

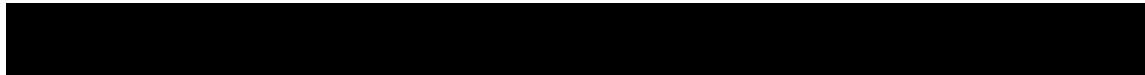
**Gulfstream Aerospace Corporation (GAC) presentation EPR vs PLA
- GIV TAY 611-8, dated 12 Sep 2014 follows this page and is
included after appropriate authorization from GAC per a redacted
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presentation.**

EPR vs PLA

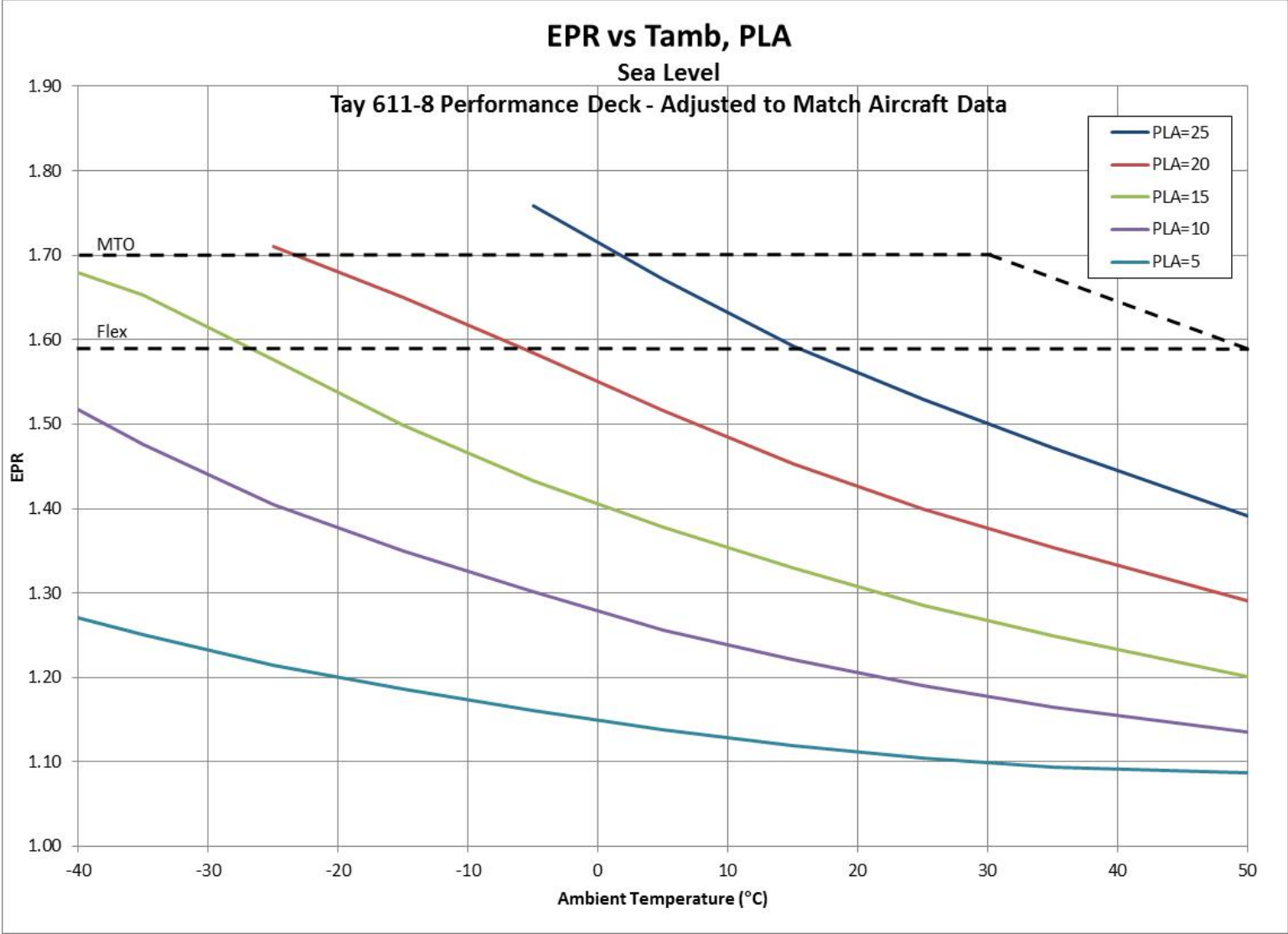
GIV Tay 611-8

12 Sep 2014

Gulfstream[®]
A GENERAL DYNAMICS COMPANY



EPR vs Tamb, PLA



EPR vs PLA Study

- Method:
 - Tay engine deck was compared to A/C 1399 data
 - PLA offset was applied to deck data to match A/C EPR above PLA of 15°
 - Deck was run to expand EPR for a range of Tamb and PLA
- Notes:
 - These characteristics are considered typical
 - There will be some engine-to-engine variation in EPR vs PLA
 - Characteristics for higher PLA (15° and above) are good confidence
 - Characteristics for low PLA (10° and below) are lower confidence, subject to greater variation, but this data is considered conservative
- Conclusions:
 - PLA's of 15°-20° can achieve Flex EPR target on cold days, and MTO EPR on extreme cold days
 - PLA <10° will not make Flex or MTO EPR

NTSB Action Items

- NTSB AI#49
 - “Determine range of EPR values for a given PLA”*
 - See Slide 2 of this presentation
- NTSB AI#60
 - “Can a min (1.17, 1.51, FLEC 1.59) EPR be obtained w/ GL ON?”*
 - Based on recent evaluations, in-service GIV aircraft can achieve a PLA of 16.3° (average) with the GL ON
 - PLA’s of 15°-20° can achieve Flex EPR target on cold days, and MTO EPR on extreme cold days
- NTSB AI#84
 - “Can 1.17 EPR be obtained with the power levers restricted to 6°?”*
 - PLA <10° will not make 1.17, Flex or MTO EPR
- NTSB AI#89
 - “What is the ambient air temp/EPR/PLA relationship? For a light airplane, what air temp would be required to reach the takeoff target EPR with the throttle levers at 15° and 20°?”*
 - See slide 2 of this presentation