

GARAGE ON WHEELS

Avinash Rajule¹, Tushar Satpute², Umesh Kolte³, Abhijeet Chavhan⁴

Dept. of Mechanical Engineering, Marathwada Mitra Mandal's Institute of Technology, Pune, Maharashtra, India
Asst. Prof. of Mechanical Engineering Dept. Mr, Naresh Dhamane, Pune, Maharashtra, India

Abstract : Garage On Wheels is arising out of the concept of, if any vehicle have any problem or get damaged and there is no garage near by then in that such situation many problems arised out. To overcome from such situations Garage On Wheels will prove greatly useful. When a vehicle have any problem but there is no garage nearby them , then many problem arises over there. To overcome from such problems our project will prove useful. We have to face many problems while driving i.e. Tyre puncture, Engine breakdown, Ignition problem But sometimes mechanic who is coming to repair our vehicle may forget some equipment at garage, if equipment is too large he can't carry it so far. In such situation mechanic too faces many problem for carrying equipment's and situation becomes difficult. We did whole study of the situation that how to solve the problem. Our team decides to beat that problem and we got an idea of "GARAGE ON WHEELS" project. This project provides best service to customers. This project gives us time efficiency, enough space & convenient for today's generation.

Protech smart solutions and spanwings this two companies brings this concept in front of us.

Key Words: Bajaj Chetak, Mini Garage, Spanwings, Quick Bike Repair, On spot Minor repair, Garage On Wheels

I. INTRODUCTION

"MAN" a most powerful and intelligent species of World, as the world is being modernized by Man, in this modern world Man is working toward Science, Engineering and other fields to reduce the effort of people living in this World from millions of years. Man has discovered various elements with help of this Nature, such as Metal, Non-metal, Ceramics and other components or elements present in Nature. During discoveries of this elements, due to working towards it and finding it out in a wide span of time, Man started performing the work in an accurate behaviour, manner or skills. Man started to do work in Accuracy and Precision.

Garage On Wheels is arising out of the concept of, if any vehicle have any problem or get damaged and there is no garage near by then in that such situation many problems arised out. To overcome from such situations Garage On Wheels will prove greatly useful. Sometimes mechanic who is coming to repair vehicle may forget some equipment at garage, if equipment is to large he can't carry it so far. In such situation mechanic too faces many problems for carrying equipments , to avoid this types of problem Garage On Wheels is useful and able to solving this problems.

II. LITERATURE SURVEY

Geoffrey J. May - Energy storage using batteries is accepted as one of the most important and efficient ways of stabilising electricity networks and there are a variety of different battery chemistries that may be used. Lead batteries are very well established both for automotive and industrial applications and have been successfully applied for utility energy storage but there are a range of competing technologies including Li-ion, sodium-sulfur and flow batteries that are used for energy storage. The technology for lead batteries and how they can be better adapted for energy storage applications is described. Lead batteries are capable of long cycle and calendar lives and have been developed in recent years to have much longer cycle lives compared to 20 years ago in conditions where the battery is not routinely returned to a fully charged condition.

Alistair Davidson - Li-ion batteries have advantages in terms of energy density and specific energy but this is less important for static installations. The other technical features of Li-ion and other types of battery are discussed in relation to lead batteries. A selection of larger lead battery energy storage installations are analysed and lessons learned identified. Lead is the most efficiently recycled commodity metal and lead batteries are the only battery energy storage system that is almost completely recycled, with over 99% of lead batteries being collected and recycled in Europe and USA. The sustainability of lead batteries is compared with other chemistries.

Boris Monahov - The need for energy storage in electricity networks is becoming increasingly important as more generating capacity uses renew- able energy sources which are intrinsically intermittent. The spinning reserve of large networks is becoming less able to maintain power quality with increased renewable inputs and the strategies needed to optimise renewable input without curtail-ment or other measures are driving a move to energy storage. Electrochemical energy storage in batteries is attractive because it is compact, easy to deploy, economical and provides virtually instant response both to input from the battery and output from the network to the battery. There are a range of battery chemistries that can be used and lead batteries offer a reliable, cost-effective solution which can be adapted for different types of energy storage applications.

Ogundele, O. J. - The research work investigates the maintenance of an air compressor used in quarries. The objectives of the research were achieved through the selection of a compressor. Reciprocating compressor was selected maintained as it will give the required volume of air at a very high pressure. It has capacity of 1200 m³/hr which makes it to work with any types of pneumatic drilling machine at a very high pressure. For every 3000 hours and 6000 hours, the preventive.

Braimoh, J. - An air compressor is a device that converts power (usually from an electric motor, a diesel engine or a gasoline engine) into kinetic energy by compressing and pressurizing air, which, on command, can be released in quick bursts. There are numerous methods of air compression, divided into either positive-displacement or negative-displacement types. Compressor is a machine that extracts air from the atmosphere and compresses it into a holding chamber. The most common use of compressed air is for the operation of pneumatic tools. Compressed air is the fluid that has been used as a source of

energy in rock drilling, as much for driving the pneumatic equipment with the top hammer or down-the-hole hammer, as for flushing of cuttings when the drilling.

Yusuf, I. - Compressors are used to increase the pressure of air from the initial conditions (air intake) to the discharge conditions (air discharge). Compressors may be used as vacuum pumps. A vacuum pump has an intake that is below atmospheric pressure and usually compresses to no higher than atmospheric pressure. The degree of vacuum attainable is dependent upon the type of system, leakage into the system, and limitations of the equipment.

III. PROJECT CONCEPT

When a vehicle have any problem but there is no garage nearby them, then many problem arises over there. To overcome from such problems our project will prove useful. We have to face many problems while driving i.e.

1. Tyre puncture,
2. Engine breakdown,
3. Ignition problem

But sometimes mechanic who is coming to repair our vehicle may forget some equipment at garage, if equipment is too large he can't carry it so far. In such situation mechanic too faces many problems for carrying equipment's and situation becomes difficult.

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Main concept of Garage On Wheels is , to provide service to the customer within only 30 minutes.

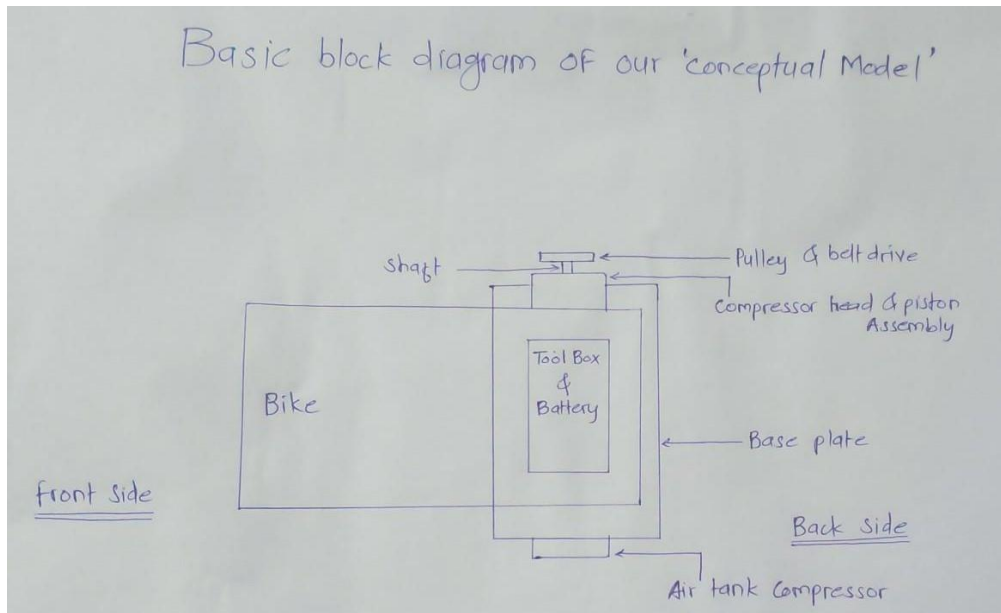
1. OUR MODEL



bajaj chetak

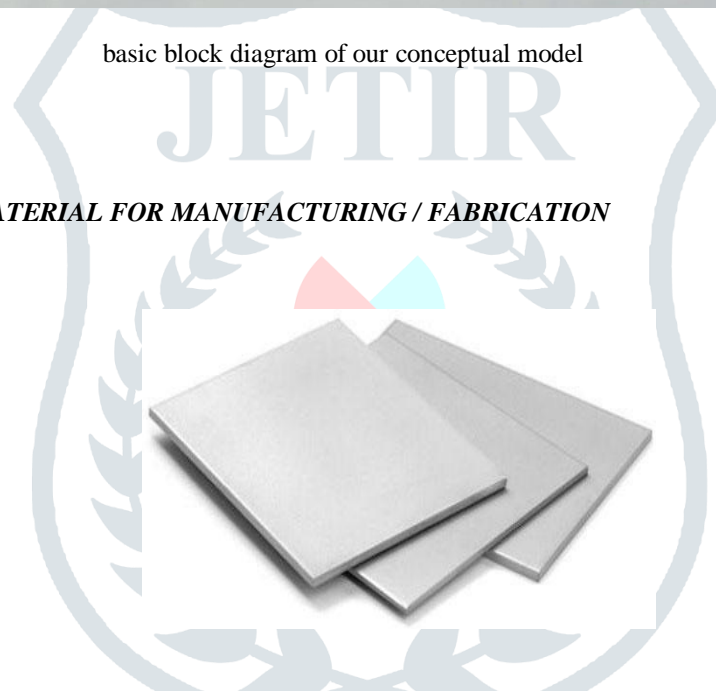
2. WHY WE SELECTED BAJAJ CHETAK

1. We have to put air compressor, tool box on our model so we want a scooter not bike, as it has more space.
2. In scooter range Bajaj chetak is a perfect choice for us.
3. This scooter has 150cc engine, which is helpful for carrying load of air compressor and tool box and other equipment's also.
4. This scooter has large space area to keep our equipment's.
5. It has power of 7.5 BHP at 5500rpm and torque of 10.8NM at 3500rpm which is enough to perform required task.



basic block diagram of our conceptual model

3. SELECTION OF MATERIAL FOR MANUFACTURING / FABRICATION



support frame



pressure vessel



compressor head



hose cable

IV. CONCLUSIONS

We successfully achieved 4 bar pressure with given component and required speed of our bike. After attachments of all components vehicles weight is perfectly balanced .

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