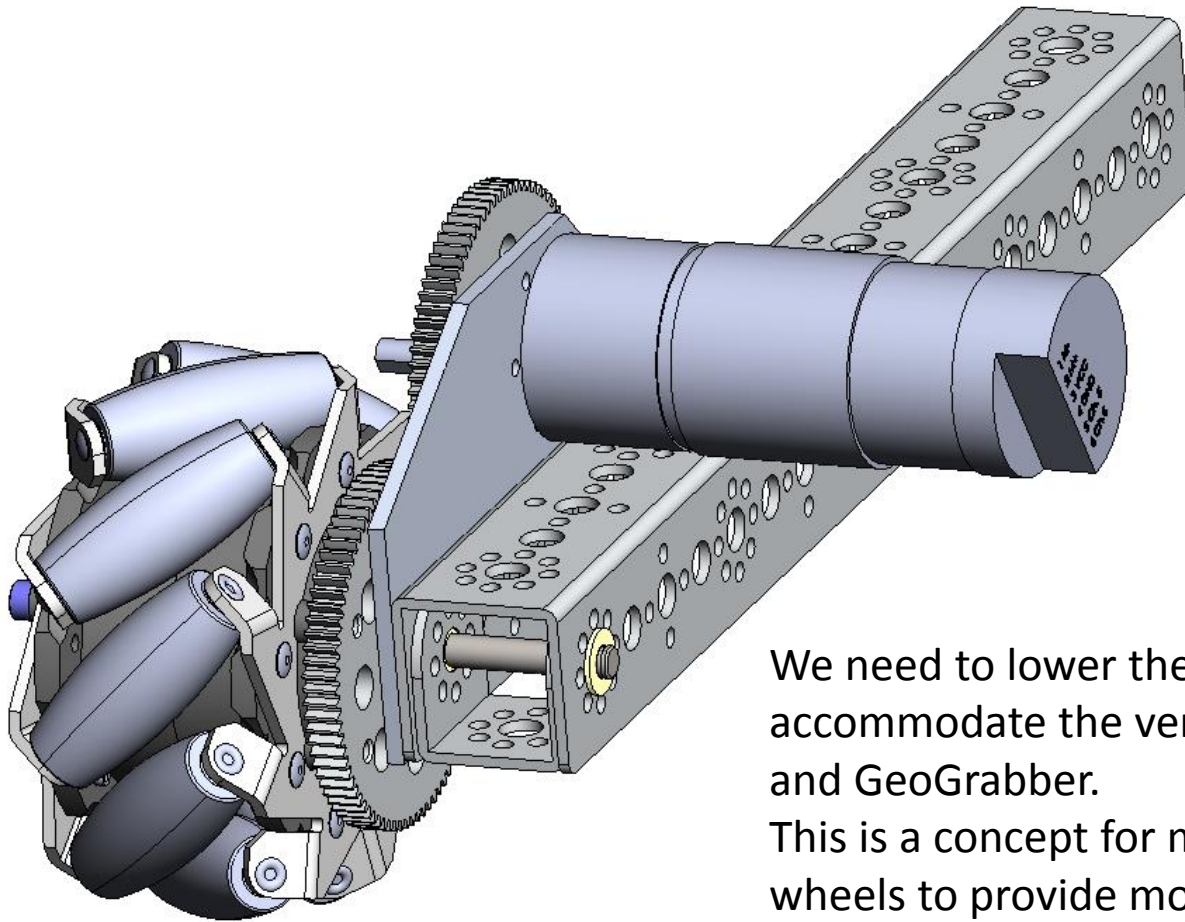


Previously the team mounted the Mech Wheels onto the motor shafts, and attached the motors to the bottom of the frame channel. The motors were stressed, the frame was raised way off the floor.

Last year – wheel mounting

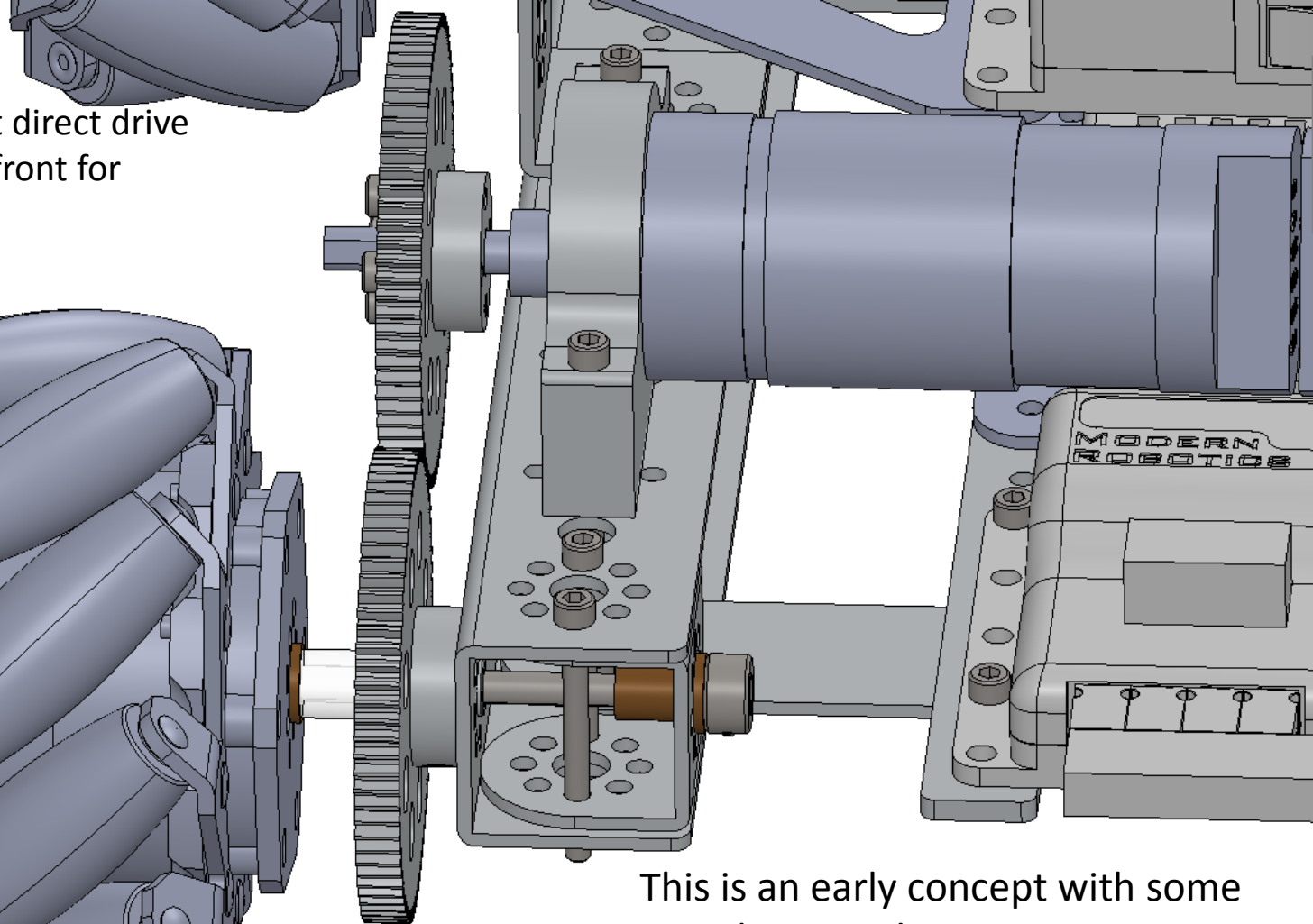


We need to lower the frame to accommodate the vertical axis and GeoGrabber.
This is a concept for mounting the wheels to provide more room.

Issues: Lower the frame
Offset the motors – not direct drive
Provide room between motors for wiring
Lower the wheels motors – clearance for Flip motor travel
Provide room at front for GeoGrabber

Concept – Mech Wheels

12.30.2017



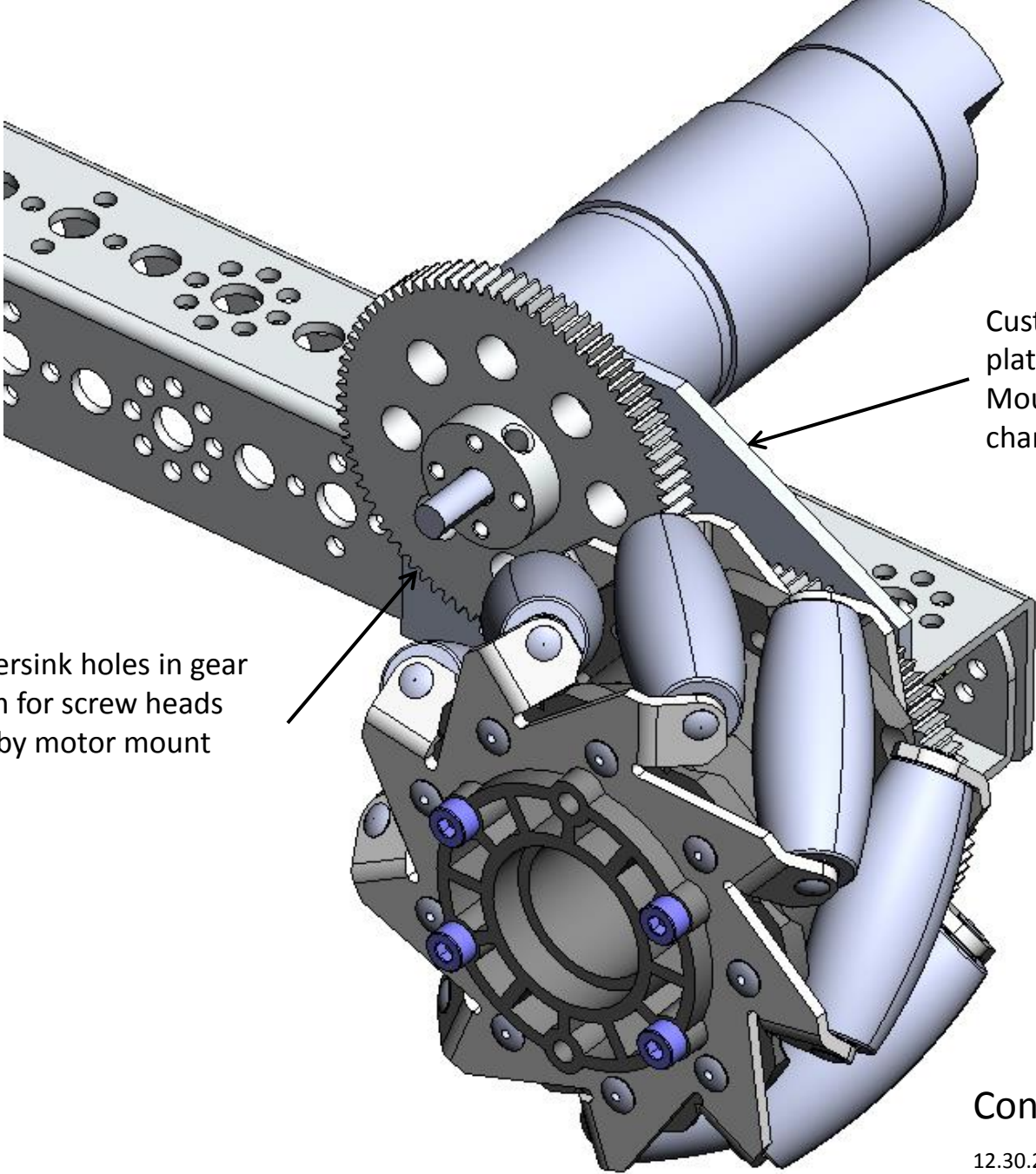
Nice: Lowers the frame
Offsets the motors – not direct drive
Provides some room at front for GeoGrabber
Easy to remove wheels
Standard kit parts

Not nice: Very long slim shaft – bendie.
Wheels a long way from the frame – larger footprint, less maneuverable.
No room between motors for wiring
Wheels motors are high - no clearance for Flip motor travel

This is an early concept with some nice things and some issues.
Today's concept is a re-thinking of this concept to address the issues and build on the nice.

Early Concept –Wheels

12.30.2017



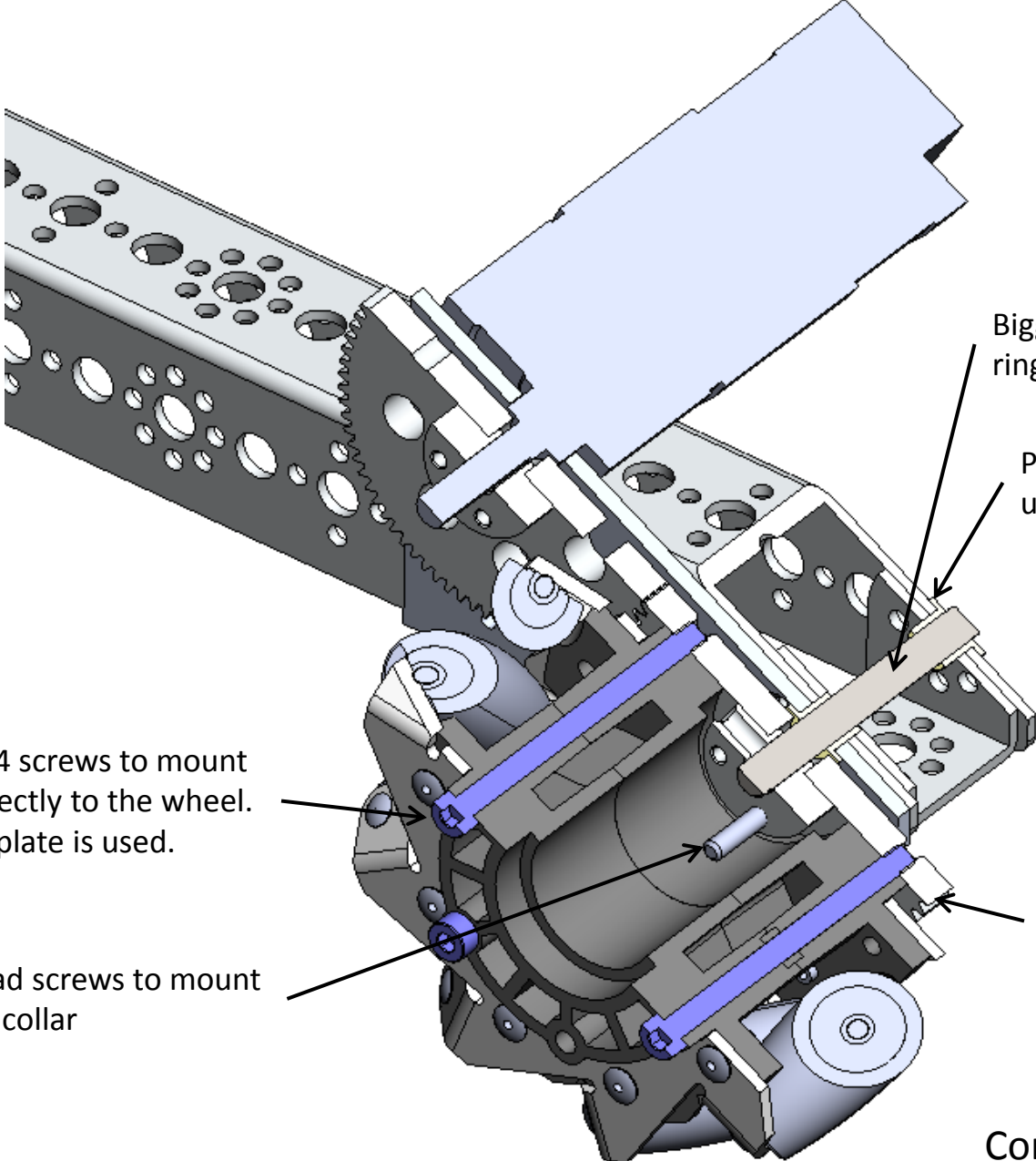
Countersink holes in gear
– room for screw heads
taken by motor mount
plate.

The image is a 3D CAD rendering of a mechanical assembly. A motor is mounted on a custom plate, which is attached to a long, perforated metal channel. A large gear is mounted on the motor's shaft, and it meshes with a smaller gear on a vertical shaft. The assembly is supported by a base plate with several blue-colored fasteners. Arrows point from text labels to specific features: one points to the custom motor mount plate, and another points to the countersink holes in the large gear.

Custom motor mount
plate with spacers –
Mounts to the side of the
channel.

Concept – Mech Wheels

12.30.2017



Long M4 screws to mount gear directly to the wheel. No hex plate is used.

Flat head screws to mount gear to collar

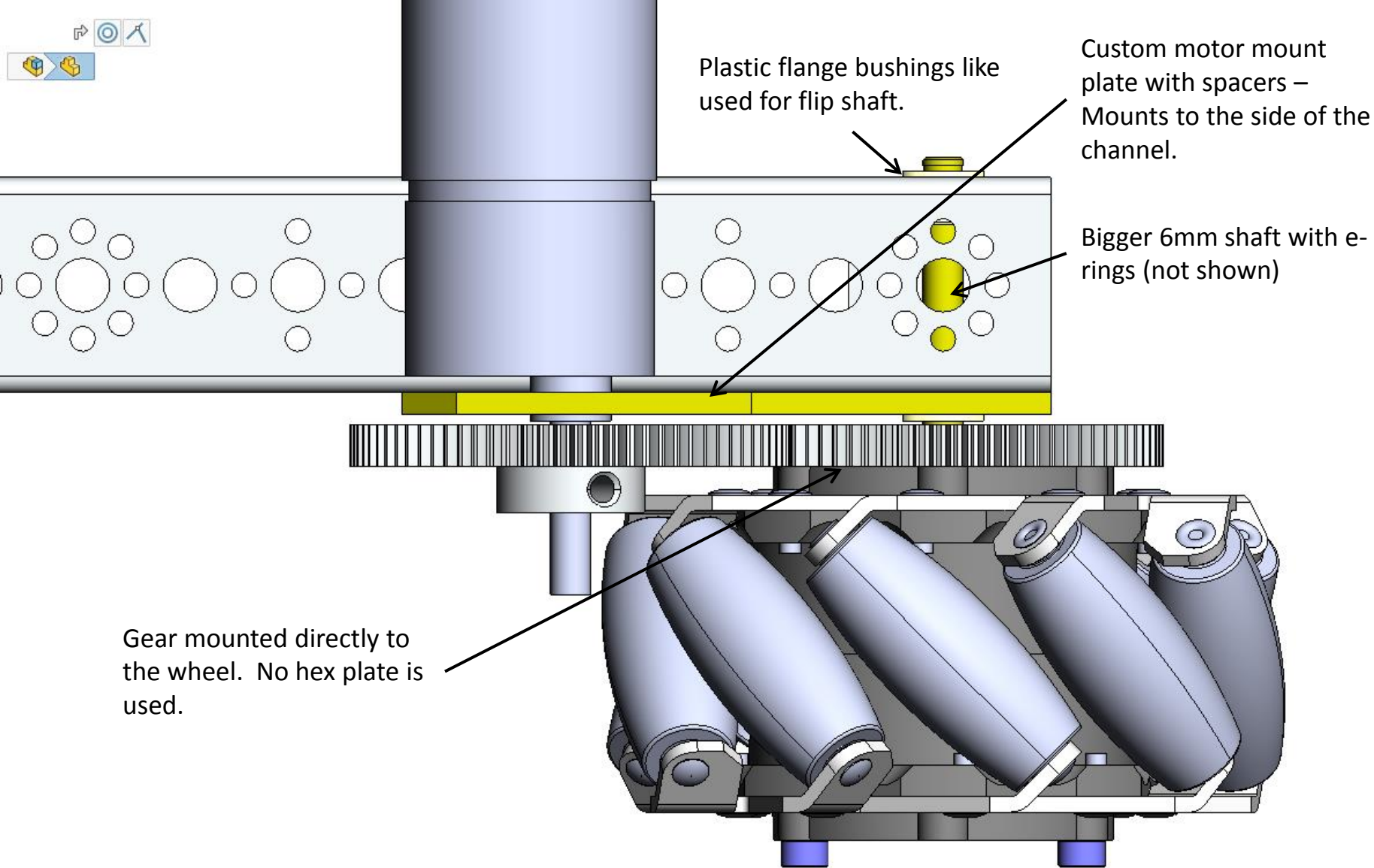
Bigger 6mm shaft with e-rings (not shown)

Plastic flange bushings like used for flip shaft.

Gear – drill and tap for long screws. Countersink screw holes for mounting to collar. Room for screw heads taken by motor mount.

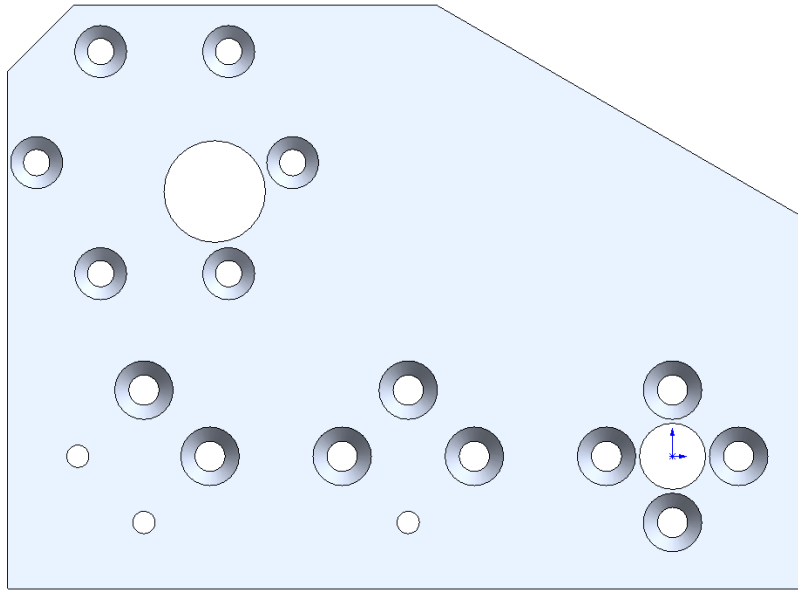
Concept – Mech Wheels

12.30.2017



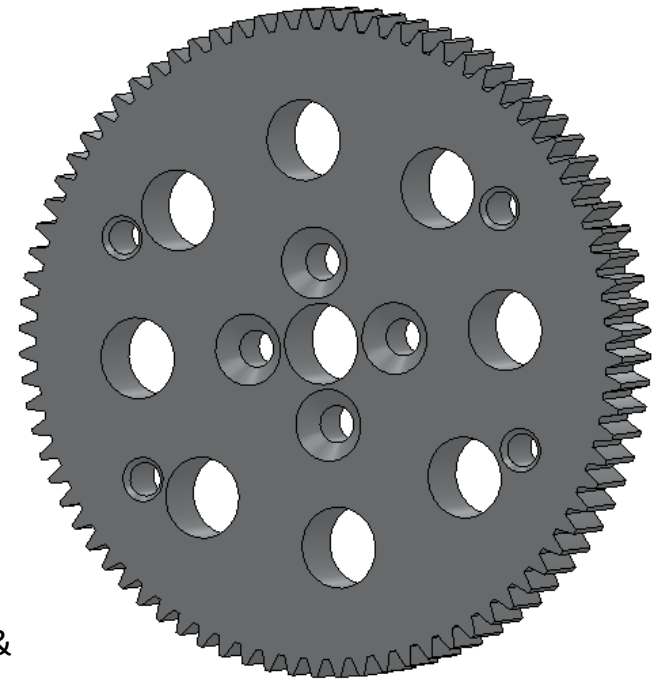
Concept – Mech Wheels

12.30.2017



Custom motor mount
4 needed, 2 left, 2 right

Mod to gear – tap M4 &
Countersink holes.



Concept – Mech Wheels

12.30.2017