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(57) Abstract :
ABSTRACT: REVERSE ENGINEERING OF BRAKE CALIPER FOR AH TERRAIN VEHICLE The basic function of brake is to reduce the speed of the vehicle or bring it to rest position. As we all know brake caliper is the heart of the braking system. In order to have an efficient braking system, the size of brake piston has been increased, for the better retraction of piston oil seal has been provided. The whole system is built by considering its strength. In all terrain vehicles, weight, ergonomics and accuracy of systems have prime importance. These requirements make aluminium the ideal option in its system. An effort is made to analyse the possibility for rebuilding the single piston brake caliper for an all-terrain Vehicle using aluminium 7050T6 keeping in contact with the stress and yield stress considerations. The brake caliper is designed in order to reduce the weight of the brake caliper assembly and also with the increased strength for the All-Terrain Vehicle. Computer aided design model of a brake caliper is created in Solidworks and analysed for stress and deformation was done in Hypemiesh. As a conclusion the use of aluminium in the brakes subsystem i of an All-terrain vehicle will make the system lighter with greater efficiency.

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