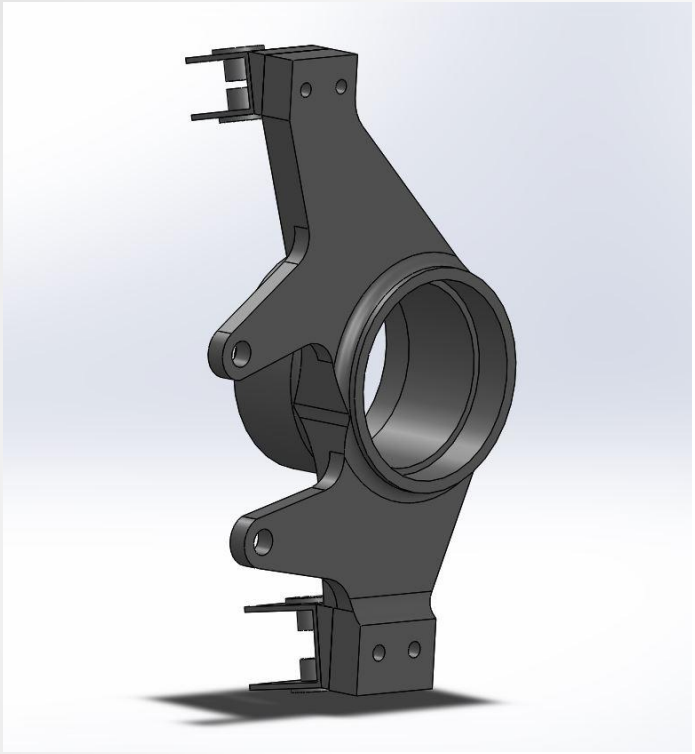
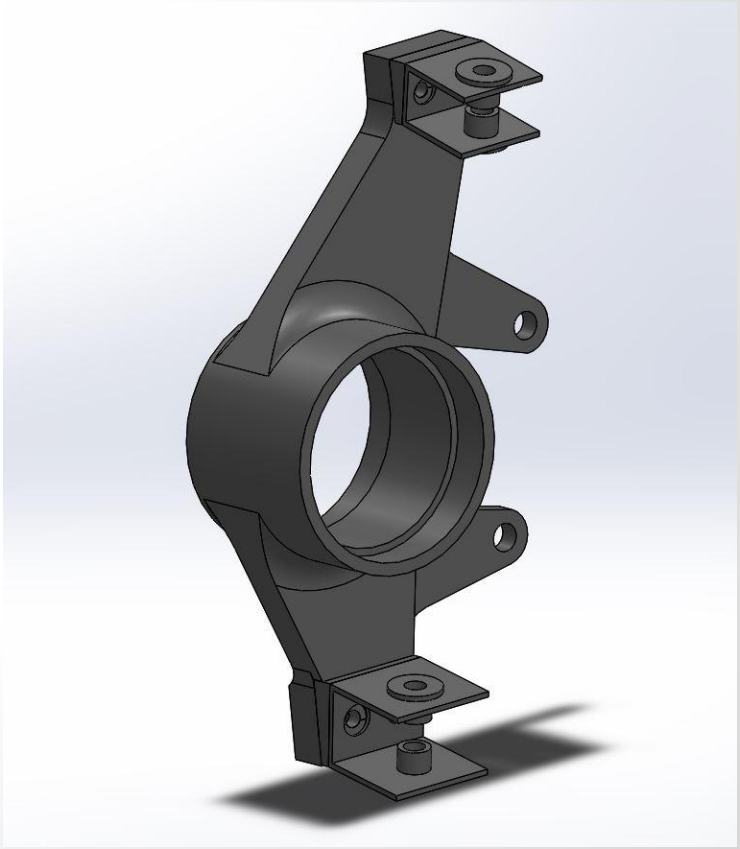
RENSSELAER MOTORSPORT

Uprights





Design requirements

- Minimize weight
- Easy machinability
- Fit inside the rim
- Mounts to be in plane with A-arms
- Not interfere rim from lock to lock

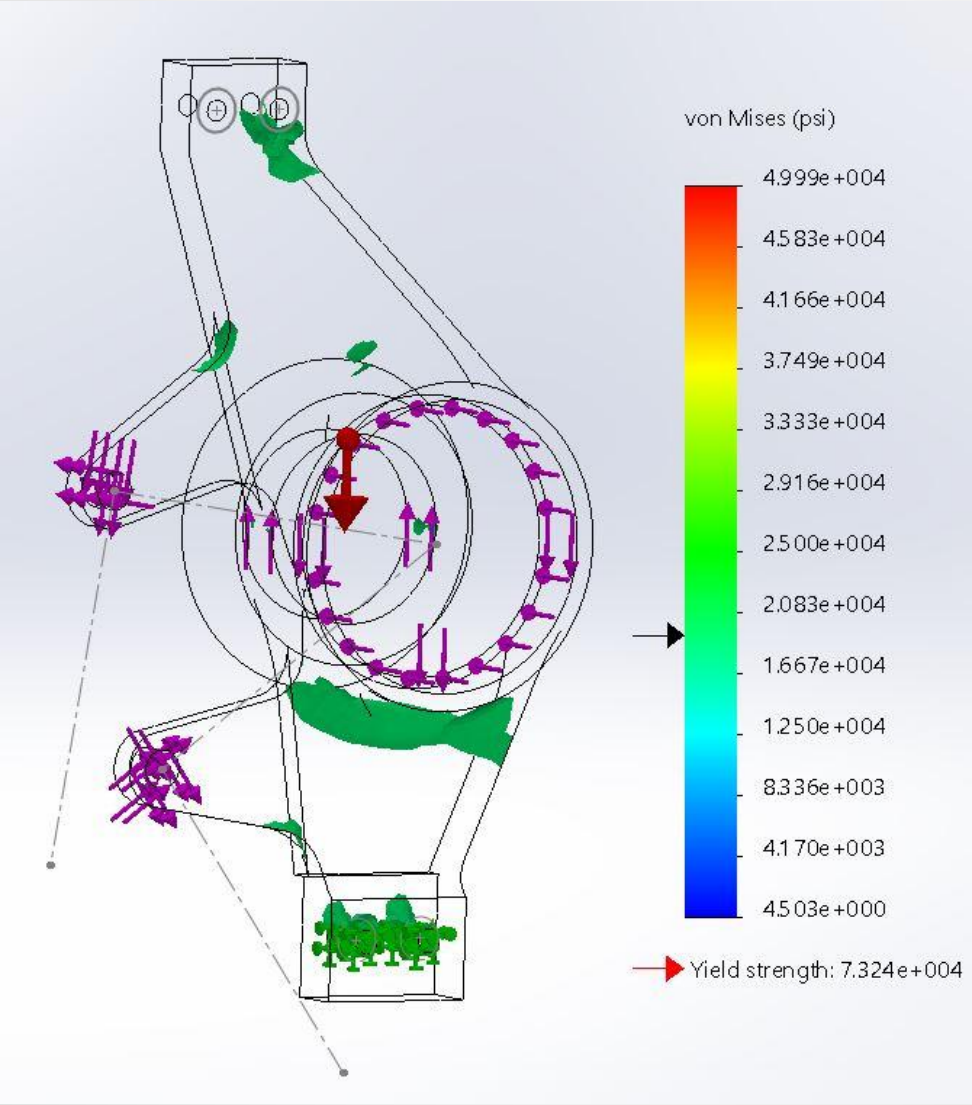
What overall design directions did you consider?

Material
- Aluminium
- Welded Sheet Metal

Structure Type
- Pocketed
- Spindly
- Square

Mounts
- Welded
- Included in body

FEA



Inner bearing: 16493N
Outer Bearing: 14179N
Thrust from outside: 2892N

Manufacturing

How are you going to make it?

- Machined on 3 axis mill
- Welded

Will it require sponsorship/machining?

- PVA

What would I do different?

- Start earlier
- Make sure the person designing points doesn't put the A-arm points in the rim
- Make sure your brakes fit inside the rim
- Reduce wheel spacer weight by moving the "bearing cup" further outside
- Design the mounts to be more integrated.
- Start earlier
- Rethink loading