Mars Rover DMT Suspension & Propulsion

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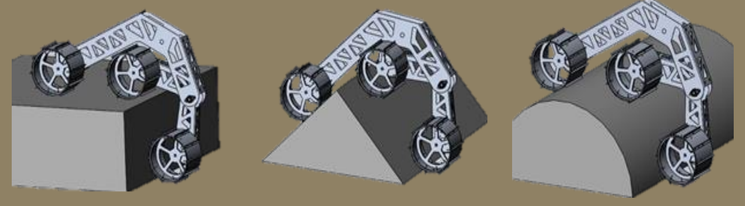
Specification Point	Design	Tests
Maximum Speed 0.5m/s	Yes	Yes
Less than 1.2m x 1.2m	Yes	Yes
Less than 20 Kg	Yes	Yes
Service life of at least 1 year	Yes	Not Tested
Cost within £1000 budget	No	No
Vibration Requirements	Yes	Not Tested

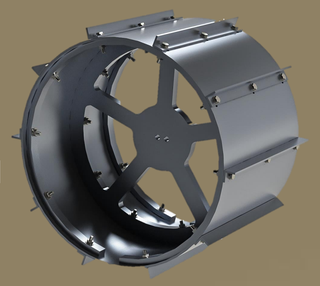
Rocker Bogie Design

- 6 Independently Driven Wheels
- High Mobility
- Folded 2mm Aluminum Sheet Metal
- Inexpensive: £156 & Lightweight: 2.1kg



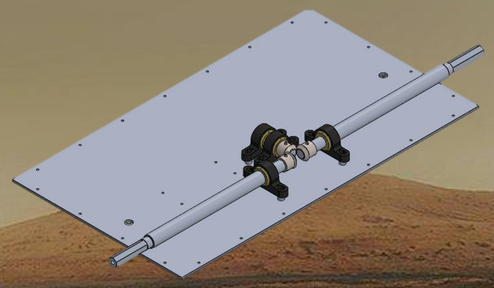
Wheel Design

- Grousers increase traction on sandy terrain
- Internal rings increase stiffness
- Wheel hub improves rigidity and allows wheel to be attached to the main system.

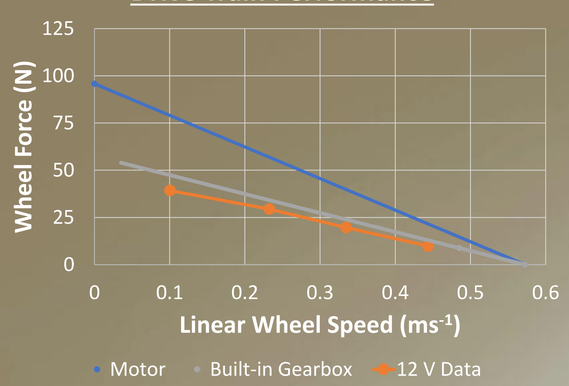


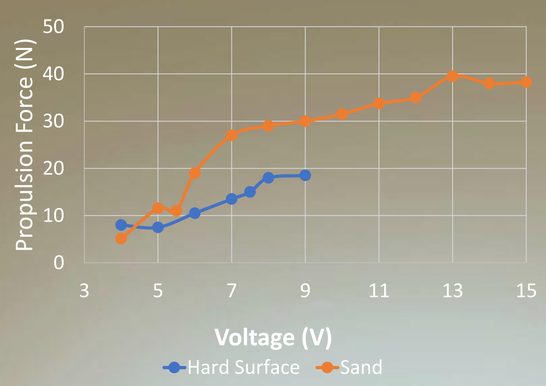
Differential Design

- Differential system links rocker-bogie halves
- Keeps frame of rover at average inclination of rocker bogies
- Aids in mobility and weight distribution



Drive Train and Traction Tests





The tests better indicated the motor performance and how slip affected traction. The traction test indicated more grousers were needed on the wheel to meet the specification.