|  |
| --- |
| **FMEA (Failure Modes and Effects Analysis)** |
| Product: Mars rover  | Organization Name : Jet Propulsion Lab |
|

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Function  | Potential Failure Modes  | Potential Failure Effects  | Potential Causes of Failure  | Recommend Actions | Responsible Person  | Taken Actions  |
| 1 | Propel Rover | No torque to wheel | Wheel stops turning | Motor failure | Ensure motors have high reliability – at least 99.9% reliability for 100 hours  | Tim Smithson, Electronics Div. | Vendor required to submit failure test results |
| 2 |       |       | .. | Motor failure | Test ability to propel Rover with 1 or 2 drive wheels inoperative | Barb Rojo | Prototype tested with 2 motors off line |
| 3 |       | Wheel jambs against rock | Wheel stops turning | Inability to sense rocks | Develop ability to sense and avoid rocks or feedback torque increase | B.J. Smith | Work in Progress |
| 4 |       |       | Wheel damages surface | Wheel surface too soft      | Specify surface that can withstand abrasion | N. Knovo | Hard test developed  |

 |
| Team member: B. Rojo | Team member:       | Prepared by:N Knovo |
| Team member: B. J. Smith | Team member:       | Checked by:      | Approved by:      |
| *The Mechanical Design Process* Designed by Professor David G. UllmanCopyright 2018, Form # 22 |