

MINNESOTA STATE UNIVERSITY, MANKATO
 Automotive Engineering Technology
 SENIOR DESIGN PROJECT



Height Adjustable Wheel End Study

DESCRIPTION

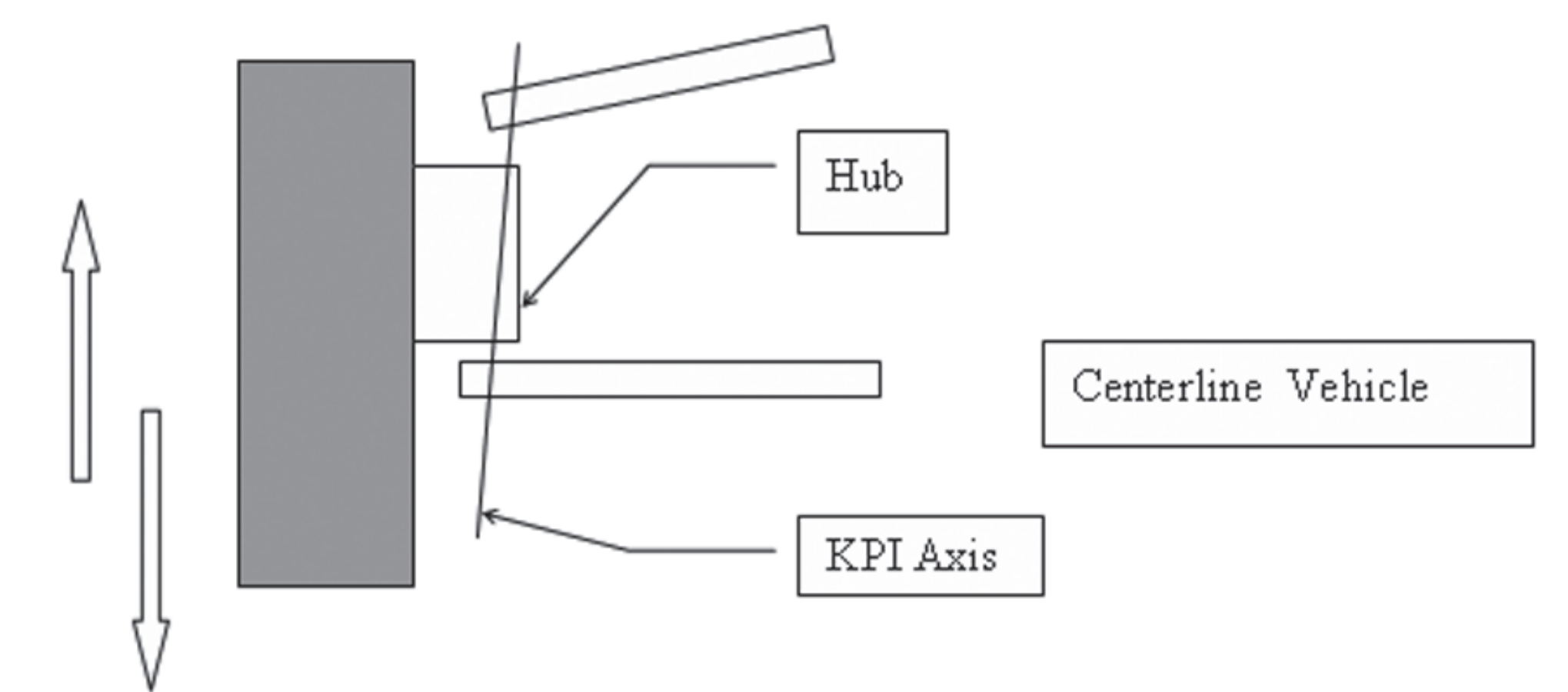
This is an industry project that I started while completing an internship with the Nevada Automotive Test Center. The description of this project is to engineer and design a wheel end hub carrier that enables the wheel and its drive to be translated up and down four inches relative to the attaching suspension and steering system. It must be operated from inside the passenger compartment by a remote control.

OBJECTIVES

- u Develop ideas and supporting engineering data to select the highest added value solution to the project
- u Develop a design that meets all project requirements such as temperature requirements, lifting speeds, water fording abilities, etc.

DESIGN PARAMETERS

- u Vehicle Weight: Approximately 22,000 lbs.
- u Travel: 4 inches
- u Operating Conditions: vibration, impact, wet corrosive
- u Load Type: Compression
- u Desired Lifting Speed: 144 in/min
- u Temperature Range: -50 to 160°F
- u Must be able to ford through water



**HEIGHT ADJUSTABLE
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 Team Members: Deanna Wussow

