

(54) Title of the invention : AN IMPROVED HYDRAULIC STEERING SYSTEM FOR LOAD HAUL DUMP VEHICLES

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(57) Abstract :

The present invention relates to an improved hydraulic steering system integrated with the Cable Reeling Drum (CRD) drive (2) of a Load Haul Dump (LHD) vehicle, wherein the power steering system is coupled with a priority valve (3) and an accumulator (5). The priority valve (3) is used to facilitate the simultaneous operations of the steering and CRD of the LHD vehicle using a single power pack unit, thereby minimizing the power required to drive the CRD independently. The accumulator (5) is used in the hydraulic steering circuit that acts as a Power Assist Unit (PAU) to account for the vehicle's emergency operation. There is no adverse environmental impact with the implementation of the proposed steering design in the LHD vehicle. The proposed steering system saves cost and minimizes the overall power requirement of the vehicle associated with the separate hydraulic system for the CRD drive (2) that requires an additional pump along with the couplers. Moreover, the use of a priority valve (3) and proportional directional control valve (4) enhances the steerability of the said vehicle irrespective of the load variations.

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