



## MEMORANDUM OF RECORD

**Adam Huray**  
**Mechanical Engineer**  
**Office of Aviation Safety**

March 23, 2015

**Subject: ERA14MA271, Gulfstream G-IV, N121JM, Bedford, Massachusetts: In-Service TLA and PLA Data**

Gulfstream completed an informal technical evaluation of the achievable throttle lever angle (TLA) movement with the gust lock in the ON position on 9 G-IV airplanes. The angles were measured using a digital protractor with the throttles levers initially in their full aft position. According to Gulfstream, the reported average achievable TLA was approximately 21.0 degrees, with a standard deviation of approximately 1.7 degrees. The power lever angle (PLA) readings for four of the aircraft were recorded. There are two PLA recordings for each engine, each recording as observed from either the #1 autothrottle computer or the #2 autothrottle computer. This correlated to an average PLA reading of approximately 16.3 degrees with a standard deviation of approximately 2.0 degrees. The following chart was provided to the NTSB by the Gulfstream Party Coordinator on December 1, 2014 (Note: Lines 8 and 9 were recorded from the same aircraft, with line 9 being recorded directly at the throttle levers using a protractor). Aircraft serial numbers were redacted to protect the privacy of the respective owners.

A/C	Throttle movement from idle to GL ON position					
	Recording PLA				Using Digital Protractor	
	Left Engine		Right Engine		Travel	
	Travel		Travel		Left TLA	Right TLA
	AT 1	AT 2	AT 1	AT 2		
	15.4	17.3	15.4	14.5	20.1	18.2
	18.6	18.0	20.2	20.3	23.3	23.2
	15.8	16.0	15.4	15.6	20.2	19.7
	14.3	14.1	14.9	15.1	20.2	19.7
					24.2	23.8
					20.3	21.6
					20.6	22.5
					19.3	19.8
	Using Throttle Protractor				20.0	20.0
					Pinned	21.5