**MODIFICATION AND FABRICATION OF INBUILT AUTOMATIC CONTROLLED HYDRAULIC JACK**

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**PROPOSAL**

**Problem statement**

The normal jack does not have locking device. They are tiresome. To reduce problems which may occur because of the failure of normal jack which do not have locking device, this kind of jack is automatic thus one need only to press a button to lift the car. This kind of jack will also do away with unemployment since it will create self-employment to individuals who will embrace the device and produce it for marketing purpose.

OBJECTIVE

*Main Objective*

Achieve an inbuilt hydraulic jack in vehicles that will ever remain to outshine the already existing ones which due to their limitations they don’t effectively and automatically perform.

*Specific objectives*

1. Putting into practice the knowledge that I have achieved in the field of engineering.
2. Improve safety in the workshops and garages hence preventing accidents that can be avoided.
3. Make car lifting fast and not tiresome compared to pumping a hydraulic jack manually.
4. Creating of self-employment to individuals who will embrace the device and produce it for marketing purpose.

Construction

* Install the remote-control transmitter to transmit low frequency pulse to the receiver stage.
* Put the driver and receiver interface.it consists of the infra-red receiver that picks up the transmitted infra-red beam and convert it into electrical signals.
* Jack control motor mechanism. This is the mechanism that will control the jack.

Remote control transmitter

Receiver and driver interface

Motor/Mechanism driver

Hydraulic jack

Operation

When any button of the remote control is pressed, a signal is sent through the Infra-red hence the rotating of the motor operated by button pressed near any of the four wheels. Using the electric power of the motor, the can rotates. This is where rotary motion is converted to linear motion. The pumping rod is present at the center. Motor shaft is coupled with can. Battery is operated by a motor the motor is connected with cam.

It is rotated with the specified rpm the cam is connected to a hydraulic bottle jack when there is a continuous rotation of the cam, the circuit motion is converted to a reciprocating motions. That reciprocating motion is used to step up the bottle jack. The link is connected with the bottle jack is used to rise the arm. This arm connected to spring shaped is lowered down and it lifts the vehicle. Here we are converting the rotary motion into linear motion for lifting the vehicle using the jack which is fixed in the bottom of the axles by means of a frame. The motor is operated by control unit. It gets power from the battery. The four numbers of hydraulic jacks are arranged under the vehicle body. One shaped is connected to the cam and moving shaped. The link is used to provide the smooth operation during the up and down movement. When we press the button on the remote the motor rotates. When the cam rotates, the supporting shaped moves up which makes the return spring shaped to move down by touching the ground and lifts any of the wheels up according to the button pressed on the remote. The wheels are grounded safely even after the wheel puncture on any fault in the vehicle. The mechanism will be operated by automatically when the pressure sensor is fitted in the tyre.

