

Technology Transfer

Area of Technology: Mechanical Engineering

Title of the Innovation: FOUR WHEEL STEERING MECHANISM FOR VEHICLES

Brief About Innovation

Four-wheel steering is a mechanism, developed in automobile industry for the effective turning of the vehicle and to increase the manoeuvrability. The rear wheels generally cannot turn as far as the front wheels. Such a mechanism is used in some vehicles for enhancing the steering response by allowing the rear wheels to be steered in the opposite direction from the front wheels during low speeds, and thus decrease turning radius at low speed. In a typical front wheel! steering system, the rear wheels do not turn in the direction of the curve and thus curb on the efficiency of the steering. Normally this system is not a preferred choice due to complexity of conventional mechanical four-wheel steering system and their poor stability.

Salient Features:

- The present invention relates to a steering mechanism. More particularly, a four-wheel steering mechanism that includes a gear mechanism incorporated in the front steering gearbox that controls the angles of the rear wheels through a intermediate shaft arrangement.
- In the present invention, the rear wheels turn with the front wheels thus increasing the overall efficiency of the vehicle reducing the fuel consumption, also greater manoeuvrability in heavy traffic conditions is an added advantage. The direction of steering the rear wheels relative to the front wheels depends on the operating conditions.
- According to the present invention, a four-wheel steering mechanism includes a gear mechanism, which is incorporated in the rear steering gearbox through which; the rear wheels angles are controlled. The movement of the rear wheels is dependent on the steer angle of the front wheels.
- The prime objective of the present invention is to provide a four-wheel steering mechanism for vehicles.

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