Design and install Guide

Construct the PLX20 Portal system in the following sequence.

Assembly Overview

"L" brackets to be installed with 3mm nails to collumn before any other parts

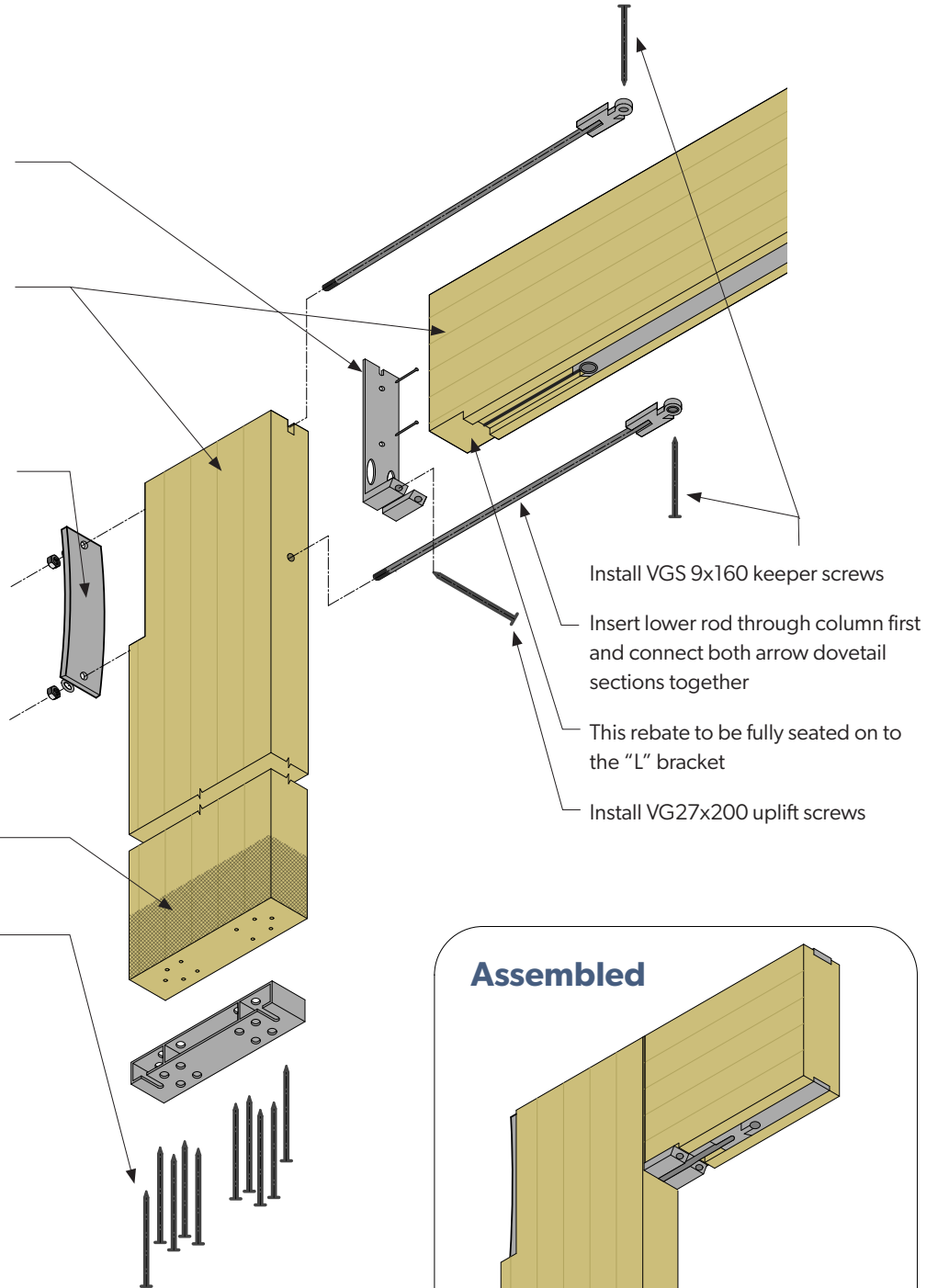Ensure these faces are flush to each other, release nut tension if adjustment is required

Slide prung plate over threaded rods ensuring that the centre of the plate touches column first, not the ends

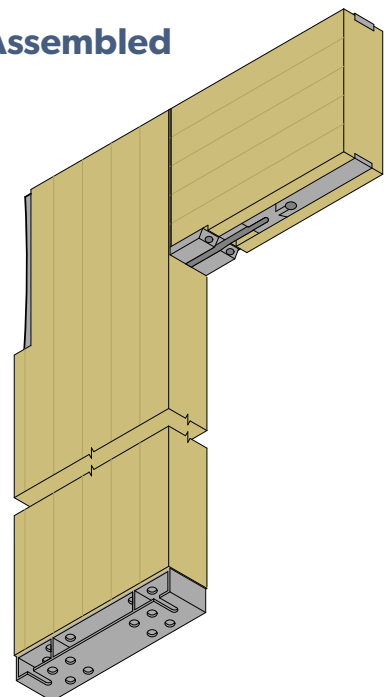Tighten nuts until both belleville washers and sprung plate are flattened

Install belleville washers so that inside of cone faces spring plate

Refer to detail A on page 12 for cutting limits

Install the base bracket with 10 VGS 9x200 screws

Install VGS 9x160 keeper screws

Insert lower rod through column first and connect both arrow dovetail sections together

This rebate to be fully seated on to the "L" bracket
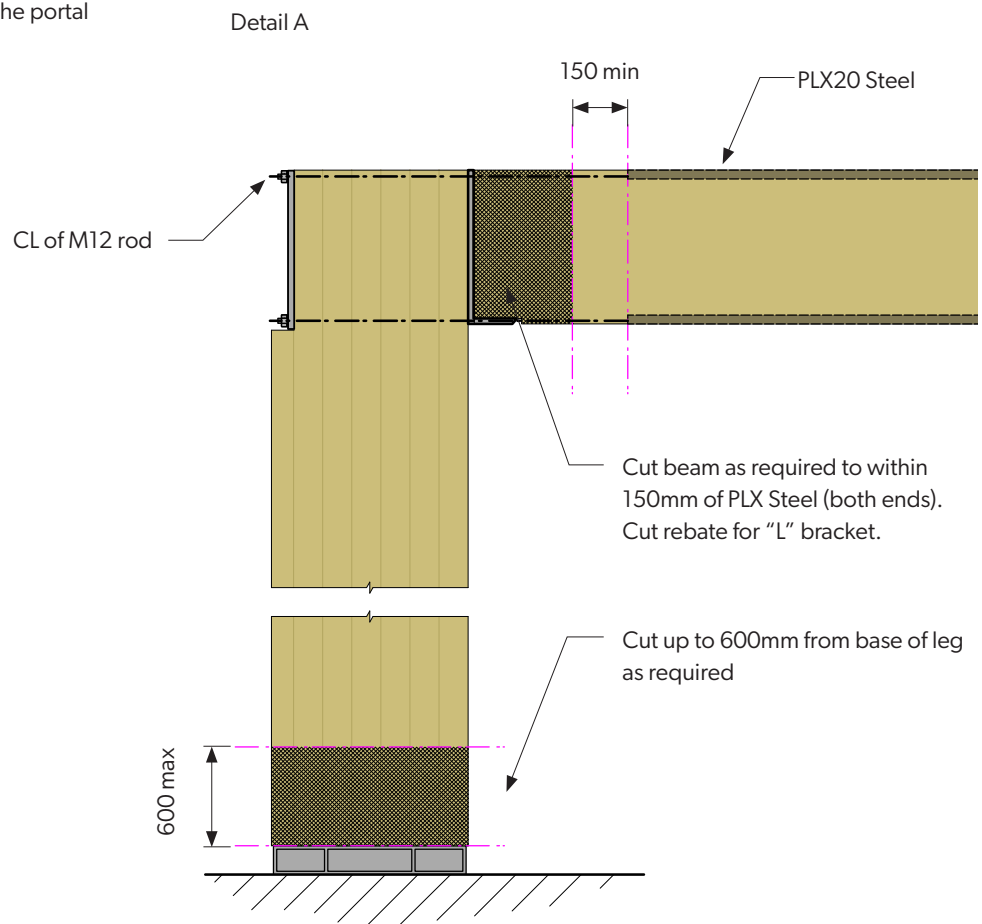
Install VG27x200 uplift screws

Assembled

1. Determine the inside dimensions of the portal opening height and width.

2. Cut the lintel equally at each end to the desired length, to a maximum of 150mm from the lintel 40x10 steel. Allow for the 5mm steel "L" bracket. Don't cut the steel in the PLX20 lintel!

3. Cut the portal legs (from the bottom of the column, not the top) to the desired length. Allow for the height of the portal leg bracket (50mm).

Detail A

150 min

PLX20 Steel

CL of M12 rod

Cut beam as required to within 150mm of PLX Steel (both ends). Cut rebate for "L" bracket.

Cut up to 600mm from base of leg as required

600 max

4. Install the base plate brackets using 10 VSG 9x200 screws per base plate (6mm pilot hole), slot orientation towards the inside of the building to achieve 50mm hold down fastener edge distance (For concrete slabs).

5. Install the hold down thru bolts for concrete, or M12 threaded rods for timber sub floors.

Refer PLPF-3 and PLPF-4 on page 7 for fixing details

Option 1. Stand up portal legs first then install PLX20 lintel.

6. Stand the portal legs up, brace, then tighten the hold down bolts. Using the 50x50x3 washers.

7. In both portal legs, install the bottom M12 threaded rod assembly, through the 12mm backing plate (curved ends facing out) and using the Belleville washers between the nut and 12mm backing plate, and nail the L bracket on the lintel side of the portal leg into place.

Belleville washer must be in this orientation (cone outwards)
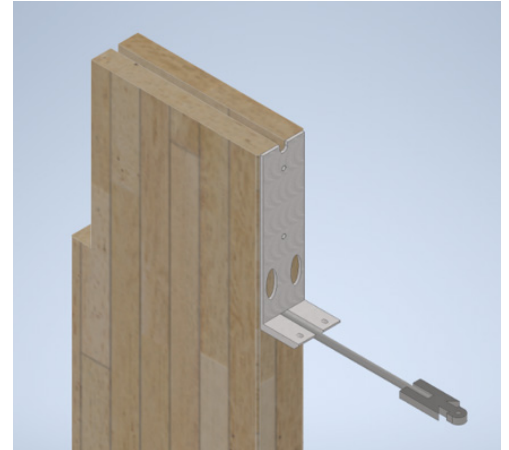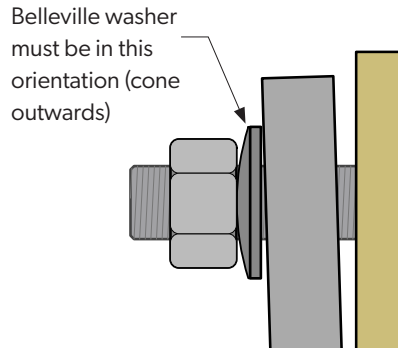
8. Drop the PLX20 Lintel (pre camber facing up) into place.

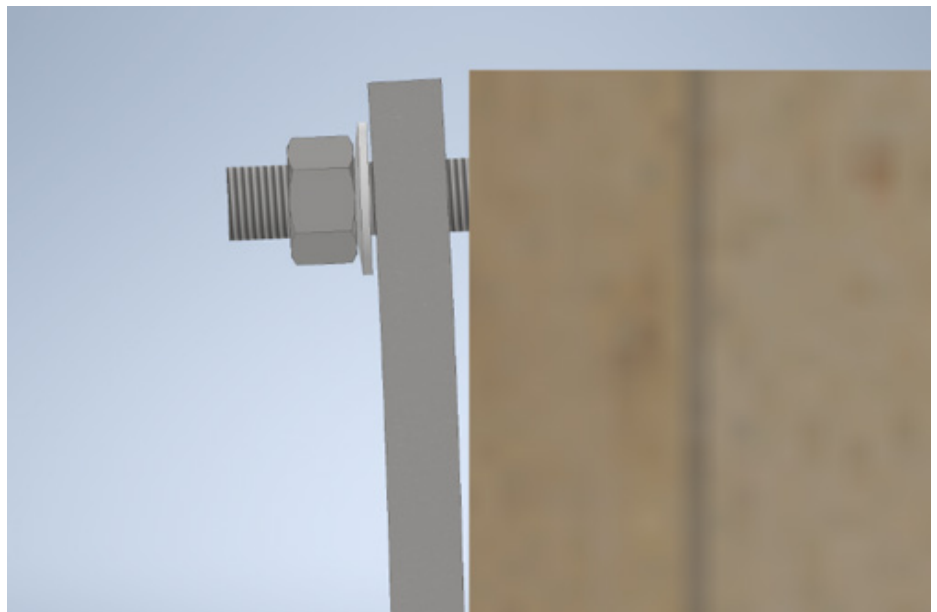9. Add the top M12 Threaded rod assembly.

10. Screw the top and bottom arrow head connectors into the PLX20 lintel using VGS 9x160 screws.

11. Square and level the portal structure.

12. Install backing plate with curve facing out, install Belleville washers (cone facing out) and tighten to 50Nm torque to flatten both the Belleville washer and the plate against the timber leg.
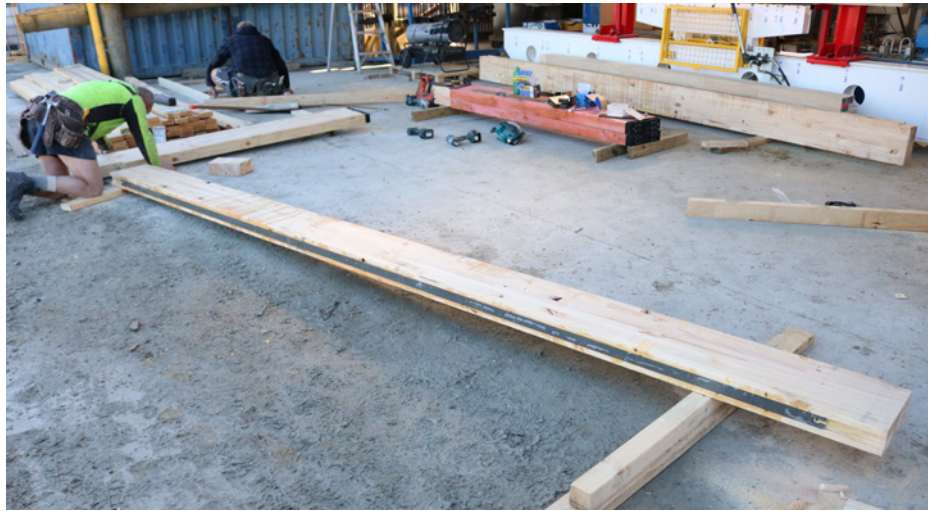

13. Add the VGZ 7 x 200 uplift screws @ 45degrees through the L bracket into the Lintel then into the leg.

Option 2. Build portal on the ground and stand up into place. (Starting from number 5 above).

1. Lay the portal legs and PLX20 lintel (pre camber facing up) in place on the ground in position.

2. In both portal legs, install the bottom M12 threaded rod assembly, through the 12mm backing plate (curved ends facing out) and using the Belleville washers between the nut and 12mm backing plate, and nail the L bracket on the beam side of the column into place.

3. Screw the top and bottom arrow head connectors into the PLX20 beam using VGS 9x160 screws.

4. Tighten the M12 bolts to 50Nm Torque and flatten the Belleville washer and 12mm backing plate flat against the portal leg.

5. Stand the entire portal into place, level, brace and tighten the hold down bolts using 50x50x3mm washers.

6. Square the lintel and portal legs then add the VGZ 7 x 200 uplift screws @ 45degrees through the L bracket into the lintel then into the portal leg.