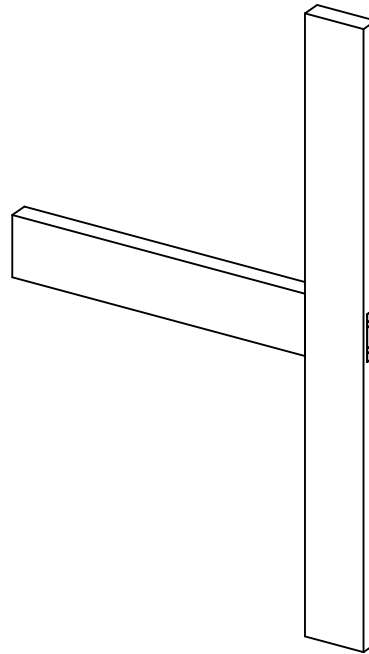


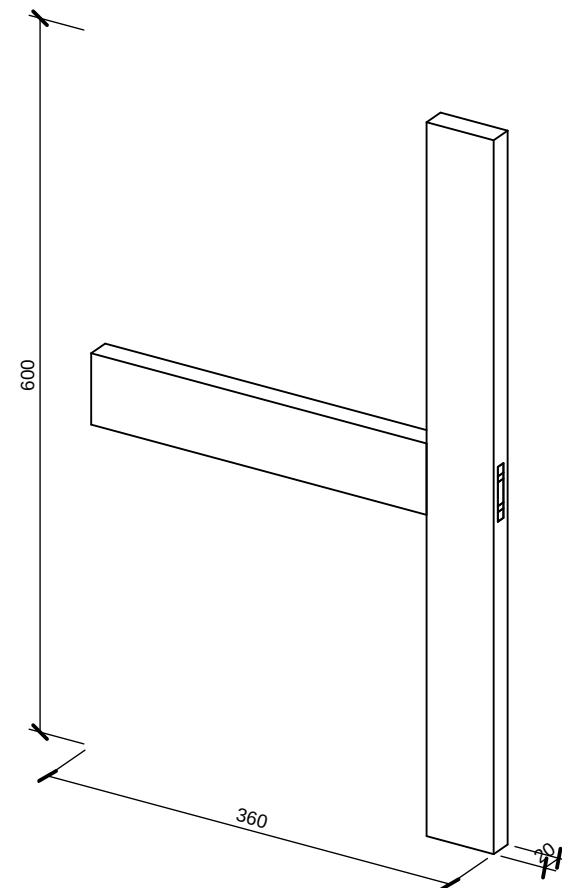
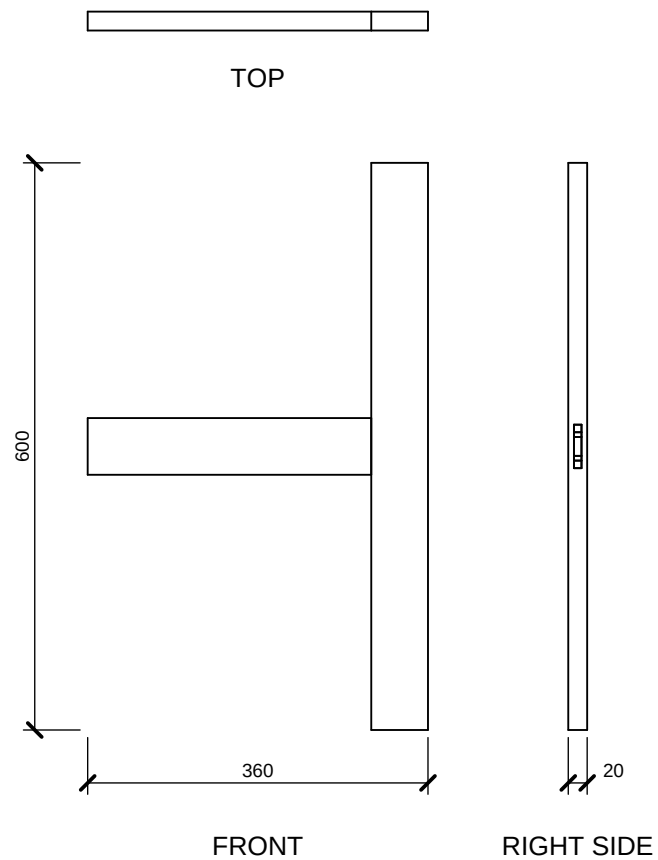
Wedged through tenon



parts	4 (3 different)
overall	360 x 20 x 600 (W x D x H)
material	oak
date	2026-10-25
made with	woodwright 0.9.0

Contents

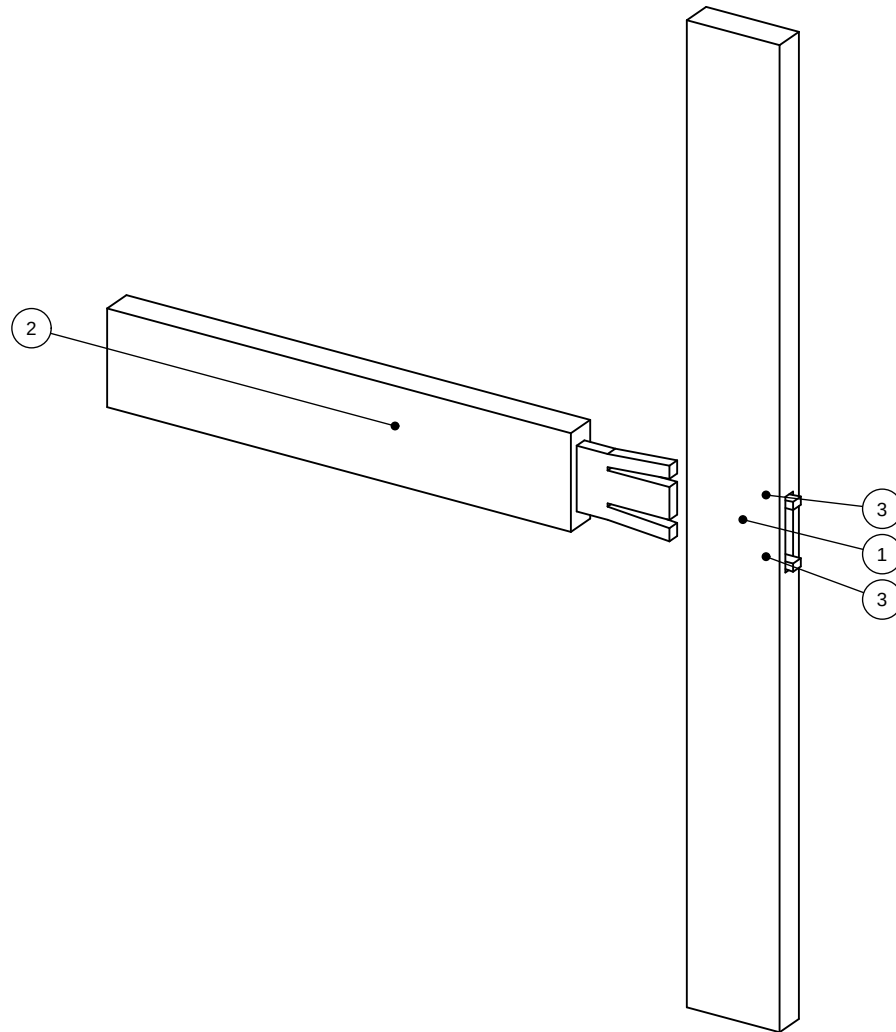
Drawings	3
Assembly	3
Parts	4
1 stile	5
2 rail	6
3 wedge	7
Cut list	8
Appendix: source	9



ISOMETRIC

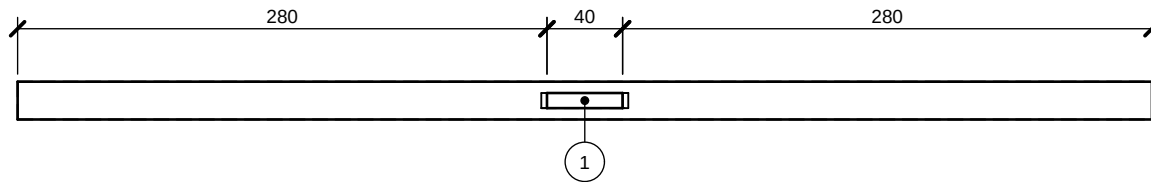
assembly	wedged_through_tenon
parts	4 (3 different)
overall	360 x 20 x 600 (W x D x H)
material	oak
scale	1:8, mm

no.	part	qty	cut size (L x W x T)	material
1	stile	1	600 x 60 x 20	oak
2	rail	1	360 x 60 x 20	oak
3	wedge	2	40 x 5 x 8	oak

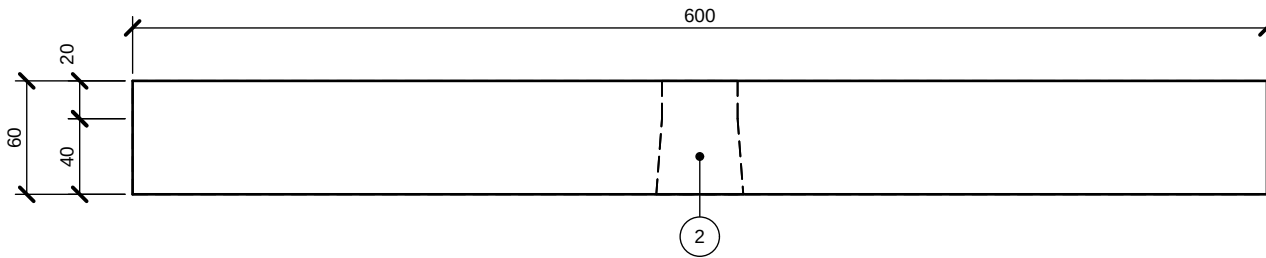


EXPLODED

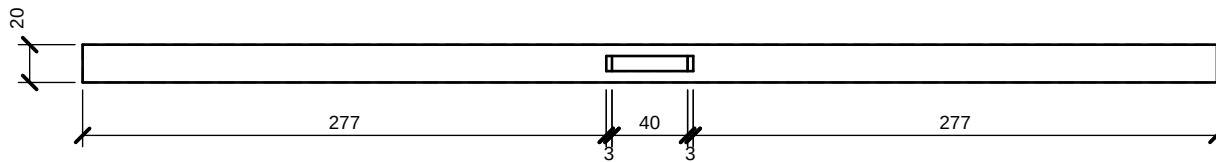
assembly	wedged_through_tenon
parts	4 (3 different)
overall	360 x 20 x 600 (W x D x H)
material	oak
scale	not to scale, mm



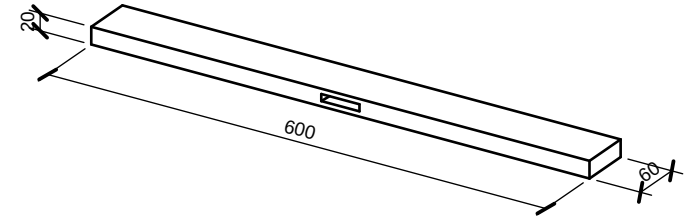
BACK EDGE



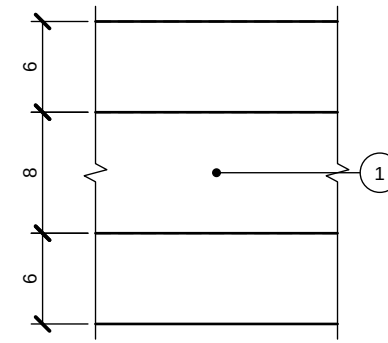
TOP FACE



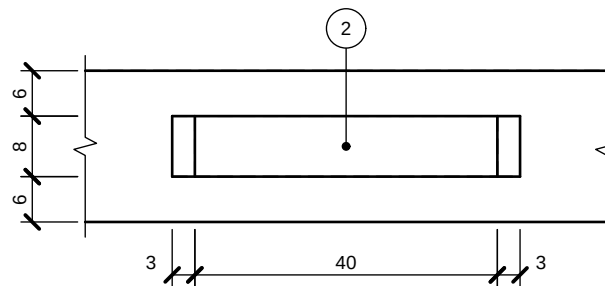
FRONT EDGE



ISOMETRIC



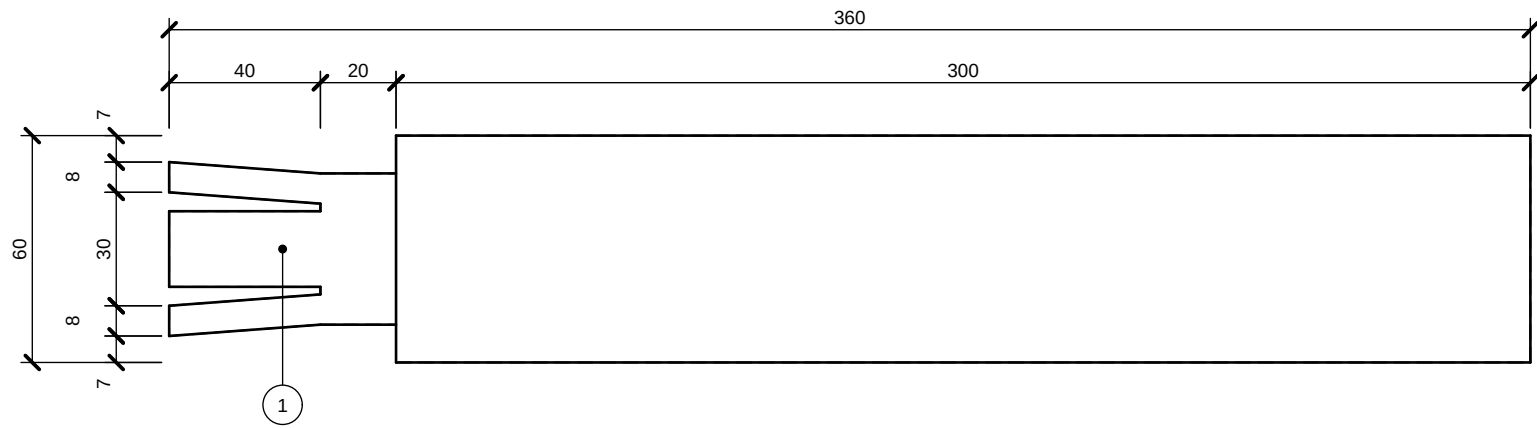
BACK EDGE: 1 2:1



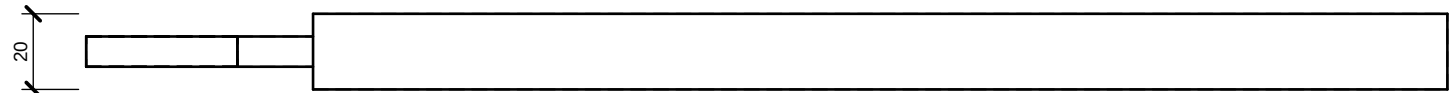
FRONT EDGE: 2 1:1

- 1 through mortise 40 x 8 mm in back_edge
- 2 mortise flared 3 mm at the ends over 40, in back_edge

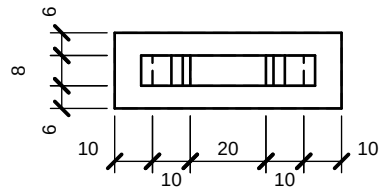
part	stile
of	wedged_through_tenon
make	1
cut size	600 x 60 x 20
material	oak
scale	1:4, mm



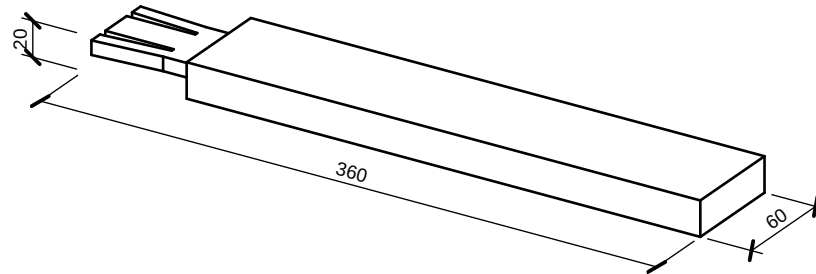
TOP FACE



FRONT EDGE



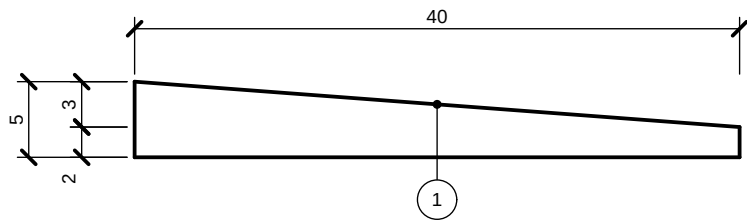
LEFT END



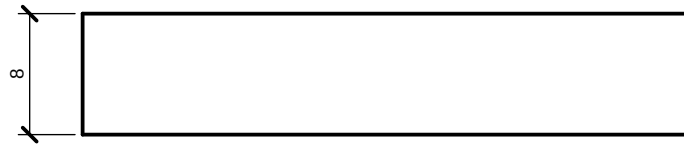
ISOMETRIC

part	rail
of	wedged_through_tenon
make	1
cut size	360 x 60 x 20
material	oak
scale	1:2, mm

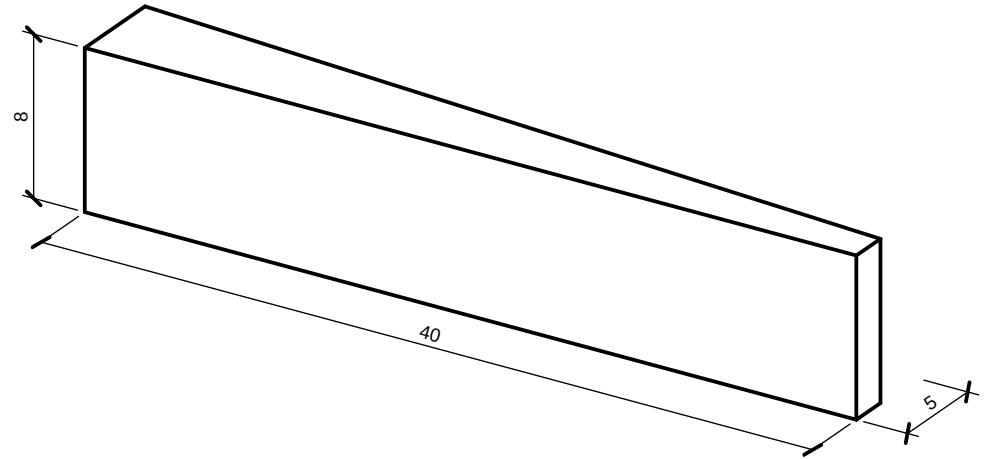
1 tenon 40 x 8 mm, 60 long, 2 saw kerfs 2 mm, 40 deep, for wedges, on left_end



TOP FACE



FRONT EDGE



ISOMETRIC

2 pieces: wedge_1, wedge_2

1 taper 3 mm on back_edge towards right_end

part	wedge
of	wedged_through_tenon
make	2
cut size	40 x 5 x 8
material	oak
scale	2:1, mm

Cut list

stile 600 x 60 x 20 mm oak
- through mortise 40 x 8 mm in back_edge
- mortise flared 3 mm at the ends over 40, in back_edge
rail 360 x 60 x 20 mm oak
- tenon 40 x 8 mm, 60 long, 2 saw kerfs 2 mm, 40 deep, for wedges, on left_end
wedge 40 x 5 x 8 mm oak, 2 pieces: wedge_1, wedge_2
- taper 3 mm on back_edge towards right_end

Appendix: source

Made with woodwright 0.9.0, build123d 0.13.0, Python 3.14.4.

To make these plans again:

```
uvx --python 3.14 woodwright==0.9.0 export joints.wedged_through_tenon
```

joints.wedged_through_tenon, in woodwright/examples/joints.py

```
def wedged_through_tenon(
    stile_length: float = 600,
    rail_length: float = 300,
    width: float = 60,
    kerf: float = 2,
    flare: float = 3,
    stock: Stock = OAK,
) -> Assembly:
    """A through tenon spread by two wedges into a mortise flared towards the outside.

    Two saw kerfs in the end of the tenon, near its edges, take the wedges;
    driven in, they bend the outer parts of the tenon out into the flares at
    the ends of the mortise, so the joint can't pull out even without glue.
    The mortise is flared along the stile, not across it, which would split
    it. The wedges are planed flush with the tenon; the stile stands with
    the tenon's end towards the viewer.
    """

    asm = Assembly("wedged_through_tenon", root_location=orient(right_end=UP, back_edge=LEFT))
    stile = asm.add(Board("stile", stock, length=stile_length, width=width))
    rail = asm.add(Board("rail", stock, length=rail_length, width=width))
    # As thick as the tenon, as long as the kerfs (two thirds of the stile),
    # at the head as wide as the kerf and the spread.
    wedge_stock = Stock.board(thickness=rules.tenon_thickness(stock.thickness), species="oak")
    wedges = tuple(
        asm.add(Board(f"wedge_{i + 1}", wedge_stock, length=width * 2 / 3, width=kerf + flare))
        for i in range(2)
    )
    asm.join(
        WedgedMortiseTenon(
            tenon=rail.left_end, mortise=stile.back_end, shoulder=10, wedges=wedges, kerf=kerf
```

```
    )  
  )  
  return asm
```