General information on Driving & Steering at WRO® Future Engineers

Date: 29.01.2023

The robot must:

- drive on 4 normal wheels
- have 2 axles

Not allowed is/are:

- more than 2 motors for driving
- more than 1 motor for steering
- to drive the wheels and/or axles separately from each other
- differential drive = 2 motors drive different wheels (left / right) separately from each other

The following drives are permitted:

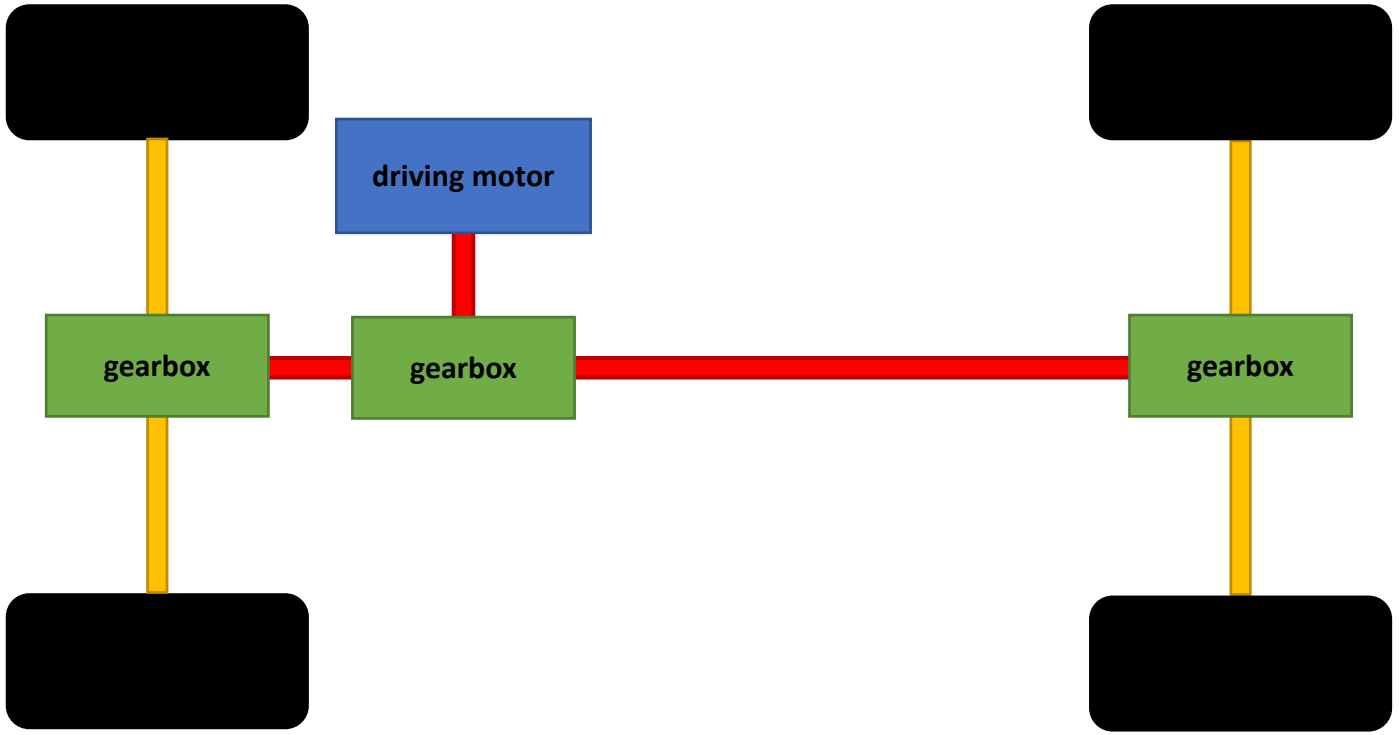
- Front wheel drive = one motor drives only the front axle, but not the individual wheels of the front axle
- Rear wheel drive = one motor drives only the rear axle, but not the individual wheels of the rear axle
- All-wheel drive = via a mechanical connection, one motor drives both axles together, but neither axles nor wheels are driven individually
- instead of 1 motor, 2 motors may be used for the drive, if they are mechanically connected to each other; this increases the power of the drive
- Use of differential gears is allowed

The following steering is permitted:

- max. 1 motor may be used for steering
- 1 and 2 steering axles are allowed
- with 2 steering axles also only 1 motor may be used for steering

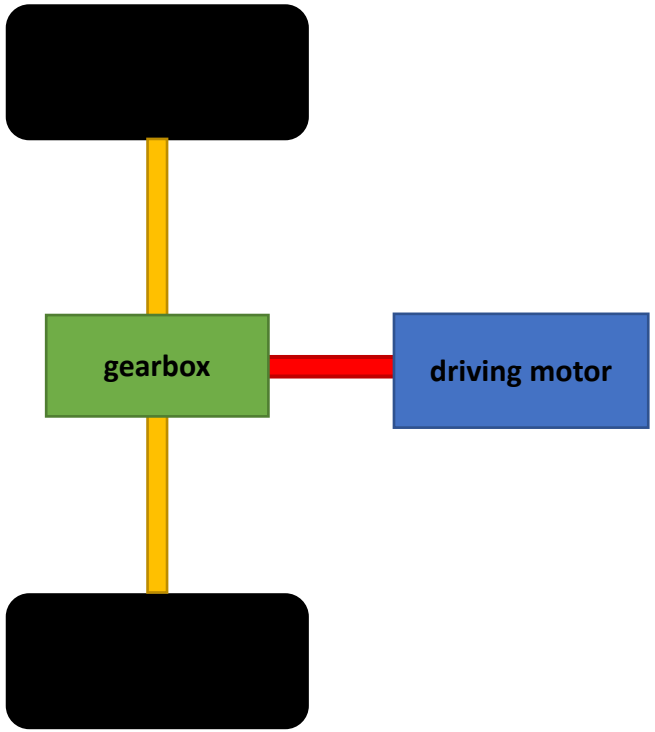
Driving

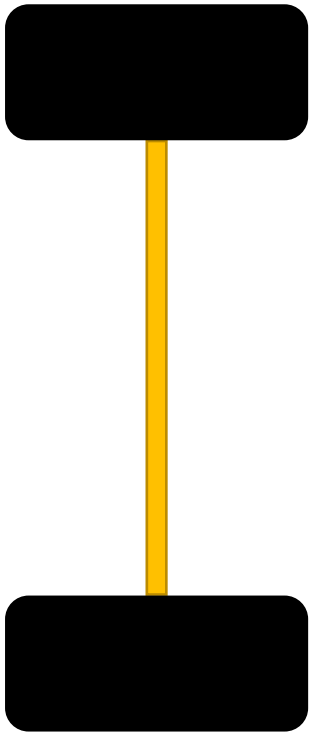
allowed



Driving

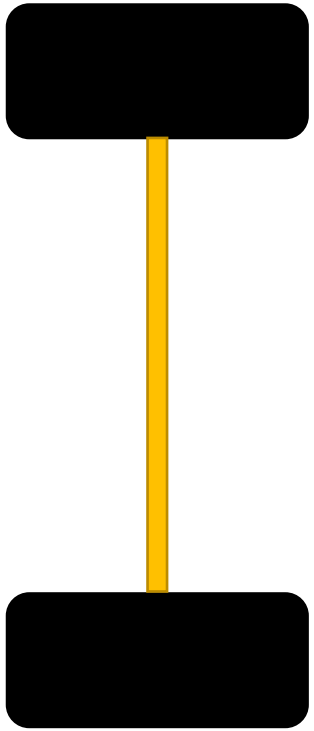
allowed

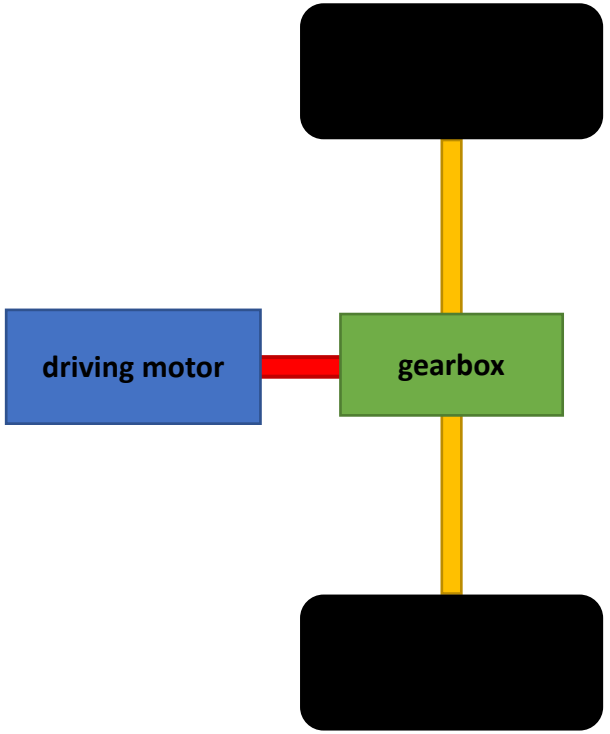




Driving

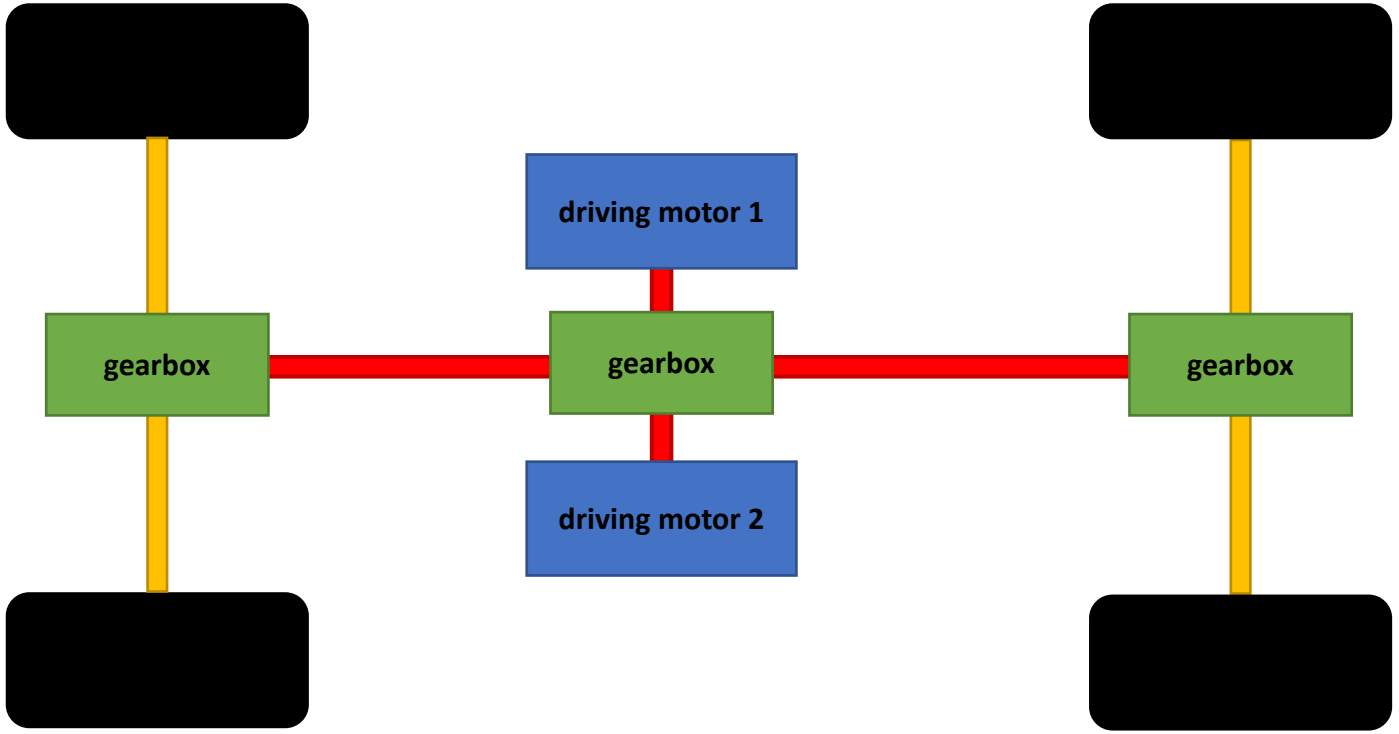
allowed





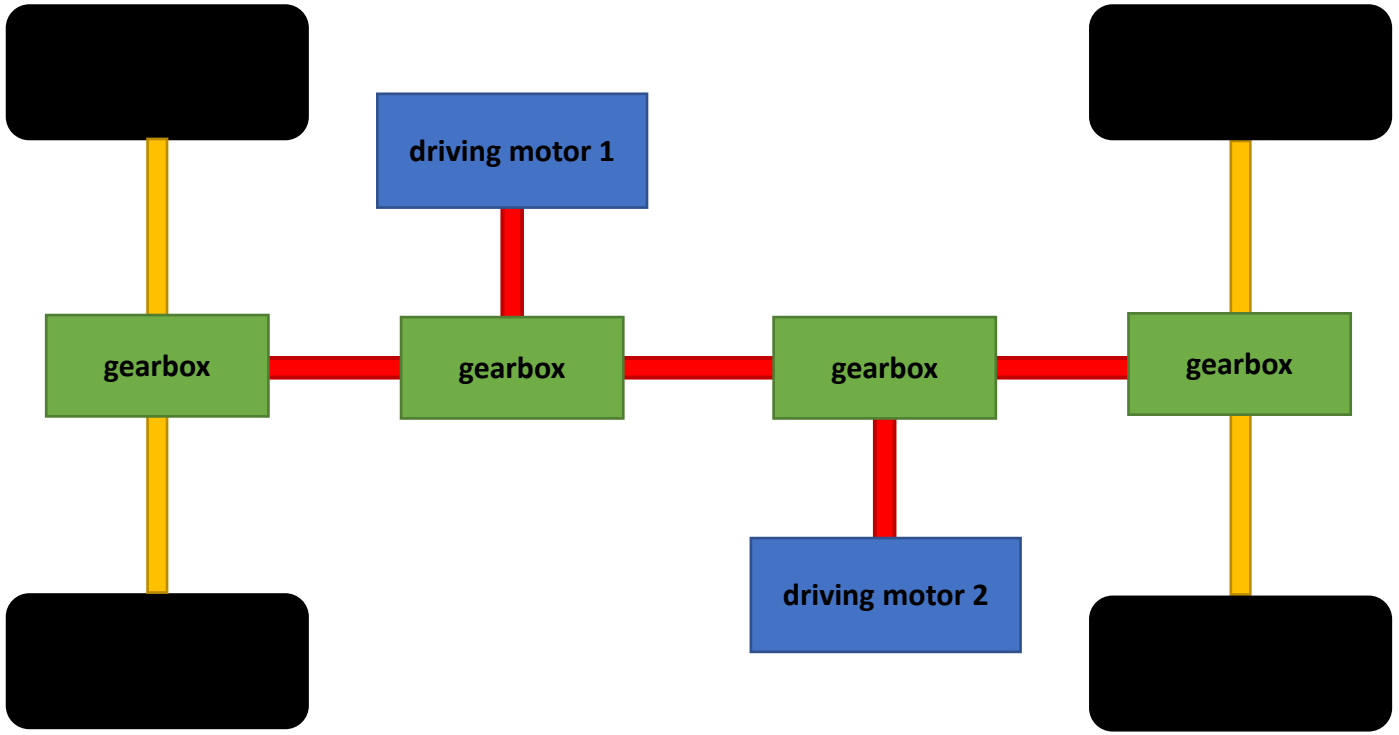
Driving

allowed



Driving

allowed

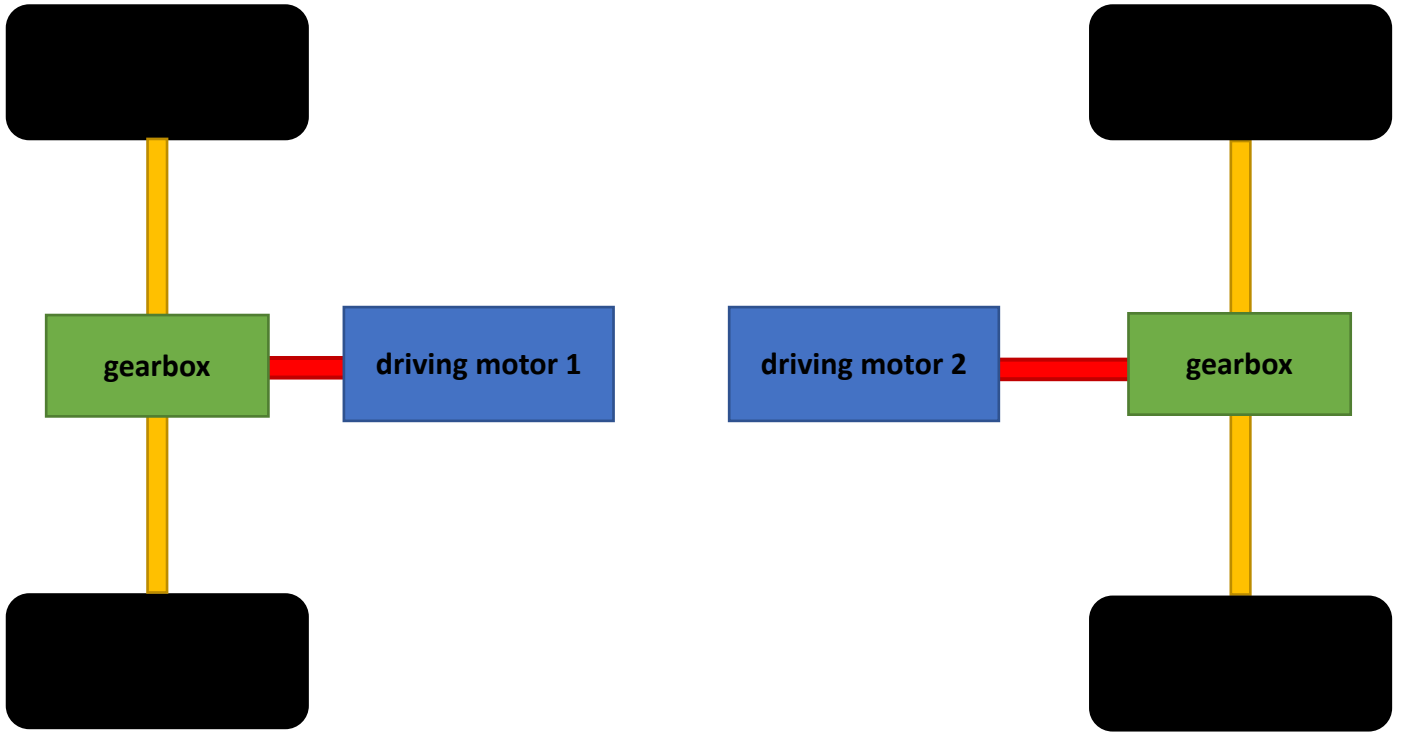


Driving

not allowed

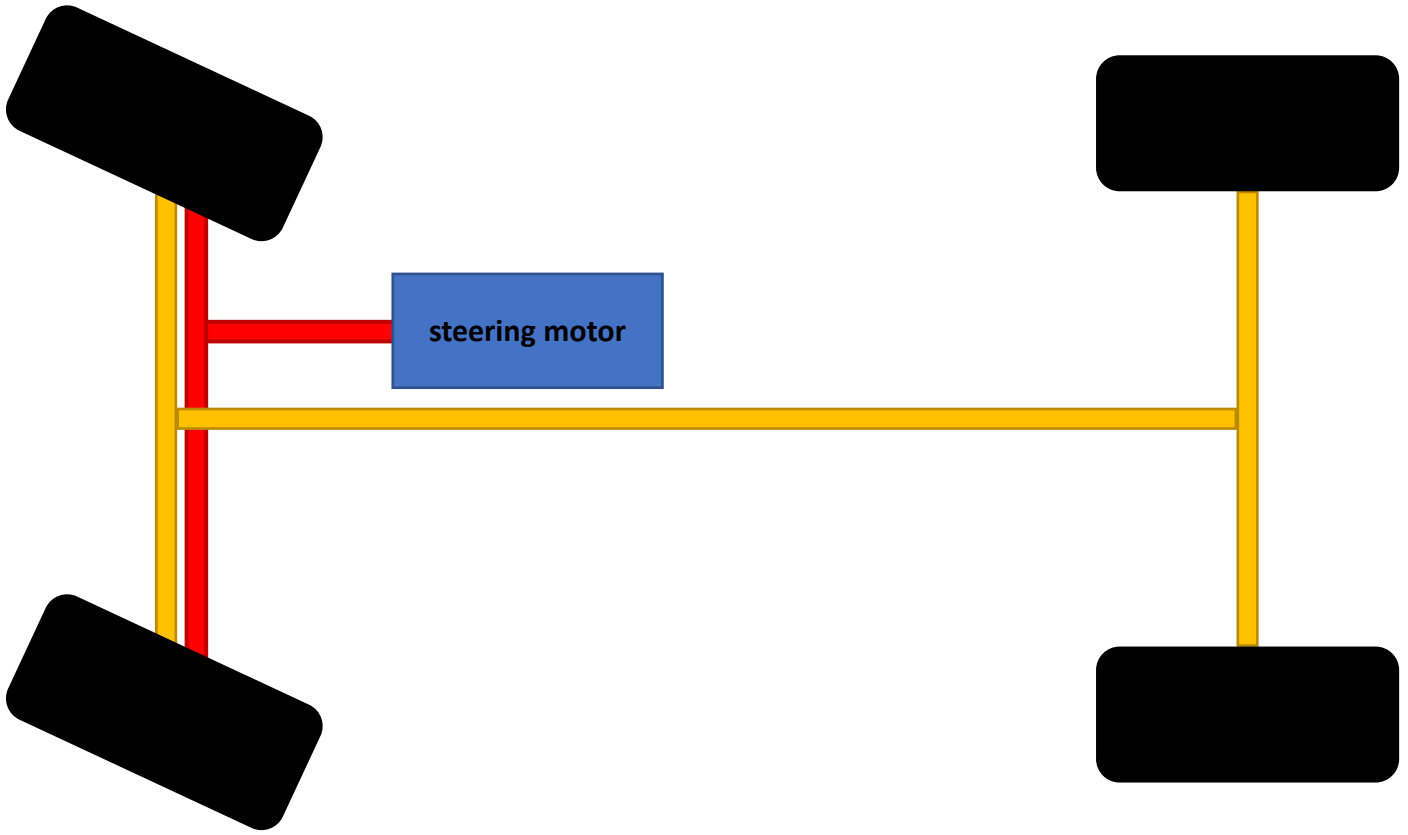
The design shown here is not permitted as:

1. the motors are not mechanically connected to each other.
2. The motors drive one axle each separately.



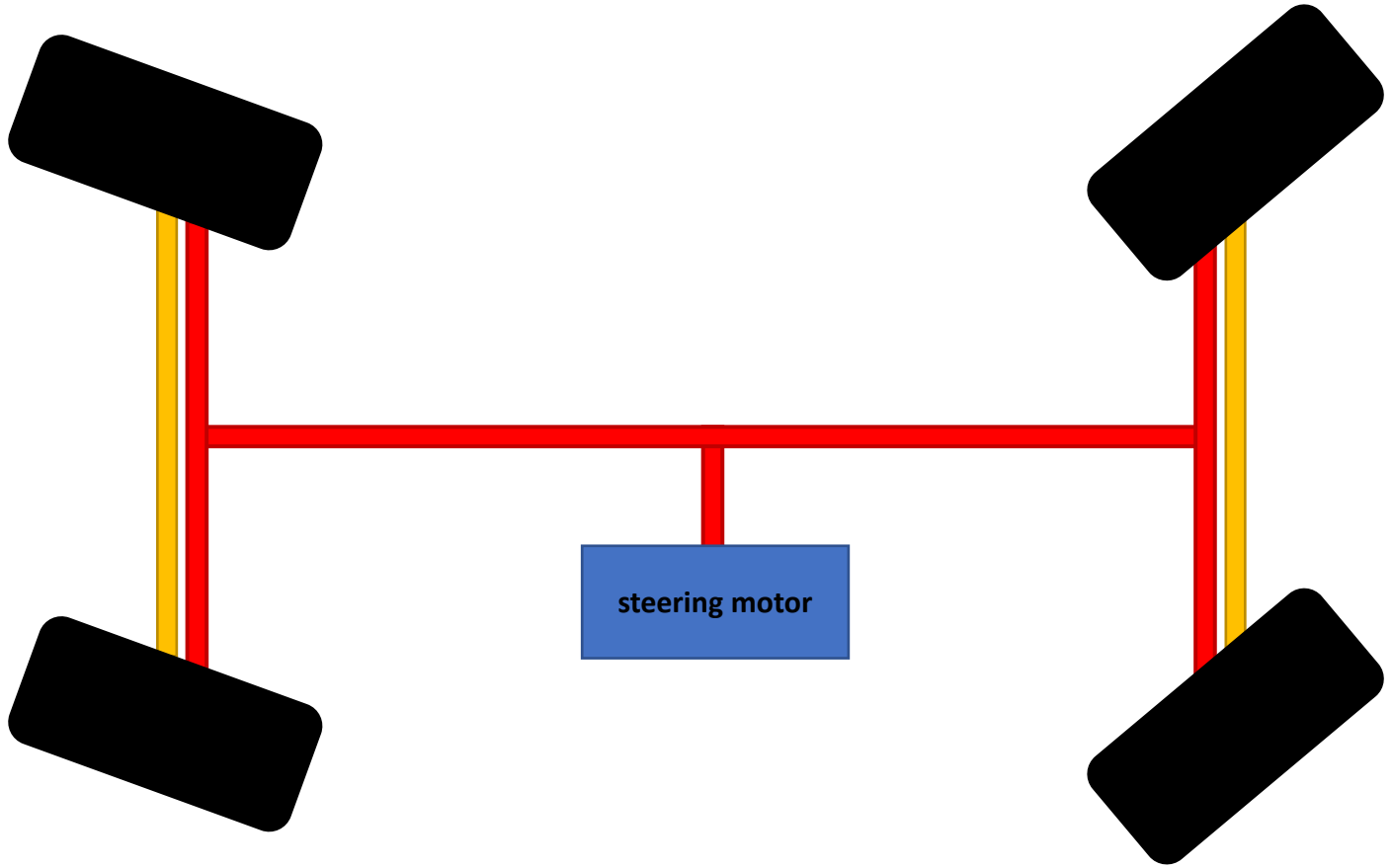
Steering

allowed



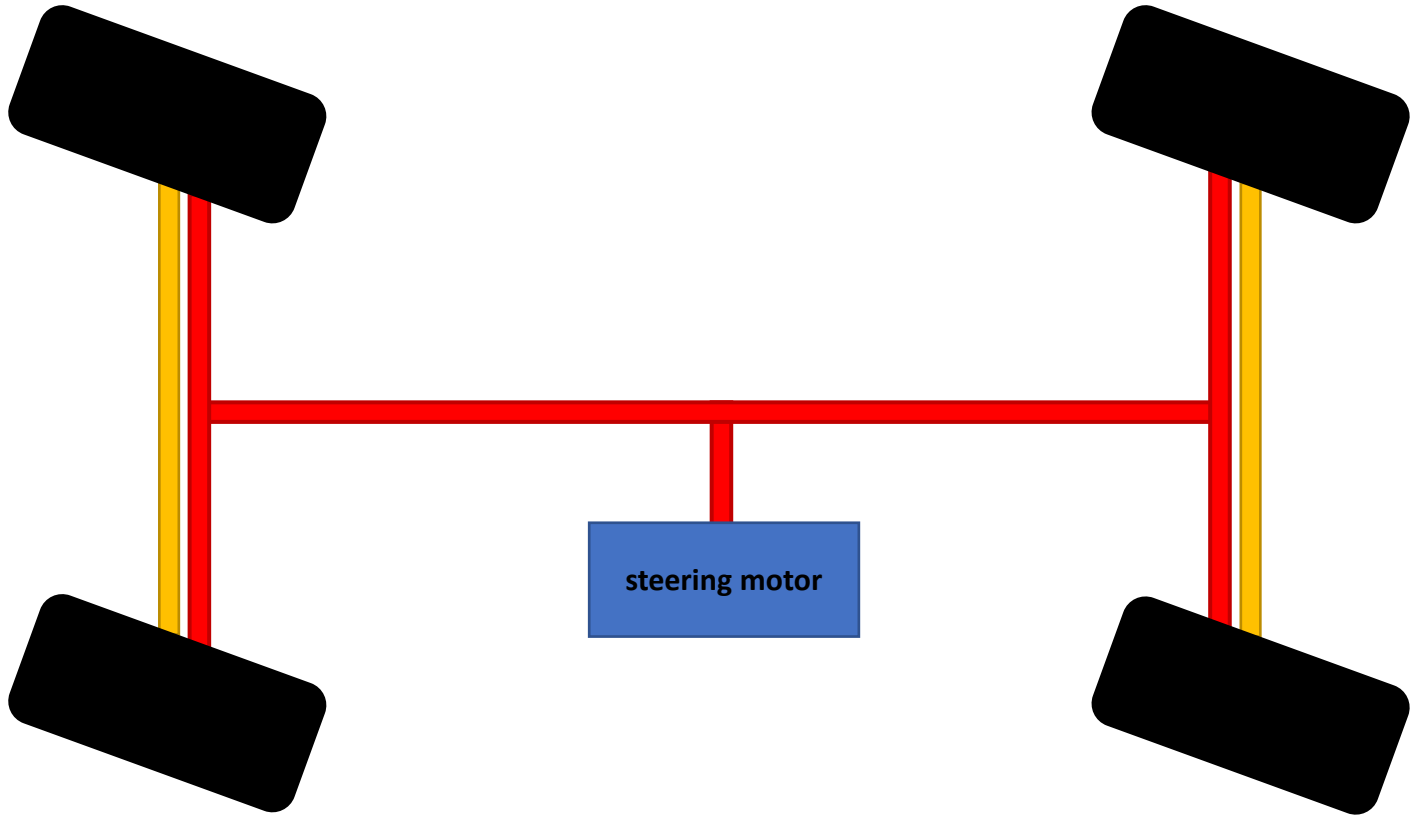
Steering

allowed



Steering

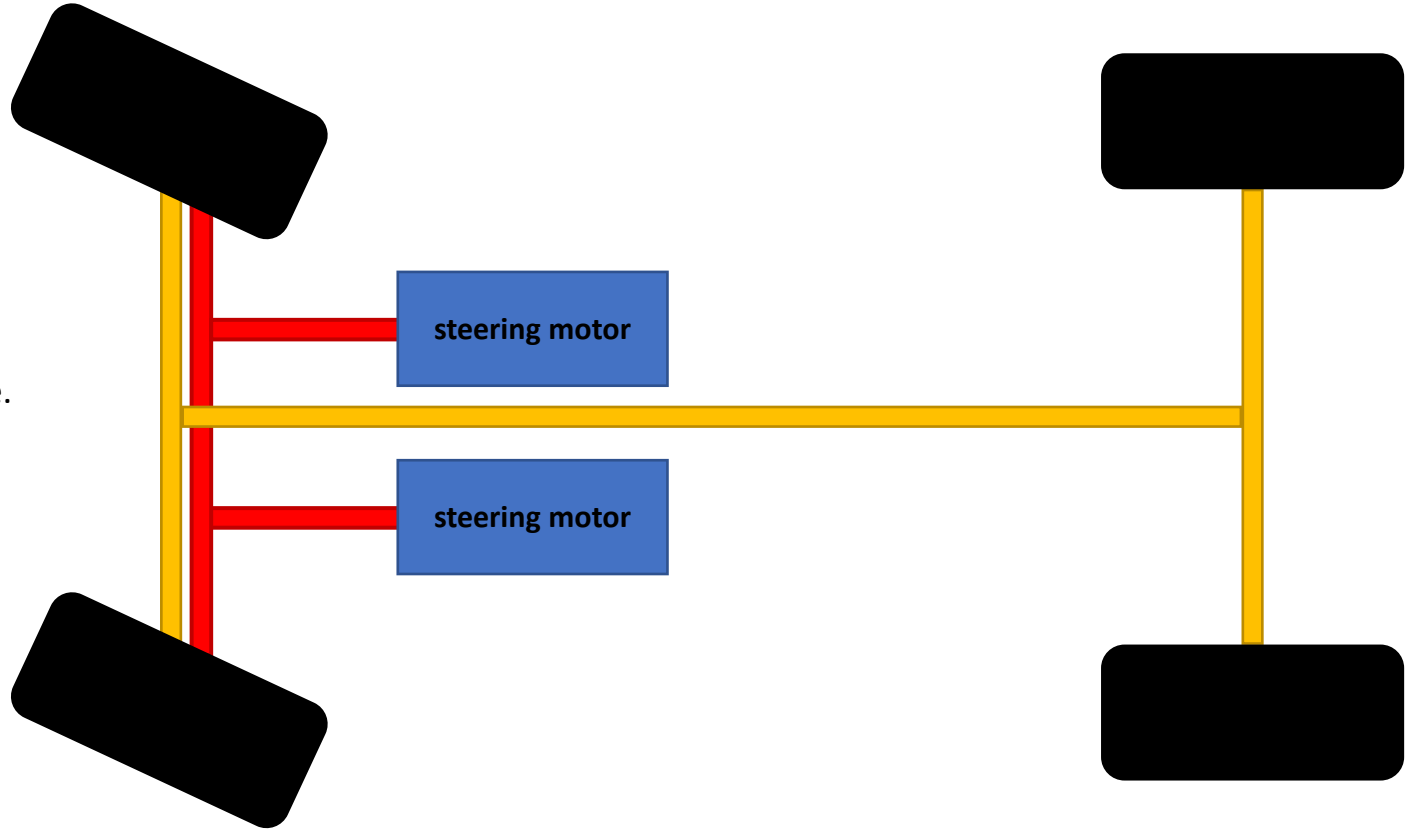
allowed



Steering

not allowed

The construction shown here is not permitted, as 2 steering motors have been installed here.



Steering

not allowed

The construction shown here is not permitted, as 2 steering motors have been installed here.