Creating an Organized/Safer Way for Contractors to Carry Oversized Spare Tires

Abstract:

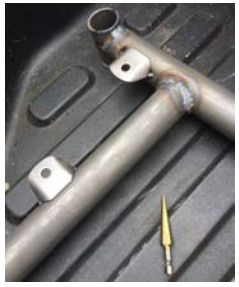
Construction is an industry that needs trucks/vehicles to travel across large dirt construction sites without getting stuck. This typically means upgrading to a larger wheel width/diameter to create the largest possible surface area for the tire to cover while off-road. Managing to get a flat tire whether it is rolling a bead in the dirt from being aired down or running over objects such as nails/screws it is always important to carry a spare tire that fits the application. This causes for a rise in need to safely lock down an oversized spare when the time comes for one. Most of the time a larger wheel/tire combo will not fit in the stock under bed mounting location. Creating a resolution for this scenario will need a fabricated part to allow for safe and organized storage while also not taking up needed bed space.

Key Words: Organization, Manufacturing, Fabrication, Automotive Design

Fabrication Process

1. Foundation

2. Tube Work/Mounting



3. Finishing

Final Product

Goal: Create a multipurpose and removable aftermarket spare tire carrier

Key Features:

- Safely secure spare wheel/tire
- Secondary storage eliminates dead space
- Easily removable
- No cutting into stock bed
- Weighs less than 20lbs
- Fits up to 39” wheel/tire combo
- Ties directly into frame rails for added support
- Clean/simple way to organize bed

Thomas Arismendi:
California Polytechnic State University
Tarismen@calpoly.edu