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The Manual Steering to be Made Cut Very Freely without using Power Steering System

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ABSTRACT

This paper presents Manual Steering To Be Made Cut Very Freely Without Using Power Steering System, In thesis we increase the length of arm bolt so that manual steering of heavy vehicles which are very hard to be cut made easy so that driver can easily cut it and by this manual steering will cut full on both i.e. left and right side.

Keywords-- Front Axle Beam, King Pin Bearing Set, Steering Wheel, Bush

I. INTRODUCTION

The all world basis population is very high, and at this time car rate is very high, the middle class people cannot afford the car because car price was very high, and also can't get power steering system car. Normal steering and power steering has a high cost difference, that's why if we can do not give high cost to get power steering but use like power steering system of the car, our mission is that we change the steering system on this car, so we use the king pin which work help car rotation to left-right, so we research on king pin and we change the king pin length and then we see the steering work very easy and freely cut, and we see the steering work very easy like power steering. Without using pump the steering work very easy.

When the turning circle of a car is the diameter of the circle describe by the outside of the wheels that time turning or full lock. That is not hard and faster formula to calculate the turning circle but we can get close by using this.

Steering System:- The main purpose of the steering system is to make the wheel turn right or left we know wheel always have to change the direction when taking quick turning or changing lanes in high ways or when there are road obstacles, there the steering should be soft, so that the driver easily move the steering wheel.

II. MANUAL STEERING SYSTEM

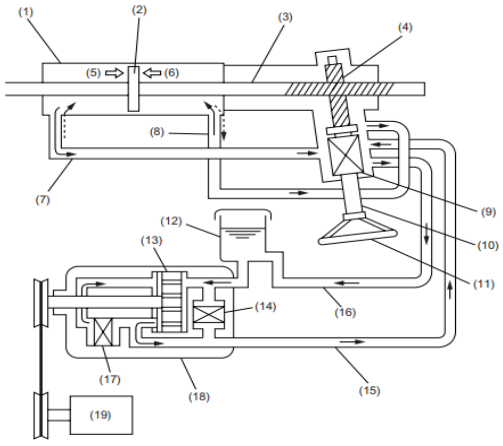
Manual steering system:- Manual steering system basically divide in to three parts

1. Steering linkage
2. Steering gear box
3. Steering Column and wheel

1) Steering Linkage:- In this there is a system of pivots and connecting parts, this are place between steering gear box and the steering arms , this are attached to the front and the rear wheels ,that control the direction of wheels ,it also help to transfer motion of the steering gear output shaft to the steering arms.

2) Steering Gear Box:- The main objective of the gear box is to change the rotational motion of the wheel to reciprocating motion.

3) Steering Column and wheel:- i) It help to produce the force to turn the steering gear box. **ii)** It also help to produce the turning effort.



Working of Manual Steering System:- Manual steering the wheel is turned by the driver as the wheel turned then the steering box will transfer this motion to the steering linkages which are attached and this steering linkages will turn the wheel to control the direction of the vehicle.

The Technique we used in manual steering system:- As we know in manual steering system the steering wheel turns very hard this make the driver very tired when the driver makes quick turns so by seeing that I make some small change in the manual steering system so that the steering wheel will turn easily in this I increase the length of the arm bolt by adjusting the bush of 2.5inch as we known moment =force * distance so when we increase the length of the arm bolt it make the steering wheel of the manual steering to turn easily this help the driver of the manual steering system to turn the steering wheel easily .

III. LOW-RANGE-SPEED OPERATION

In this speed range, as well as in all the other speed ranges, two different pump discharge pressures are always applied to the control valve; one is directly led from the discharge port to the left end of the valve and the other is led through an orifice (variable orifice) to the right end of the valve. Since the orifice has a pressure reducing effect, the latter pressure is lower than the former. When the pump is operating at a low speed, its discharge pressure is also low, resulting in only small difference between the two pressures. In this condition, the valve stays pushed leftward by the spring, allowing the non-pressurized tank fluid to enter chamber A. To chamber B, on the other hand, the orifice-reduced discharge pressure is applied, so the cam ring is pushed leftward by the cam ring spring. This makes the eccentricity of the cam ring a maximum and, therefore, the delivery rate per rotation of the pump become a maximum.

IV. CONCLUSION

The all world basis population is very high, and at this time car rate is very high, the middle class people cannot afford the car because car price was very high, and also cant get power steering system car. Normal steering and power steering has a high cost difference, that's why if we can do not give high cost to get power steering but use like power steering system of the car, our mission is that we change the steering system on this car, so we use the king pin which work help car rotation to left-right, so we research on king pin and we change the king pin length and then we see the steering work very easy and freely cut, and we see the steering work very easy like power steering. Without using pump the steering work very easy. When the turning circle of a car is the diameter of the circle describe by the outside of the wheels that time turning or full lock. That is not hard and faster formula to calculate the turning circle but we can get close by using this. Our mission is that to middle class people can get a car and the car price was lower without using power steering, then can get a car not high price. Because this time if we see Indian roads are very different and very unsecure so that they can drive safely and drive easy.

The main part is our project is that, that steering is rotating freely without hardness, actually manual steering in the truck is very hard to rotating or cutting left to right and right to left so our project to manual steering freely cut or rotating very easy and like power steering, no hardness come to that steering.

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