

Ultrapower Saving Vehicle

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Abstract: -- In this project The condition of a driven shaft spinning faster than its driveshaft exists in most bicycles when the rider holds his or her feet still, no longer pushing the pedals. In a fixed-gear bicycle, without a freewheel, the rear wheel would drive the pedals around. An analogous condition exists in an automobile with a manual transmission going down hill or any situation where the driver takes his or her foot off the gas pedal, closing the throttle; the wheels want to drive the engine, possibly at a higher RPM.

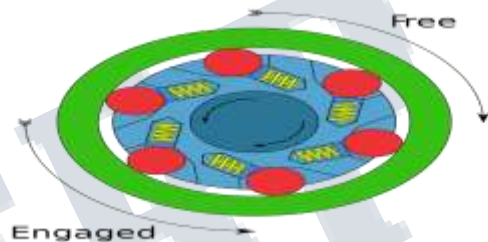
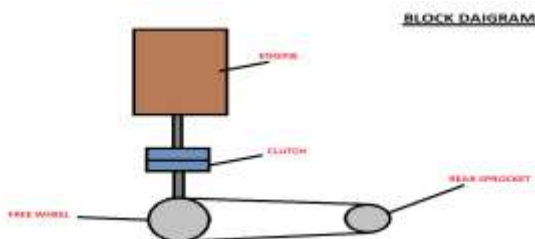
I. INTRODUCTION

In mechanical or automotive engineering, a freewheel or overrunning clutch is a device in a transmission that disengages the driveshaft from the driven shaft when the driven shaft rotates faster than the driveshaft. An overdrive is sometimes mistakenly called a freewheel, but is otherwise unrelated. The condition of a driven shaft spinning faster than its driveshaft exists in most bicycles when the rider holds his or her feet still, no longer pushing the pedals. In a fixed-gear bicycle, without a freewheel, the rear wheel would drive the pedals around. An analogous condition exists in an automobile with a manual transmission going down hill or any situation where the driver takes his or her foot off the gas pedal, closing the throttle; the wheels want to drive the engine, possibly at a higher RPM

II. WORKING PRINCIPLE

The simplest freewheel device consists of two saw-toothed, spring-loaded discs pressing against each other with the toothed sides together, somewhat like a ratchet. Rotating in one direction, the saw teeth of the drive disc lock with the teeth of the driven disc, making it rotate at the same speed. If the drive disc slows down or stops rotating, the teeth of the driven disc slip over the drive disc teeth and continue rotating, producing a characteristic clicking sound proportionate to the speed difference of the driven gear relative to that of the (slower) driving gear.

Diagrams



ADVANTAGES

- a freewheel mechanism acts as an automatic clutch,
- making it possible to change gears in a manual gearbox,
- either up- or downshifting,
- without depressing the clutch pedal, limiting the use of the manual clutch

III. COST AND ESTIMATION

S.NO	COMPONENTS	QUANTITY	COST (in Rupees)
1	Motorbike	1	12500
2	Free wheel	1	2500
3	Shaft	1	1000
4	Garage charges		1500
5	Other charges		1200
Total			18700

IV. DISCUSSION

Our study was based on improving the two wheeler vehicle mileage. So we started analyzing the factors which is responsible for mileage improvement. Lot of studies have been done, and we find that replacing gear box sprocket with free wheel would improve the vehicle mileage by means of utilizing the kinetic energy and it can be harvested for the vehicle movement without consuming the fuel for several distance. Overall fuel consumption can be reduced. Towards this fabrication of GB sprocket with required dimension and process has been completed and the same was incorporated in the vehicle gearbox and further details surveyed.

V. CONCLUSION

The gear box sprocket with the required dimension has been fabricated and the same is fitted in the gear box. Trails has been done consecutively and the mileage is improved comparatively. It is surveyed that the mileage is approximately improved to 10 Km/lit

VI. ACKNOWLEDGEMENT

The authors wish to thank the management of Sri Sai Ram college of engineering and Management and Head of the department for providing the facilities to carry out this work. I also would like to express my deep sense of gratitude to asstprof.rajesh t& faculty, department of Mechanical Engineering, for their support during this project work.

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