



FMEA Reg. No: FM001234	Part No: 01.03/Body Closures	Model Year(s)/Vehicle(s): 199x/Lion 4dr/Wagon	
Function: Application of wax	Drawing No: RE_654711_Rev4	FMEA Status: OK	
Customer: Intern	Created by: Body Engineering	Created: 11/13/2000	
CoreTeam: T-Fender-Car Product Dev., Childers-Manu, J. Ford- Assy Ops	Rev. No./Sign: Rev2 / A. Tate - X6412- Body Engr	Rev. Date: 12/9/2000	
Key Date: 3/1/2001			

Design FMEA (QS9000)

FM001234 01.03/Body Closures 199x/Lion 4dr/Wagon

(1) Front Door Subsystem - 01.30/Body Closures

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Criteria for estimation

$$RPN = S * Po * Pd$$

Severity (S)

- (1) None, No effect on product
- (2) Very Minor, Fit n' Finish / Squeak n' Rattle items does not conform.
- (3) Minor, Fit n' Finish / Squeak n' Rattle items does not conform.
- (4) Very Low, Fit n' Finish / Squeak n' Rattle items does not conform.
- (5) Low, but Comfort/Convenience item(s) operable at reduced level.
- (6) Moderate, Vehicle/item operable, but Comfort item(s) inoperable.
- (7) High, Vehicle/item operable, but at reduced level of performance
- (8) Very High, Vehicle/item inoperable, with loss of primary funtion.
- (9) Hazardous-with warning, failure mode affects safe vehicle operation
- (10) Hazardous-without warning, risk for human injuries

Occurrence (Po)

- (1) Remote: Failure is unlikely, < 1:1,500,000
- (2) Low: Relatively few failures, 1:150,000
- (3) Low: Relatively few failures, 1:15,000
- (4) Moderate: Occasional failures, 1:2,000
- (5) Moderate: Occasional failures, 1:400
- (6) Moderate: Occasional failures, 1:80
- (7) High: Repeated failures, 1:20
- (8) High: Repeated failures, 1:8
- (9) Very high: Failure is almost inevitable, 1:3
- (10) Very high: Failure is almost inevitable, > 1:2

Detection (Pd)

- (1) Almost Certain that the Design Control will detect cause/failure.
- (2) Very High chance the Design Control will detect cause/failure.
- (3) High chance the Design Control will detect cause/failure.
- (4) Moderately High chance the Design Control will detect cause/failure.
- (5) Moderate chance the Design Control will detect cause/failure.
- (6) Low chance the Design Control will detect cause/failure.
- (7) Very Low chance the Design Control will detect cause/failure.
- (8) Remote chance the Design Control will detect cause/failure.
- (9) Very Remote chance the Design Control will detect cause/failure.
- (10) Absolutely Uncertainty, Design Control won't detect cause/failure.

Classification

- CC Critical Characteristic, Safety or Government Regualtions (Ford)
- D Diamond, Require SPC (Chrysler)
- FF Fit/Function, Affect Customer Satisfaction (GM)
- SC Safety/Compliance, Safety or Government Regualtions(GM)
- Si Significant Characteristic, Affect Customer Satisfaction(Ford)
- P Pentagon, Verification is Mandatory, Critical Characteristics, (Chrysler)
- CP Critical Parameter
- RP Risk for human injuries
- S Shield, Safety Character, (Chrysler)



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Item / Function	Failure mode	Effect(s) of failure	S	CI	Cause(s) of failure	Po	Current Control	Pd	RPN	Recom. Actions	Responsible & Completion	Action(s) taken & Completed	S	Po	Pd	RPN
Front Door Subsystem - 01.30/Body Closures																
(1) Front Door L.H. H8HX-0000-A - Ingress to and egress from vehicle - Occupant protection from weather, noise and side impact. - Support Ancorage for door hardware including mirror, hinges latch and window regulator - Provide proper surface for appearance items - Paint and soft trim	Corroded interior lower door panels	Deteriorated life of door leading to: - Unsatisfactory appearance due to rust through paint over time - Impaired function of interior door hardware	7	FF Si	Upper edge of protective wax application specified for inner door panels is too low	6	Vehicle general durability test vah. T-118, T-109, T-301	7	294	Add laboratory accelerated corrosion testing	A Tate-Body Engr 11/14/2000	Based on test results (Test No. 1481) upper edge spec raised 125mm 11/11/2000	7	2	2	28
					Insufficient wax thickness specified	4	Vehicle general durability testing - as above	7	196	Add laboratory accelerated corrosion testing Conduct Design of Experiments (DOE) on wax thickness	A Tate-Body Engr 12/22/2000	Test results (Test No. 1481) show specified thickness is adequate. DOE shows 25% variation in specified thickness is acceptable 11/30/2000	7	2	2	28
					Inappropriate wax formulation specified	2	Physical and Chem Lab test- Report No. 1265	2	28							
					Entrapped air prevents wax from entering corner/edge access	5	Design aid investigation with non-functioning spray head.	8	280	Add team evaluation using production spray equipment and specified wax	Body Engr _Assy Ops 11/15/2000		7	1	3	21
					Wax application plugs door drain holes	3	Laboratory test using "worst case" wax application and hole size	1	21							
					Insufficient room between panels for spray head access	4	Drawing evaluation of spray head access	4	112	Add team evaluation using design aid buck and spray head	Body Engr _Assy Ops 11/30/2000	Evaluation showed adequate access 11/13/2000	7	1	1	7