



## Centaur 50th Anniversary Engineering Design Challenge “Pushing the Limits”

### Optional Base Vehicle Assembly

Two key challenges for creating a successful balloon-propelled rocket vehicle are minimizing the frictional forces between the vehicle and the floor, and also how to control the way the vehicle will be steered. Vehicle’s steering. To eliminate these issues from the beginning of the design process, we are recommending the use of a base vehicle assembly, which will allow teams to focus their efforts on perfecting the mid-course correction capabilities. The parts listed below can be ordered from Lego.com which will allow the teams to create a simple base vehicle that can be incorporated in their overall vehicle design. This base unit is optional and not a required component.

The cost of this base unit through LEGO.com is approximately \$10.00 per vehicle. A detailed instruction sheet of how the base unit can be assembled can be found by clicking on the link titled “Base Lego Unit” at <http://www.nasa.gov/content/centaur-design-challenge/>

Lego Part #	Description	Qty per vehicle
303601	8x6 Plate, White	2
4648532	Wedge-Belt Wheel, Black	4
281526	Tire for Wedge-Belt Wheel, Black	4
373726	Cross Axle 10M, Black	2
370323	Brick 1x16, Blue	2
4582843	Plate 2x6 w holes, Red	2

