

# http://www.f-16.net/forum/download/file.php?id=25039

F-35 Aircraft    Performance    UNCLASSIFIED    June 26, 2015 10:53:58    December 2016 SAR

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
STOVL Mission Performance - STO Distance Flat Deck				
With four 1000# JDAMs and two internal AIM-120s, full expendables, execute a 600 foot (450 UK STOVL) STO from LHA, LHD, and aircraft carriers (sea level, tropical day, 10 kts operational WOD) and with a combat radius of 550 nm (STOVL profile). Also must perform STOVL vertical landing with two 1000# JDAMs and two internal AIM-120s, full expendables, and fuel to fly the STOVL Recovery profile.	With four 1000# JDAMs and two internal AIM-120s, full expendables, execute a 600 foot (450 UK STOVL) STO from LHA, LHD, and aircraft carriers (sea level, tropical day, 10 kts operational WOD) and with a combat radius of 550 nm (STOVL profile). Also must perform STOVL vertical landing with two 1000# JDAMs and two internal AIM-120s, full expendables, and fuel to fly the STOVL Recovery profile.	With two 1000# JDAMs and two internal AIM-120s, full expendables, execute a 600 foot (450 UK STOVL) STO from LHA, LHD, and aircraft carriers (sea level, tropical day, 10 kts operational WOD) and with a combat radius of 450 nm (STOVL profile). Also must perform STOVL vertical landing with two 1000# JDAMs and two internal AIM-120s, full expendables, and fuel to fly the STOVL Recovery profile.	Execute 549 ft. STO with 2 JDAM (internal), 2 AIM-120 (internal), fuel to fly 450nm	Execute 549 ft. STO with 2 JDAM (internal), 2 AIM-120 (internal), fuel to fly 450nm
			Acronyms and Abbreviations ASD - Average Sortie Duration CTOL - Conventional Takeoff and Landing CU FT - Cubic Feet CV - Aircraft Carrier Suitable Variant JDAM - Joint Direct Attack Munitions KTS - Knots NM - Nautical Miles RCLW - Required Carrier Landing Weight SGR - Sortie Generation Rate ST - Short Tons STO - Short Takeoff STOVL - Short Takeoff and Vertical Landing Vpa - Max Approach Speed WOD - Wind Over the Deck	
Combat Radius NM -CTOL Variant				
690	690	590	669	669
Combat Radius NM -STOVL Variant				
550	550	450	505	505
Combat Radius NM -CV Variant				
730	730	600	TBD	640
Mission Reliability - CTOL Variant				
98%	98%	93%	93%	93%
Mission Reliability - CV Variant				
98%	98%	95%	95%	95%
Mission Reliability - STOVL Variant				
98%	98%	95%	97%	97%
Logistics Footprint - CTOL Variant				
Less than or equal to 6 C-17 equivalents	Less than or equal to 6 C-17 equivalents	Less than or equal to 8 C-17 equivalent loads	Less than or equal to 8 C-17 equivalents	Less than or equal to 8 C-17 equivalents

Logistics Footprint - CV Variant				
Less than or equal to 34,000 cu ft., 183 ST	Less than or equal to 34,000 cu ft., 183 ST	Less than or equal to 46,000 cu ft., 243 ST	Less than or equal to 44,900 cu ft., 222 ST	Less than or equal to 44,900 cu ft., 222 ST
Logistics Footprint - STOVL Variant				
Less than or equal to 4 C-17 equivalents	Less than or equal to 4 C-17 equivalents	Less than or equal to 8 C-17 equivalent loads	Less than or equal to 8 C-17 equivalents	Less than or equal to 8 C-17 equivalents
Logistics Footprint - STOVL Variant L-Class				
Less than or equal to 15,000 cu ft, 104 ST	Less than or equal to 15,000 cu ft, 104 ST	Less than or equal to 21,000 cu ft, 136 ST	Less than or equal to 18,400 cu ft, 105 ST	Less than or equal to 18,400 cu ft, 105 ST
Sortie Generation Rates - CTOL Variant				
4.0/3.0/2.0 2.5 ASD	4.0/3.0/2.0 2.5 ASD	3.0/2.0/1.0 2.5 ASD	3.4/3.0/2.0 2.5 ASD	3.4/3.0/2.0 2.5 ASD
Sortie Generation Rates - CV Variant				
4.0/3.0/1.0 1.8 ASD	4.0/3.0/1.0 1.8 ASD	3.0/2.0/1.0 1.8 ASD	3.9/3.0/1.0 1.8 ASD	3.9/3.0/1.0 1.8 ASD
Sortie Generation Rates - STOVL Variant (USMC)				
6.0/4.0/2.0 1.1 ASD	6.0/4.0/2.0 1.1 ASD	4.0/3.0/1.0 1.1 ASD	5.5/4.0/2.0 1.1 ASD	5.5/4.0/2.0 1.1 ASD
CV Recovery Performance (Vpa)				
Vpa. Maximum approach speed (Vpa) at required carrier landing weight (RCLW) of less than 140 knots.	Vpa at required carrier landing weight (RCLW) of less than 140 knots.	Vpa at required carrier landing weight (RCLW) of less than 145 knots.	Vpa. Maximum approach speed (Vpa) at required carrier landing weight (RCLW) of less than 144 knots.	Vpa. Maximum approach speed (Vpa) at required carrier landing weight (RCLW) of less than 144 knots.

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference
Operational Requirements Document (ORD) Change 3 dated August 19, 2008 as modified by Joint Requirements Oversight Council Memorandum 040-12 dated March 16, 2012
Change Explanations
(Ch-1) Operational Requirements Document (ORD) Change 3 dated August 19, 2008 as modified by JROC Memorandum 040-12 dated March 16, 2012. For Demonstrated Performance, extensive flight test data was used to calibrate the aero-performance model. The values listed herein as "Demonstrated Performance" are based on the final aero-performance model (up-and-away) for the F-35A and F-35B.
Notes
The F-35 Program is currently in developmental testing, and will provide demonstrated performance with the Block 3F full capability aircraft.