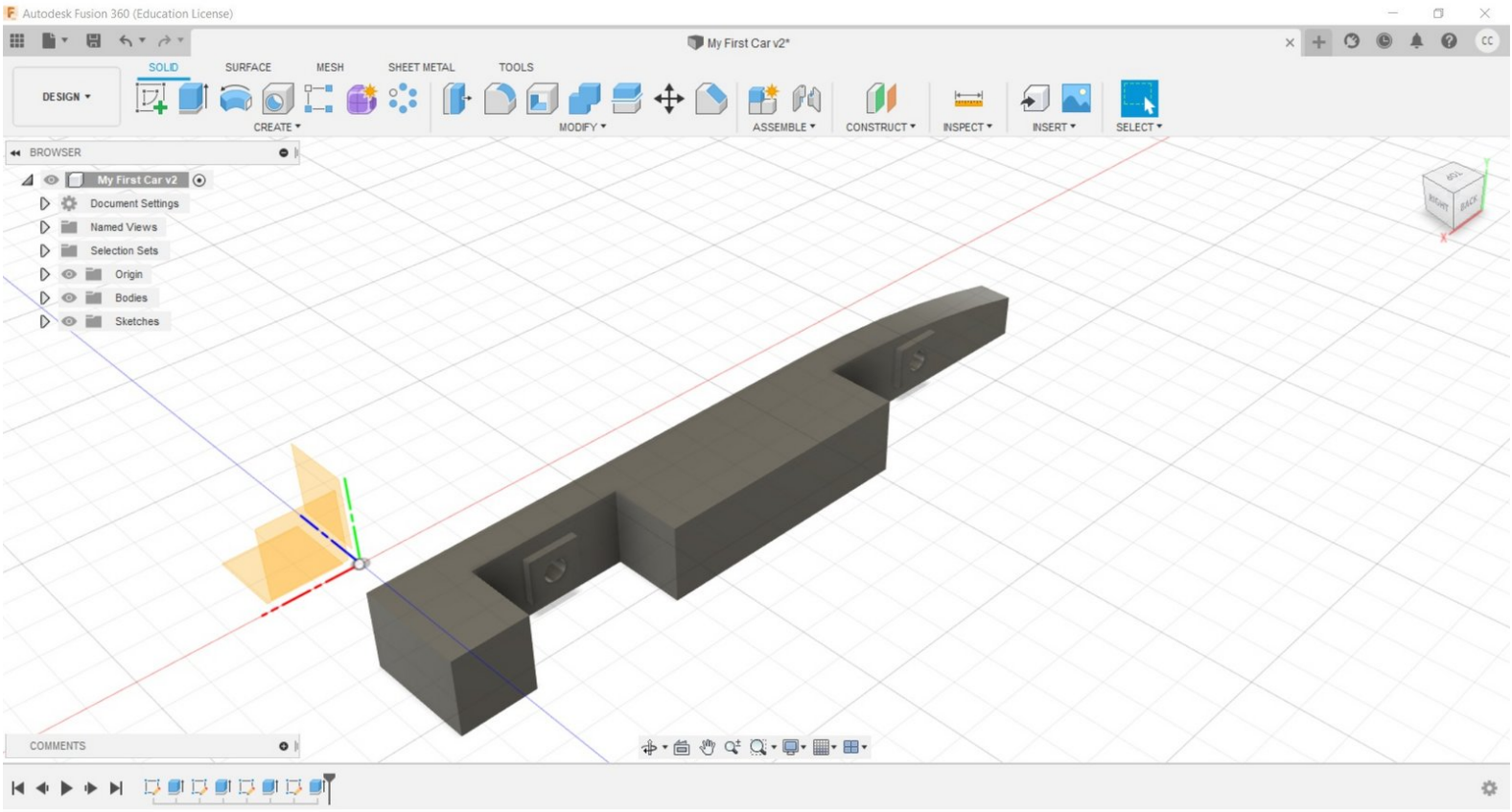
# 3 - Axle Holes & Supports

Written By: REA

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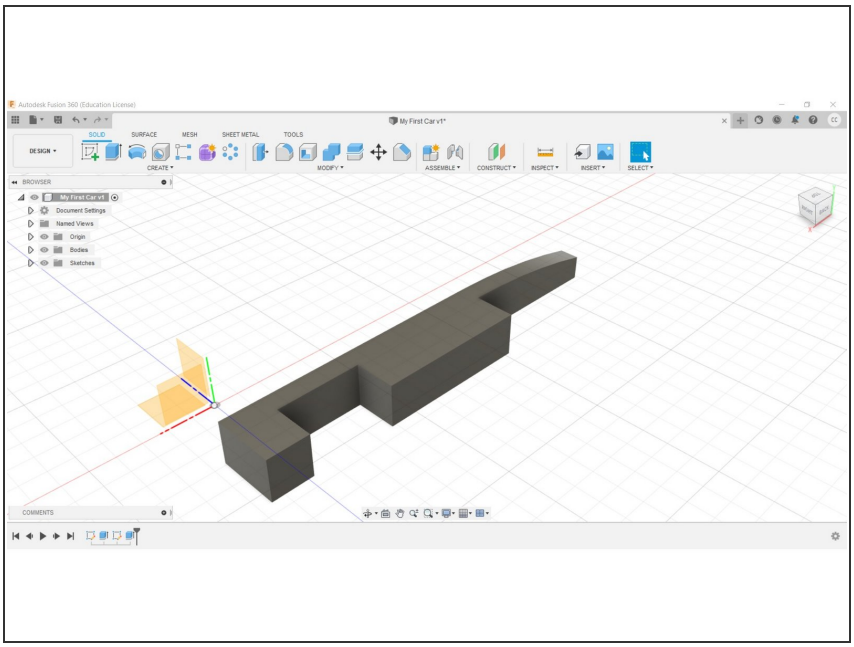
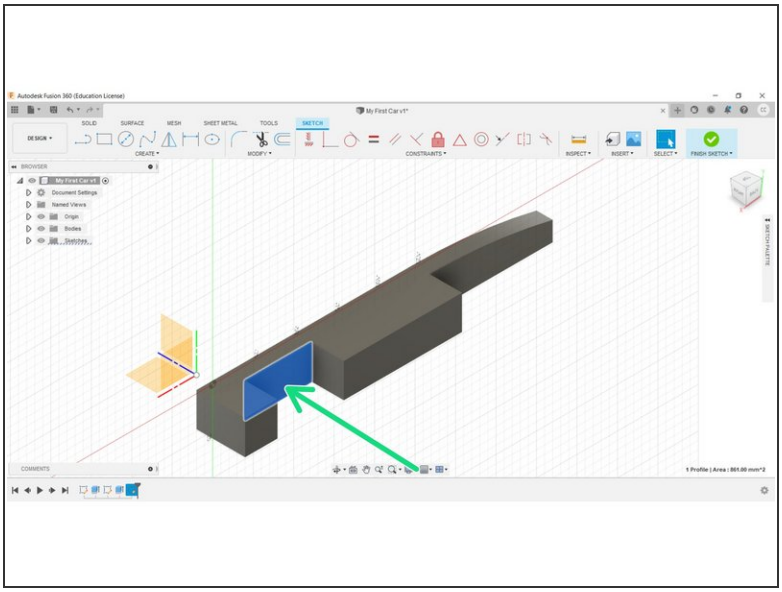
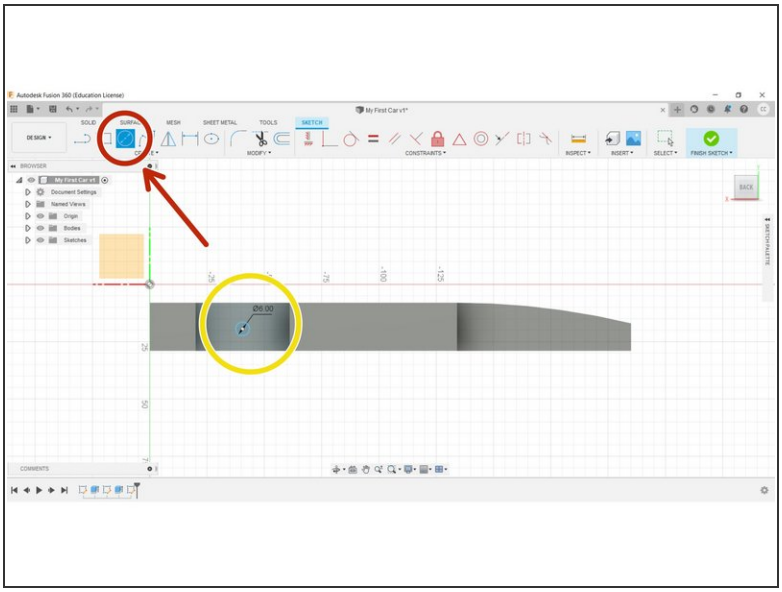
## Step 1 — Welcome



- Welcome. You would have completed your model to this stage, thus far.
- We will now insert the axle holes and support structures around them.

## Step 2





- Create a New Sketch on the shown planar face in the rear wheel housing recess.
- Select the Circle tool and Centre circle diameter from the Sketch menu.
- Place a 6mm circle on the planar face/surface, as close to the centre as you can.

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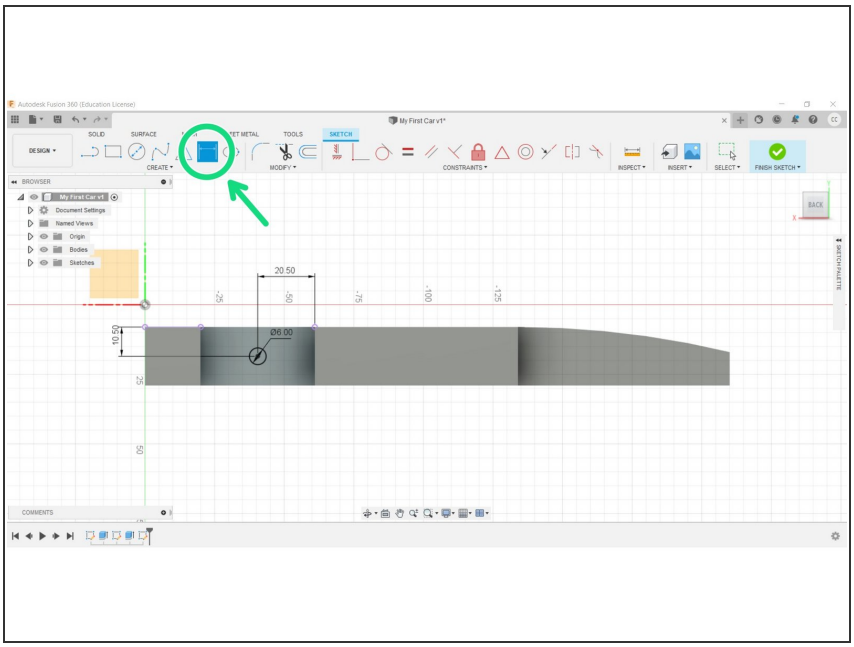
## Step 3

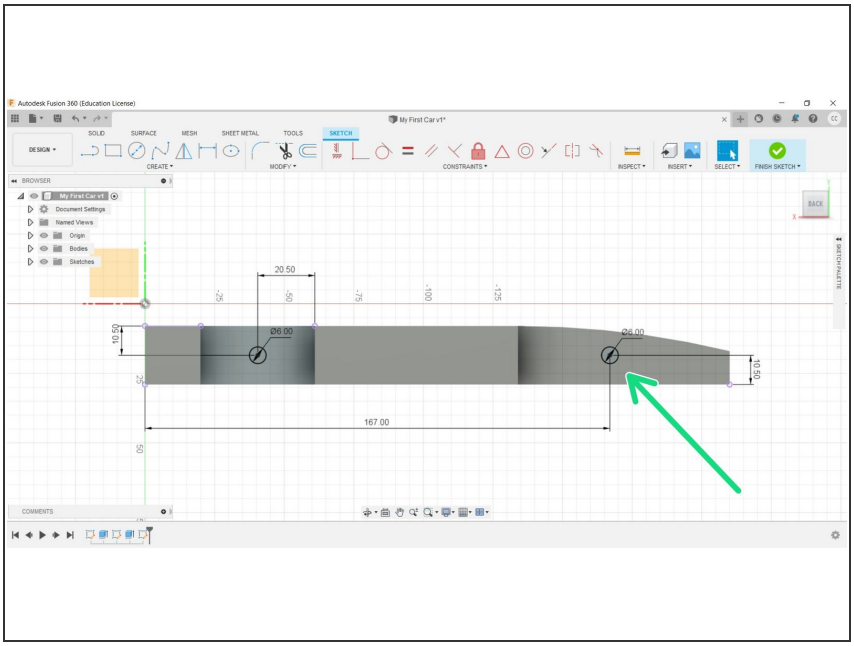



- Select Sketch Dimension and position your circle centre 11.5mm from the top of your model (Y-axis), and 20.5 from one side.

  ⓘ This will position your axle hole centrally within the space.

  ⓘ These types of dimensions are called constraints, and they keep your geometry in place in case of accidental moving later on.

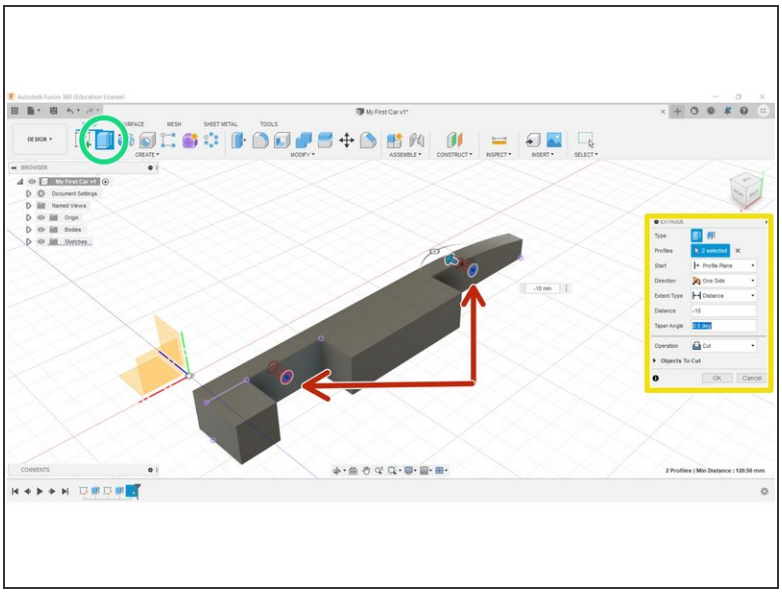
## Step 4

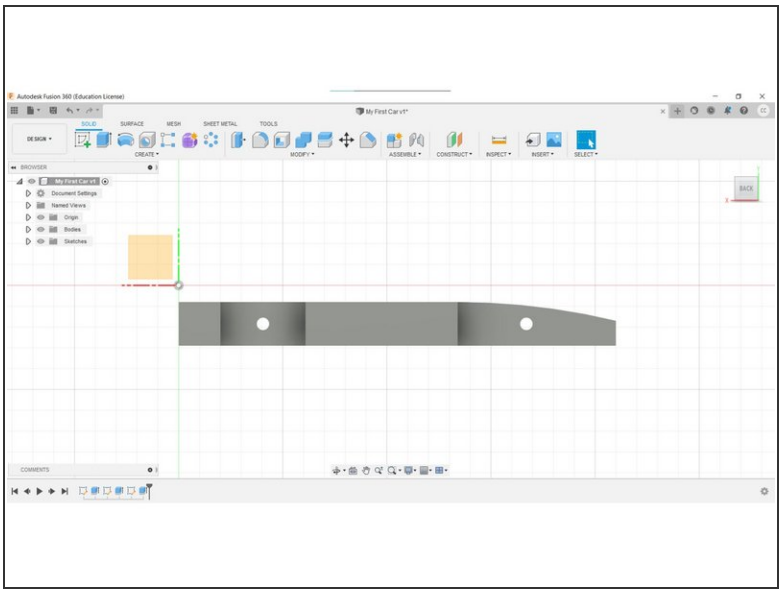



- Repeat the process positioning the front axle at X167mm, Y10.5mm from the origin.

  ⓘ The axle hole is again 6mm in diameter.

## Step 5 — Axle Extrusion



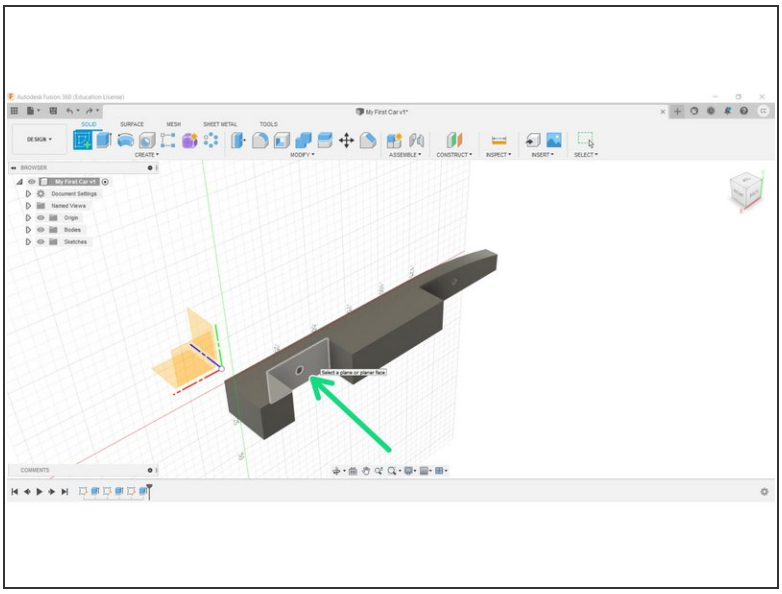


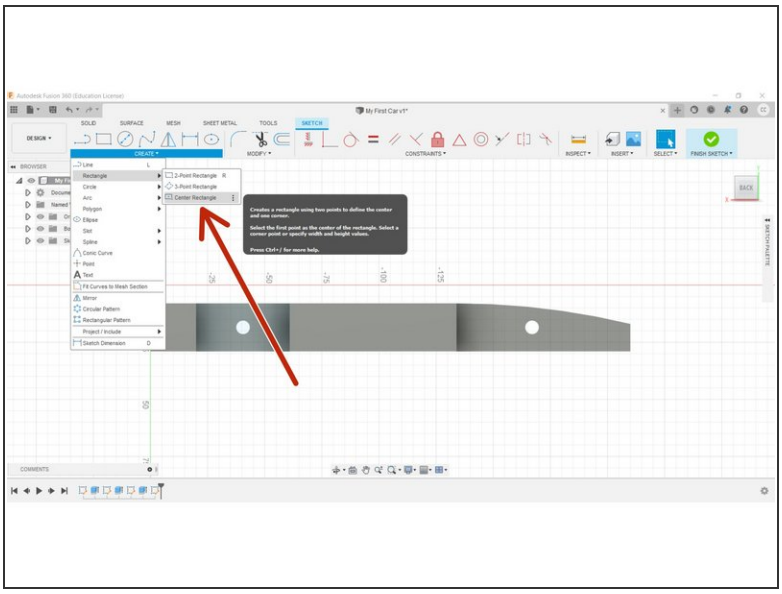
- Select the Extrude tool.
- Select both circles using the Shift key.
- Cut to a depth of -10mm.



## Step 6 — Axle Support Sketch

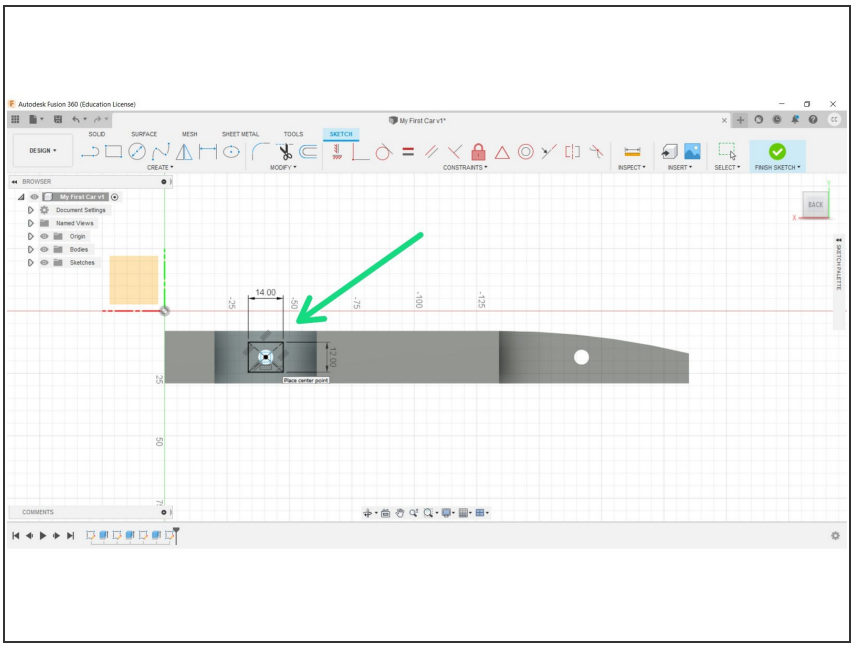




- Create a new sketch on the inner planar face of the wheel well recess.
- Select the Centre Rectangle from the Create tab dropdown.

ⓘ This is a special rectangle that is located around a centre point, such as the centre of the axle hole.

## Step 7

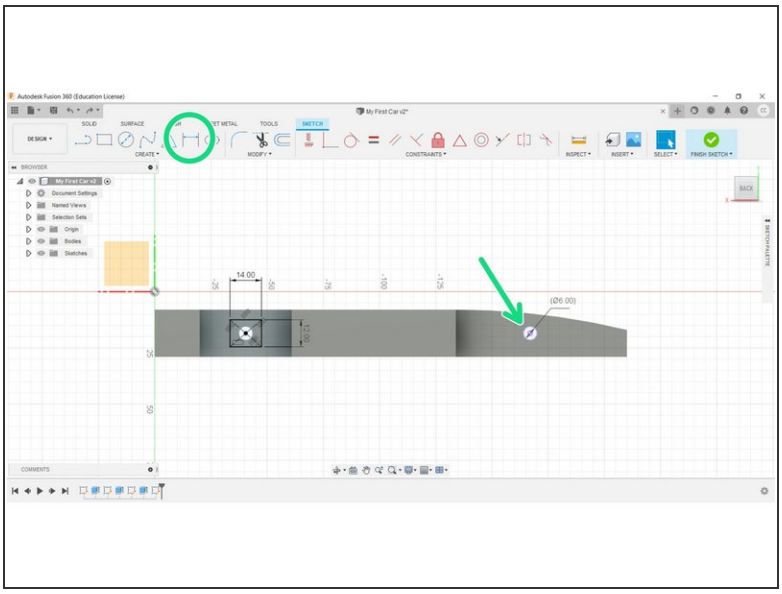


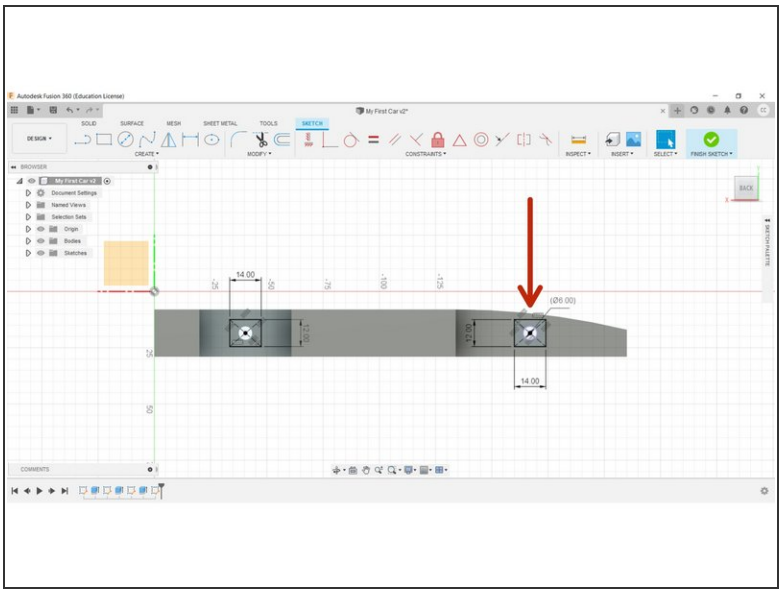
- Create a Centre Rectangle at the centre of the axle hole.
- The rectangle should be 14mm in width, and 12mm in height.



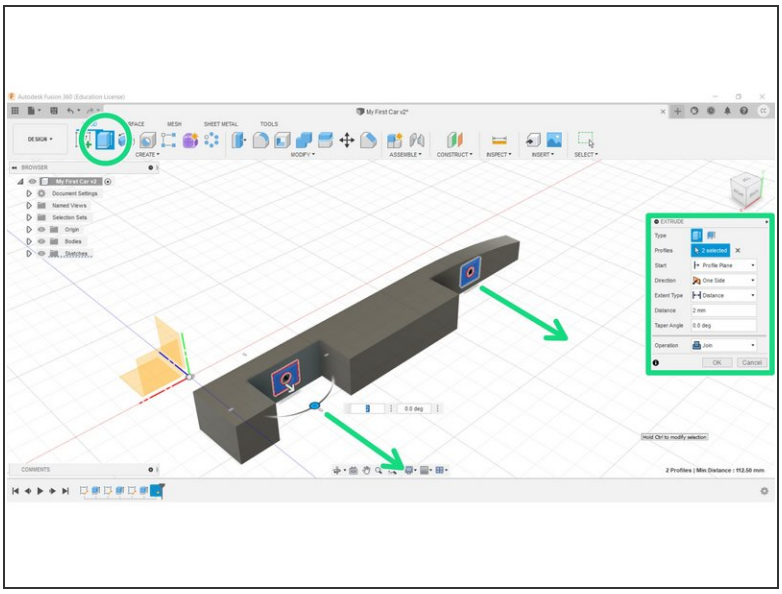
## Step 8

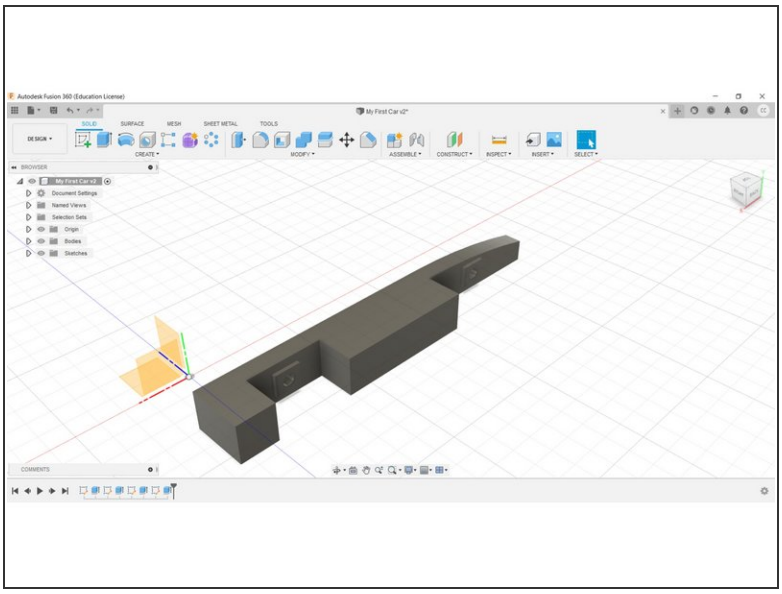




- Use the Dimension tool to identify the second axle hole.
- Place an identical Centre Rectangle over the front axle hole.
- Click Finish Sketch

## Step 9

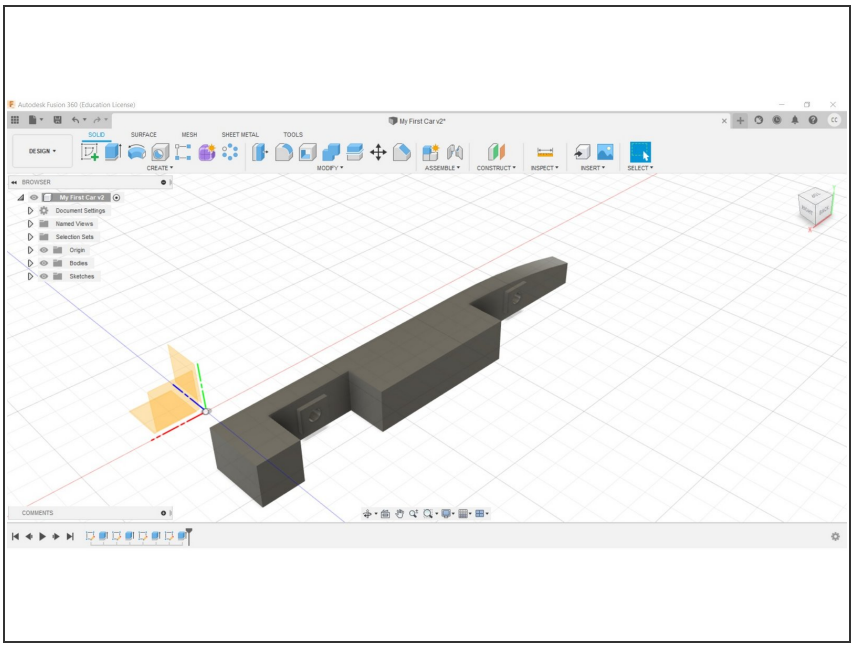




- Extrude the axle supports outwards 2mm from the body.

⚠ Ensure the Extrude type is 'Join', and that the rectangles are 'joining' to the body, not 'cutting'.

## Step 10 — Finished



- Congratulations, you have completed this stage.

