

DAVIS 90 DEGREES STEERING MECHANISM FOR PARALLEL PARKING OF BATTERY CAR

A Project report submitted in partial fulfillment of the requirements for award of

Degree of

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING

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CERTIFICATE

This is certify that the project work entitled “**DAVIS 90 DEGREES STEERING MECHANISM FOR PARALLEL PARKING OF BATTERY CAR**” is a bonafied record of work done by **M.V.CHELLARAO (14811A0367), B.ARUNSURYA (14811A0312), SHAIKANASS (14811A0304), G.SISINDRA (14811A0342), G.SAGAR (14811A0340)** in partial fulfillment of the requirement for the award of Bachelor of technology in MECHANICAL ENGINEERING by Jawaharlal Nehru technological university, Kakinada. During the year 2014-2018.

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PROJECT GUIDE

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ABSTRACT

Steering system is the system which provides directional change in the performance of an automobile. This system converts rotary movement of the steering wheel into angular movement of the front wheels. It multiplies driver's effort by mechanical advantage, enabling him to turn the wheels easily. The Davis gear mechanism consists of a cross link sliding parallel to another link is connected to the stub axles of the two front wheels by means of two similar bell crank levers pivoted. The cross link slides in the bearing and carries pins at its end. The slide blocks are pivoted on these pins and move with the turning of bell crank levers as the steering wheel is when the vehicle is running straight, the gear said to in its mid-position. The short arms are inclined an angle $90+\alpha$ to their stub axles. The correct steering depends upon a suitable selection of cross-arm angle α .

By this mechanism, we can easily rotate the tyres to 90 degrees and it is quite easy to park the vehicle at certain difficult parking conditions. Also in situations like low speed cornering, vehicle parking and driving in city conditions with heavy traffic in tight spaces, driving would be very difficult due to vehicle's larger wheel base and track width. Hence there is a requirement of a mechanism which result in 90 degrees turning radius and it can be achieved by implementing four wheel steering mechanism instead of regular two wheel steering. The main aim of this project is to turn the rear wheels out of phase to the front wheels.