2-page review addressing the theory of operation and performance of reciprocating...

Engineering

Reciprocating engine theory of operation module Reciprocating engine theory of operation module is one of the most exciting courses to pursue. For instance, some of the units covered in the module include the operating cycles where an individual learns the sequences involved in the conversion of chemical energy into mechanical energy. Learning the stroke cycles keeps an individual alert with the vigor to understand how the fours stroke operates in the completion of a single event. It was evident during the module that two revolutions of the crankshaft make a complete four strokes (de Escalona et al., 2013). The module is interesting as one gets to know new things about the engine theory operation and how one form of energy gets transformed to another. The comparison of volumes in the cylinder space when the piston is at the top and when the piston is the bottom are some of the valuable information studied during the course. It was evident that the higher the compression in the engine, the greater the efficiency in engine operation.

The reciprocating engine is also referred to as an internal-combustion engine because it involves the combustion of a mixture of fuel in the engine. In order to understand the whole process, it was important to understand the function of various parts of the system. The various components of the system include the piston, spark plugs, the crankshaft, connecting rods and the cylinders. The most interesting thing learned during the module involves the up and down movements of the piston which is converted to rotary motion. The combustion of the gases takes place when the piston moves upward and downward to compress the gases (de Escalona et al., 2013). The intake valves close during the upward stroke movement. The compression

stroke completion occurs, and before the piston reaches its top position, the compressed gases ignite. The ignition is caused by the spark plug, and this constitutes the overall principle guiding the operation of automobiles. For instance, the aircraft horsepower operates at the rate of 150 horsepower, this shows that the engine can produce a lot of energies. On the other hand, the engine must run at a given speed before generating enough power to operate the automobiles (Mikalsen & Roskilly, 2012).

The module provides information on how innovation has worked throughout the world to make the world a better place to live. However, people may wonder the principle behind the power production of automobiles as imagine that it is one of the most complex things in the world. It was amazing having learned that the combustion of gases is influenced by the compression in the gas cylinder, however, the proportions of the gas mixture is not clear. On the other hand, one may wonder whether a change in the gas mixture proportion would have an effect on the power production in the reciprocating engine theory of operation (Ganesan, 2012).

The reading assignment is significant since it help the investigator to understand the effectiveness of the learning process during the module. In every module it is important that the learners acquire new knowledge and considering the complexity of the engine operation theory, the assignment is very useful. The details should include the extent of understanding the basic components of the engine system and their functions. Full understanding of the functioning of the reciprocating engine theory of operation requires a practical approach. The assignment lies within the learning objectives which require that the learners be able to explain the functioning of the

reciprocating engine theory of operation at the end of the module. The assignment is relevant since through the testing and research, people acquire more information on what they have learned. The module was useful as it helped in the acquisition of new knowledge on the engine operations.

References

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