Engine Modification in Go Kart

Mr. Khajan Singh Rahi[1], Danish Khan[2], Faraz Ansari[3], Mirza Akif Beig[4], Shubham Soni[5]
[1]*Assistant professor, Mechanical Department Geetanjali Institute of Technical Studies, Udaipur, India*
[2345] *Geetanjali Institute of Technical Studies, Udaipur, India*

***Abstract*- This paper deals with light this data concerning Four Stroke burning Engine. The current principle of 4 Stroke cylinder engine includes axis of plate. This in itself has channels that area unit accustomed provide the fuel. The new principle of the plate for all 4-stroke engines embrace the axis of the plate, which in itself has channels that are used to supply burn-smiling or flue gases. Axle head gaskets into the plate of engine that has the holes that abundant channel plate and thru that piston valves that leans slightly wire spring on shaft of cylinder head. Such Four Stroke engine has monumental benefits over record circuits and permanent set no condition in engine.**

This principle of 4 Stroke cylinder engine is a perfect atmosphere for any development and improvement.

Index Terms- Four Stroke burning engine, Axle head gaskets.

INTRODUCTION

An engine is device that transforms one style of energy into another type. Most of engine converts thermal energy into mechanical energy. An internal Combustion Engine may be a engine wherever the combustion of fuel happens with oxidizing agent (usually air) in a very combustion chamber the primary commercially triple-crown burning engine was created by Étienne Lenoir around 1859 and therefore the 1st trendy burning engine was created in 1864 by Siegfried Marcus.

The engine with proposed improvements is capable of doubling the engine output power and of holding it up for a certain period (time depends on a type of the engine) without overheating. This feature permits increasing the vehicle power-to-weight magnitude relation once it's necessary in accordance with the dynamic vehicle operation and road conditions.

CLASSIFICATION OF INTERNAL COMBUSTION ENGINE:

ACCORDING TO CYCLE OF OPERATION:

i. Two Stroke Cycle Engine. ii.Four Stroke Cycle Engine.

ACCORDING TO CYCLE OF COMBUSTION:

1. Otto Cycle Engine.
2. Diesel Cycle Engine.
3. Dual Combustion Cycle Engine.

ACCORDING TO ARRANGEMENT OF CYLINDER:

1. Single Cylinder Engine. ii.In Line or Straight Engine.

ACCORDING TO THEIR USE:

3. Stationary Engine.
4. Mobile Engine.
5. Portable Engine.

ACCORDING TO SPEED OF ENGINE

1. Low Speed Engine.
2. Medium Speed Engine.
3. High Speed Engine.

ACCORDING TO IGNITION:

1. Spark Ignition Engine.
2. Compression Ignition Engine.

CONCEPT CONCERNING FOUR STROKE ENGINE

The Top Dead Centre (TDC) of a piston is the position where it is nearest to the valves; Bottom Dead Centre

(BDC) is that the opposite position wherever it's furthest from them. A stroke is that the movement of a piston from TDC to BDC or contrariwise along with the associated method. While Associate in Nursing engine is operating the shaft rotates endlessly at a virtually constant speed. In a 4-stroke ICE every piston experiences a pair of strokes per

shaft revolution within the following order. Starting the description at TDC, these are:
Suction stroke.
Compression stroke.
Power or Working stroke.
Exhaust Stroke.

SUCTION OR INTAKE: The intake valves are open as a result of the cam lobe pressing down on the valve stem. The piston moves downward increasing the amount of the combustion chamber Associate in Nursing permitting air to enter within the case of a CI engine or an air fuel combine in the case of SI engines that don't use direct injection. The air or air-fuel mixture is named the charge in any case. Mixture of Air and Fuel within the magnitude relation of 14:7 (air : fuel) is drawn into the cylinder.

COMPRESSION: during this stroke, each valves area unit closed and also the piston moves upward reducing the combustion chamber volume that reaches its minimum once the piston is at TDC. The piston performs work on the charge because it is being compressed; as a result its pressure, temperature Associate in Nursing density increase; an approximation to the present behaviour is provided by the ideal gas law. Just before the piston reaches TDC, ignition begins. In the case of a SI engine, the sparking plug receives a high voltage pulse that generates the spark which provides it its name and ignites the charge. In the case of a CI engine the fuel gadget quickly injects fuel into the combustion chamber as a spray; the fuel ignites thanks to the warm temperature. Air and fuel mixture is compressed 8:1 to 12:1.

POWER OR operating STROKE: The pressure of the combustion gases pushes the piston downward, generating a lot of work than it needed to compress the charge. Complementary to the compression stroke, the combustion gases expand and as a result their temperature, pressure and density decreases. When the piston is almost about BDC the valve opens. The combustion gases expand irreversibly thanks to the leftover pressure—in way over back pressure, the gauge pressure on the exhaust port—; this is called the blowdown

EXHAUST: The valve remains open whereas the piston moves upward bodily process the combustion gases. For naturally aspirated engines a little a part of the combustion gases could stay within the cylinder throughout traditional operation as a result of the piston doesn't shut the combustion chamber completely; these gases dissolve in the next charge. At the tip of this stroke, the exhaust valve closes, the intake valve opens, and the sequence repeats in the next cycle. The valve could open before the valve closes to permit higher scavenging.

TECHNICAL PROBLEM

The existing valve technology for all 4-stroke engines that has to this point developed variety of deficiencies that causes issues within the operation of all 4-stroke engines. Valve amendment of direction in its operate and therefore opens and closes the compression cylinder house. Due to the whole and unforeseen changes of direction valve seem forces on variety of revolutions disrupt the operation of the valve, causing vibration of the rod or rods valve which results in improper closing cone valve which leads to loss of burn-mix, loss of compression, which in turn results in utilization of burn-mixture, pollution, decrease torque and engine power. Losses are done due use of powerful spring and assembly and this result in an increase in fuel consumption and pollution.

SOLUTION ON THIS PROBLEM:
Prior to the development the event of IC engines worked on numerous pairs distributor panels and apparatus for distribution of pressure on the machines. Expansion of the head for all types of motor starts with the development of internal combustion engines, especially with the early development of four-stroke engines. The advantage of these numerous technical solutions that are partially giving results but due to various technical problems was not sustainable. For this reason, the existing valve technology despite numerous shortcomings remained until today. To order to provide better conditions for the 4-stroke engine developed various forms and principles of the head of 4-stroke engines. Due to its illogical solution attempts sealing compression tolerance surfaces, due to high temperatures and spreading materials and

losing function. Developed the technology of rotary valve that has never found its full implementation due to serious problems sealing compression, attempts sealing compression tolerance surfaces.

CONCLUSION

On in application discovery such an assembly cylinder heads for all 4-stroke engines has enormous advantages over its records circuits and permanent sets no conditions in the engine. The principle of operation of the cylinder head is an ideal environment for the further development and improvement and widespread use. Persistent problems are solved damage to the engine, which until now have caused to date valve and without valve technology.

REFERENCES

OTHER WEBSITES:

[1] https://en.wikipedia.org/wiki/Internal_combustion_engine http:// www.iosrjournals.org

[2] http://www. powershow .com BOOKS:

[3] Internal Combustion Engines By Rajput, Dhanpat Rai Publications. Internal Combustion Engine by Ganesan Tata McGraw Hill