



Engine Critical Parts Life Limit Exceedance Prevention on ARH Tiger

2018 ADF Propulsion Systems Symposium

Usage Monitoring System Regulations

DASR 21.A.44 Obligations of the holder

DASR M.A.301 Continuing airworthiness tasks

DASR M.A.302 Aircraft Maintenance Programme (AMP)

DASR M.A.305 Aircraft continuing airworthiness record system

DASR M.A.901 Military Airworthiness Review

eADRM Sect 3 Chap 13 'Propulsion Systems' Design Requirement (Essential) - Usage Monitoring

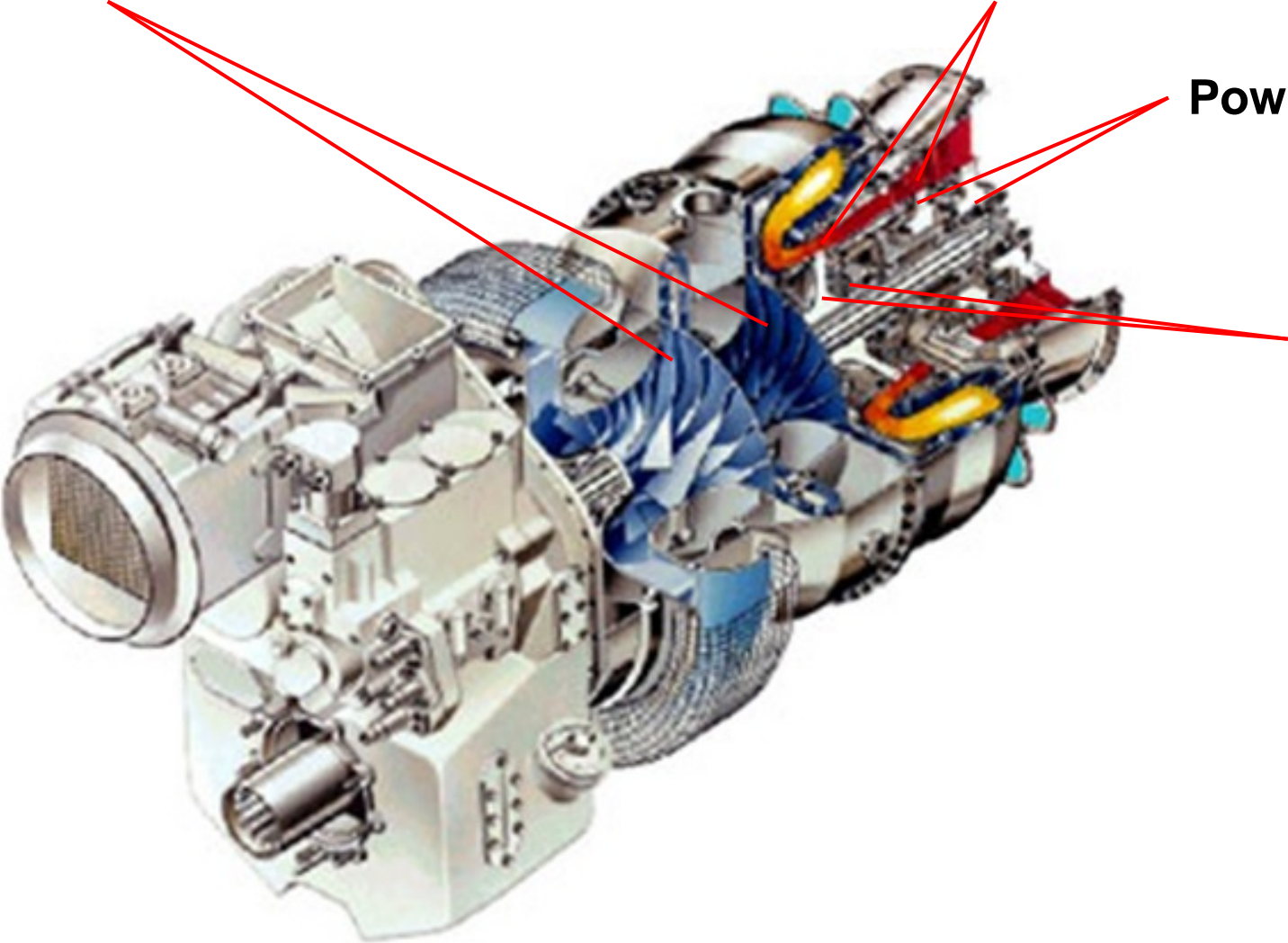
Engine Life Monitored, Life Limited and Safety Critical Parts

Compressor Impellers

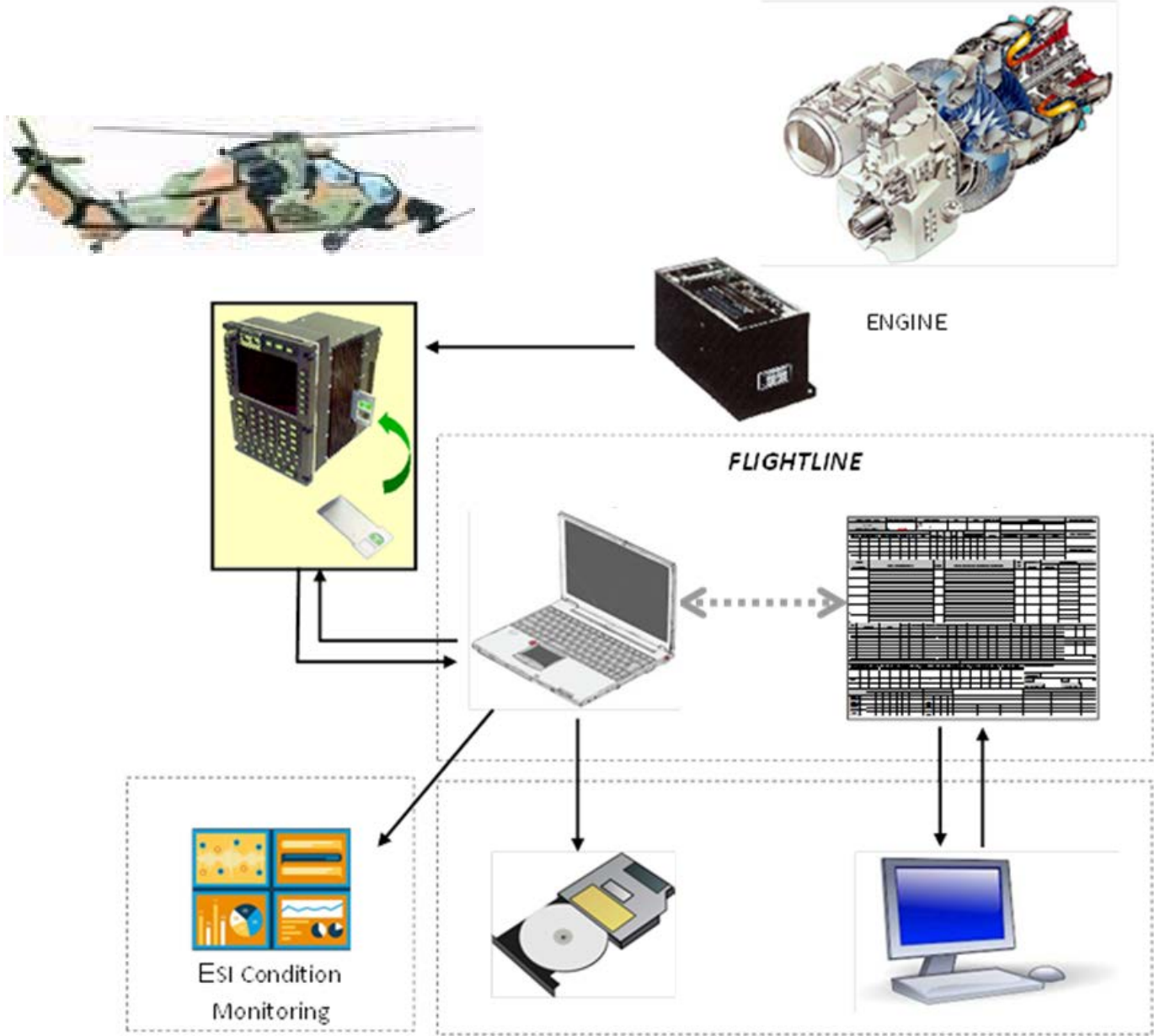
HP and PT1 Turbine Blades

Power Turbine Discs

HP Turbine Disc and Cover Plate



LUM Data Process Cycle



Predictive LUM Calculation

Remaining Life Cycles after next S11 inspection =

*Remaining Life Cycles (Released Life Limit Cycles – Current Consumed Life Cycles) –
Cycles per hour till the next S11 $\left(\frac{\text{Cycles per Flight}}{\text{Run Time per Flight}} \times 25AFHR \right)$*

MMS-Ops Warnings

Aircraft Status CAUTION

Engine Life Usage Monitoring (LUM) Data indicates an engine will exceeded life cycles on at least one component before the next S11 inspection.

Continued flying of this aircraft is

NOT RECOMMENDED

Helicopter :A38-021
Position : Engine2
Engine S//N : 5035
Gas Gen. S//N : 25006
Power Turbine S//N : 35035
Component indicator that will exceed max life limit Cycles before next S11 (LA01)

To Proceed press 'Acknowledge'

Note: By pressing 'Acknowledge' you are confirming this warning has been viewed, understood and escalated as required. User identify for tracking acknowledgement will be recorded against this warning.

Notes:

Acknowledge

Aircraft Status WARNING

Engine Life Usage Monitoring (LUM) Data indicates an engine has at least one component that has exceeded life cycles.

Continued flying of this aircraft is

NOT PERMITTED

Helicopter :A38-021
Position : Engine2
Engine S//N : 5035
Gas Gen. S//N : 25006
Power Turbine S//N : 35035
Component indicator that exceeded max Life Limit Cycles (LA01)

To Proceed press 'Acknowledge'

Note: By pressing 'Acknowledge' you are confirming this warning has been viewed, understood and escalated as required. User identity for tracking acknowledgement will be recorded against this warning.

Notes:

Acknowledge

Create Mission & DID

+ Create a New Mission

Enter the following details then select Create Mission to proceed to the DID screen.

Mandatory Details:

Mission Name:

Mission Start Time: 11-09-2017 03:02

Aircraft: A38-021

Mission End Time: 11-09-2017 15:02

**ENGINE WARNING!
RECONSIDER USE
OF THIS AIRCRAFT
FOR MISSION.**

Mission Type: NotDefined

Optional Details:

(Can be entered post-flight)

Mission Start Base:

AOP Number:

Mission End Base:

Pilot:

Battle Captain:

Mission Description:

Close Window Create Mission and DID

Thank you for listening

The MTR390 engine continues to power one of the most capable attack helicopters in its class.

