

DESIGN FMEA

Suggested DFMEA Severity Evaluation Criteria

Effect	Criteria: Severity of Effect	Ranking
Hazardous without warning	Very high severity ranking when a potential failure mode affects safe vehicle operation and/or involves noncompliance with government regulation without warning.	10
Hazardous with warning	Very high severity ranking when a potential failure mode affects safe vehicle operation and/or involves noncompliance with government regulation with warning.	9
Very High	Vehicle/item inoperable (loss of primary function).	8
High	Vehicle/item operable but at a reduced level of performance. Customer very dissatisfied.	7
Moderate	Vehicle/item operable but comfort/convenience item(s) inoperable. Customer dissatisfied.	6
Low	Vehicle/item operable but comfort/convenience item(s) operable at a reduced level of performance. Customer somewhat dissatisfied.	5
Very Low	Fit & finish/squeak & rattle item does not conform. Defect noticed by most customers (greater than 75%).	4
Minor	Fit & finish/squeak & rattle item does not conform. Defect noticed by 50% of customers.	3
Very Minor	Fit & finish/squeak & rattle item does not conform. Defect noticed by discriminating customers (less than 25%).	2
None	No discernible effect.	1

Suggested DFMEA Occurrence Evaluation Criteria

Probability of Failure	Likely Failure Rates Over Design Life	Ranking
Very High: Persistent failures	≥ 100 per thousand vehicles/items	10
	50 per thousand vehicles/items	9
	20 per thousand vehicles/items	8
High: Frequent failures	10 per thousand vehicles/items	7
Moderate: Occasional failures	5 per thousand vehicles/items	6
	2 per thousand vehicles/items	5
	1 per thousand vehicles/items	4
Low: Relatively few failures	0.5 per thousand vehicles/items	3
	0.1 per thousand vehicles/items	2
	≤ 0.01 per thousand vehicles/items	1
Remote: Failure is unlikely		

Suggested DFMEA Detection Evaluation Criteria

Detection	Criteria: Likelihood of Detection by Design Control	Ranking
Absolute Uncertainty	Design Control will not and/or can not detect a potential cause/mechanism and subsequent failure mode; or there is no Design Control.	10
Very Remote	Very remote chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	9
Remote	Remote chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	8
Very Low	Very low chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	7
Low	Low chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	6
Moderate	Moderate chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	5
Moderately High	Moderately high chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	4
High	High chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	3
Very High	Very high chance the Design Control will detect a potential cause/mechanism and subsequent failure mode.	2
Almost Certain	Design Control will almost certainly detect a potential cause/mechanism and subsequent failure mode.	1