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Motorized Bicycle

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Abstract: This paper describes about Motorized bicycle. This technical paper will discuss in details about the history, science and technology, mechanism, uses, advantages and disadvantages of motorized bicycle and the machine. The assembly and working of this bicycle are based on engine power and its mechanism

Keywords: cost effective, ease of installation and investment

I. HISTORY OF MOTORIZED BICYCLE

The two-wheeled pedal powered bicycle was first conceived in Paris in the 1860s. By 1888 John Dunlop's pneumatic tire and the drive made possible the safety bicycle, giving the bicycle its modern form. The origins of the motorized bicycle or motorbike can be traced back to the latter part of the 19th century when experimenters began attaching steam engines to stock tricycles and quadracycles. The first true motorized bicycle is generally considered to be the French Michaux-Perroux steam velocipede of 1868. The Michaux-Perroux was followed by the American Roper steam velocipede of 1869, built by Sylvester H. Roper of Roxbury, Massachusetts. Roper demonstrated his machine at fairs and circuses in the eastern United States in 1867, and built a total of 10 examples. These early attempts at propelling a bicycle by means other than the human body were not successful, either practically or commercially. It was not until the 1890s, with the advent of the gasoline-powered internal combustion engine (ICE), that the motorized bicycle could be considered a practical machine

II. COMPONENTS

80cc engine, accelerator, clutch, wires, cycle, carburettor, cycle chain, bike chain, fuel tank, brakes, silencer, starter,

III. ABOUT PROJECT

A motorised bicycle is a bicycle with an attached motor or engine and transmission used either to power the vehicle unassisted, or to assist with pedalling. Since it always retains both pedals and a discrete connected drive for rider-powered propulsion, the motorised bicycle is in technical terms a true bicycle, albeit a power-assisted one. However, for purposes of governmental licensing and registration requirements, the type may be legally defined as a motor vehicle, motorbike, moped, or a separate class of hybrid vehicle. Powered by a variety of engine types and designs, the motorised bicycle formed the prototype for what would later become the motorbike.

IV. ENVIRONMENTAL EFFECTS

The environmental effects of motorized bicycles vary according to the power source. Most electric bicycles are considered by some to be zero-emissions vehicles, as they emit no combustion by-products. However, the environmental effects of electricity generation and power distribution from plants generating power from fossil fuels, as well as manufacturing and disposing of (limited life) high density batteries containing toxic materials must also be taken into account. Older two stroke engines, commonly use in motorized bicycles powered by internal combustion engines often emitted more pollution than automobiles due to partial combustion of oil included in the fuel, but this is not the case with four-stroke or newer 2 stroke motor designs.

V. DESIGN AND USAGE

Motorized bicycles have utilized all variety of engines, from internal-combustion (IC) two-stroke and four-stroke gasoline engines to electric, diesel, or even steam propulsion. Most motorized bicycles are based or derived from standard general-purpose bicycle frame designs and technologies, although exceptions abound. In addition, modifications to a standard bicycle frame to support motorization may be extensive. The earliest motorized bicycles were ordinary utility bicycles fitted with an add-on motor and transmission to assist normal pedal propulsion, and it is this form that principally distinguishes the motorized bicycle from a moped or motorcycle. In a day when gasoline engine and transmission designs were in their infancy, and power-to-weight ratios were low, a dual-purpose propulsion system seemed particularly advantageous. As time went on, pedal propulsion was increasingly replaced by constant use of a two or four-stroke gasoline engine. Nevertheless, the concept of using motor assist for the ordinary bicycle has persisted, and the concept has periodically resurfaced over the years, particularly in times of austerity or fuel shortages. In countries where automobiles and/or fuels are prohibitively expensive, the motorized bicycle has enjoyed continued popularity as a primary mode of transportation.

VI. DIFFERENT TYPES OF BICYCLE

Elliptical Bicycle, Motorized Bicycle, Electric Bicycle, Air Bike, Hybrid Bicycle

VII. MOTORIZED BICYCLE

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VIII. AIM OF MOTORIZED BICYCLE

- A. To eliminate complex mechanism.
- B. To reduce cost.
- C. Better investment
- D. Better output.
- E. Low fuel consumption

IX. ENERGY REQUIRED FOR MACHINE

This bicycle works on the principle of power generated by the engine motor with the help of fuel. It is not based on kick start. It starts with the help of clutch and sudden start system.

When we start pedalling the bicycle slowly, the engine starts and then we leave the clutch and rotate the accelerator and then due to sudden jerk the motor starts and the engine gives power to the tyres and the tyre starts rotating because chain movement and the cycle starts with the speed of 40km/hr

A. Engine Installation

The engine is first tried to fit in the space of the cycle rods. Once the engine is properly fitted according to the assumption the engine is fixed with the help of clips, nuts and bolts. The engine once fixed then other mountings are fixed.

X. SAFETY PROCEDURES

- A. Keep fingers and loose clothing away from hot parts such as the engine and silencer.
- B. Wear specs while grinding
- C. Wash hands after the assembly due to grease and oil gets deposited on skin
- D. Take care while assembling the parts
- E. Pay proper attention while doing the wire work

XI. CONCLUSION

The laws on electric motor-powered bicycles or *E-bikes* vary considerably according to country. In many nations, a top limit on the power of the electric motor is imposed if the vehicle is to be legally classified and/or taxed as a motorized bicycle.

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