DESIGN AND DEVELOPMENT OF CAR SEAT SAFETY MECHANISM

The purpose of developing the project is to design car seat safety mechanism without changing the available space in the car and also to provide safety to driver in those cars in which air bag could not be implemented due to increase in cost. After studying number of design plan/iterations, final conclusion was drawn that the Mechanism should be made such that it does not have any negative impact on the rear seat passenger and secondly the person on the driver's seat should be exposed to as little as possible. These conditions were much achieved by giving liner motion (shifting seat backward).The seat can be tilted to nearly 30 degree which was quite enough to restrict inertia forces and provided an opposite force to reduce the inertia of the body slowly to zero. The actuating system designed includes driver seat with seat belt, double acting cylinders, solenoid valve, sensors, accumulators and polyethylene tube.

Advantages:

It is economical to use. The cost of Car Seat Safety Mechanism is very less as compared to other technologies. This technology may be used as an alternative to other expensive technologies like air bag system. Once used this mechanism can be reused again and again while in case of air bags, once used, it has to be changed which is very expensive.

This technology could be mainly used for low budget cars which does not have any inherent safety mechanism. The design of car seat safety mechanism is easy to manufacture because all the parts used are of given standards which are easily available in market. It is safer than normal seats as used in cars.

It avoids head injuries as whole body is taken away from steering wheel. Here, air itself will provide cushioning effect when mechanism will reach to the maximum extent. Jerk provided by the mechanism to any person sitting on the seat can be preliminarily control by adjusting the valve setting situated at the

double acting cylinder. It is advantageous for aged people who cant bear high jerks provided by the mechanism.The space required for adjusting this safety mechanism in the car is very less. Thus it can be compatible with most of the cars.

For further information, please contact

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