

Excerpts of FMEAs Showing the Progression of Failure Mode and Cause from System to Subsystem to Component

Item / Function	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Potential Cause(s) of Failure
All-Terrain Bicycle System				
The bicycle must provide safe and reliable transportation, including safe stopping distances and safe operation under all customer usage conditions as defined in the All-Terrain technical specification.	Does not stop in required distance	Potential accident or injury to bicycle operator without warning.	10	Insufficient friction delivered by hand brake subsystem between brake pads and wheels during heavy rain conditions.
				Brake system mis-adjusted by bicycle user
				Underperforming brake system capacity (pads, cables, calipers,
				Excessive bicycle operator weight
Hand Brake Subsystem				
Provide the correct level of friction between brake pad assembly and wheel rim to safely stop bicycle in the required distance, under all operating conditions.	Insufficient friction delivered by hand brake subsystem between brake pads and wheels during heavy rain conditions.	Bicycle wheel does not slow down when the brake lever is pulled potentially resulting in accident.	10	Cable Binds due to inadequate lubrication or poor routing
				External foreign material reduces friction
				Cable breaks
				Brake Lever breaks Selected brake pad material does not apply required friction to wheel
Brake Cable				
The brake cable provides adjustable and calibrated movement between the brake lever and brake caliper, under specified conditions of use and operating environment.	Cable breaks	Operator is unable to close brake calipers, wheel does not slow down, possibly resulting in accident.	10	Corrosion of cable wiring due to wrong material selected Fatigue cracks in cable wiring due to inadequate cable thickness

