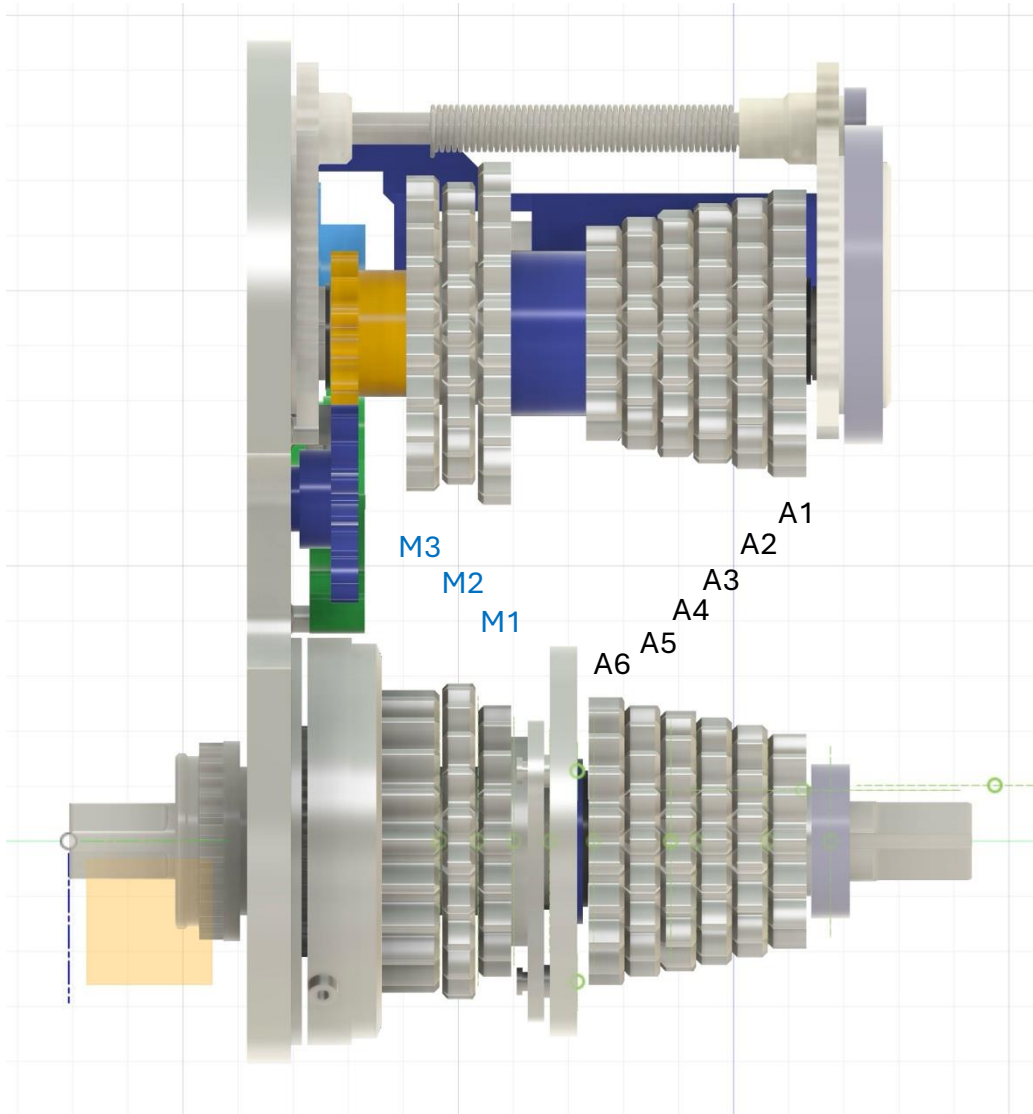


Design Brief

Dimitri Gearbox – Shifting System

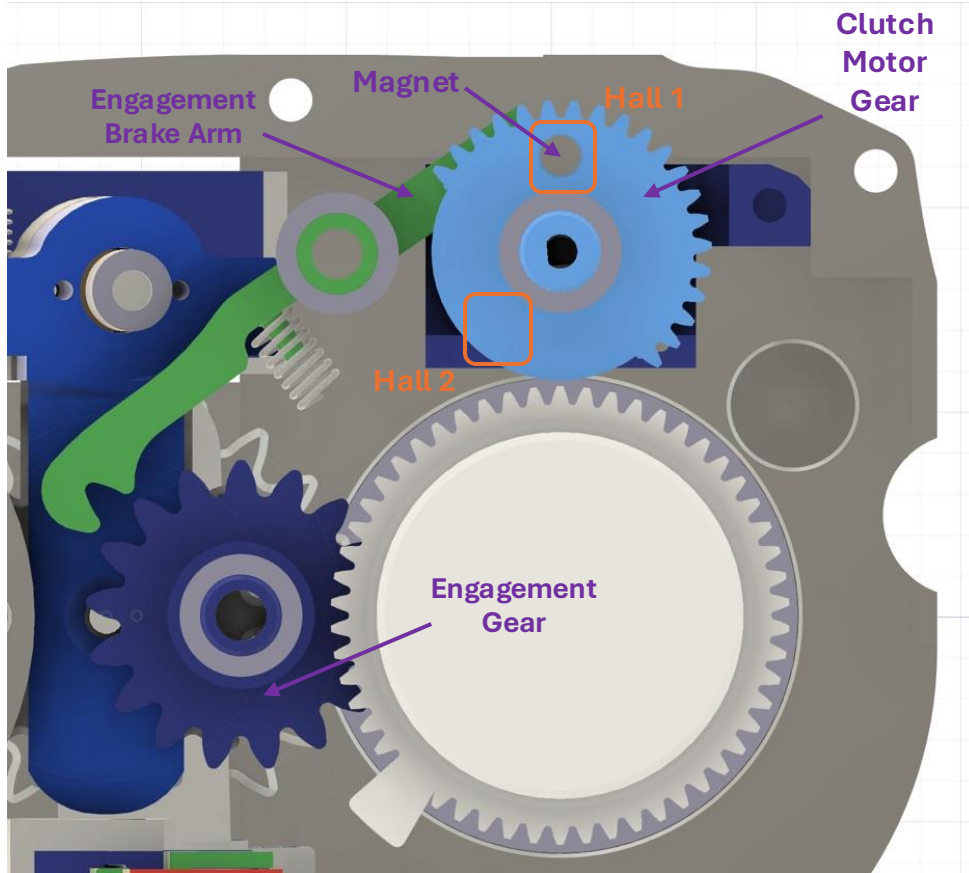
30-JUL-24

Gear System Layout



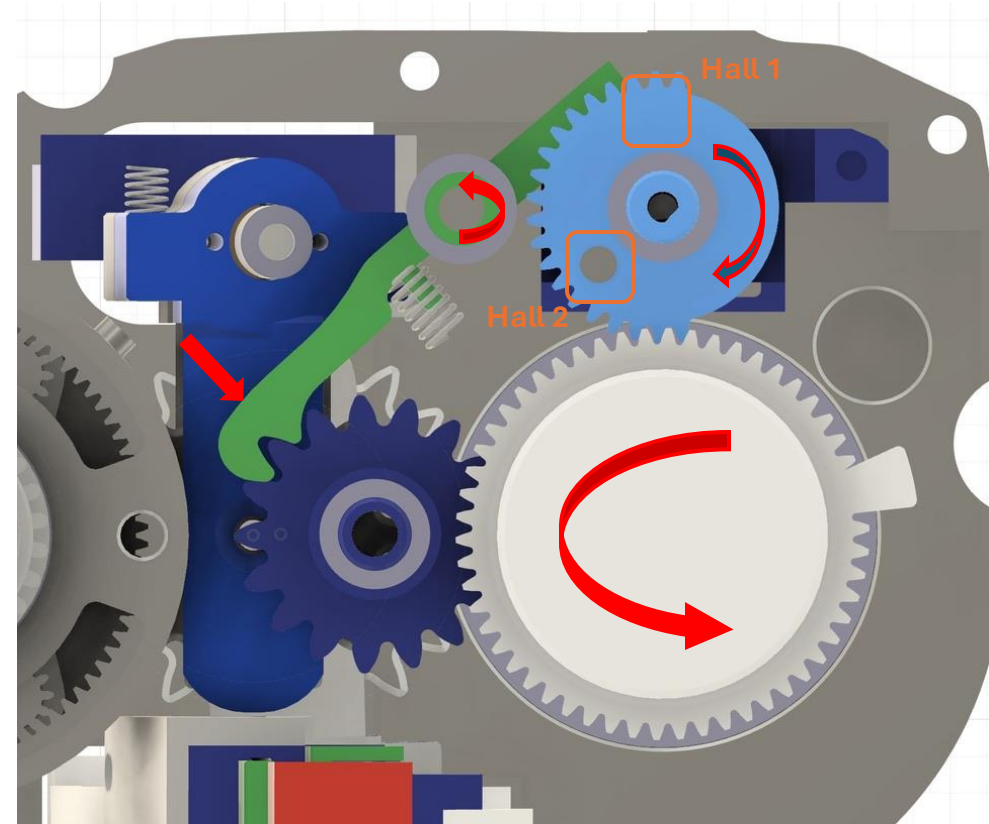
SPEED	A Stage	M Stage	Total Ratio	% Change	
1	A1	M1	0.376		
2	A2	M1	0.425	113%	
3	A3	M1	0.480	113%	
4	A4	M1	0.542	113%	
5	A5	M1	0.612	113%	
6	A6	M1	0.692	113%	
7	A2	M2	0.792	114%	
8	A3	M2	0.894	113%	
9	A4	M2	1.009	113%	
10	A5	M2	1.140	113%	
11	A1	M3	1.282	112%	
12	A2	M3	1.450	113%	
13	A3	M3	1.638	113%	
14	A4	M3	1.849	113%	
15	A5	M3	2.088	113%	
16	A6	M3	2.361	113%	628%

Pedal Assist – Shifting Under Load System



Pedaling Condition

- Clutch disengaged
- Magnet in Hall 1 position



Shifting Condition

- Clutch Motor Gear (CMG) turns CW **228 deg.** To Hall 2 position and holds in “Stall Motor” condition
- Eccentric Cam feature on CMG pushes up and rotates Engagement Brake Arm 6 deg., which engages and brakes the Engagement Gear
- After linear shifting between gear stages is completed, CMG rotates CW remaining **132 deg.** back to Hall 1 position

Perspective Views

