# AIAG & VDA FMEA Handbook – 1st Edition – English Translation Errata Sheet

| Page | Section | Original Language (see highlight) | Corrected Version Language or explanation |
|---|---|---|---|
| 21 | 1.4.1 | The Design FMEA analyzes the functions of a system, subsystem, or component of interest as defined by the boundary shown on the Block/Boundary Diagram, the relationship between its underlying elements, and to external elements outside the system boundary. This enables the identification of possible design weaknesses to minimize potential risks of failure. | The Design FMEA analyzes the functions of a system, subsystem, or component of interest as defined by the boundary shown on the Block/Boundary Diagram or Structure Tree, the relationship between its underlying elements, and to external elements outside the system boundary. This enables the identification of possible design weaknesses to minimize potential risks of failure. |
| 40 | 2.3.1 | Visualization of product or process functions | Visualization of product functions |
| 40 | 2.3.1 | • Function tree/net or function analysis form sheet and parameter diagram (P-diagram) | • Function tree/net or function analysis form sheet and/or parameter diagram (P-diagram), as applicable |
| 41 | 2.3.2 | The recommended phrase format is to use an "action verb" followed by a "noun" to describe a measurable function. | The recommended phrase format is to use an *action verb* followed by a *noun* to describe a measurable function. |
| 56 | 2.4.8 Figure 2.4-7 | Figure 2.4-7 View of Product End Item-Function-Failure Form Sheet | Figure 2.4-7 View of Next Higher Level Item-Function-Failure Form Sheet |
| 58 | 2.5.3 | EMC Directive adhered to, Directive 89/336/EEC | European EMC Directives |
| 65 | 2.5.8 Table D2 | Note: O = 10, 9, 8, 7 can drop based on product validation activities. | Note: Occurrence can drop based on product validation activities |
| 67 | 2.5.9 Table D3 | Detection Maturity Method for D=7: Proven test method for verification of functionality or validation of performance, quality, reliability and durability; planned timing is later in the product development cycle such that test failures may result in production delays for re-design and/or re-tooling. | Detection Maturity Method for D=7: New test method; not proven; planned timing is sufficient to modify production tools before release for production. |
| 75 | 2.6.3 | If "No Action Taken", then Action Priority is not reduced, and the risk of failure is carried forward into the product design. | If "No Action Taken", then risk of failure is not changed, and the Action Priority is not reduced. |

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| 80 | 3.1.2 | Answers to these questions and others defined by the company help create the list of DFMEA projects needed. The PFMEA project list assures consistent direction, commitment and focus. | Answers to these questions and others defined by the company help create the list of PFMEA projects needed. The PFMEA project list assures consistent direction, commitment and focus. |
| 81 | 3.1.2 Figure 3.1-1 | Planning and Preparation: All Processes Level<br><br>Maintenance<br>OP 40 Work Instruction (Part Replacement) | Planning and Preparation: All Processes Level<br><br>Maintenance<br>OP 40 Work Instruction (Machine Part Replacement) |
| 81 | 3.1.2 Figure 3.1-1 | Planning and Preparation: Department Levels<br><br>Maintenance<br>OP 40 Work Instruction (Part Replacement) | Planning and Preparation: Department Levels<br><br>Maintenance<br>OP 40 Work Instruction (Machine Part Replacement) |
| 81 | 3.1.2 Figure 3.1-1 | Structure Analysis: Process Structure<br><br>4M Elements<br>Operator<br>Greasing Device<br>Grease<br>EnvironMent(...)<br>Operator<br>Press Machine<br>Sintered Bearing<br>... | Structure Analysis: Process Structure<br><br>4M Elements<br>Man (Operator)<br>Machine (Greasing Device)<br>Material (Grease)<br>EnvironMent (Cleanliness)<br>Operator<br>Press Machine<br>Sintered Bearing<br>Cleanliness |
| 82 | 3.1.3 | A plan for the execution of the PFMEA should be developed once the DFMEA project is known…....The DFMEA activities (7-Step process) should be incorporated into the overall project plan. | A plan for the execution of the PFMEA should be developed once the PFMEA project is known…....The PFMEA activities (7-Step process) should be incorporated into the overall project plan. |

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| 82 | 3.1.4 | This includes use of a foundation PFMEA (described in Section 1.3), similar product PFMEA, or product foundation PFMEA. | This includes use of a foundation PFMEA (described in Section 1.3), a product family PFMEA, or similar product PFMEA. |
| 83 | 3.1.5 | Cross-Functional Team: Team: Team Roster needed | Cross-Functional Team: Team Roster needed |
| 85 | 3.2.2 Figure 3.2-2 | 4M Elements<br>Operator<br>Greasing Device<br>Grease<br>EnvironMent(...)<br>Operator<br>Press Machine<br>Sintered Bearing<br>... | 4M Elements<br>Man (Operator)<br>Machine (Greasing Device)<br>Material (Grease)<br>EnvironMent (Cleanliness)<br>Operator<br>Press Machine<br>Sintered Bearing<br>Cleanliness |
| 86 | 3.2.3 | Refer to Section 3.4-7 Failure Cause for more information about how the 4M approach is used to identify Failure Causes. | Refer to Section 3.4.6 Failure Cause for more information about how the 4M approach is used to identify Failure Causes. |
| 88 | 3.3.1 | Visualization of product or process function | Visualization of process function |
| 88 | 3.3.2 | The recommended phrase format is to use an *action verb* followed by a I to describe the measurable process function (“DO THIS” “TO THIS”). | The recommended phrase format is to use an *action verb* followed by a *noun* to describe the measurable process function (“DO THIS” “TO THIS”). |
| 94 | 3.4.4 | • Internal customer (next operation/subsequent operation/operation tar-gets) | • Internal customer (next operation/subsequent operation/operation targets) |
| 94 | 3.4.4 | Product or Product end user/operator | Product end user/vehicle operator |
| 104 | 3.5.2.1 | Test runs according to start-up regulation AV 17/3b | Test runs according to start-up regulation |
| 108 | 3.5.6 Table P1 | S = 10: Failure may result in an acute health and/or safety risk for the manufacturing or assembly worker | S = 10: Failure may result in a health and/or safety risk for the manufacturing or assembly worker |
| 108 | 3.5.6 Table P1 | S = 10: Failure may result in an acute health and/or safety risk for the manufacturing or assembly worker | S = 10: Failure may result in a health and/or safety risk for the manufacturing or assembly worker |

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| 108 | 3.5.6 Table P1 | S = 8: 100% of production run affected may have to be scrapped. Failure may result in in-plant regulatory noncompliance or may have a chronic health and/or safety risk for the manufacturing or assembly worker. | S = 8: 100% of production run affected may have to be scrapped. |
| 108 | 3.5.6 Table P1 | S = 8: Line shutdown greater than full production shift; stop shipment possible; field repair or replacement required (Assembly to End User) other than for regulatory noncompliance. Failure may result in in-plant regulatory noncompliance or may have a chronic health and/or safety risk for the manufacturing or assembly worker. | S = 8: Line shutdown greater than full production shift; stop shipment possible; field repair or replacement required (Assembly to End User) other than for regulatory noncompliance. |
| 118 | Fig 3.5-3 | MRKJ5038 | MRKJ5039 |
| 121 | 3.6.3 | If “No Action Taken,” then Action Priority is not reduced, and the risk of failure is carried forward into the product. | If “No Action Taken,” then the risk of failure is not changed and the Action Priority is not reduced. |
| 122 | Fig 3.6-1 | MRKJ5038 | MRKJ5039 |
| 131 | 4.3.1 | Missing header: 4.3.2 Function | Inserted header: 4.3.2 Function (inserted after final bullet “Basis for the Failure Analysis step”) |
| 134 | 4.4.2 | As an aspect of the Failure Scenario, it is necessary to estimate the magnitude of the Fault Handling Time Interval (time between the occurrence of the fault, and the occurrence of the hazard/noncompliant Failure Effect). The Fault Handling Time Interval is the maximum time span of malfunctioning behavior before a hazardous event occurs, if the safety mechanisms are not activated. | As an aspect of the Failure Scenario, it is necessary to estimate the magnitude of the Fault Tolerant Time Interval (time between the occurrence of the fault, and the occurrence of the hazard/noncompliant Failure Effect). The Fault Tolerant Time Interval is the minimum time-span of malfunctioning behavior before a hazardous event occurs, if the safety mechanisms are not activated. |

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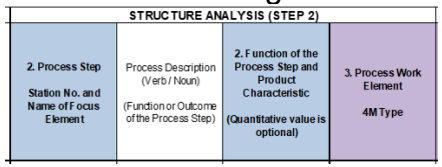
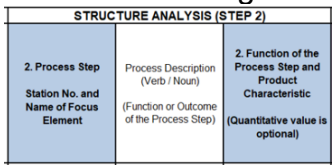
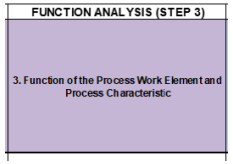
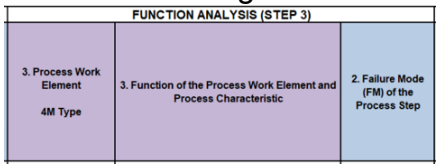
| 141 | 4.5.7 | The effectiveness of diagnostic monitoring and response, the fault monitoring response time, and the Fault Tolerant Time Interval need to be determined prior to rating. Determination of the effectiveness of diagnostic monitoring is addressed in detail in ISO 26262-5:2018 Annex D. | The effectiveness of diagnostic monitoring and response, the Fault Handling Time Interval, and the Fault Tolerant Time Interval need to be determined prior to rating. Determination of the effectiveness of diagnostic monitoring is addressed in detail in ISO 26262-5:2018 Annex D. |
| 142 | 4.5.7 | If there is no monitoring control, or if monitoring and response do not occur within the Fault Handling Time Interval, then Monitoring should be rated as Not Effective (M=10). | If there is no monitoring control, or if monitoring and response do not occur within the Fault Tolerant Time Interval, then Monitoring should be rated as Not Effective (M=10). |
| 144 / 145 | Table MSR3 | Fault Handling Time Interval | Fault Tolerant Time Interval |
| 147 | 4.5.8 Table AP | Product Effect High = 9 -> Extremely low - Very low = 2-3 -> Reliable – High = 1 -> L | Product Effect High = 9 -> Extremely low - Very low = 2-3 -> Reliable = 1 -> L |
| 151 | 4.6.3 | If "No Action Taken", then Action Priority is not reduced and the risk of failure is carried forward into the product design. | If "No Action Taken", then risk of failure is not changed, and the Action Priority is not reduced. |
| 159 - 161 | A1 All Forms | Model Year / Platform | Model Year / Program |
| 163 - 168 | A2 All Forms | Model Year / Platform | Model Year / Program |
| 167 | A2 Form G | Error in Header alignment:<br>  | Fixed Header alignment:<br>  |
| 167 | A2 Form G | Error in Header alignment:<br>  | Fixed Header alignment:<br>  |

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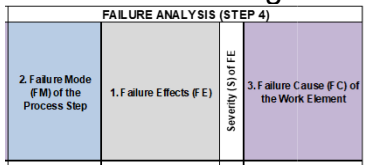
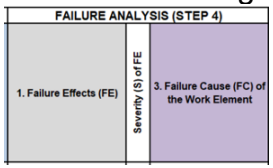
| 167 | A2<br>Form G | Error in Header alignment:<br>  | Fixed Header alignment:<br>  |
| 168 | View B | Function Analysis (Step 3) Item 2:<br>Process Step<br>Station No. And Name of Focus Element | Function Analysis (Step 3) Item 2:<br>Function of the Process Step and Product Characteristic<br>(Quantitative value is optional) |
| 168 | View B | Function Analysis (Step 3) Item 3:<br>Process Element<br>4M Type | Function Analysis (Step 3) Item 3:<br>Function of the Process Work Element and Process Characteristic |
| 169 - 170 | A3<br>All Forms | Model Year / Platform | Model Year / Program |
| 173 | B1.5<br>Figure B1.5-1 | DFMEA AP: H, M, L, N/A | DFMEA AP: H, M, L |
| 173 | B1.6<br>Figure B1.6-1 | DFMEA AP: H, M, L, N/A | DFMEA AP: H, M, L |
| 173 | B1.6<br>Figure B1.6-1 | Status: Open, Decision pending (optional), Implementation pending (optional), Completed, Discarded | Status: Open, Decision pending (optional), Implementation pending (optional), Completed, Not Implemented |
| 177 | B2.4<br>Figure B2.4-1 | It is recommended to list the Severity Rating next to each of the 3 areas (Your Plant, Ship to plant, Process Item, End User) being considered and use the highest Rating for the Severity. Rank. One area, such as End User, may not always have the highest Severity Rating. | It is recommended to list the Severity Rating next to each of the 3 areas (Your Plant, Ship to Plant, End User) being considered and use the highest Rating for the Severity. One area, such as End User, may not always have the highest Severity Rating. |
| 178 | B2.5<br>Figure B2.5-1 | PFMEA AP: H, M, L, N/A | PFMEA AP: H, M, L |

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| 178 | B2.6 Figure B2.6-1 | PFMEA AP: H, M, L, N/A | PFMEA AP: H, M, L |
| 178 | B2.6 Figure B2.6-1 | Status: Open, Decision pending (optional), Implementation pending (optional), Completed, Discarded | Status: Open, Decision pending (optional), Implementation pending (optional), Completed, Not Implemented |
| 182 | B3.5 Figure B3.5-1 | FMEA-MSR AP: H, M, L, N/A | FMEA-MSR AP: H, M, L |
| 183 | B3.6 Figure B3.6-1 | FMEA-MSR AP: H, M, L, N/A | FMEA-MSR AP: H, M, L |
| 183 | B3.6 Figure 3.6-1 | Status: Open, Decision pending (optional), Implementation pending (optional), Completed, Discarded | Status: Open, Decision pending (optional), Implementation pending (optional), Completed, Not Implemented |
| 187 | C1.2 Table C1.2 | Note: O = 10, 9, 8, 7 can drop based on product validation activities. | Note: Occurrence can drop based on product validation activities |
| 189 | C1.3.1 Table C1.3.1 | Note: O = 10, 9, 8, 7 can drop based on product validation activities. | Note: Occurrence can drop based on product validation activities |
| 190 - 191 | C1.3.2 Table C1.3.2 | Includes Table C1.3.2 – Alternative DFMEA Occurrence (O) for Time Based Failure Prediction Values | Table is removed from the Handbook |
| 192 | C1.4 Table D3 | Detection Maturity Method for D=7: Proven test method for verification of functionality or validation of performance, quality, reliability and durability; planned timing is later in the product development cycle such that test failures may result in production delays for re-design and/or re-tooling. | Detection Maturity Method for D=7: New test method; not proven; planned timing is sufficient to modify production tools before release for production. |
| 208 | C3.4 | Product Effect High = 9 -> Extremely low - Very low = 2-3 -> Reliable – High = 1 -> L | Product Effect High = 9 -> Extremely low - Very low = 2-3 -> Reliable = 1 -> L |
| 218 | F1.1 6th Step | Open, completed, discarded | Open, decision pending, implementation pending, completed, not implemented |

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| 223 | F1.2 | Step 7 summarizes the scope and results of the DFMEA in a report for review by internal management and/or the customer. The AIAG 4th Edition FMEA manual indicates that management owns the FMEA process and has the ultimate responsibility of selecting and applying resources and ensuring an effective risk management process including timing. These statements are found in Chapter 2, Strategy, Planning, Implementation. However, the 4th Edition does not provide additional guidance on how to engage management in the DFMEA team. Step 7 provides recommendations for what to include in results documentation. This report should indicate the technical risk of failure as a component of the development plan and project milestones. | Step 7 summarizes the scope and results of the PFMEA in a report for review by internal management and/or the customer. The AIAG 4th Edition FMEA manual indicates that management owns the FMEA process and has the ultimate responsibility of selecting and applying resources and ensuring an effective risk management process including timing. These statements are found in Chapter 2, Strategy, Planning, Implementation. However, the 4th Edition does not provide additional guidance on how to engage management in the PFMEA team. Step 7 provides recommendations for what to include in results documentation. This report should indicate the technical risk of failure as a component of the development plan and project milestones. |
| 223 | F2 | VDA Volume 4, Chapter Product and Process FMEA to AIAG & VDA FMEA Handbook | VDA Volume 4, Product and Process FMEA to AIAG & VDA FMEA Handbook |
| 223 | F2.1 | VDA Volume 4, Chapter Product DFMEA to AIAG & VDA FMEA Handbook | VDA Volume 4, Section Product DFMEA to AIAG & VDA FMEA Handbook |
| 223 | F2.1 | Preparation and Project Planning | Planning and Preparation |
| 223 | F2.1 | result documentation | Result Documentation |
| 228 | F2.2 | VDA Volume 4, Chapter Product PFMEA to AIAG & VDA FMEA Handbook | VDA Volume 4, Section Process PFMEA to AIAG & VDA FMEA Handbook |
| 228 | F2.2 | Preparation and Project Planning | Planning and Preparation |
| 228 | F2.2 | result documentation | Result Documentation |
| 232 | F2.3 | VDA Volume 4, Chapter FMEA for Mechatronical Systems to AIAG & VDA FMEA Handbook | VDA Volume 4, Section FMEA for Mechatronical Systems to AIAG & VDA FMEA Handbook |
| 235 | G | AIAG APQP Advanced Production and Quality Planning | AIAG Advanced Product Quality Planning and Control Plan |