Ingenuity
in Flight.

Bombardier SDC/LDC compliance
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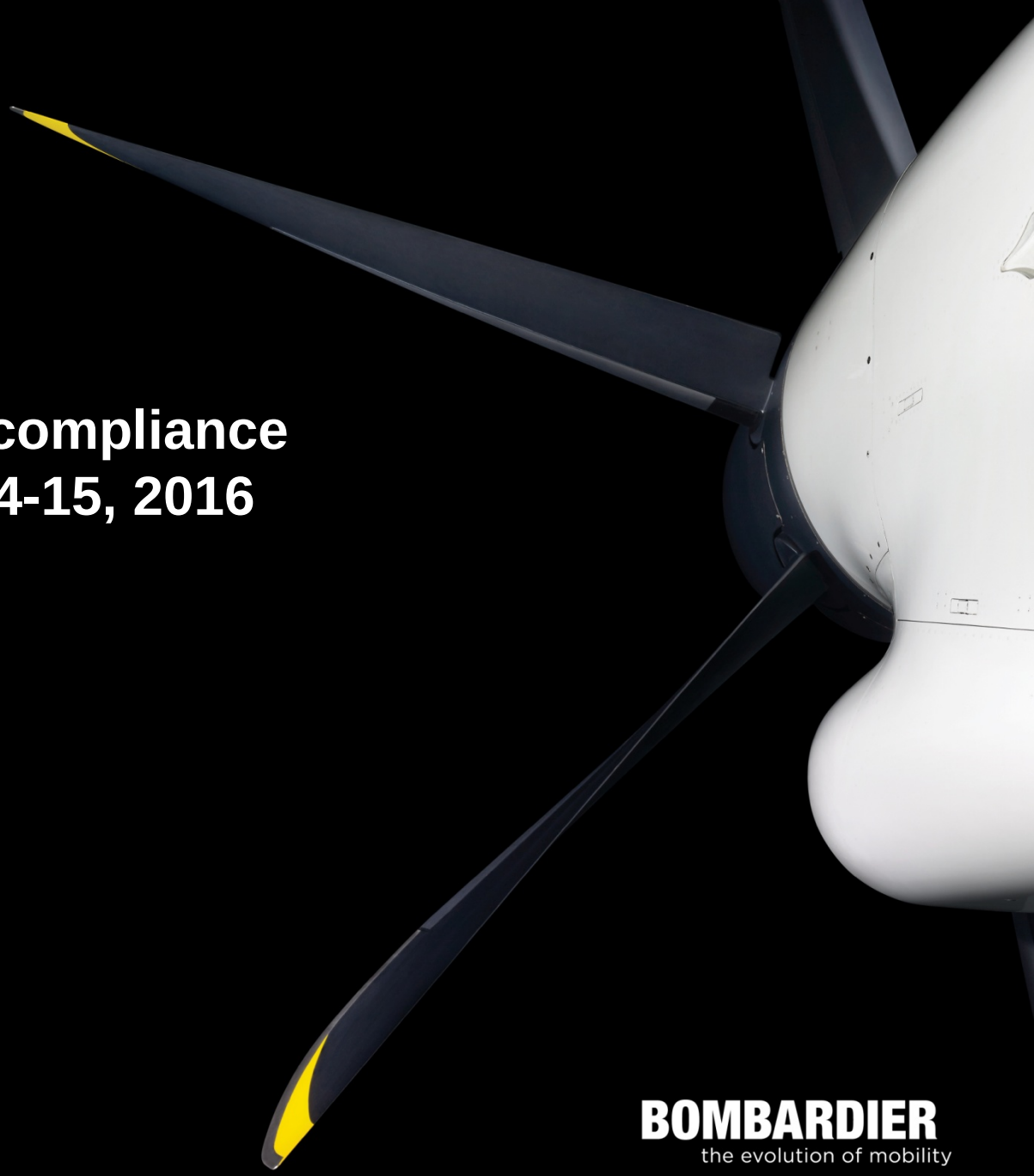

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Damage tolerance approach

- The structure must be designed damage tolerant unless this is shown to be impractical where upon a safe-life validation must be performed.
- Safe-life should be used only for landing gear.
- All principal structural elements should be accessible for inspection.
- Single load path damage tolerant structure is allowed but not encouraged.

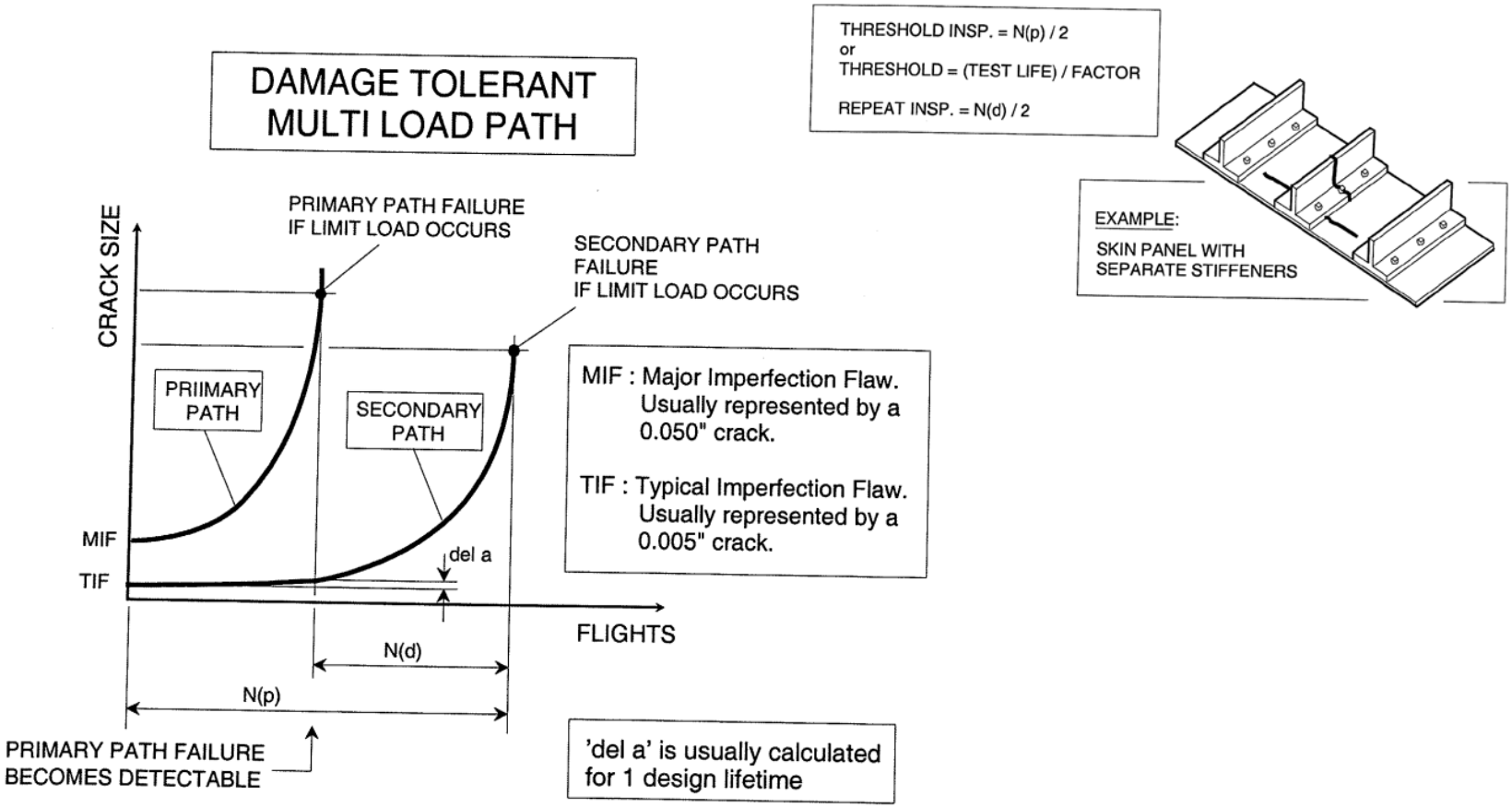
Single load path structure

- Current practice is to take credit for multiple load-path fail safe structure when establishing PSE inspection intervals. Thus Bombardier philosophy is to design with fail-safe capability wherever possible. The proposed standard will support this philosophy.
- For SLP design the current practice provides for strict control and material process quality as well as higher safety factors, low strain levels and etc..

SDC capability

- It is not practical to have SDC for all structure.
- In many cases it is not practical to have SDC for items such as engine or landing gear support structure (there maybe others)
- A certain level of SDC may simplify or improve inspectability, but this may be at higher cost to the overall program.

Typical MLP design with SDC.



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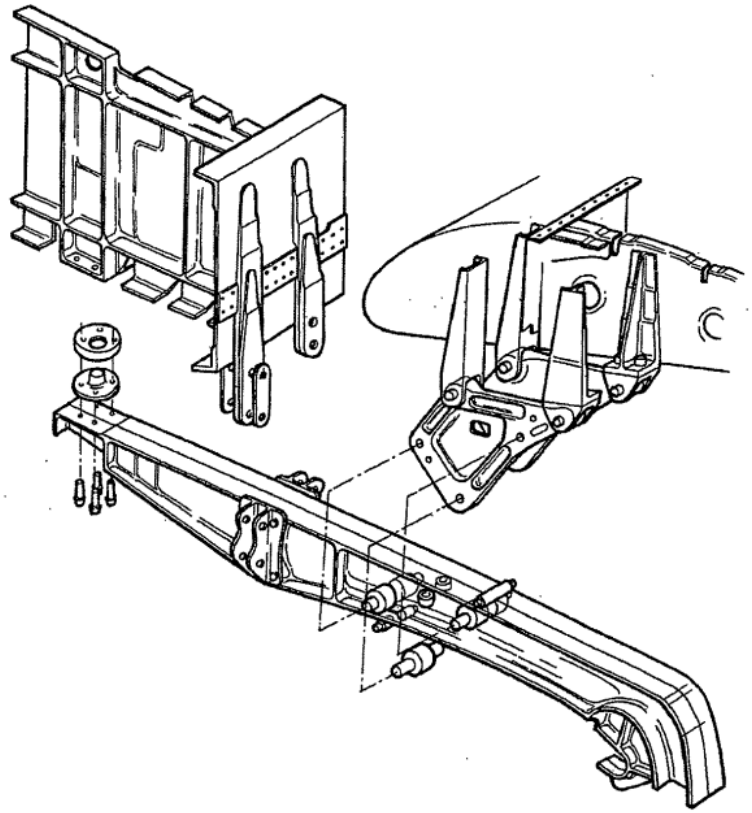
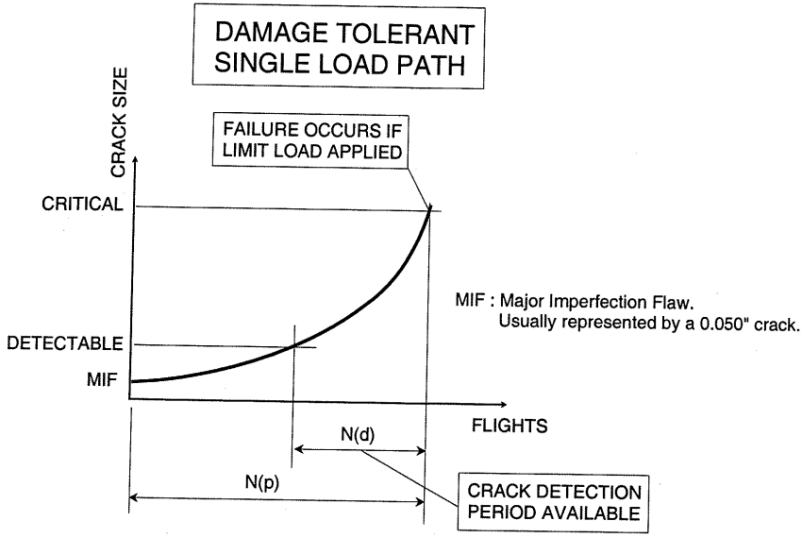
SLP approach





SLP approach

- Some MLP structure construction may still need to be certified as SLP.
- In the event of primary load path failure, remaining life in the secondary path may not be adequate.
- Under fail-safe certification rules this type of construction would be in full compliance.

Summary

- An update of AC can be used to address gaps and to manage evolution in materials.
- Large acreage structure is already in place with a high level of SDC. AC can address SLP requirements.
- Promoting MLP design can be done through AC.
- Current practice is to provide SDC whenever practical (minimize number of SLP's). This pertains to both metallic and composite structures.

Q&A

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