Two Stroke engine modifications for Torque enhancement

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Abstract

Conversion of a 50 cc moped in a sports bike or a racing bike is the primary objective of this idea. The small moped when installed along with this proposed system can run with a speed that of racing bikes. A 49 cc street moped, 3.9 bhp velocity with a maximum torque of 50 km, is transformed into a 70 cc racing bike with a torque yield of 9bhp, which can produce a speed of 100 kilometers, thus creating a revolution in the field of bike racing. The conversion does not involve the moped to be overally customized for increasing the toque, thus is cost effective and efficient in nature.

Keywords-moped, bhp (brake horse power), torque

INTRODUCTION

The two-stroke engine is a sort of inner fuel engine combustion that finishes a power cycle in just a revolution and with two piston strokes or motions moving up-and down, compared to the four-strokes performed by a four-stroke engine.[1] It is achieved by the end of the combustion stroke and the commencement of the compression stroke, which occurs simultaneously which facilitates intake and exhaust functions at the same time[2]. Two-stroke engines often provide a high power to weight ratio and are generally more compact and considerably larger in comparison with 4-stroke engines[3]–[8]. Two-stroke engines often provide a high power to weight ratio, usually in a narrower spectrum of rotating velocities known as the ‘power band’.

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WORKING

The combination of fresh air and fuel enters the crank chamber through the valve, when the piston moves from the BDC (bottom dead center) to TDC (top dead center). Because of the pressure gap between the crank chamber and the outside atmosphere, the combination of air-fuel enters inside the chamber. The air-fuel mixture is compressed simultaneously present above the piston. At the end of the stroke, ignition is carried out using spark plug. The piston moves down due to the explosion of the gases facilitating the closure of valve and the air-fuel mixture present inside the crank chamber is compressed, and the piston moves downwards, i.e. TDC to BDC. The burnt gases escape from the exhaust port when the piston is moves to the lower dead center. At the same time, the transfer port is uncovered and the compressed charge is entered by transfer

port from the crank chamber into the combustion chamber. A hump on the top of the piston deflects this new charge upwards. This new charge removes gas exhaust from the combustion chamber and again the piston moves from the lower dead center to the top dead center, and when both exhaust port and transfer ports are covered, the air-fuel mixture is compressed and the cycle keeps repeating.

RESULT AND CONCLUSION

The project has been carried out to carry out an impressive job in the field of automobile industries. It is very helpful for motorcyclists to use moped energy to ride the automobile. The costs engaged in this project have also been decreased as compared to the conventional projects. The entire required task that was also supplied for the project was also carried out. Generally the price of sports motorcycle is considerably greater than the ordinary price of the normal bikes, but due to this advantage it can achieved at lower costs.

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