

Modification of Support of Front Axle for Reliability

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Abstract: *The front axle support is the part which holds the engine and also gives support to it and lies between engine and front axle . According to the present market demand of off highway vehicle the low cost and light weight vehicle is in demand to fulfill the requirement of cost efficient vehicle. In this paper analysis of front axle support is done for study of stress generated in the component and then after optimization of its shape and according to the shape its weight will also reduced. Considering the effect of forces acted on such a heavy parts in designed by casting having dynamic loads of less frequency with greater amplitude may cause great damage to the component. According to the production techniques of components in tractor front axle requires a properly designed support with high stiffness. The design of component was modeled in Creo parametric 2.0 and the analysis was performed in solid works. Shape optimization technique is used for performing optimization cause miserable reduction in weight of connecting rod. The optimized component is 10.35% lighter compare to initial design*

Keywords: Axle, Front axle support (FAS), Computer Aided Design (CAD), Finite Element Analysis (FEA)

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