

Integration of Human Factors into SMS



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Integration of Human Factors into SMS



Federal Aviation
Administration

The 2018 Government-Industry Workshop



SMS – HF Trends

A “Floor Model” for SMS-HF Integration



Showing Best Practices in Action



Government-Industry Maintenance SMS-HF Workshop



**Attention to Maintenance
Human Factors**



Federal Aviation
Administration



Presentation Plan: HF Integration into SMS

Workshop Overview

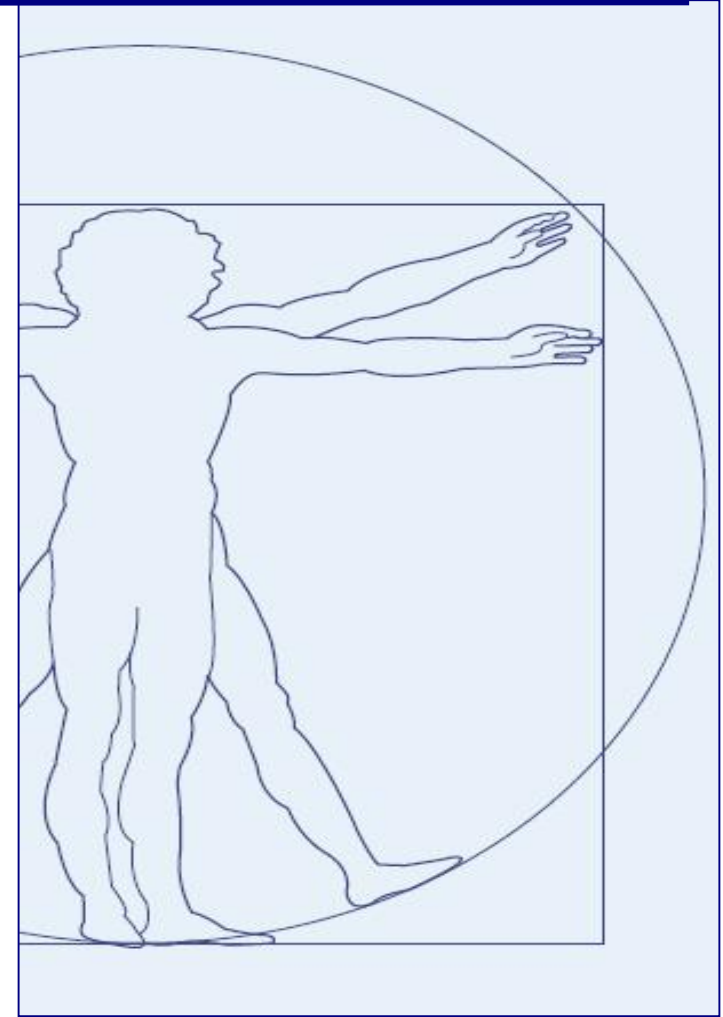
Challenges

Post-Maintenance Discrepancies

Best Practices

Pain Points & Example Toolset Specifications

Latest FAA HF Product



Workshop Overview

2 ½ Days in OKC, August 2018

20 Delegates (All with HF-SMS-Maintenance Experience)

Airlines 40%, MRO & GA 25% , Gov. 25%, Manufacturers 10%

Deliverables clearly defined from start

Presentation mix about: MX SMS Programs and Best Practices

3 extended small group sessions, structured with deliverables



Challenges

HF Professionals - “SMS needs more HF.”

SMS Professionals – “Give us HF advice.”

SMS experts apply risk assessment but not much HF.

Need two-way flow of advice.

Silos?



Post Maintenance Discrepancies

Inspect/test not complete

Landing gear won't retract

Loose fittings and lines

Lockout/tagout incomplete

Improper Tooling

Incorrect MEL

Tools left on A/C

Slide deployment

Incomplete paperwork

Incorrect parts installed

Failed Magneto checks

Bottom Line: No surprises. Why continuing repeated occurrences?



Example Best Practices

Peer-to-Peer Assessment – LOSA &... (UAL - Doug)

Active Mgmt. on the shop floor Lufthansa Technik (LHT)

Make safety personal & RCA for engineers (LHT)

Structuring Human Factors with PEAR – AEA



Fitness for Duty/Fatigue & Follow Procedures Practices (FAA)



More Example Best Practices

Error on nose wheel install changes the way parts are stored. (AAL)

American commitment to the Just Culture algorithm. (AAL)

Alternate ways of using checklists based on task familiarity. (AAL)

Emphasizing worker understanding and involvement in SMS (Thales)

Example Pain Points and Support Needed

Low reporting rates

- Electronic tool with examples of what to report. Create dynamic for reporting. **(Smith)**
- Mgmt. support that ensures time to report.
- Provide incentives to report? (WIFM)

Weak/shallow root-cause analysis

- Root cause analysis tools and training.
- HF troubleshooting tree to identify root causes.

Inability to determine best corrective actions

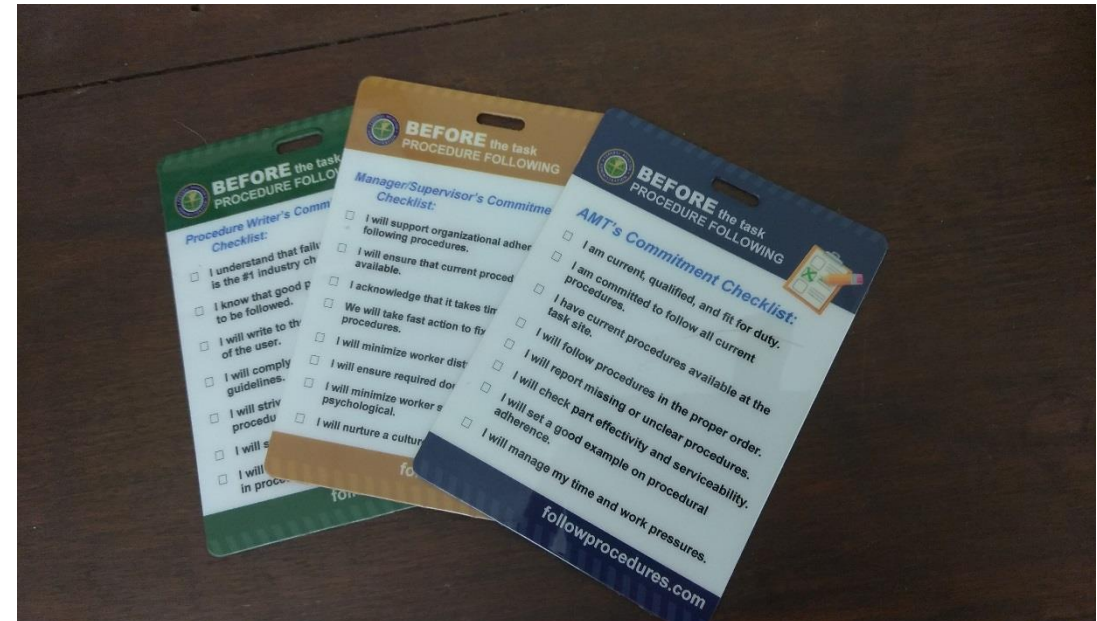
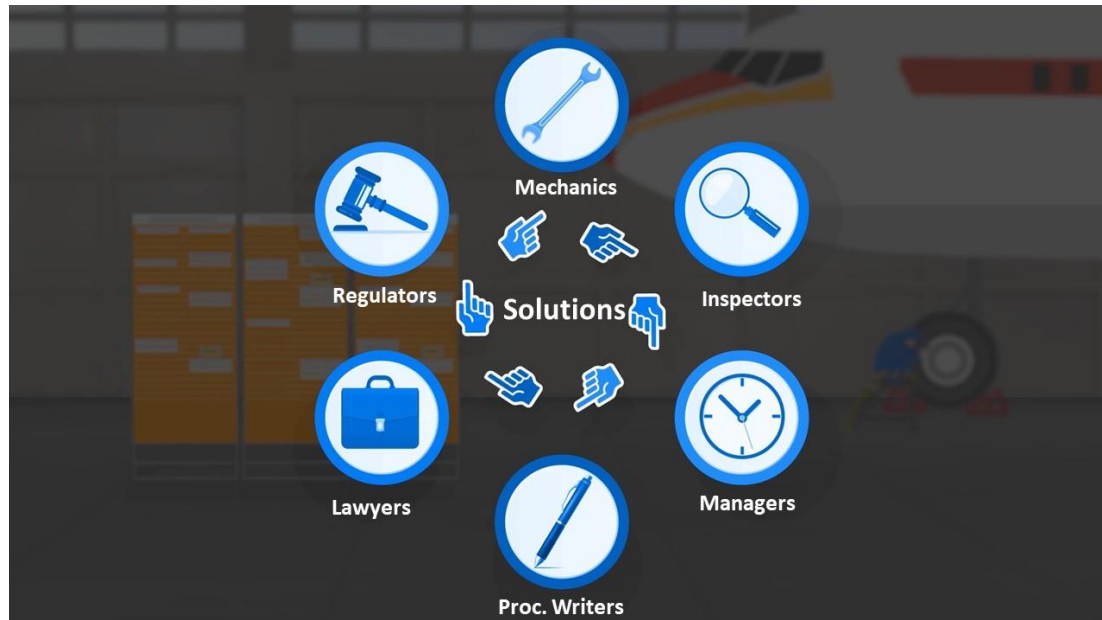
- Support corrective actions (people, time, \$\$).
- Immediate containment & long term solutions.
- Track the effectiveness of corrective actions.



Following Procedures - 100%

RCA often identifies procedural compliance!

New FAA Training targets the culture of following procedures.



Characteristics of a Follow Procedures Champion



Go to: FollowProcedures.com

Presentation Summary: HF Integration into SMS

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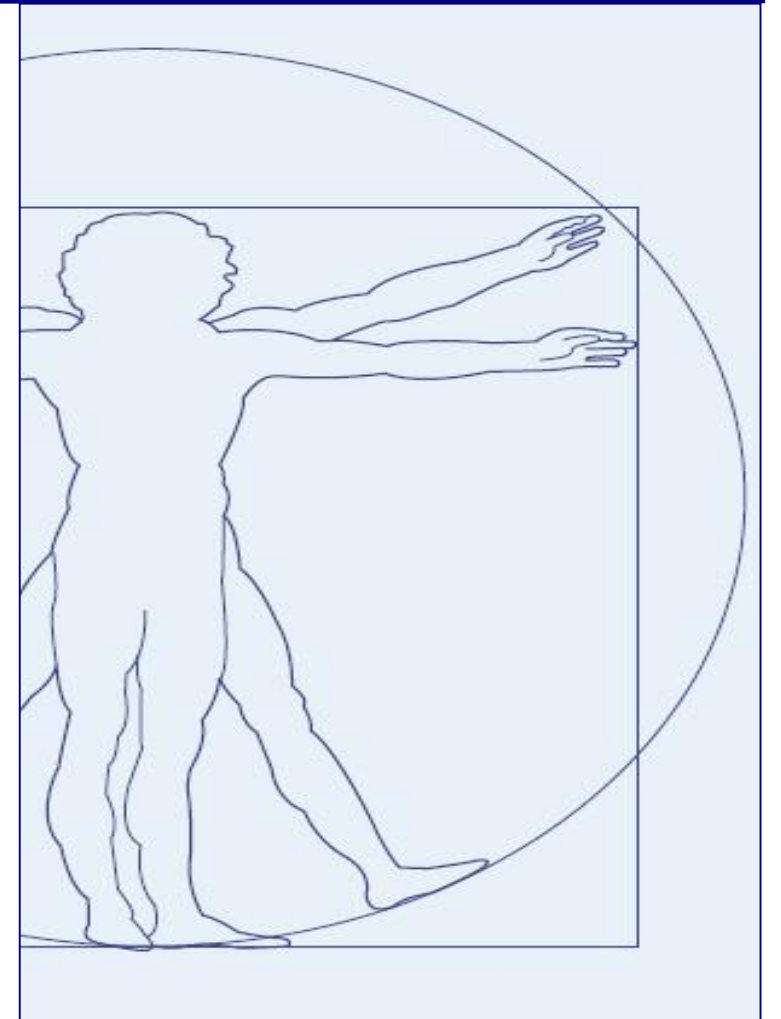
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Discussion about SMS - HF - Procedures?



*Thank you,
Bill Johnson*

