.
- [ ] **28** From Offcut D2, cut Face frame stile to 30-1/2" long × 1-1/2" wide.
- [ ] **29** From Offcut D3, cut Face frame top rail to 21-1/2" long × 1-1/2" wide.
- [ ] **30** From Offcut D1, cut Face frame bottom rail to 21-1/2" long × 1-1/2" wide.
- [ ] **31** In Face frame top rail (Board D), cut 1 pocket hole (Kreg 3/4" setting) at each end to fit the mating parts (sizes under Joinery).
- [ ] **32** In Face frame bottom rail (Board D), cut 1 pocket hole (Kreg 3/4" setting) at each end to fit the mating parts (sizes under Joinery).
- [ ] **33** In Base side (Sheet A), cut 6 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **34** In Face frame stile (Board D), cut 6 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **35** In Base side (Sheet A), cut 6 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **36** In Face frame stile (Board D), cut 6 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **37** In Base top (Sheet B), cut 5 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **38** In Face frame top rail (Board D), cut 5 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **39** In Base bottom (Sheet B), cut 5 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **40** In Face frame bottom rail (Board D), cut 5 loose tenon mortises (DF 500, 6 × 40) to fit the mating parts (sizes under Joinery).
- [ ] **41** Bore 2 hinge cups in Door 1 stile: 35 mm across, 1/2" deep, 7/8" in from the right edge to the centre, 3" and 24-3/8" from the top.
- [ ] **42** Drill for 2 hinge plates in Face frame stile: 37 mm back from the front edge, 4-9/16" and 25-15/16" up from the bottom.
- [ ] **43** Glue up Face frame: 2 stiles, a top rail and a bottom rail, pocket screws.
- [ ] **44** From Offcut D1, cut Door 1 stile to 27-3/8" long × 2-1/4" wide.
- [ ] **45** From Offcut D6, cut Door 1 stile to 27-3/8" long × 2-1/4" wide.
- [ ] **46** From Offcut D5, cut Door 1 rail to 17-5/8" long × 2-1/4" wide.
- [ ] **47** Get Board E: 4/4 Maple, 5-1/2" × 8'.
- [ ] **48** From Board E, cut Door 1 rail to 17-5/8" long × 2-1/4" wide.

- [ ] **49** Get Sheet F: 1/4" Maple Plywood, 4' × 8'.
- [ ] **50** From Sheet F, cut Door 1 panel to 23-9/16" long × 17-9/16" wide.
- [ ] **51** In Door 1 stile (Board D), cut a stick and groove, each 1/4" wide × 3/8" deep.
- [ ] **52** In Door 1 stile (Board D), cut a stick and groove, each 1/4" wide × 3/8" deep.
- [ ] **53** In Door 1 rail (Board D), cut a stick and groove, each 1/4" wide × 3/8" deep.
- [ ] **54** In Door 1 rail (Board E), cut a stick and groove, each 1/4" wide × 3/8" deep.
- [ ] **55** In Door 1 rail (Board D), cut a cope to fit the mating parts (sizes under Joinery).
- [ ] **56** In Door 1 rail (Board D), cut a cope to fit the mating parts (sizes under Joinery).
- [ ] **57** In Door 1 rail (Board E), cut a cope to fit the mating parts (sizes under Joinery).
- [ ] **58** In Door 1 rail (Board E), cut a cope to fit the mating parts (sizes under Joinery).
- [ ] **59** Glue up Door 1: the stiles and rails round the panel. No glue on the panel: it floats in the groove.

Setup sheets

Set each machine once, then make every cut on its list

Setup 1 Get the stock

- [ ] Sheet A: 3/4" Birch Plywood, 4' × 8' — step 1
- [ ] Sheet B: 3/4" Birch Plywood, 4' × 8' — step 6
- [ ] Sheet C: 1/4" Birch Plywood, 4' × 8' — step 15
- [ ] Board D: 4/4 Maple, 5-1/2" × 8' — step 26
- [ ] Board E: 4/4 Maple, 5-1/2" × 8' — step 47
- [ ] Sheet F: 1/4" Maple Plywood, 4' × 8' — step 49

Setup 2 Table saw: rip fence at 23-7/8"

Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Sheet A: a strip for Strip — step 2

Setup 3 Table saw: rip fence at 23-1/4"

Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Offcut A1: a strip for Base side — #1 step 3
- [ ] Sheet C: a strip for Base back — #7 step 16

Setup 4 Table saw: rip fence at 23"

Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Sheet B: a strip for Base bottom — #2 step 7

Setup 5 Table saw: rip fence at 17-9/16"

Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Sheet F: Door 1 panel to width — #13 step 50

Setup 6 Table saw: rip fence at 4"

Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Offcut B1: a strip for Base toe-kick back rail — #4 step 10

Setup 7 Table saw: rip fence at 2-1/4"

Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Board E: Door 1 rail to width — #10 step 48

Setup 8 Table saw: rip fence at 1-1/2"

Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Board D: Face frame stile to width — #9 step 27

Setup 9 Table saw: crosscut sled, stop at 23-9/16"

Clamp a stop block on the sled's fence 23-9/16" from the kerf, and square one end of each piece first.

- [ ] Door 1 panel: to length — #13 step 50

Setup 10 Table saw: crosscut sled, stop at 30-1/2"

Clamp a stop block on the sled's fence 30-1/2" from the kerf, and square one end of each piece first.

- [ ] Strip (Sheet A): a piece for Base side — #1 step 4
- [ ] Offcut A3: a piece for Base side — #1 step 5
- [ ] Strip (Sheet C): a piece for Base back — #7 step 17

Setup 11 Table saw: crosscut sled, stop at 23"

Clamp a stop block on the sled's fence 23" from the kerf, and square one end of each piece first.

- [ ] Strip (Sheet B): a piece for Base bottom — #2 step 8
- [ ] Offcut B2: a piece for Base top — #3 step 9

Setup 12 Miter saw: stop block at 30-1/2"

Clamp a stop block on the fence 30-1/2" from the blade, and square one end of each piece before it goes to the stop.

- [ ] Face frame stile: to length — #9 step 27
- [ ] Face frame stile: to length — #9 step 28

Setup 13 Table saw: rip fence at 1-1/2"

Same setting as setup 8.
Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Offcut D2: Face frame stile to width — #9 step 28
- [ ] Offcut D3: Face frame top rail to width — #12 step 29
- [ ] Offcut D1: Face frame bottom rail to width — #11 step 30

Setup 14 Miter saw: stop block at 21-1/2"

Clamp a stop block on the fence 21-1/2" from the blade, and square one end of each piece before it goes to the stop.

- [ ] Face frame top rail: to length — #12 step 29
- [ ] Face frame bottom rail: to length — #11 step 30

Setup 15 Table saw: rip fence at 2-1/4"

Same setting as setup 7.
Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Offcut D1: Door 1 stile to width — #8 step 44

Setup 16 Miter saw: stop block at 27-3/8"

Clamp a stop block on the fence 27-3/8" from the blade, and square one end of each piece before it goes to the stop.

- [ ] Door 1 stile: to length — #8 step 44
- [ ] Door 1 stile: to length — #8 step 45

Setup 17 Table saw: rip fence at 2-1/4"

Same setting as setup 7.
Measure from the fence to the nearest tooth of the blade, and make a test cut in scrap.

- [ ] Offcut D6: Door 1 stile to width — #8 step 45
- [ ] Offcut D5: Door 1 rail to width — #10 step 46

Setup 18 Miter saw: stop block at 17-5/8"

Clamp a stop block on the fence 17-5/8" from the blade, and square one end of each piece before it goes to the stop.

- [ ] Door 1 rail: to length — #10 step 46
- [ ] Door 1 rail: to length — #10 step 48

Setup 19 Miter saw: stop block at 24"

Clamp a stop block on the fence 24" from the blade, and square one end of each piece before it goes to the stop.

- [ ] Strip (Sheet B): a piece for Base toe-kick back rail — #4 step 11
- [ ] Offcut B3: a piece for Base toe-kick front rail — #5 step 12

Setup 20 Miter saw: stop block at 18-3/4"

Clamp a stop block on the fence 18-3/4" from the blade, and square one end of each piece before it goes to the stop.

- [ ] Offcut B3: a piece for Base toe-kick cross rail — #6 step 13
- [ ] Offcut B3: a piece for Base toe-kick cross rail — #6 step 14

Setup 21 Table saw: tenons 3/8" long, 1/4" thick

A dado stack as wide as it goes. The fence at 3/8" to the far side of the stack stops the shoulder.
Blade 1/4" high for the cheeks, one pass each face.

- [ ] Door 1 rail ×2: tenon at the left end — #10 steps 55, 57
- [ ] Door 1 rail ×2: tenon at the right end — #10 steps 56, 58

Setup 22 Table saw: dado stack 1/4" wide, 3/8" high

The two outside blades alone.
Blade 3/8" above the table. Fence to the near side of the cut, as each row says. Test the fit in scrap first.

- [ ] Door 1 stile: groove on the bottom edge — #8 step 51
- [ ] Door 1 stile: groove on the top edge — #8 step 52
- [ ] Door 1 rail: groove on the top edge — #10 step 53

- [ ] Door 1 rail: groove on the bottom edge — #10 step 54

Setup 23 Table saw: rabbet 3/4" wide, blade 1/4" high

A dado stack 13/16" wide: both outside blades, four 1/8" chippers and a 1/16" chipper.
Bury it in a sacrificial fence so 3/4" of it shows, and raise it 1/4" above the table.

- [ ] Base side ×2: rabbet at the left end — #1 steps 18, 19
- [ ] Base side ×2: rabbet at the right end — #1 steps 18, 19

Setup 24 Table saw: rabbet 1/4" wide, blade 3/8" high

A dado stack 5/16" wide: both outside blades and a 1/16" chipper.
Bury it in a sacrificial fence so 1/4" of it shows, and raise it 3/8" above the table.

- [ ] Base side ×2: rabbet on the top edge — #1 steps 18, 19

Setup 25 Domino DF 500: 6 × 40 tenons, 25 mm deep

The 6 mm cutter, the depth stop at 25 mm.
Height to the centre of the 3/4" stock: 3/8" (9.5 mm).
Width: the tightest setting for the first mortise of each joint, the next wider for the rest.

- [ ] Base side ×2: 6 mortises on the bottom edge — #1 steps 33, 35
- [ ] Base bottom: 5 mortises on the bottom edge — #2 step 39
- [ ] Base top: 5 mortises on the bottom edge — #3 step 37

Setup 26 Domino DF 500: 6 × 40 tenons, 15 mm deep

The 6 mm cutter, the depth stop at 15 mm.
Plunge into the face on the layout marks, the base flat on the part.
Width: the tightest setting for the first mortise of each joint, the next wider for the rest.

- [ ] Face frame stile: 6 mortises 1-1/16" from the left end, 1/2" from the top edge — #9 step 34
- [ ] Face frame stile: 6 mortises 1-1/16" from the left end, 3/4" from the top edge — #9 step 36
- [ ] Face frame bottom rail: 5 mortises 1-1/16" from the left end, 1" from the top edge — #11 step 40
- [ ] Face frame top rail: 5 mortises 1-1/16" from the left end, 1/4" from the top edge — #12 step 38

Setup 27 Kreg pocket-hole jig: jig at 3/4"

Set the drill guide and the bit's stop collar for 3/4" stock.
Screws: 1-1/4" coarse.

- [ ] Base toe-kick back rail: 5 pocket holes on the top edge, on the face — #4 step 21
- [ ] Base toe-kick front rail: 5 pocket holes on the top edge, on the back — #5 step 20
- [ ] Base toe-kick cross rail: 2 pocket holes at the left end, on the back — #6 step 22
- [ ] Base toe-kick cross rail: 2 pocket holes at the left end, on the face — #6 step 24
- [ ] Base toe-kick cross rail: 2 pocket holes at the right end, on the back — #6 step 23
- [ ] Base toe-kick cross rail: 2 pocket holes at the right end, on the face — #6 step 25

Setup 28 Kreg pocket-hole jig: jig at 3/4"

Set the drill guide and the bit's stop collar for 3/4" stock.
Screws: 1-1/4" fine.

- [ ] Face frame bottom rail: a pocket hole at the left end, on the back — #11 step 32
- [ ] Face frame bottom rail: a pocket hole at the right end, on the back — #11 step 32
- [ ] Face frame top rail: a pocket hole at the left end, on the back — #12 step 31
- [ ] Face frame top rail: a pocket hole at the right end, on the back — #12 step 31

Setup 29 Drill press or hinge jig: 35 mm cups, 1/2" deep

A 35 mm Forstner bit. The fence so the cup's centre is 27/32" in from the edge: a 5/32" boring distance.
The depth stop at 1/2". Bore a test cup in scrap and check the hinge.

- [ ] Door 1 stile: 2 cups on the right edge, 3" and 24-3/8" from the top — #8 step 41

Setup 30 Drill: hinge plates on the 37 mm line

Mark a line 37 mm back from the front edge and drill the plates' pilot holes on it.

- [ ] Face frame stile: 2 plates, 4-9/16" and 25-15/16" up from the bottom — #9 step 42

Setup 31 Glue-ups

Dry fit each one first, then glue and clamp it.

- [ ] Glue up Face frame: 2 stiles, a top rail and a bottom rail, pocket screws. — step 43
- [ ] Glue up Door 1: the stiles and rails round the panel. No glue on the panel: it floats in the groove. — step 59

Assembly steps

The order it goes together

You need at least 14 clamps of 36".



1 Glue up Door 1

Parts Door 1 stile ×2 (part 8), Door 1 rail ×2 (part 10), Door 1 panel (part 13)

Order Start with Door 1 stile. Add Door 1 rail, Door 1 panel and Door 1 rail. Close it with Door 1 stile.

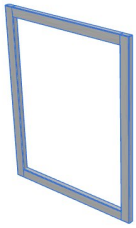
Joints Door 1 stile and Door 1 panel: 2 stick and grooves, no glue, it floats

Door 1 rail and Door 1 panel: 2 stick and grooves, no glue, it floats

Door 1 rail and Door 1 stile: 4 mortise and tenons, glue

Glue Glue every joint. Door 1 panel floats in its grooves: no glue on it.

Clamps 2 clamps of 24".



2 Screw together Face frame

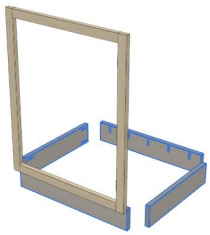
Parts Face frame stile ×2 (part 9), Face frame bottom rail (part 11), Face frame top rail (part 12)

Joints Face frame top rail and Face frame stile: 2 Kreg pocket screws 1-1/4" fine thread, no glue

Face frame bottom rail and Face frame stile: 2 Kreg pocket screws 1-1/4" fine thread, no glue

Glue No glue: the pocket screws hold it.

Clamps No clamps.



3 Screw together Base toe-kick

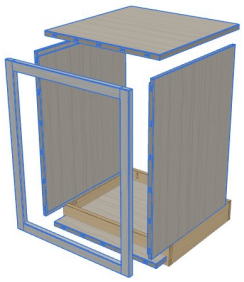
Parts Base toe-kick back rail (part 4), Base toe-kick front rail (part 5), Base toe-kick cross rail ×2 (part 6)

Joints Base toe-kick cross rail and Base toe-kick back rail: 4 Kreg pocket screws 1-1/4" coarse thread, no glue

Base toe-kick cross rail and Base toe-kick front rail: 4 Kreg pocket screws 1-1/4" coarse thread, no glue

Glue No glue: the pocket screws hold it.

Clamps No clamps.



4 Glue up Base cabinet

Parts Base side ×2 (part 1), Base bottom (part 2), Base top (part 3), Face frame stile ×2 (part 9), Face frame bottom rail (part 11), Face frame top rail (part 12)

Order Start with Base side. Add Base bottom, Face frame bottom rail, Face frame stile ×2, Face frame top rail and Base top. Close it with Base side.

Joints Base side and Base bottom: 2 rabbets, glue

Base side and Base top: 2 rabbets, glue

Base side and Face frame stile: 2 joints, 12 domino tenons 6 × 40, glue

Base bottom and Face frame bottom rail: 1 joint, 5 domino tenons 6 × 40, glue

Base top and Face frame top rail: 1 joint, 5 domino tenons 6 × 40, glue

Glue Glue every joint.

Clamps 14 clamps of 36".

8 joints close in this glue-up: spreading the glue and setting the clamps takes about 10 minutes, and ordinary yellow glue (Titebond Original) gives you about 5 before it skins. Dry-fit it with the clamps set first, have a helper, and use a glue with more open time (Titebond III, about 10 minutes; Titebond Extend, about 15).



5 Back on Base cabinet

Parts Base back (part 7)

Glue Glue in the rabbets, then brads every 6" into the sides and the back edges of what it covers. Square the case first: the back holds it.

Clamps No clamps.



6 Screw Base toe-kick to Base cabinet

Parts Base bottom (part 2), Base toe-kick back rail (part 4), Base toe-kick front rail (part 5), Base toe-kick cross rail ×2 (part 6)

Joints Base toe-kick back rail and Base bottom: 5 Kreg pocket screws 1-1/4" coarse thread, no glue

Base toe-kick front rail and Base bottom: 5 Kreg pocket screws 1-1/4" coarse thread, no glue

Glue No glue: the pocket screws hold it.

Clamps No clamps.



7 Hang the door

Parts Door 1 stile ×2 (part 8), Door 1 rail ×2 (part 10), Door 1 panel (part 13)

What Door 1: 2 hinges into the cups, hung on the right from the plates on Face frame stile.

Glue No glue.

Clamps No clamps.

Screw the mounting plates to the case, press each hinge into its cup and screw it, clip the door on, then set the gaps even with the hinges' screws.



8 Pulls

Parts Door 1 stile (part 8)

What 1 pull on 1 front.

Glue No glue.

Clamps No clamps.

Drill from the front with a block clamped behind, so the back face doesn't tear out.