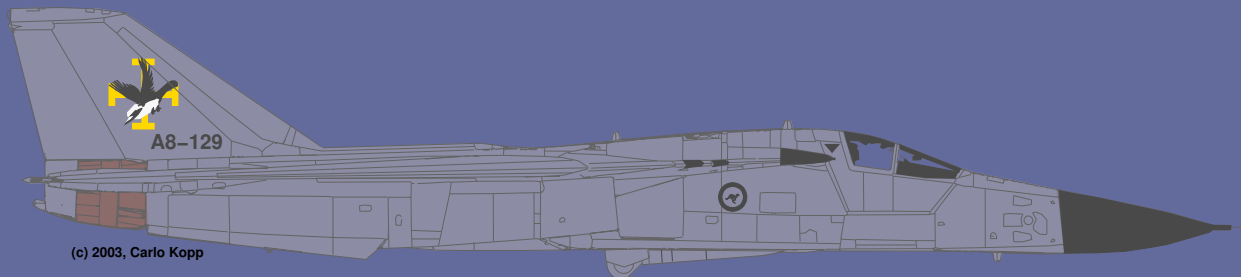


Defence Annual Report 2002-03 (Presentation Slides)



Analysis of DoD Responses

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Email: Carlo.Kopp@aus.net

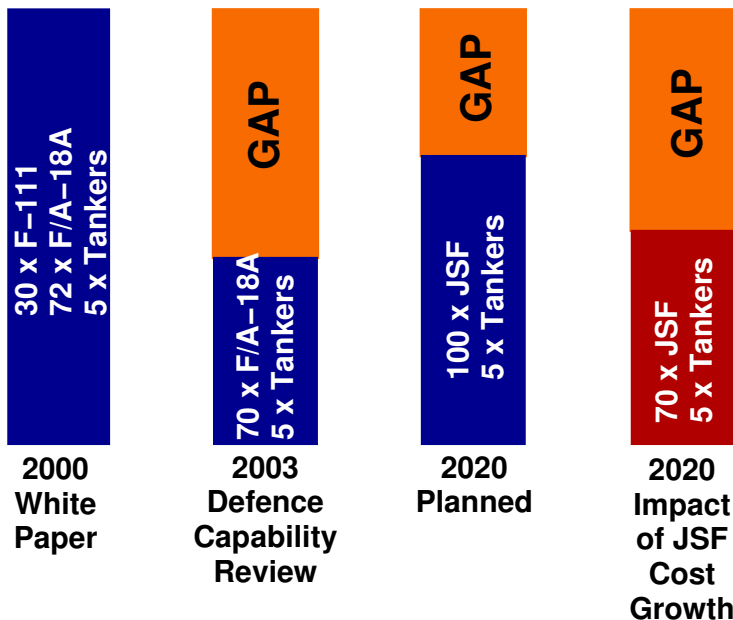
© 2004, Carlo Kopp



Throw Weight - Precision Munitions (1)

RAAF NORMALISED THROW WEIGHT

(2 klb Weapons – GBU-10/24, GBU-31, AGM-158)



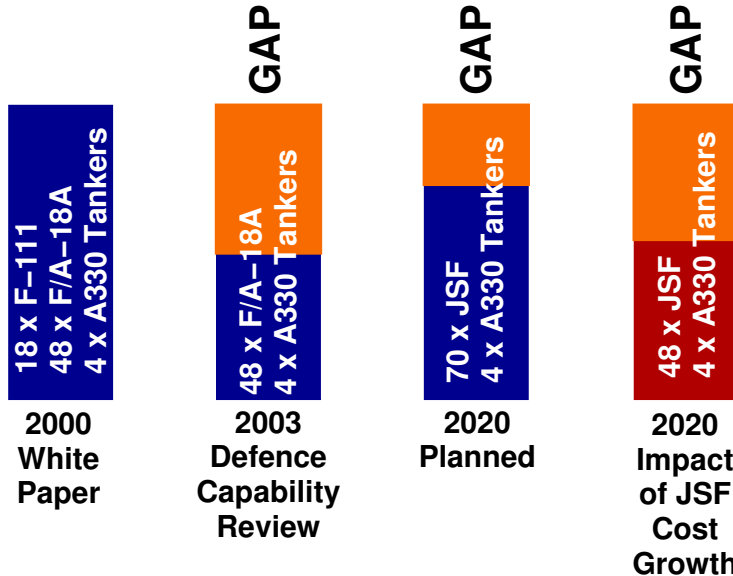
COMPLETE FORCE STRUCTURE



Throw Weight - Precision Munitions (2)

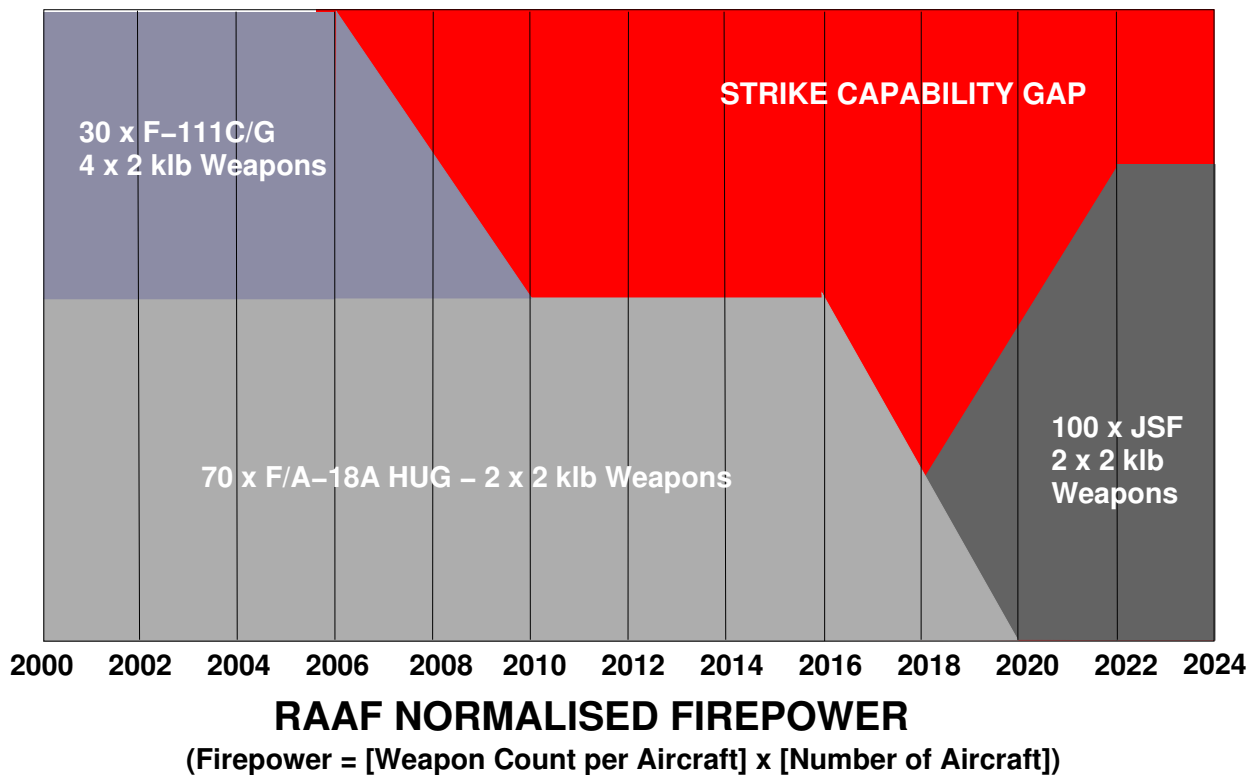
RAAF NORMALISED THROW WEIGHT

(2 klb Weapons – GBU-10/24, GBU-31, AGM-158)

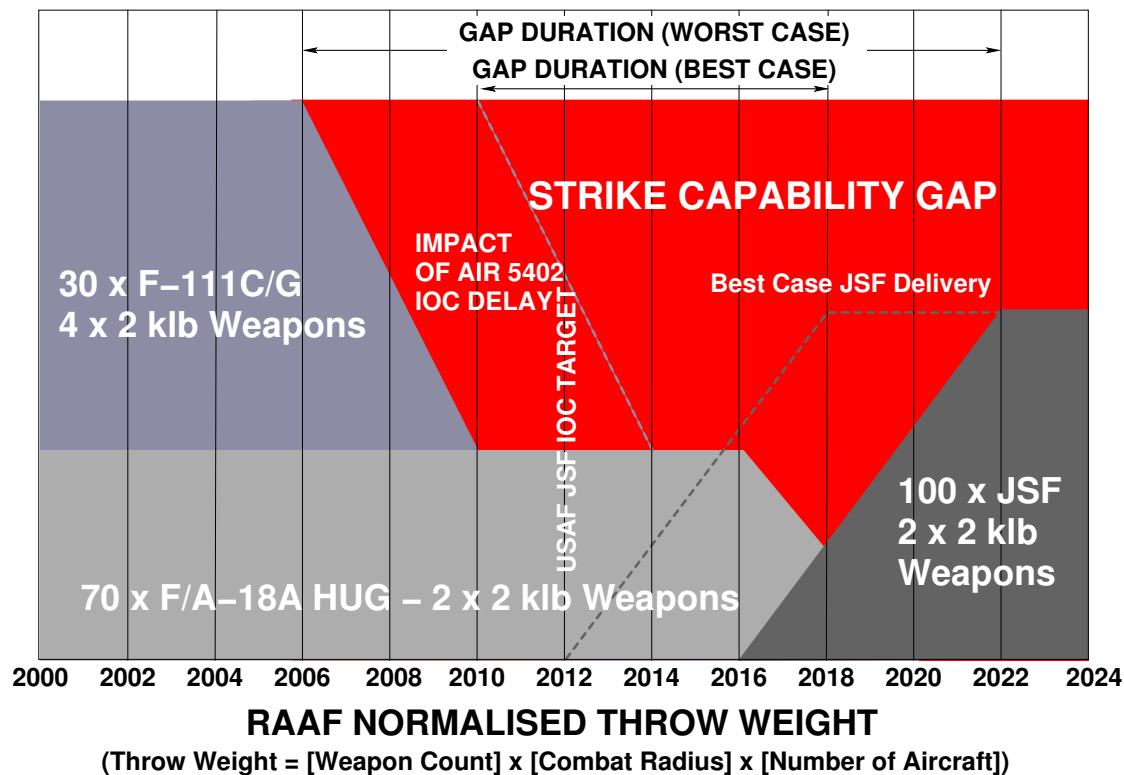


SERVICABLE FORCE STRUCTURE

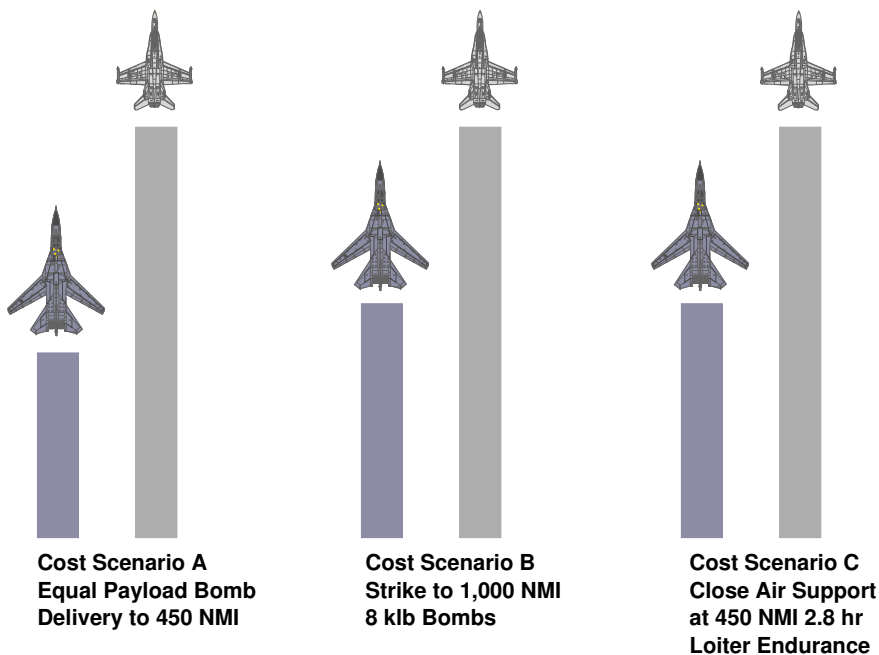
Throw Weight - Precision Munitions (3)



Throw Weight - Precision Munitions (4)



Operational Costs - Bombs/Target



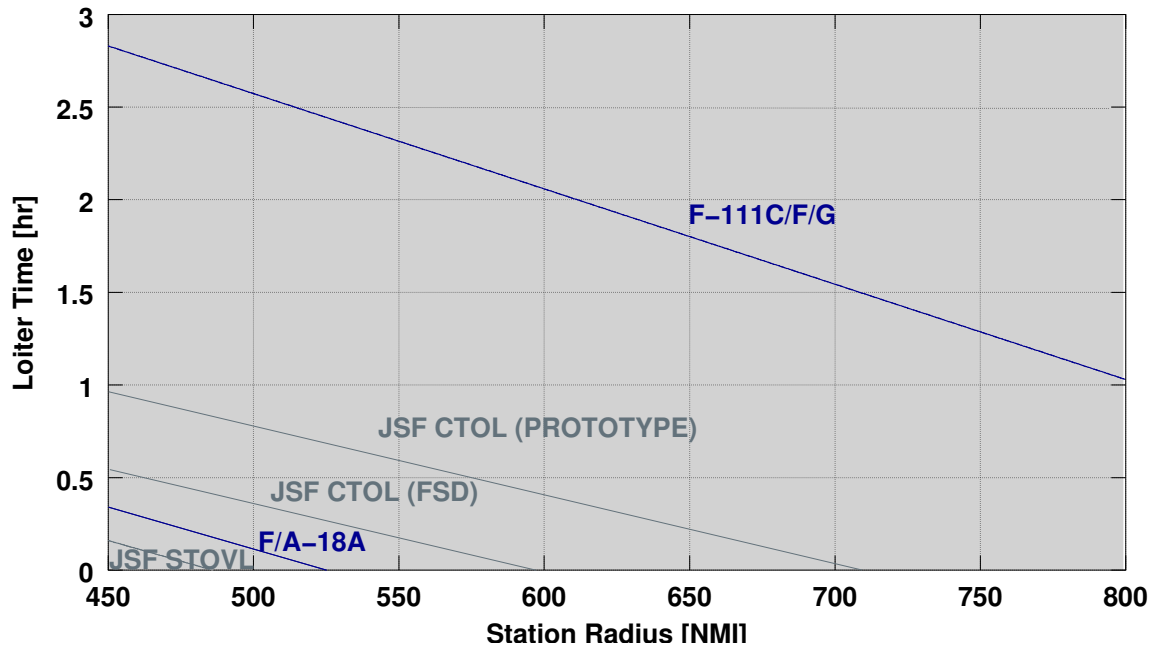
Scenarios B, C require aerial refuelling for the F/A-18A
 Scenario A assumes 3 x F/A-18A, Scenarios B, C assume 2 x F/A-18A

Cost of Bomb Delivery – F-111 vs F/A-18A



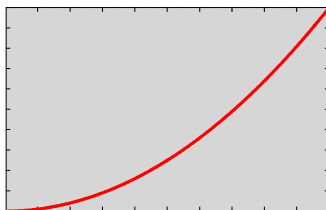
On Station Loiter

Est. Loiter Performance

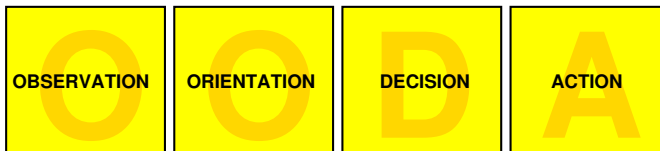
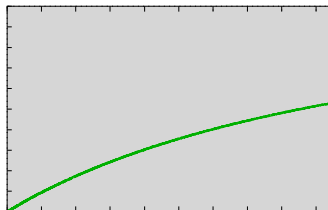


Network Centric Warfare

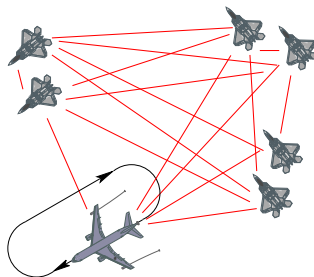
Metcalfe's Law



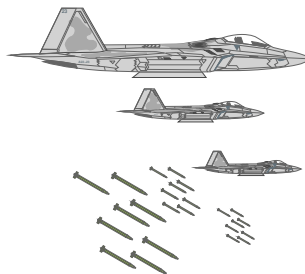
Amdahl's Law



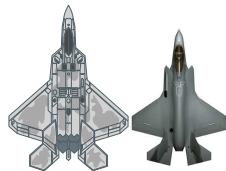
'MAXIMISE CONNECTIVITY'
'MAXIMISE SENSOR CAPABILITY'



'MAXIMISE PARALLELISM'
'MINIMISE SERIAL CHAINS'

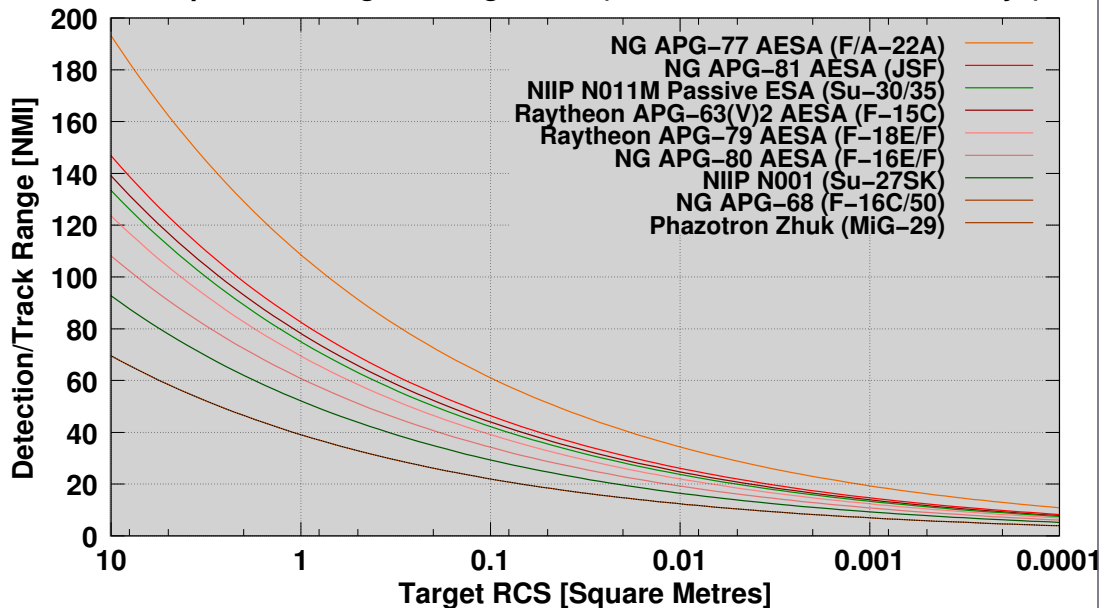


JSF vs F/A-22A Radars



Radar
Surveillance
Footprint

Comparative Range vs Target RCS (AW&ST, NIIP, Rosvooruzheniye)

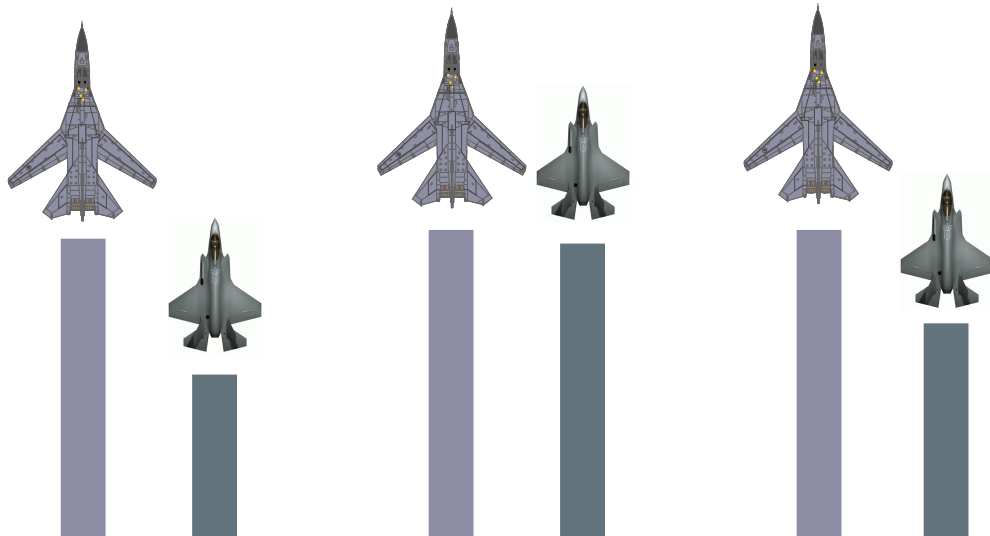


JSF Evolutionary Potential

Lowest Priority – Can Change Quickly By Upgrades	Rapidly Evolving Design Features	Slowly Evolving Design Features	Fixed Design Features	Highest Priority – Cannot Change Once Acquired
	Computer Hardware	Engine Technology	Airframe Size/Weight	
	Computer Software	Stealth Materials	Aerodynamics	
	Cockpit Displays	Fuel Systems	Stealth Shaping	
	Weapons	Hydraulic Systems	Int Fuel Capacity	
	ElectroOptical Sensors	Structural Materials	Radar Aperture	
	Datalinks/Nav/Comm	ECS/Cooling Systems	EO Apertures	
	Radar Processing	Electrical Pwr Systems	Engine Massflow	



JSF vs F-111



Internal Fuel

(F-111@34 klb, JSF@19 klb)

Internal Weapon Payload

(F-111 2 x 2242 lb; JSF 2 x 2144 lb)

Combat Radius

(2 x Internal 2klb JDAM)

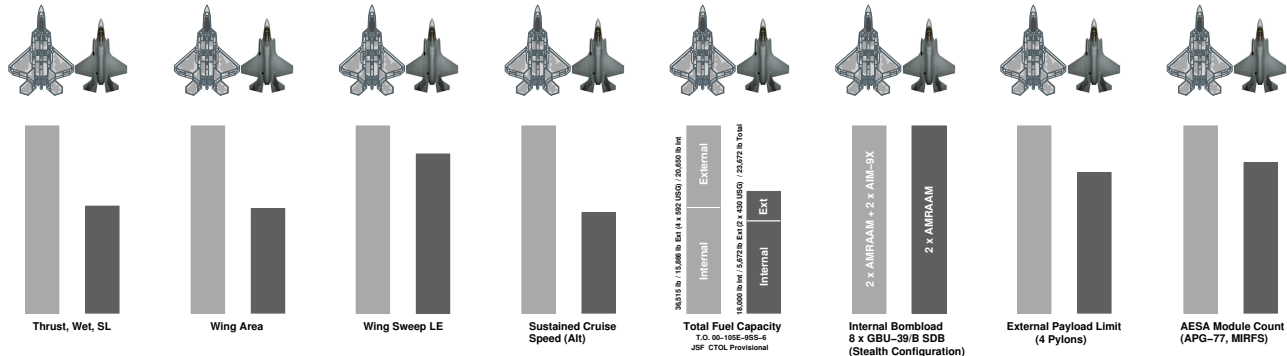
Comparison of GD F/RF-111C/G TF30-PW-108/9 vs LM F-35 JSF CTOL/CV

Lockheed Martin and GD Data

(c) 2002, Carlo Kopp



JSF vs F/A-22A



F/A-22A vs Joint Strike Fighter – Parametric Comparison

(Provisional Data)

JSF vs F/A-18 vs Su-30MK

