

Reducing Low Observable Maintenance Burden Through Technology



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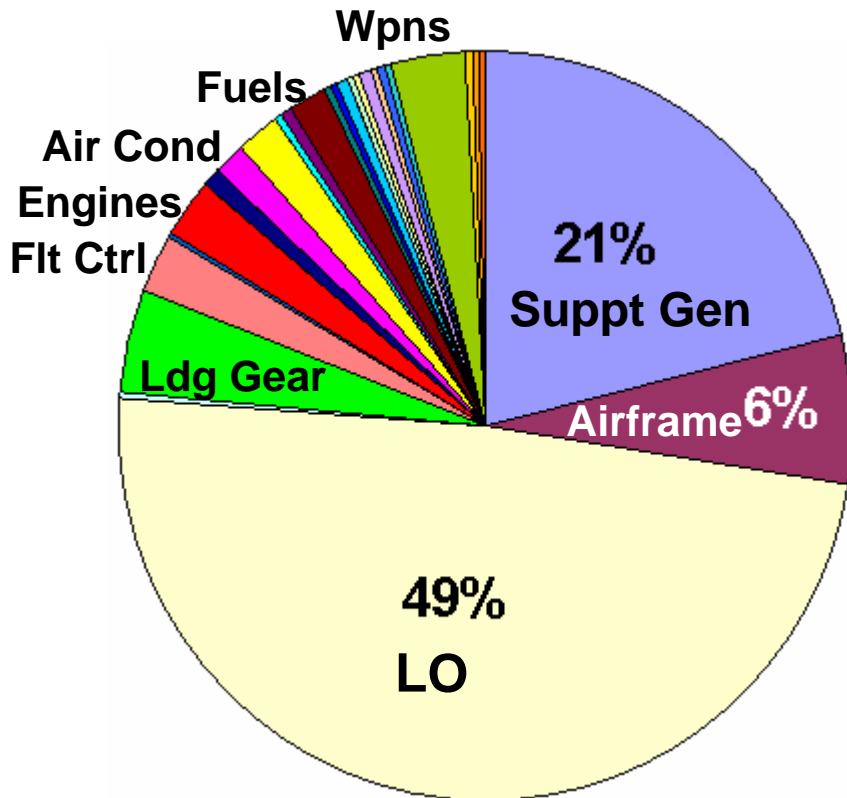
Overview

- LO Impact on Maintenance
- LO Objectives
- Emerging Technologies
 - Signature Diagnostics & Verification
 - Material Improvements
- Closing Thoughts



LO Impact on B-2 Maintenance

MMH/FH FY05



- Major driver on MMH/FH and NMC rates
- Primarily driven by signature performance
 - Re-LO after other maintenance also drives maintenance action



Overall LO Objectives

- **Provide signature confidence to Warfighting commanders**
 - **Field a robust/integrated/organic/deployable RF diagnostic capability**
 - Reduce signature uncertainty via a RF diagnostic mx strategy
 - Improve pass rate on PRSM missions
- **Improve LO maintainability, reliability and supportability**
 - **Reduce Maintenance Man Hours/Flying Hour (MMH/FH)**
 - 50% reduction by 1 Oct 2010
 - **Reduce Non-Mission Capable (NMC) rate due to LO**
 - 50% reduction by 1 Oct 2010
 - **Reduce Operations & Support costs 10% by 1 Oct 2010**
- Improve signature performance
 - Reduce overall signature to survive the threat of 2015
 - Increase design margins



RF Diagnostic Maintenance Strategy

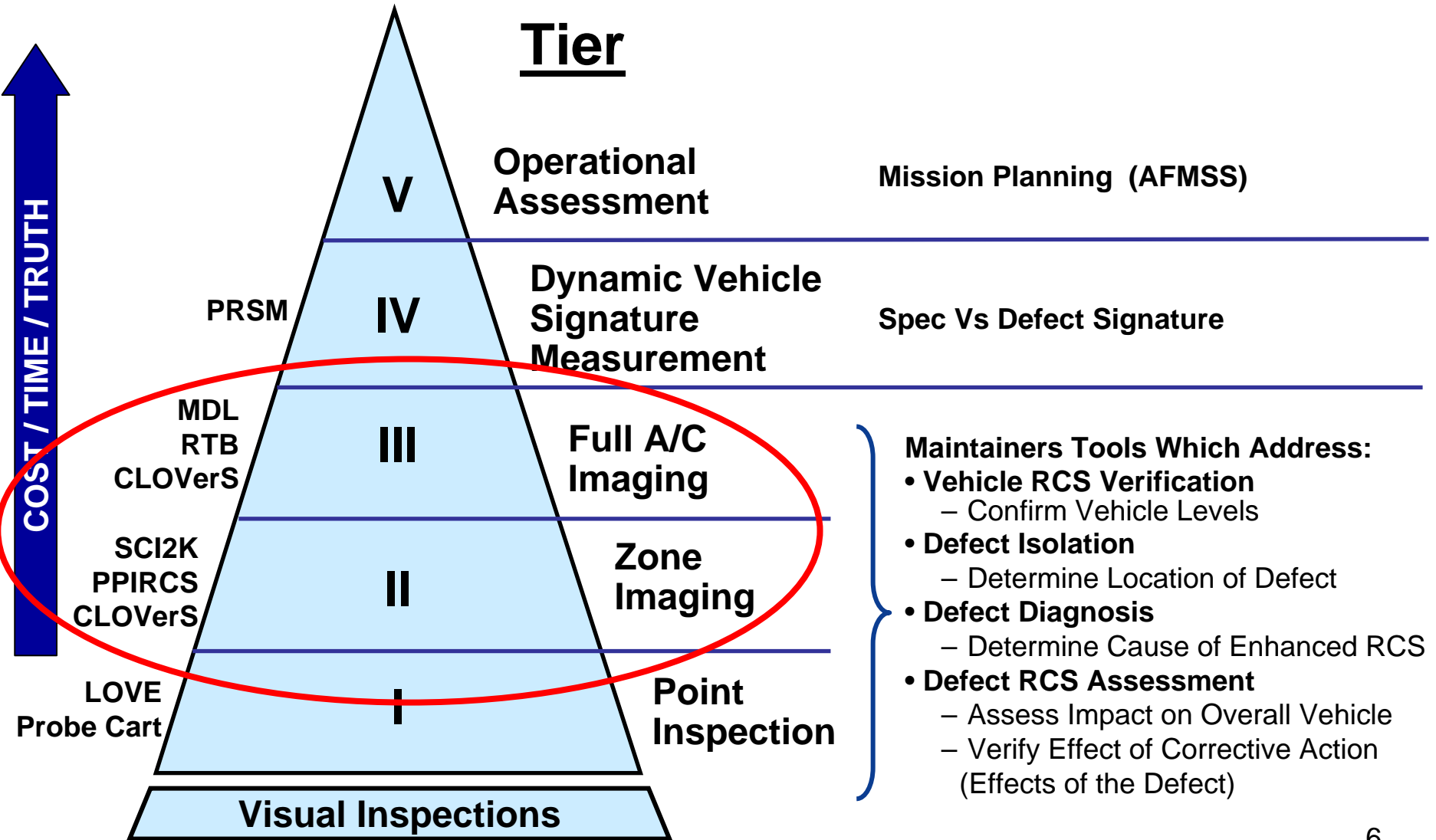
Goals:

- Improve Signature Confidence
 - Ready for combat at any point in time, or
 - Known signature state and get well plan
- Eliminate unnecessary maintenance -- focus efforts on known problems
- Stable signature throughout periodic mx cycle
- Improve PRSM performance
 - Use to verify process rather than as an analysis tool -- “Report Card”
 - Requires change of mindset in maintenance community
 - Plan to steadily improve PRSM performance

KEY ENABLER FOR FUTURE MX STRATEGIES



ACC LO Verification Tiers



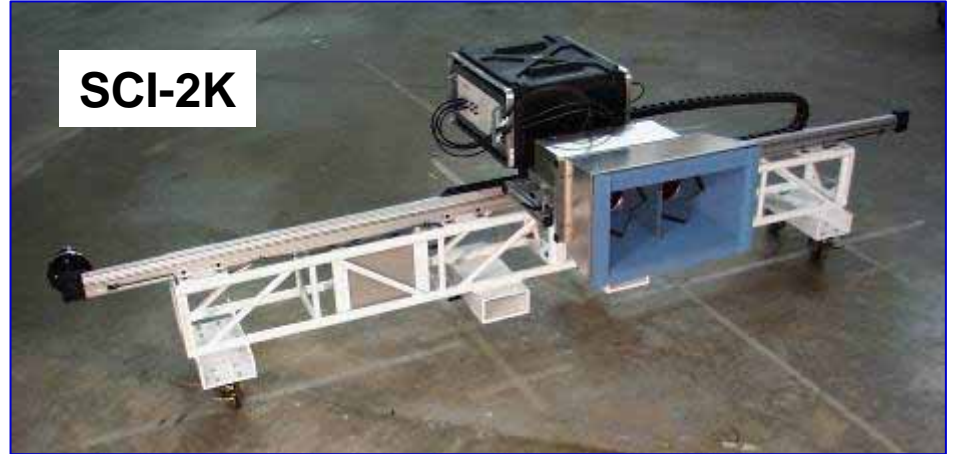


Filling the Tier II & III Toolbox

CLOVerS



SCI-2K



MDL





Improving Maintainability

- Material improvements can offer improved durability, decreased cure times, longer shelf life, etc
 - Requires development effort to qualify new materials
 - **Beware of ‘simple material substitutions’**
- New design approaches can also reduce LO maintenance
 - May eliminate need for tapes & caulks



LO Material Improvement Goals

Cure Time Reductions

Caulk	72 Hrs
Tape Adhesive	24 Hrs
Hi-Temp IFE Caulk	24 Hrs
Sheet Adhesive	72 Hrs

Current Cure Time

Goal

Reduce cure times of materials with greater than 24 hours to 4 hours

Increase Shelf Life

Hi-Temp IFE Caulk	28 Days
Coating Compound	3 Mos
Gap Filler	6 Mos
Adhesive	6 Mos

Current Shelf Life

Goal

Increase shelf life to greater than 12 Mos

Storage Conditions

Some materials must be stored at less than 32 degrees

Goal

Ambient storage conditions

Closing Thoughts

- **Opportunities for enhancements**
 - **Focused on reducing maintenance burdens and operational costs, while improving the aircraft availability**
- **LO Maintainability initiatives ARE making a positive impact**
- **Continued emphasis on improving the LO performance of the jet, to address potential increased threats in the future**