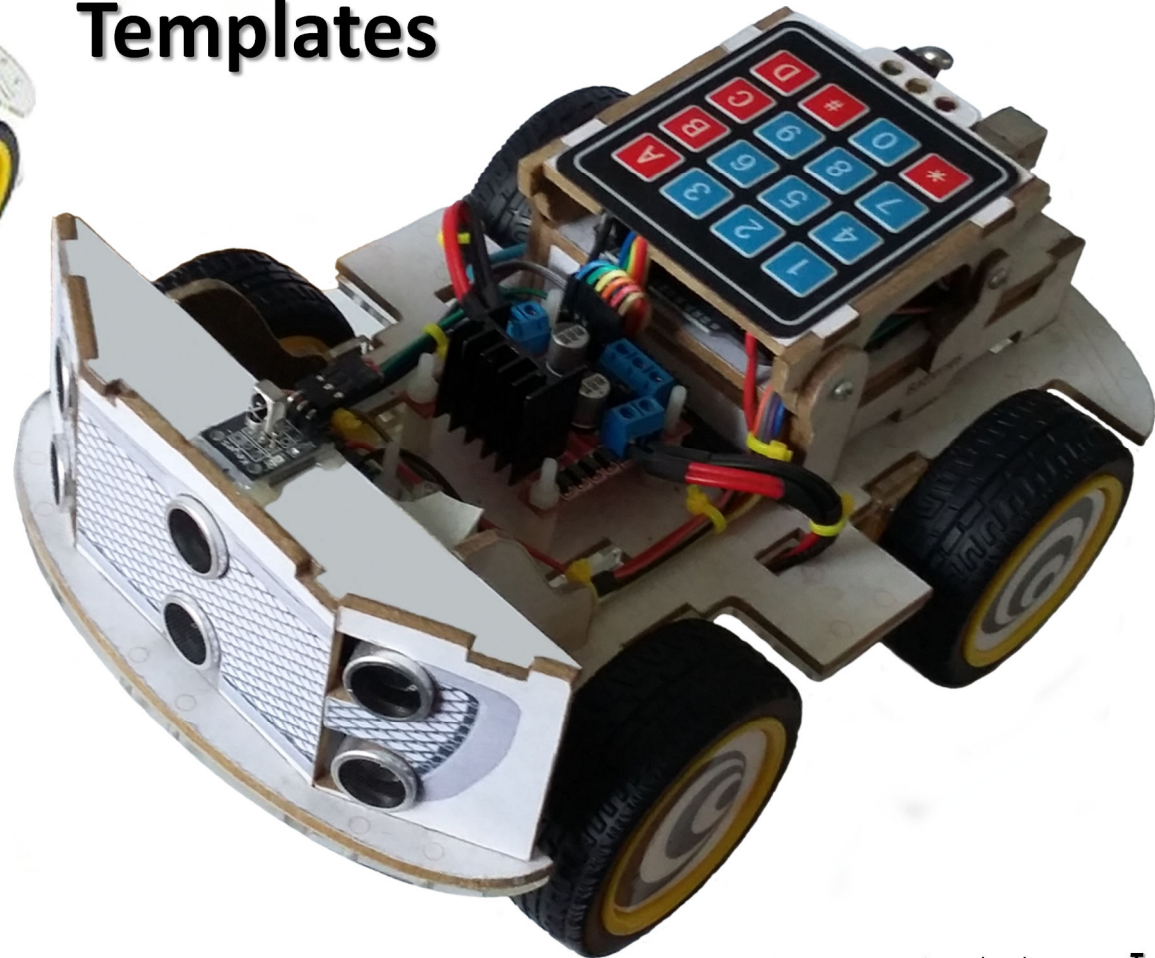
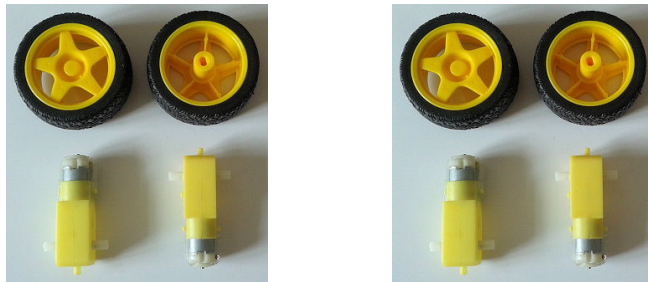


4x4 Autonomous Robot Car

Templates

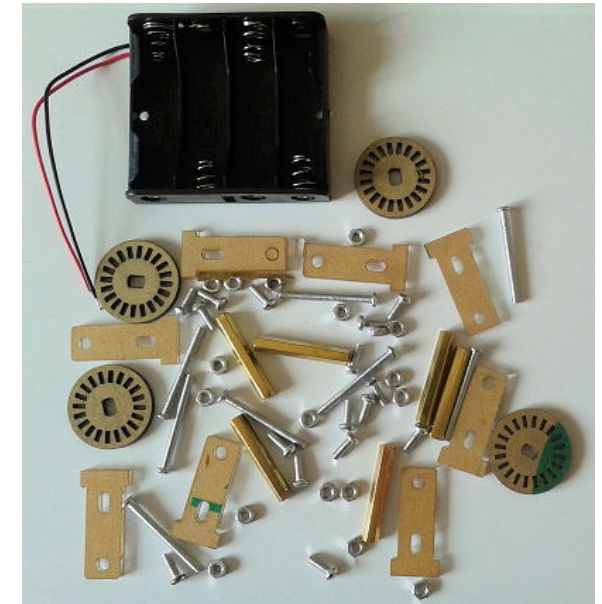
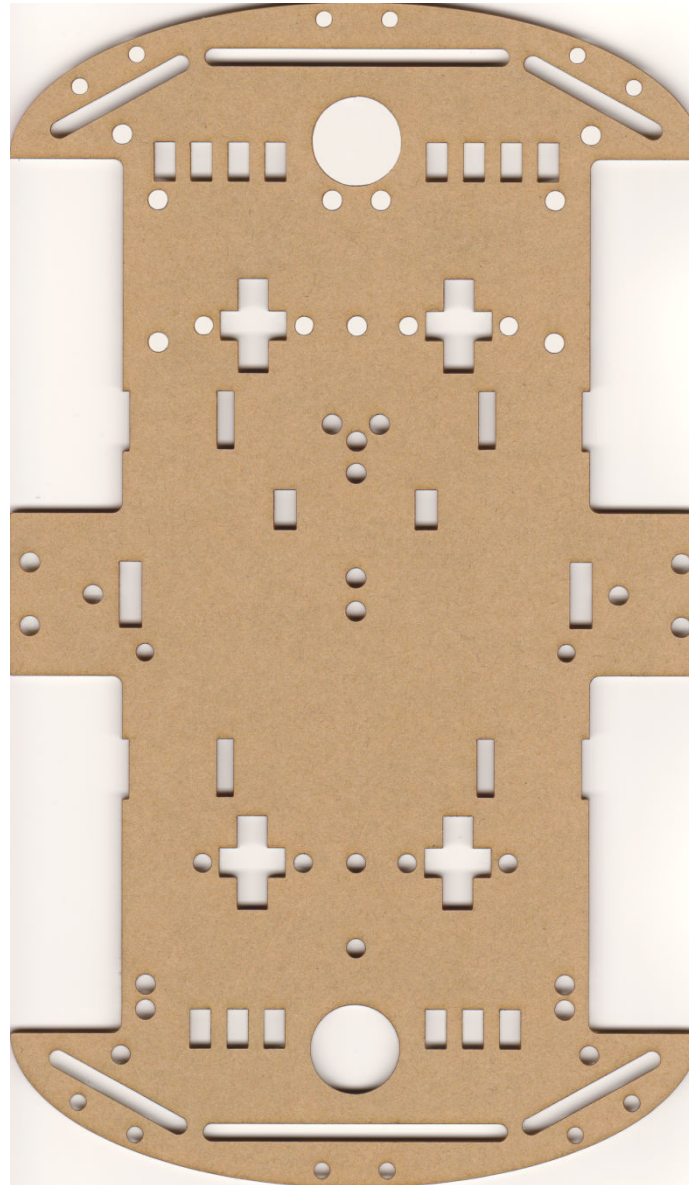


4 Wheel Robot Smart Car Kit

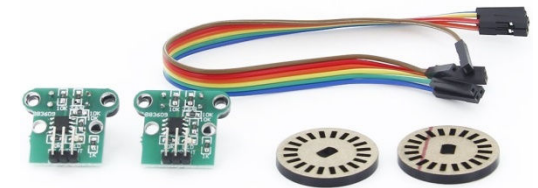


The starting point for this project was a Smart Robot Car kit I purchased in 2015. It was a relatively basic kit, and there are many more to choose from these days.

I quickly realised that the acrylic plates were very brittle and prone to cracking, so one of the first things I did was scan a plate before removing the paper covering, needed for laser cutting. This meant that I could always replicate the plate in hardboard later should I need to, and it also provided me with a template upon which to design the rest of the chassis. I only use one plate in my design, which would have a 3mm hardboard plate bolted to it.

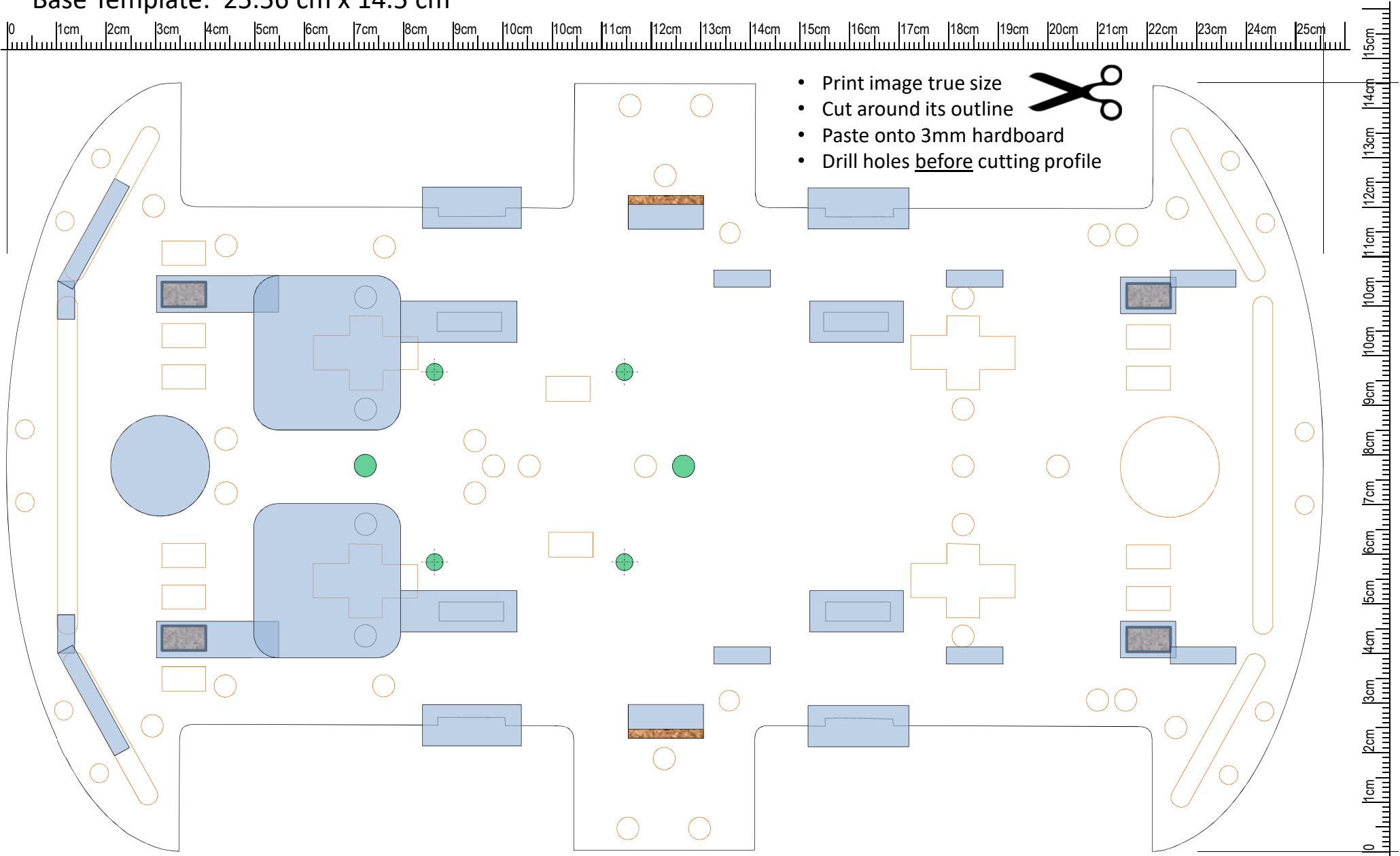





The kit contained slotted wheels for optical sensors, but I had to buy the HC-020K sensors separately. You will need these if you want to measure the speed of the car. Useful if you want speed control or to match the left and right motor speeds to gain a straight line of travel.



HC-020K sensors kit bought separately.

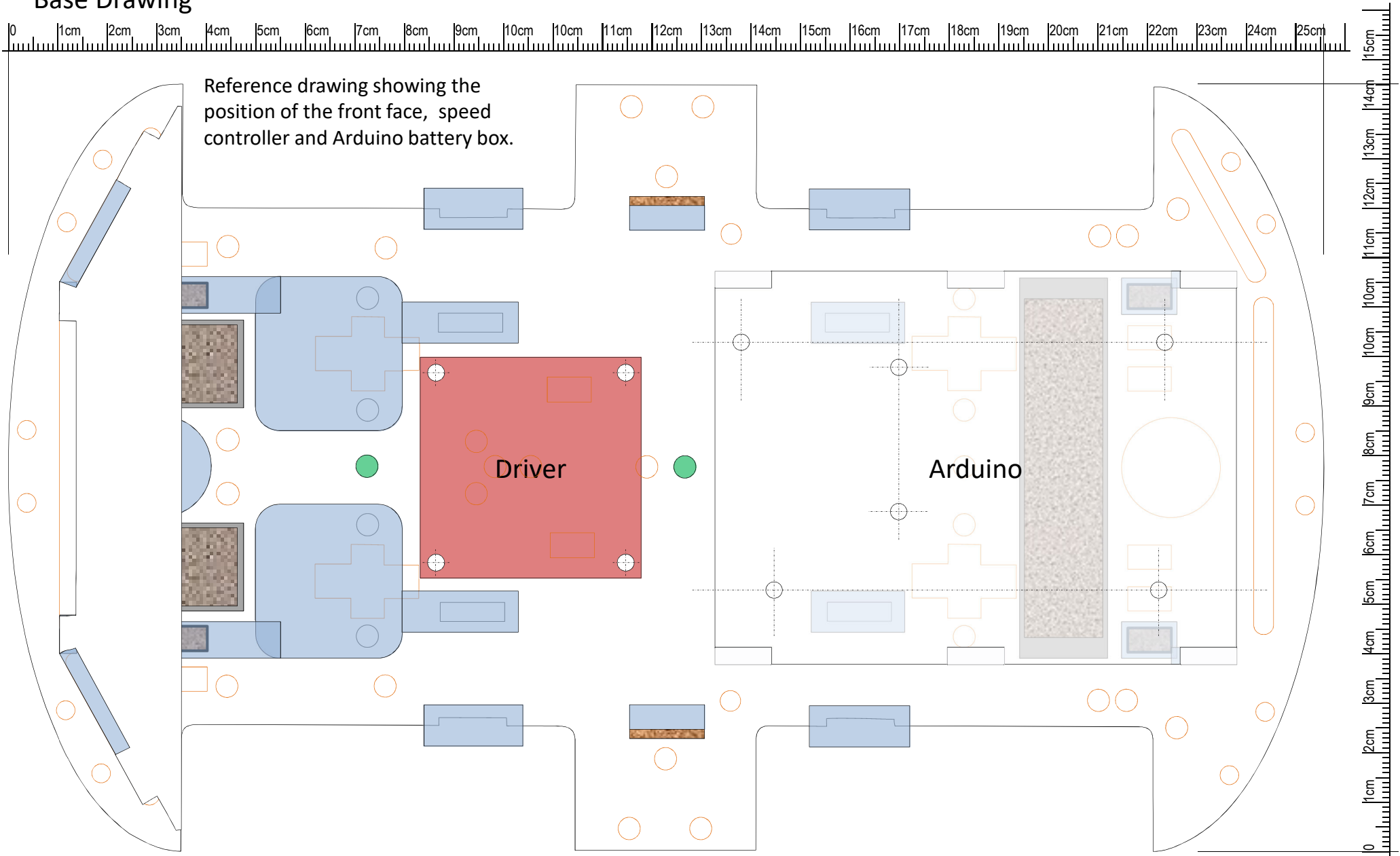
Base Template: 25.56 cm x 14.5 cm



-  Blue areas must be removed.
-  Orange detail not needed.
-  Tapped holes M3 x 0.5




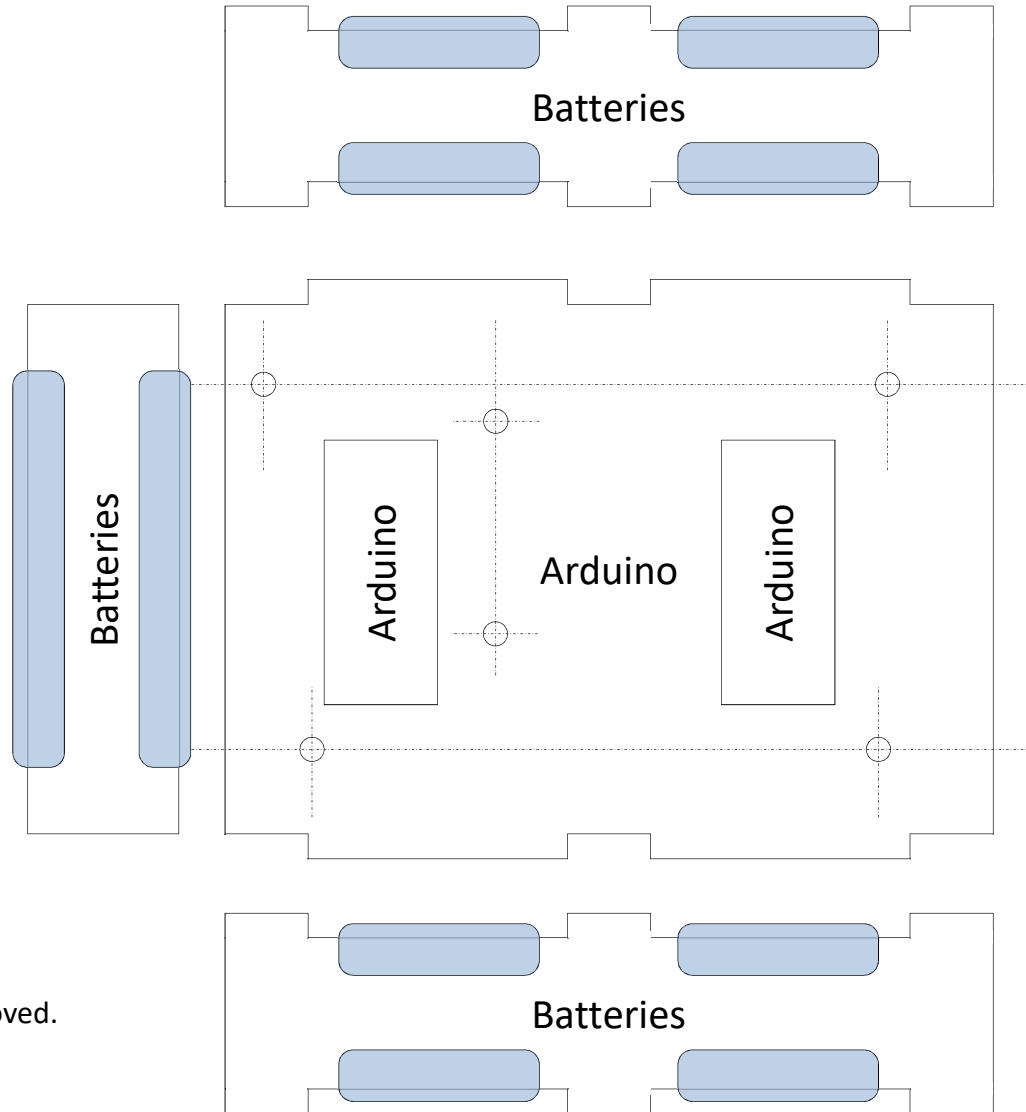
Base Drawing



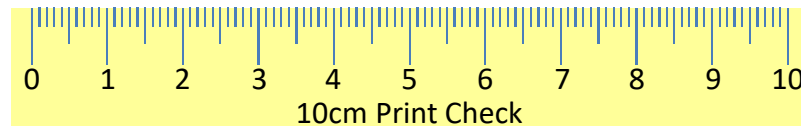
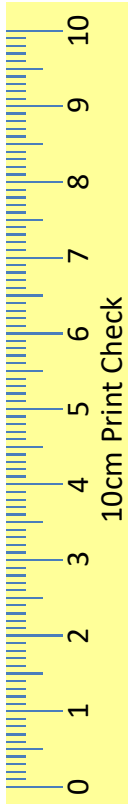
- Blue areas must be removed.
- Orange detail not needed.

Battery Box Template:


- Print image true size 
- Cut around its outline
- Paste onto 3mm hardboard
- Drill holes before cutting profile

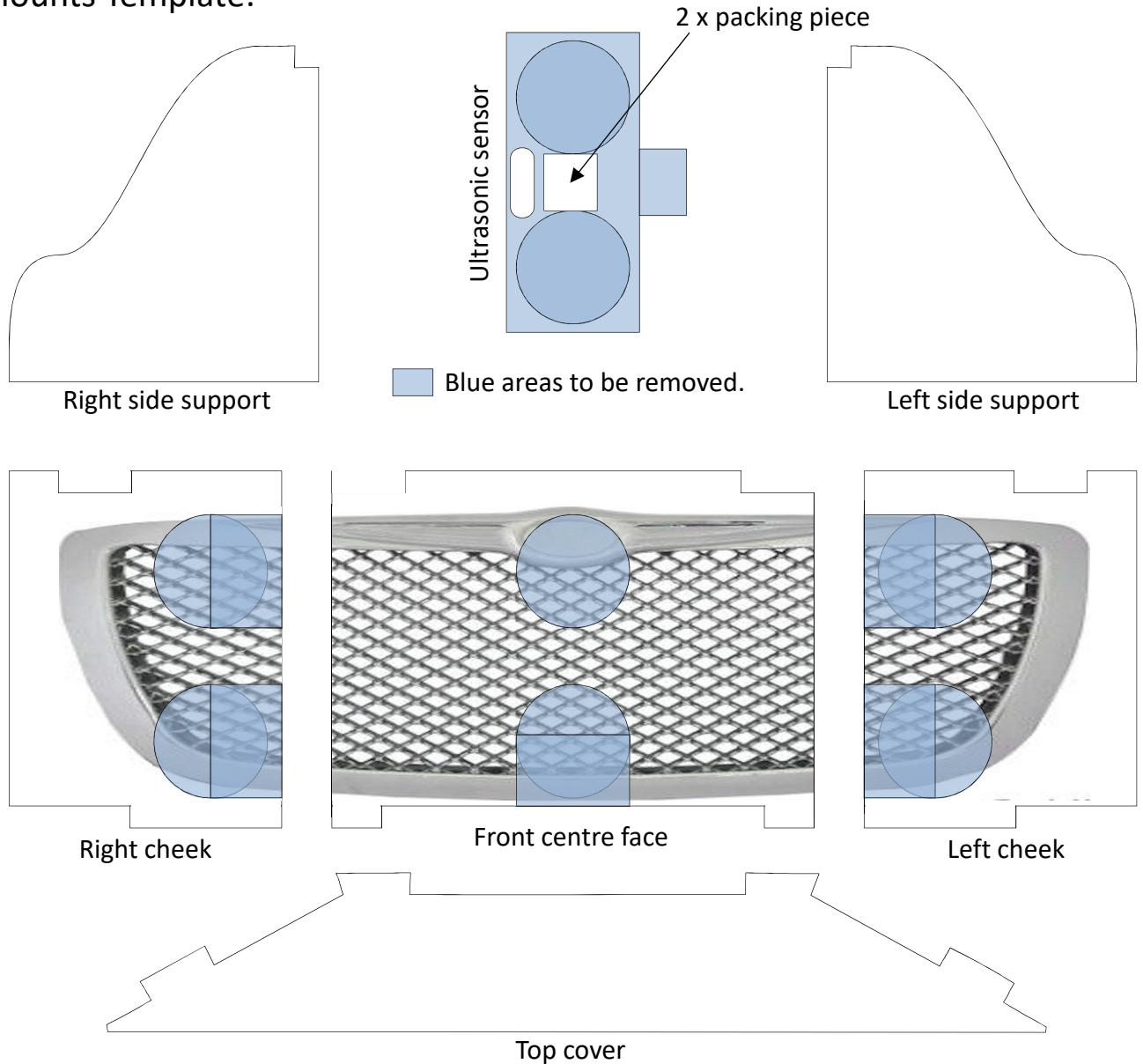



Blue areas to be removed.

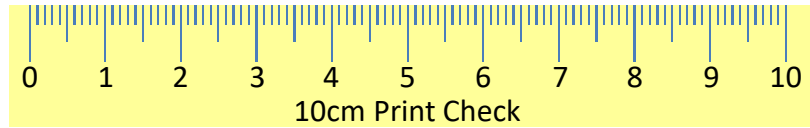


Ultrasonic Mounts Template:

- Print image true size 
- Cut around its outline
- Paste onto 3mm hardboard
- Drill holes before cutting profile

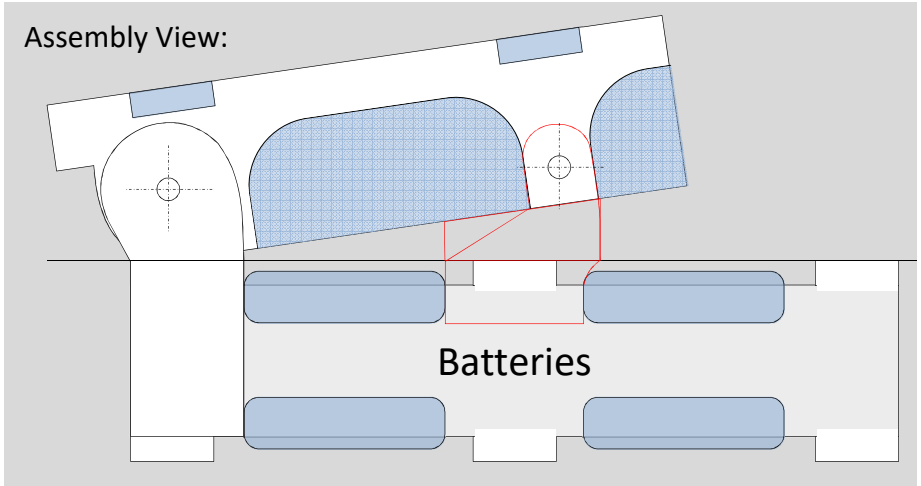


 Blue areas to be removed.

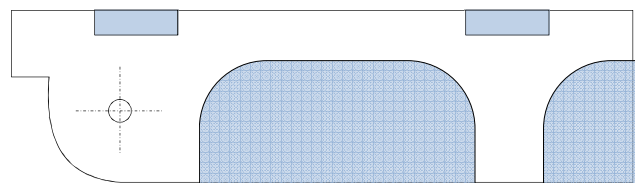
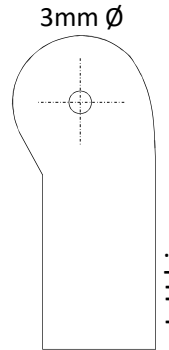
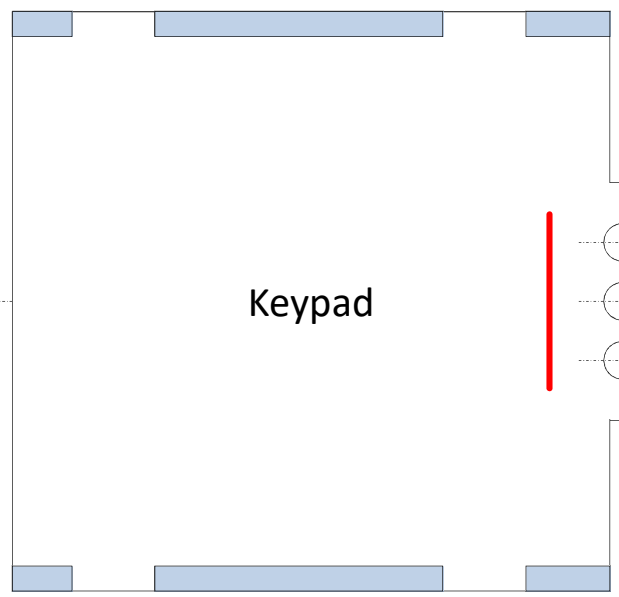
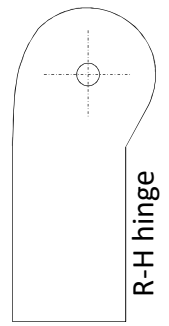
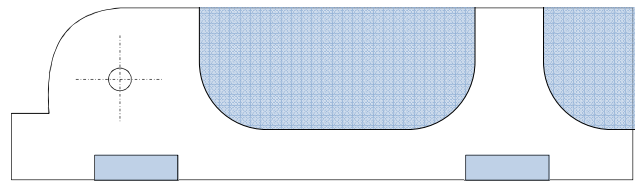


Keypad Mount Template:

- Print image true size
- Cut around its outline
- Paste onto 3mm hardboard
- Drill holes before cutting profile

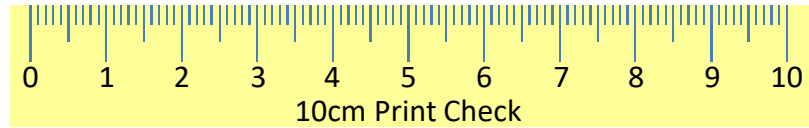
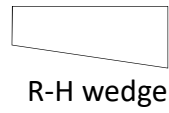
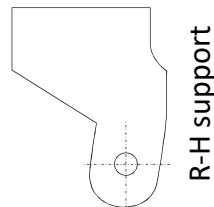
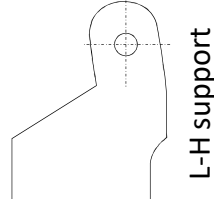
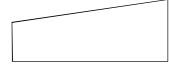


Right side support

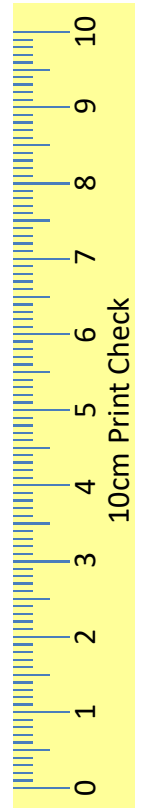


Left side support

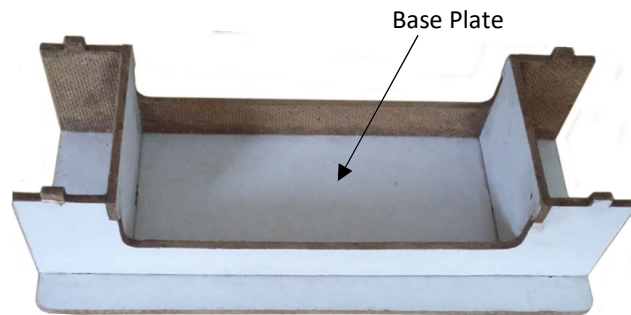
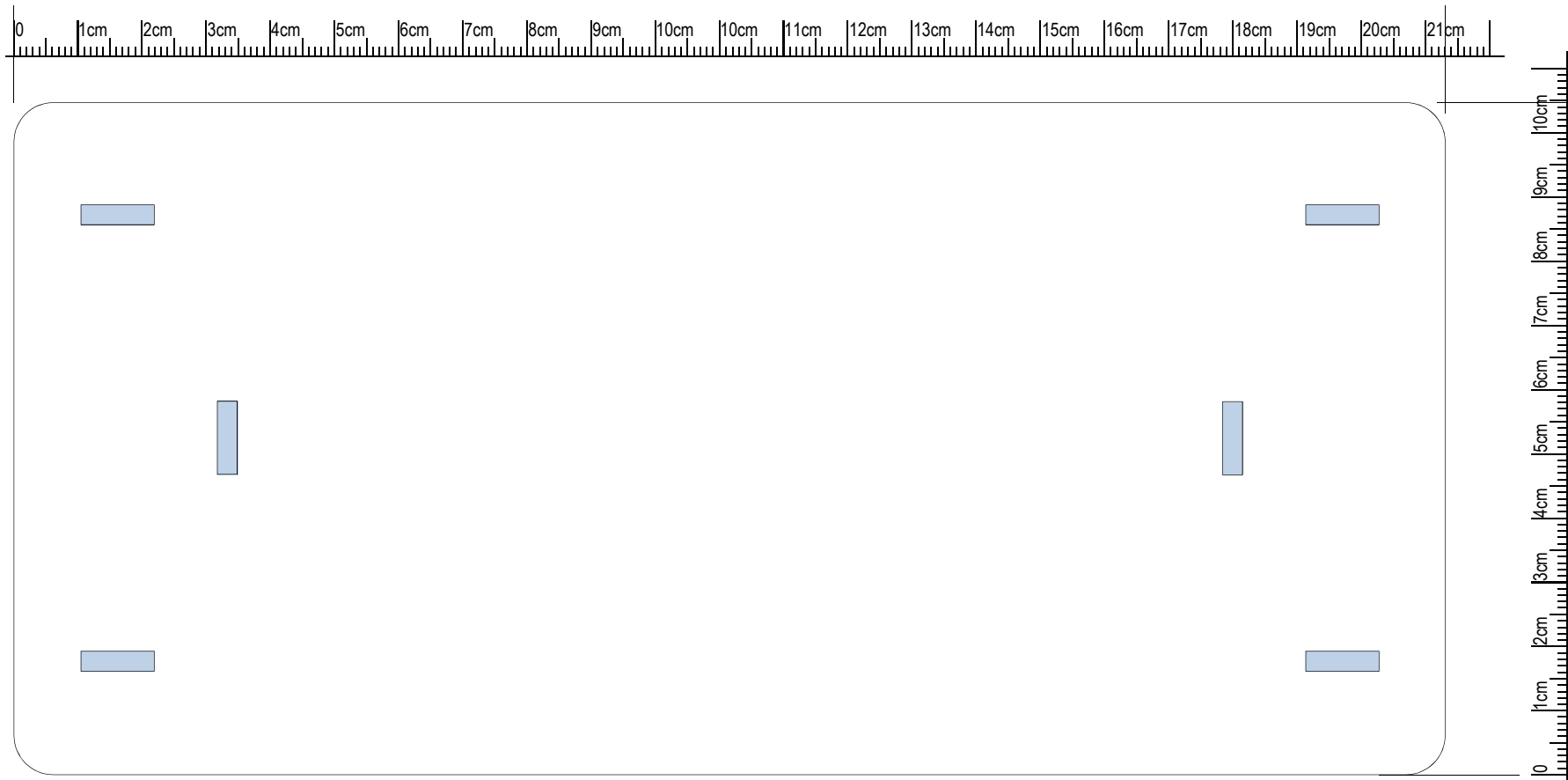
L-H wedge



Blue areas to be removed.



Stand Base Template:



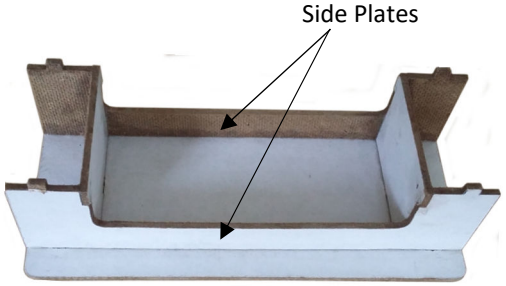
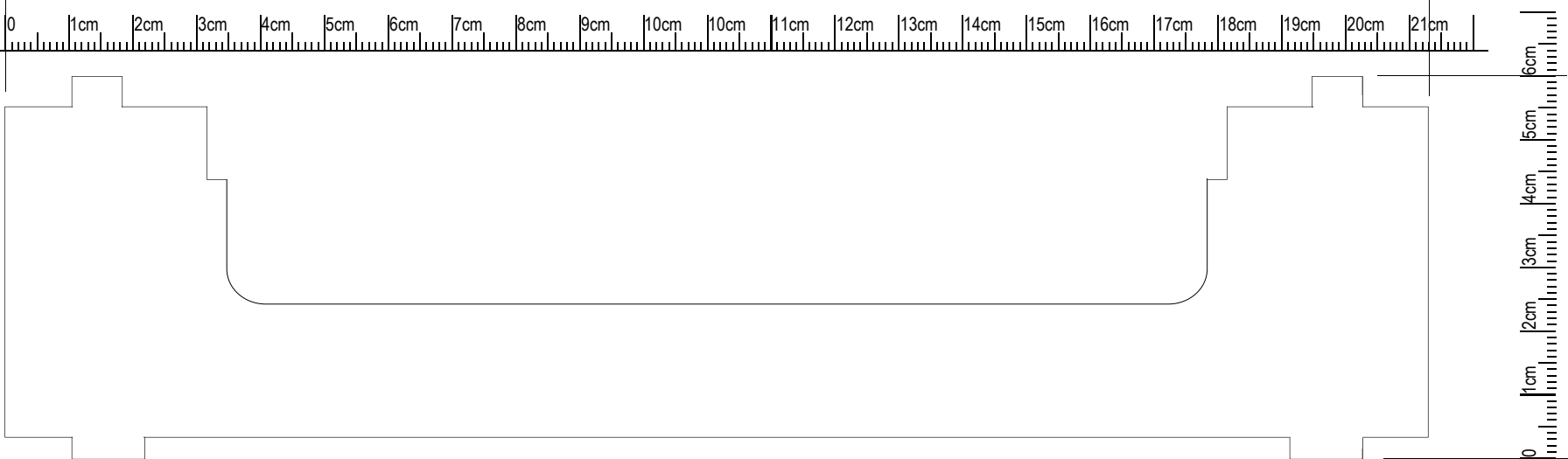
- Print image true size
- Cut around its outline
- Paste onto 3mm hardboard
- Create holes before cutting profile



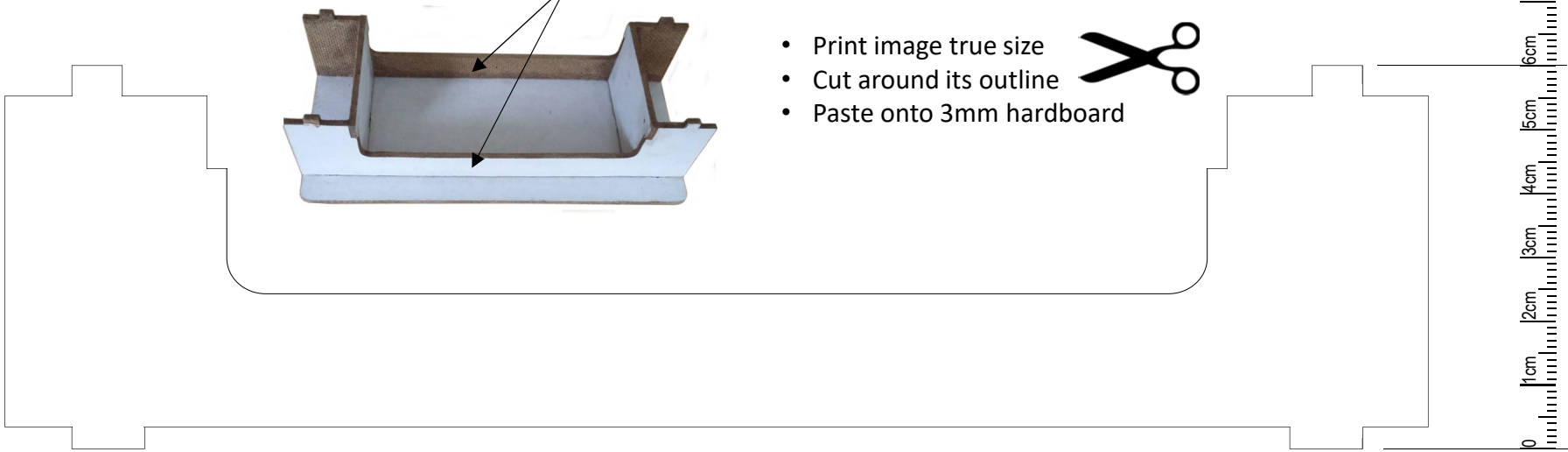
Hardboard: 3.3mm

Hardboard Tangs are 11mm wide

Stand Side Support Templates:




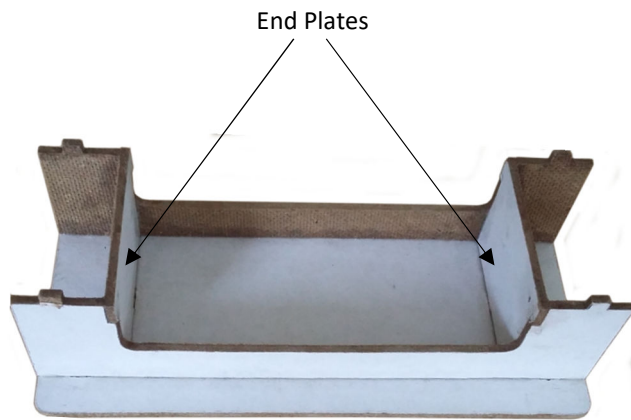
- Print image true size
- Cut around its outline
- Paste onto 3mm hardboard



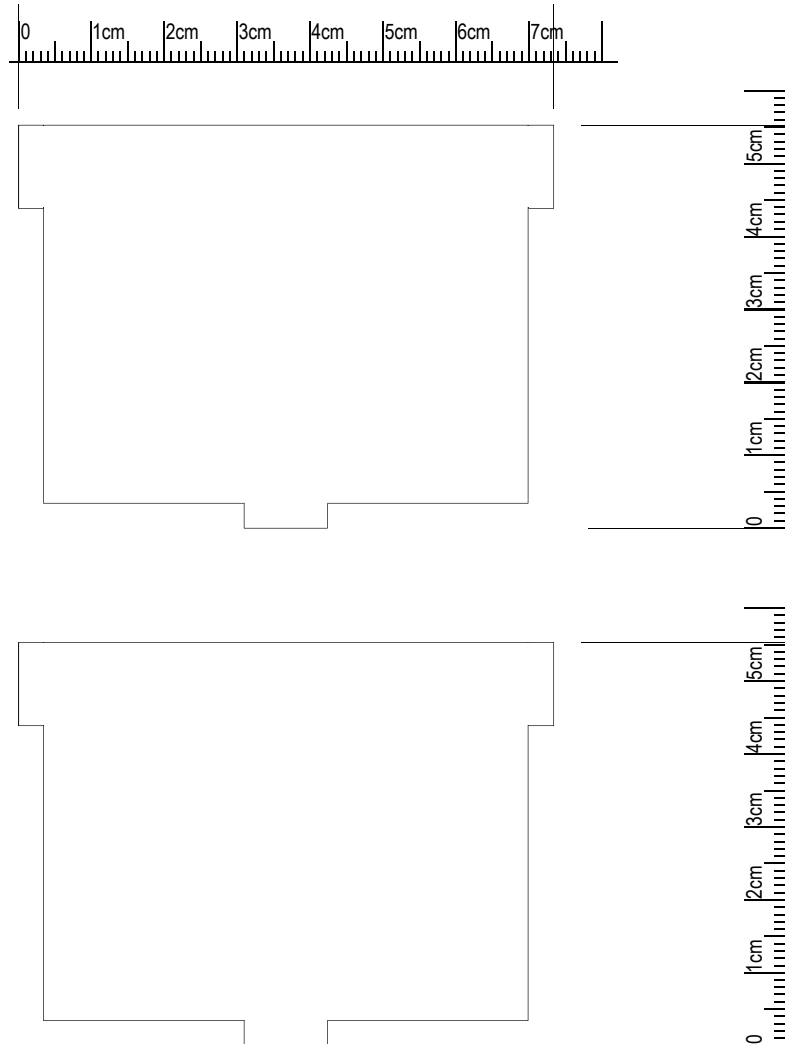
Hardboard: 3.3mm

Stand End Stiffener Templates:

- Print image true size 
- Cut around its outline
- Paste onto 3mm hardboard



The stand provide just enough ground clearance for wheel drive clearance. It is an essential part of your project, allowing you to test the vehicle safely and run it alongside your computer when evaluating changes to your code.



Hardboard: 3.3mm