

## **Design and Manufacturing of in Built Screw Jack for an Automobile Car with Spare Wheel.**

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### **Abstract**

With the increasing levels of technology, the efforts being put to produce any kind of work has been continuously decreasing. The efforts required in achieving the desired output can be effectively and economically be decreased by the implementation of better designs. Weight after certain limits cannot be lifted by a person, in such cases we are in need of jack. When it is motorized it becomes more convenient. In order to implement this idea, we have designed and developed a system called automatic screw jack stepney. In this system we have used IR (Infrared sensor) and screw jack with small wheel attached to the vehicle axel.

Keywords— Leads Screw, Infrared Sensor, Spare Wheel

### **I. INTRODUCTION**

When we travel in four wheeler or more wheeler vehicles and if there is puncture in tire ,then many problems are faces to user like cannot reach in proper time, also main problem is we do not avoids accidents any time. We cannot control and manage the vehicle in puncture situation. So to overcome such problems we have designed new system in which screw jack is been fitted near to every wheel of car with small spare wheel attached to it. As the tire get puncture screw jack with small wheel comes down and levels the ground clearance of an car.

### **II. RELEVANCE**

This topic is beneficial as compared to manual screw jack . As both do the same work of lifting the vehicles , but in our case our prototype has more advantages over the manual screw jack arrangement. The prototype help us to replace manual screw jack system to automatic screw jack system using DC motor . The prototype also help us to measure the pressure in run time using Infrared Sensor .

### **III. MOTIVE**

The motive of prototype is to reduce human efforts of lifting the screw jack manually. It helps to measure the pressure of wheel in run time.

### **IV. OBJECTIVE**

The main objective is to study the working of motorized screw jack mechanism. Develop the model of the automatic screw jack stepney and to achieve safety and security. Also development of cost effective and efficient system for unskilled people while driving.

## V. SUMMARY

The aim of our project is to reduce human efforts of lifting a jack and thus increase the human efficiency by reducing work. The motorised screw jack will save time and come down to safe distance, be faster and easier to operate and requires no human energy and additional work to operate. There by effectively curb the problems regarding the puncture or damage of wheel. Thus the propose model will be more beneficial for the manual screw jack.

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