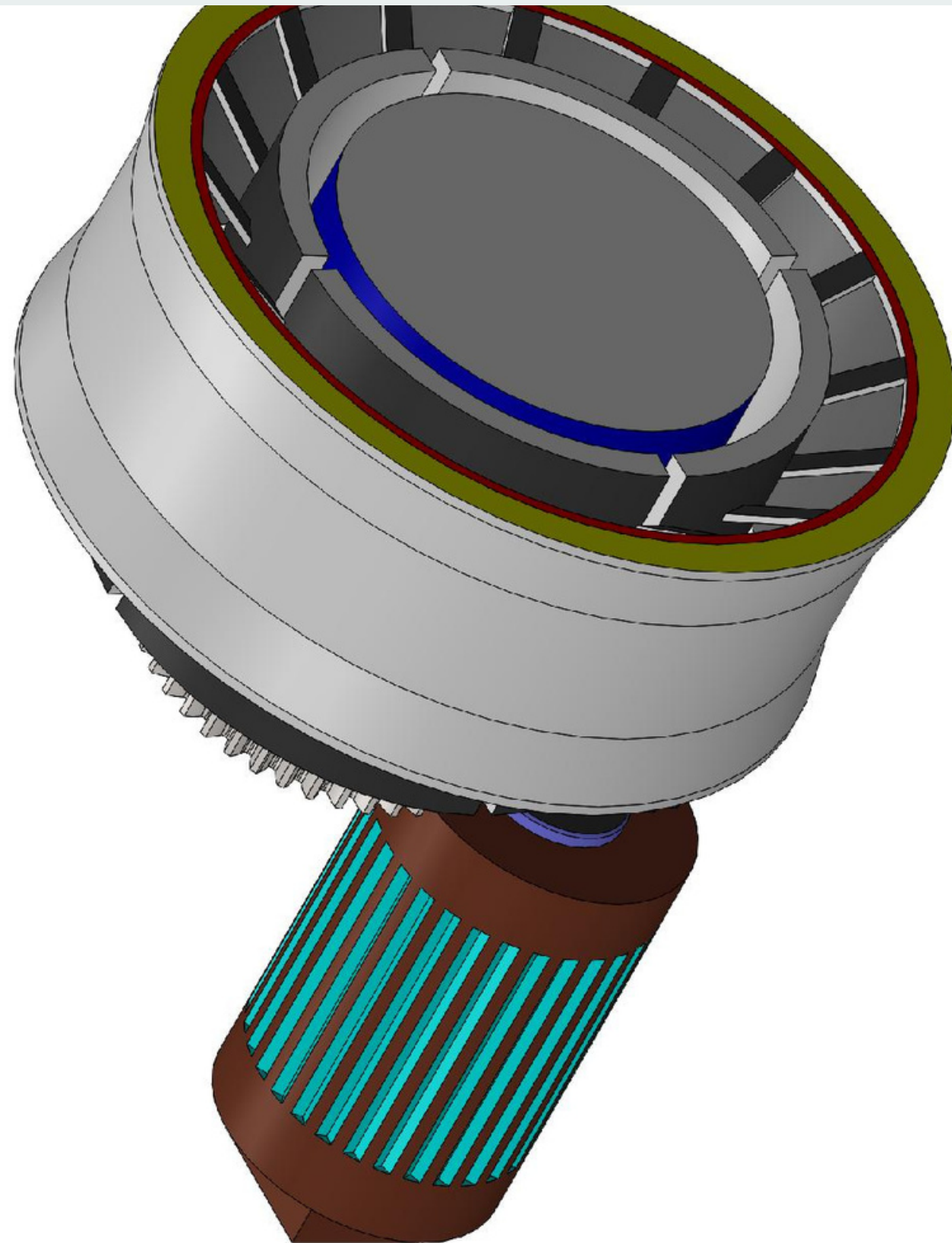




MAGLEV WHEEL

BY ABHIJEET.B.R



GENERAL INFO

ABOUT THE MAGLEV WHEEL

Electric Vehicles are rapidly dominating the Automobile Market. In a decade or so almost 80 percent of the fossil fuel running vehicles will be replaced by EV's. Thus R&D teams from all over the automobile world are looking to tap into the EV market with new and innovative projects.

A new take on the existing EV concept and enhancing it would definitely expand the market and make it more efficient.

Magnetic levitation has been a concept which has been researched extensively, This is my take on the same and I have implemented the same in our existing EV Wheels.

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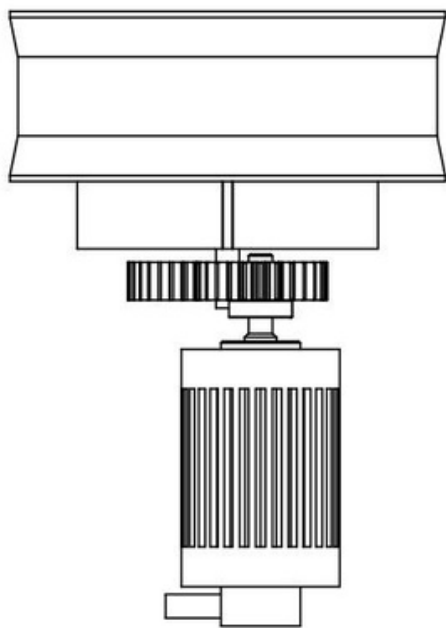
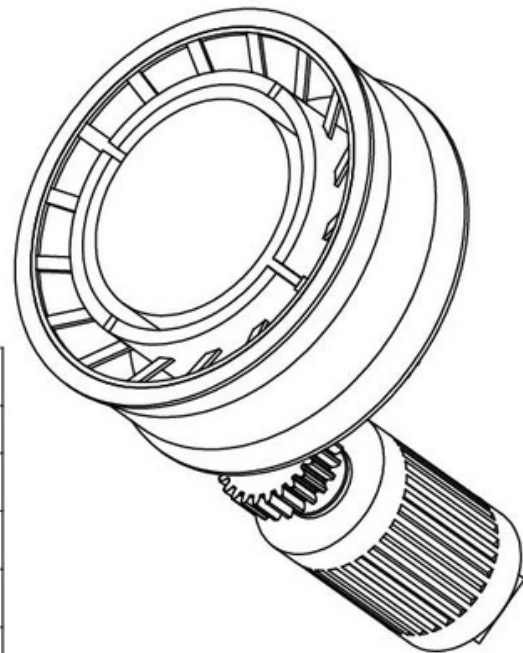
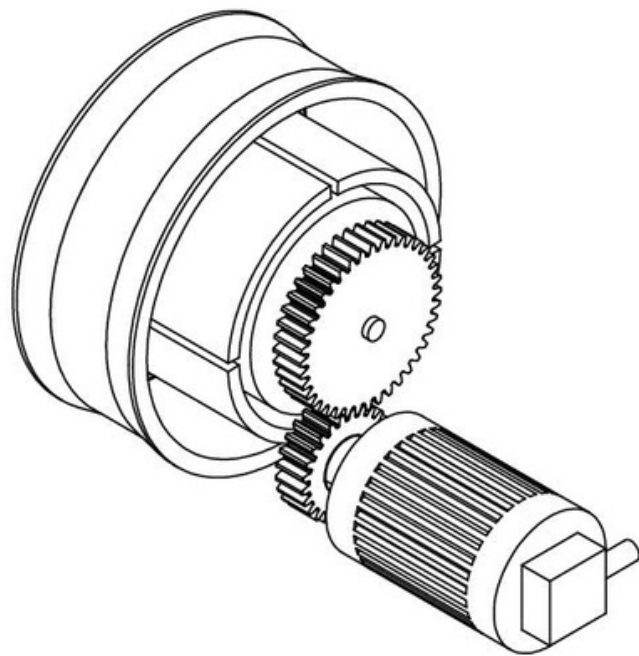
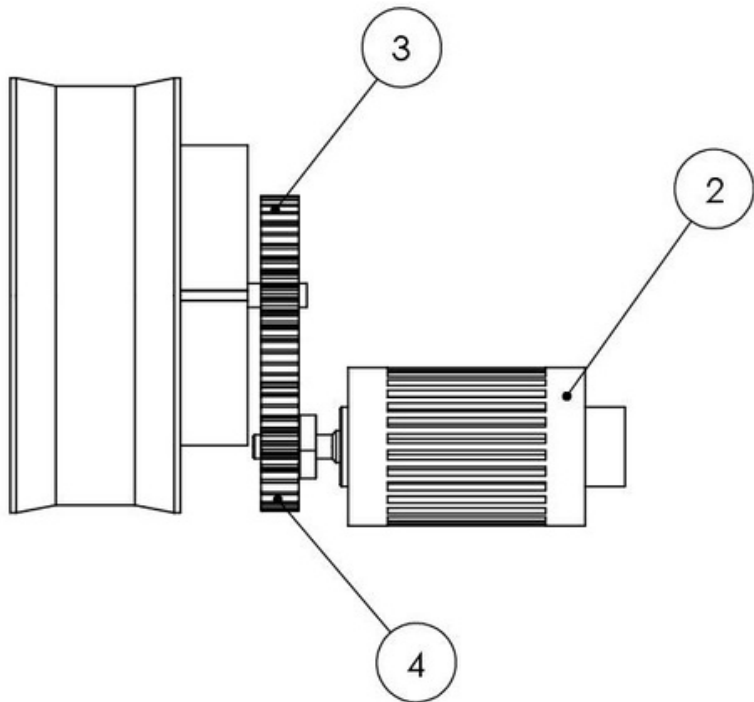
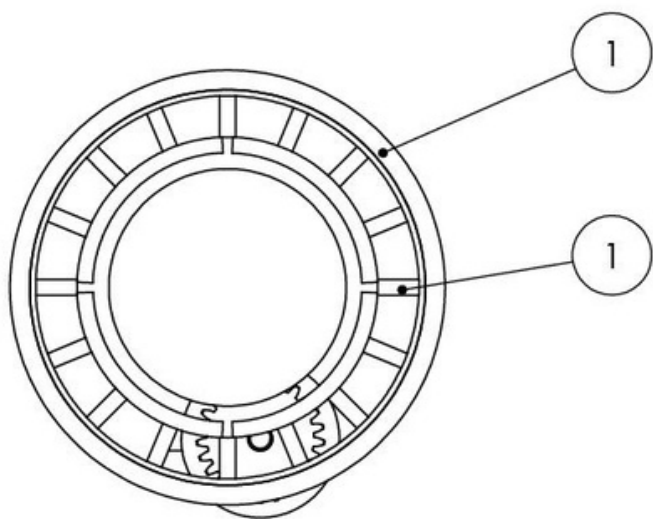
E

D

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ITEM NO.	PART NUMBER	MATERIAL	QTY.
1	MAGLEV WHEEL	NBTI	1
2	INDUCTION MOTOR	-	1
3	40 TEETH SPUR GEAR	C1 STEEL	1
4	25 TEETH SPUR GEAR	C1 STEEL	1
5	SPOKES	GRAPHENE WITH NYLON	1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH:		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
DRAWN:		NAME		SIGNATURE		DATE		TITLE: MAGLEV WHEEL ASSY		DWG. NO.	
CHK'D:											
APPV'D:											
MFG:											
Q.A:											
						MATERIAL:				A3	



WHY MAGLEV WHEELS

Me being a design engineer was fascinated by the concept of Maglev trains and the sheer amount of speed it can travel at. About 8 to 10 years ago two wheeler brands like Hero, and other famous brands started to showcase the implementation of Maglev train in their two wheelers.

This had me intrigued, and me being an automobile enthusiast was baffled by the concept and it's pros over normal motor driven vehicles.

The basic principle of an EV consists of 2 fundamental things, one is the battery, the other is a motor. These 2 components make up almost 80 percent of the Electric Vehicle. Making what is already a good recipe is a very tough task Mblend in alev wheels



WORKING PRINCIPLE

MIt is the same as any maglev train, but instead of a linear motor the Maglev wheel has a conventional rotary motor which helps in reversing polarity within a confined area.

The magnetic levitation induces inertia in the rotatory wheel, thus neglecting friction and its adverse effects. This helps in better cooling of the motor, lesser energy consumption, thus giving the setup a longer range.

The Rim is placed concentrically in a small clearance with the electro-magnetic generator.

This mechanism is similar to that of an existing drum brake where in the diaphragm expands thus making contact with the outer drum. But here as the brakes are applied the rim starts to make contact with the Electromagnetic Generator. And thus aids in stopping of the automobile.