Reliability Centered Maintenance
Time Directed Solution

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Overview

• Reactive Maintenance - USM
• Proactive Maintenance - SM
  – Current Practice
  – Preventive Maintenance
    • Changing Oil
  – Reliability Centered Maintenance
    • Condition Based Maintenance
    • Time Directed Maintenance
    • No Maintenance Solution
Purpose

• Review on Current TDM Solutions
  – How is it implemented

• Research leads me to
  – Time ≠ Stress
How do we get to TDM

- Candidate Part
- Consequence Analysis
- FMECA
- FTA
- Consequence of Failure
- Perception of Failure
- Maintenance Action
- RCM Database
Findings - Useful

- 8 Focused on the Decision Logic of RCM
- 1 Source used the Hazard Function
Findings - Logistical

• Logistical/cost analysis on TDM
  – Total Product Management Benefits
  – Cost Analysis
Findings – Off Topic

• Off topic to logic of TDM flow chart
  – Spare Ordering Policy
  – Information Systems
  – Cleanliness of Equipment
Findings

• TDM Sources focused on
  – Implementing RCM
  – Cost Analysis

Very little has been done on Time Directed Maintenance relating to stress
Hazard Function

\[ UCL_U = \int_0^{LCL_{DLim}} f_0(s) ds \]

Failure Model

Design Criteria

\[ h_0(s) \]

Hazard Function
Conclusion

• Stress Loads Related to the Hazard Function
  – Risk Threshold
• Stress Profile Related to Part Failure
Questions

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