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AUTO CHAIN CLEANER SYSTEM

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ABSTRACT

As the name suggests ,electro mechanical system or devices convert electrical energy into mechanical movement and sometimes vise versa. Most of the common electro mechanical components , such as a electric motors and solenoid are used in combination with mechanical parts to provide actuation or movement.

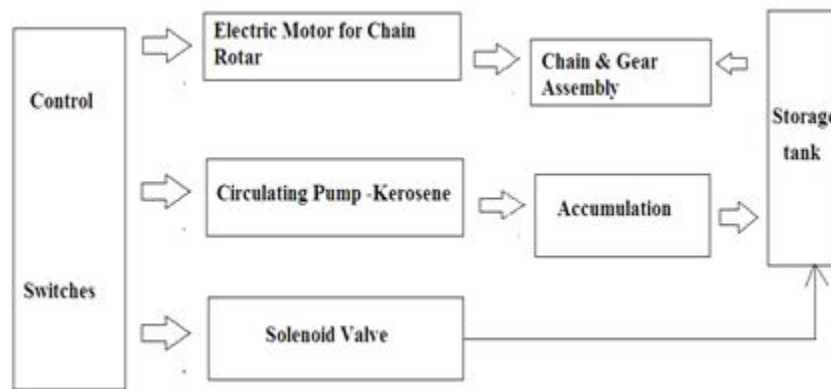
I. INTRODUCTION

Electrical and Mechanical system club together form and Electro mechanical system. This system becoming more and more popular now a days. The Mechanical System becomes more sophisticated if we include electronic control .Automobile is the combination of Electronics and mechanical system. The modern cars have 50%electronic automation system. In coming years the automobile will cover maximum electronics and automation system.

We develop such an electro mechanical system which is having mechanical system as well as electronics automation. Auto chain cleaner system. The two wheeler chain cleaner is a regular practice and the work is quire radius. Hence same auto-system is required.

In garages, show rooms ,industries and educational institutes the system is required. The system is given as below.

Block diagram-



II. PRINCIPLE

Automatic two wheeler chain cleaner system consists of mechanical gear pulley assembly which is driven by geared dc motor. During cleaning kerosene is allowed to fall on travelling path of the chain the kerosene is circulated two times so as to maintain the accuracy. The chain which is to be cleaned is passed over the gears so that during the travel the entire portion of the chain. The kerosene is allowed to pass as & when required by opening & closing the electrically controlled solenoid valve. Also, the suction pump motor should never be on unless there is kerosene stored in the tray below .for cleaning properly the brushes are to be provided.

The detailed sequential explanation of each block can be given as below. The system based on electrical as well as mechanical accessories. The two gears are used. The axle of one gear is coupled with the shaft of dc motor having the speed of 100rpm & 0.25Hp torque.as shown the gear is fixed without any motor. But, it is placed exactly opposite of the motored gear. The chain under wash is passed over the gears as shown. As the motored rotates the chain rotates the two gears also rotate.

The dc motor is provided with +12v supply is generated from the mains AC supply. The detailed regarding dc power supply will be provided in separate chapter. During the rotation, the kerosene is allowed to pass over it. A kerosene storage tank is supplied. From this storage tank a discharge pin line with PVC material is provided. At the end of this discharge pine a nozzle is provided which allows the kerosene to come out drop by drop. The kerosene through too discharge line is passed only when the solenoid valve coil is supplied with the energizing supply and it is open.

It will be through electrical switching. The kerosene once used must be recycled again at least once. Hence the kerosene passed over the chain is collected in a tray. If certain accumulation is there in this tank the suction pump is ON and the through suction line the kerosene is picked up and passed through this line and drained in the feed tank. If the storage is decreased in the feed tank. If the storage is decreased the suction pump is stopped. Also during the travel of chain the brush teeth's are rubbed over and the proper cleaning is done.

III. COMPONENT

- 1.Electric motor.
- 2.Pulley.
- 3.Chain.
- 4.Gear.
- 5.Storage tank.
- 6.Solenoid valve
- 7.Lubricant(kerosene)
- 8.Pump.
- 9.Brush.

IV. ADVANTAGES

- It clean very clearly.
- Pollution free.
- Less oil required.

V. DISADVANTAGES

- Takes more time to clean.
- Rotate with less speed.

VI. APPLICATIONS

- In service station.
- In companies at auto station.
- Washing center.

VII. CONCLUSION

We have mixed feelings about the automatic chain cleaner system.It is easier to setup onece the routine is learned. It does seem to do a good visual job of clearing the chain & the chain does look cleaner than it does after using any other method we found so far.

REFERENCES

1. www.google.com
2. www.wikipedia.com
3. www.youtube.com