

PTC® Windchill® MSG-3 (Maintenance Steering Group Version 3)

IDENTIFY AND SCHEDULE RELIABILITY-CENTERED MAINTENANCE TASKS IN ACCORDANCE WITH ATA STANDARDS

PTC Windchill MSG-3 (Maintenance Steering Group Version 3) provides a structured methodology to help identify and schedule maintenance tasks in accordance with ATA reliability standards.

PTC Windchill MSG-3 provides step-by-step guidance for identifying and scheduling maintenance tasks for aircraft in accordance with the ATA standard MSG-3 (Maintenance Steering Group Version 3). Context-sensitive questions derived from the standard are structured within logic-enforced diagrams to guide the analyst through MSI (Maintenance Significant Item), SSI (Structurally Significant Item), Zonal, and L/HIRF (Lightning/High Intensity Radiated Field) identification, failure effect categorization, and maintenance task selection for every system in the aircraft.

Key Benefits

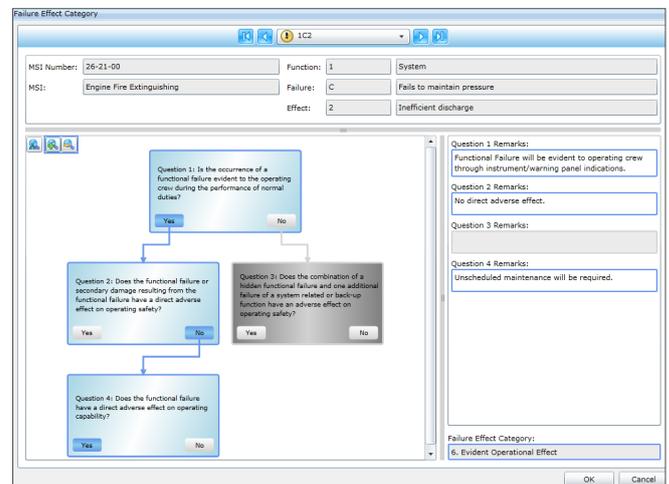
OOTB support for ATA standard MSG-3

- Identify candidates for reliability-centered maintenance through MSI, SSI, Zonal, and L/HIRF analysis
- Categorize MSI, SSI, Zonal, and L/HIRF items by failure effect, including detectability, economic impact, safety impact, and operational impact
- Define and schedule maintenance tasks for each effect
- Optimize maintenance activities by grouping related tasks

Leverage technology-enforced logic

- Functional decomposition of every system on the aircraft

- Analyze every item for MSI and failure effect category
- Select maintenance tasks using context-sensitive questions
- Logic-enforced diagrams assist in decision-making and help ensure compliance



PTC Windchill MSG-3 supports MSI selection, failure effect categorization, and maintenance task selection in accordance with the ATA standard.

- Assign highest manageable level to group related tasks

Additional technology benefits

- Dynamic software links to reliability metrics, maintenance intervals and historical failure data.

- Fully functional FMEA module enables end-to-end failure mode and effects analysis or FMECA
- Fully customizable reports communicate maintenance tasks and schedules to service teams or governing bodies

Utilize MSG-3 best practices

- Improve aircraft safety, reliability, and availability by ensuring every part of the aircraft is submitted for inspection
- Reduce maintenance costs by optimizing maintenance intervals and increasing efficiency of maintenance tasks
- Protect designed-in safety and reliability by addressing critical failures that cannot be detected until the item fails

Features and Specifications

Features enabling MSG-3

- Hierarchical system tree enables functional decomposition of every part of the aircraft
 - Also supports import of existing BOM information
 - Supports dynamic integration with PTC Windchill PDMLink BOM
- Context-sensitive questions presented in logic-enforced diagrams lead to MSI identification, failure effect categorization and maintenance task selection
 - Vivid, convenient graphical display "grays out" unrelated options/questions
 - Space to add remarks related to each question
- User- and role-based login permissions, workflows, and alerts enforce existing business processes
- Indicate highest manageable level for any MSI
 - Logic-enforced: parent assembly becomes MSI if component part is MSI

- Library functionality ensures past in-service and/or failure data is reused in both current and future analyses
 - Store/reuse hierarchical data, related subtable data
 - Easily store and retrieve library information
- Dynamically link items to their predicted failure rate information, optimal maintenance intervals, field failure rates, etc., from other fully integrated PTC Windchill Quality Solutions modules
- Create a functional FMEA from MSIs
- Supports one-to-many, many-to-one, and many-to-many relationships between effects and maintenance tasks
- Web-style search tool makes it easy to find any item in a system
- Automatic revision tracking with redlining reports
- Available integration with PTC Windchill change management to track CAPAs, change requests, revisions, approvals
- RTF support in memo fields enables hyperlinking to maintenance procedures, other documents
- Microsoft Word® document attachment displayed in reports
- Display diagrams in reports
- Include quantitative risk level calculations, like RPNs, to complete a FMECA on system
- Automatically roll up local effects to the failure mode of the next, higher-level item; and automatically cascade down the next effect, end effect, and severity to lower level items to ensure traceability

FMEA Features & Specifications

Supported FMEA types

- Process
- Design

- Functional
- Component
- Piece-Part
- FMES (Failure Mode and Effects Summary)

Supported Standards

- MIL-STD-1629A
- FMD-97
- BS5760
- HAZOP
- SAE ARP5580
- AIAG
- SAE J1739
- IEC 61508
- IEC 60812

Supported calculations

- Item/mode failure rates
- Item/mode criticality
- Risk priority number (RPN)
- RPN improvement percentage
- Risk level
- Percent isolation
- Percent detection
- User-definable

Supplied failure mode libraries

- FMD-97
- FMD-91
- MIL-HDBK-338
- NPRD3

- RADC-TR-84-244
- RADC-TR-844-244 4-A

Data hierarchy

- Multiple causes per effect

Sample analysis outputs

- Standard report format per specifications
- Criticality matrices
- Risk levels
- Failure likelihood rank
- Top (n) failure modes by RPN
- Failure modes and effects summary
- Top (n) failure modes by mode criticality
- Action item list
- Failure mode cause Pareto
- LSAR 1388 2B

Automated interface tools for managing data

- Customizable lists and auto-populate features mean even large, complex FMEAs may be constructed quickly and efficiently
- Powerful data filtering to query and search large systems
- Color-code columns, indicate symbols to flag data, auto-merge cells, and freeze columns while scrolling for easier data entry
- Create assembly library files for easy reuse of data, or fault equivalencies for consistency in like failure modes and effects

Input and output data in a variety of formats

- Easily import from or export to commonly used formats like Microsoft Excel, Microsoft Access, XML, and plain text files

- User-definable, wizard-driven custom graphs and reports; output reports to Microsoft Word or Excel, Adobe PDF, or Rich Text Format (RTF)
- Link to other PTC Windchill Quality Solutions modules such as PTC Windchill RBD, PTC Windchill Prediction, and PTC Windchill FRACAS; generate a fault tree from FMEA data

Available Web interface

- Available zero-client, web-based interface provides for data entry and analysis anywhere, anytime
- Fully-featured Windows functionality and familiar Windows interface look-and-feel for easy usability
- Access data and system metrics from a web-based dashboard interface for management-level overview

Enterprise-class features

- Multi-user environment with login permissions, security features, administrator control, and audit trail functionality
- Database integration at enterprise level supports Microsoft SQL Server and Oracle

- Feature-rich FlexNet license management tool
- Integration with PTC Windchill PDMLink ensures a single, up-to-date version of the product BOM
- API support enables improved integration with existing business systems, including data entry or lookup without opening PTC Windchill Quality Solutions

Supported languages

- English, French, German, Japanese, Korean, Russian, Simplified Chinese

For More Information

For more information on PTC Windchill MSG-3, please visit: PTC.com/products/windchill/msg3

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