ALTERNATIVE FARMING SOLUTIONS VEHICLE

BACKGROUND

- Team AFSV worked with CRWRC to find a need for a basic utility vehicle.
- CRWRC put the team in contact with Davis Omany in Kenya.

- Mr. Omany is a missionary team leader in charge of a women’s demonstration farm.
- Much of the farm work they do is done by hand.
- This community and communities like it have a need for low cost, low maintenance, multi-purpose vehicles to help with basic farming tasks.

PROJECT GOALS

Use knowledge obtained through education and experience to design and build a basic utility vehicle with the following features:

- Cargo – The vehicle should be able to hold a full load of cargo in the bed along with two passengers. Total payload including cargo & passengers: 1600 pounds
- Speed – The goal is to be able to travel at 15 mph on even ground with 300 pounds load (passenger weight).
- Plow – Pull a single bottom plow at a depth of 8 inches.
- Bed Lift – Lift the maximum load to 35 degrees, limit of 1200 pounds evenly distributed.
- Planter – Must be able to plant a variety of seed types.

VEHICLE FEATURES

- Common Parts – Vehicle built using common components and types of steel
- Tilt Bed – 5’x6’ wooden box, lifted with 3000 pound winch and pulley system
- Planter/Seeder – Seeds dropped by hand down PVC pipe
- Single Bottom Plow – Mounted to bed frame, engaged by tilting the bed
- Lights – Flood and rear running lights mounted to roll bar with switch on control panel
- Drive Train – 15 horse power gas engine, Comet clutches, chain driven transaxle, Ford Ranger rear differential
- Hitch – 2” square hitch receiver mounted to rear of vehicle

ACKNOWLEDGEMENTS

- Prof. Nielsen – Project Advisor
- Phil Jasperse – Fabrication Mentor and Advisor
- Bob DeKraker – Purchased Parts
- Ren Tubergen – Industrial Consultant
- Mike Ohlman – Berger Chevrolet
- Mike Kienast – Donated Tires
- Mark Kienast – Donated Ford Ranger
- Doug Kok – Mounted Used Tires and Painted Rims
- Justin Hyma – Bauer Truck Parts
- Walter Schnoor – Automotive Electrician

CALVIN Engineering

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