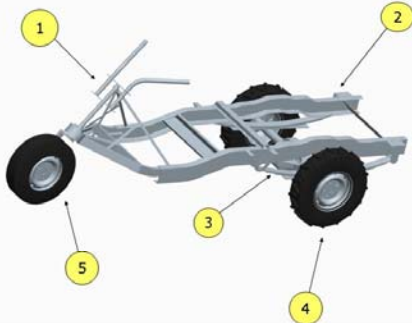


OUR DESIGN

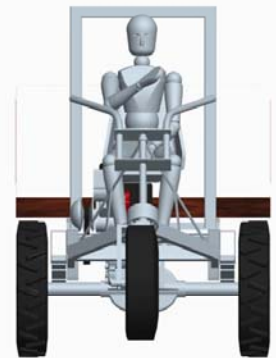
Objective

To design a cost effective basic vehicle able to provide transportation and utility needs of people in developing countries.

The Frame



1. Front Frame: fabricated out of steel C-channel beams that are welded together. Also uses some of the existing truck parts like the tire hubs for steering. The main principle design for the front frame is for steering the BUV
2. Back Frame: taken off a 1987 Ford Ranger. This frame will hold majority of payload supplied on the BUV.
3. Differential: will take the power and torque supplied from the engine and transmission to rotate the wheels.
4. Agricultural Wheels: rugged and durable, these tires will add a lot of traction to help the BUV get through any terrain.
5. Front Wheel: we tried to utilize as much of the truck as we could and were able to use one of the truck's wheels for the front wheel.



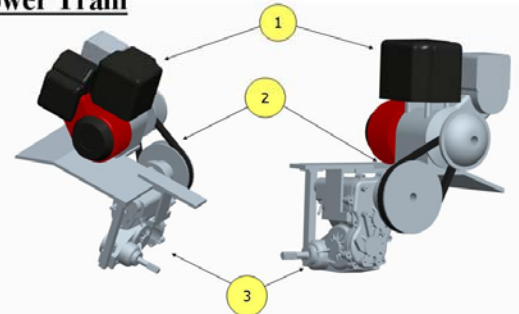
Front View of the BUV



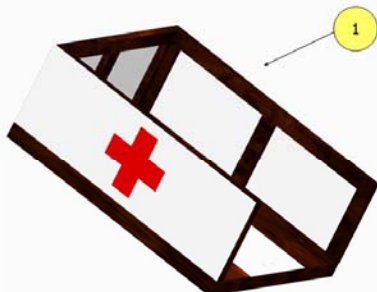
Side View of the BUV

The Power Train

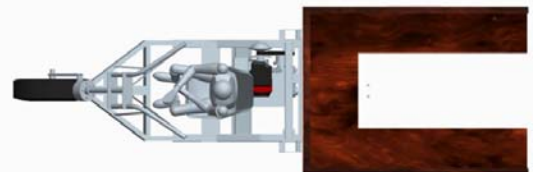
1. Engine: The engine is a Briggs and Stratton Intek I/C OHV 10 HP engine. Gross power is 10 HP at 3600 rpm and Peak Gross Torque is 13.7 ft-lbs at 2400 rpm.
2. Continuously Variable Transmission (CVT): This allows the power and torque to transfer from the engine to the transmission while keeping the engine running at high speeds. The CVT is off a Polaris Ranger.
3. Transmission: The transmission trades in speed in exchange for more torque allowing for more the BUV to go up hills. This transmission also allows the BUV to go in reverse.



The Bed Frame



1. Bed Frame: Made from lumber, this will contain all the payload items that the BUV will carry. We chose wood because it was a lot lighter than steel or aluminum and is very durable. The bed frame is detachable for repairs or to make the bed larger or smaller for the operator.



Top View of the BUV

Basic Vehicles.
Changed Lives.



Developing
Countries



Acknowledgements

Scott Brand
Garry Williams
Purdue Quarter Scale Team
Don Anderson
and anyone else who had a hand
in helping design the BUV

