

US Fixed-Wing Modernization Plans: Near-Term Choices



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Overview

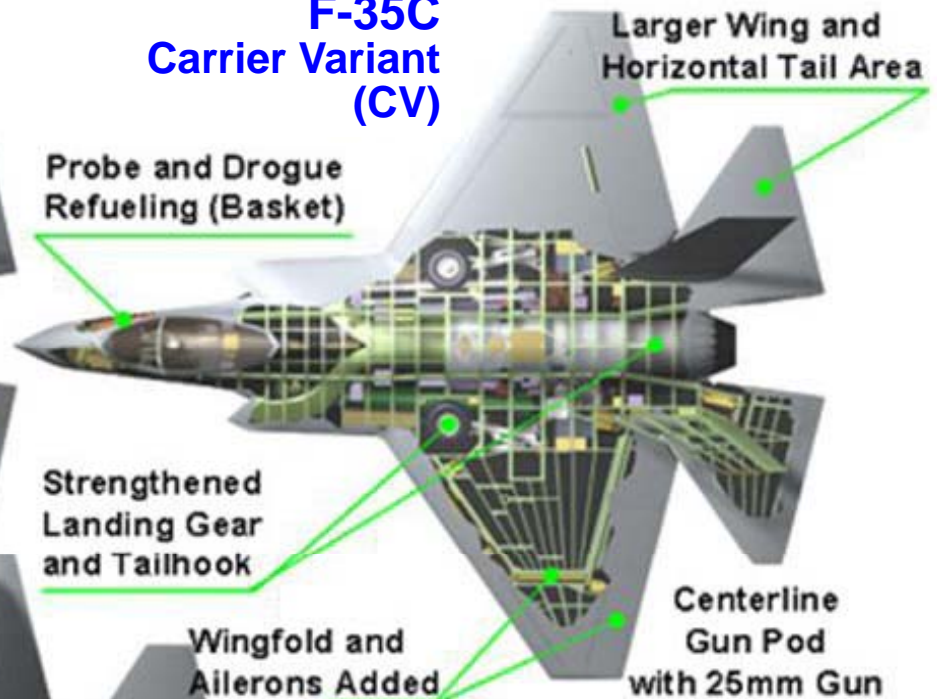
- **Rationale/Need** for the F-35 (Watts)
- **Cost & affordability** of the JSF Program (Kosiak)

F-35 Joint Strike Fighter Variants

F-35A
Conventional
Take-Off & Landing
(CTOL)



F-35C
Carrier Variant
(CV)



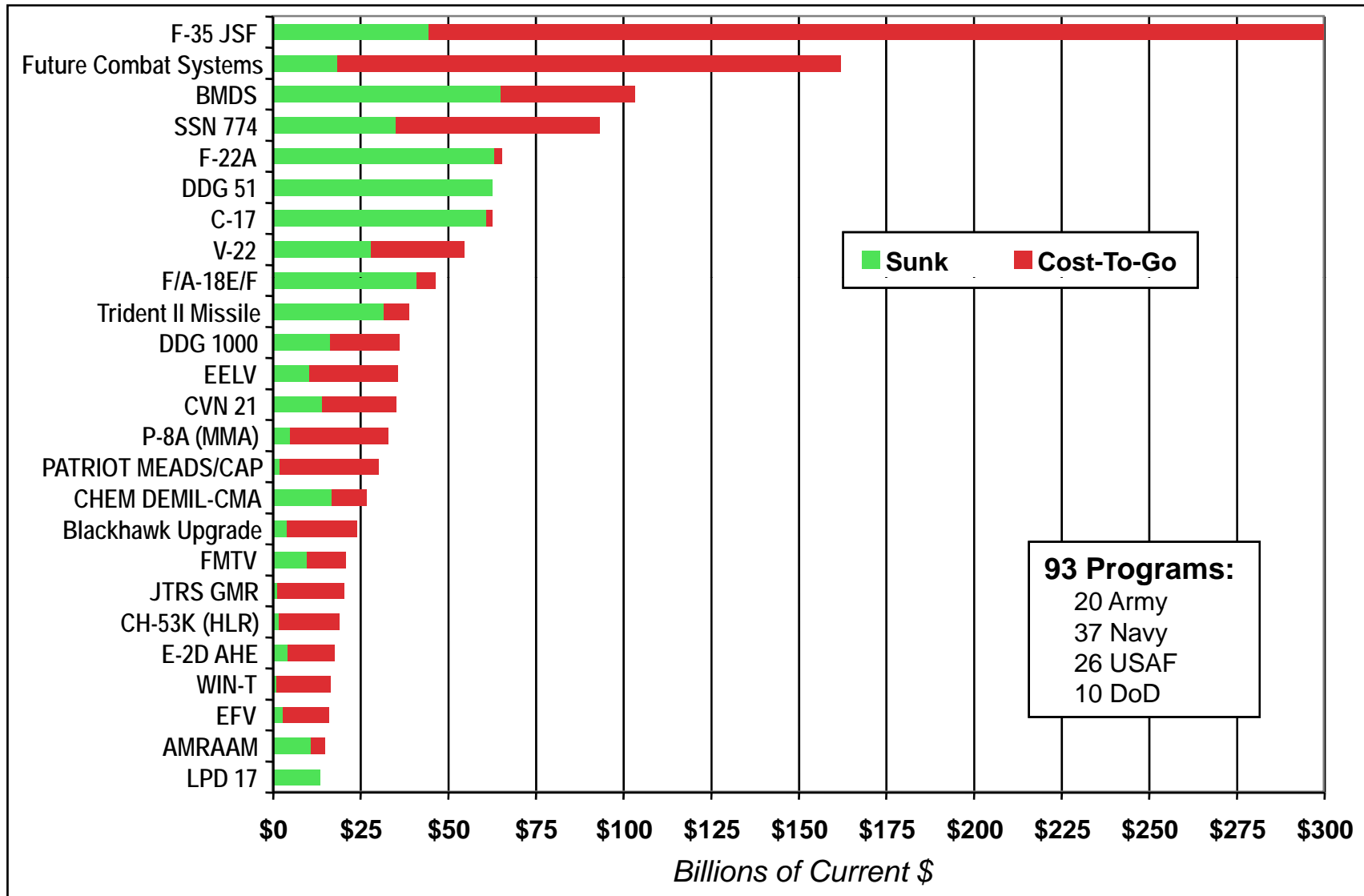
F-35B
Short Take-Off & Vertical
Landing (STOVL)



- All variants
- 450-600+ nm Range
- 1.6 Max Mach
- Stealthy
- Similar Weapons
- Same Avionics
- Similar Flight Envelope

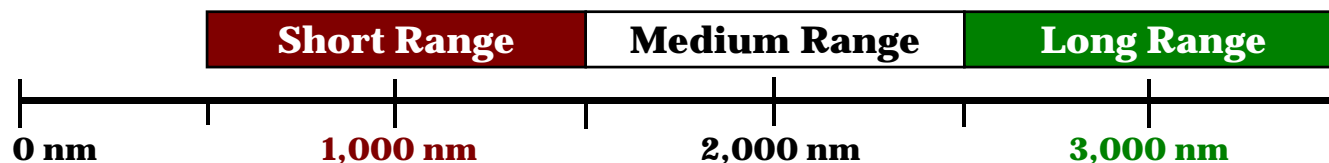
25 Most Expensive Acquisition Programs

(Selected Acquisition Report Summary Tables, 30 June 2007)



Scope & Context

- Modernization of *fixed-wing* combat aircraft
 - *Long-range* as well as *short-range*
- JSF: *the* dominant acquisition issue over the next decade?
- Shift of US security concerns to Asia suggest a growing need for **long-range**
 - Ramstein > Szprotawa: 330 nm
 - Kadena > Jiuquan spaceport: 1,600 nm
- Does the F-35 over-invest in short-range?
- Interim long-range strike system (“2018 bomber”)?
 - Last two QDRs, USD(AT&L), USAF, etc.



Cancellation?

- All-aspect low observability
- “Open” avionics architecture
- Sunk cost to develop 3 variants
- Close allies (British, Australians, etc.)
- World leadership in advanced combat aircraft
- Dissuasion/Deterrence

How Many? Which Variants?

- Does the USAF need 1,763 F-35s to replace 1,405 F-16s?
- Guided munitions (LGBs, JDAMs, GMLRS, Excalibur) make the STOVL variant the least needed variant but . . .
 - Allies
 - LHAs & LHDs
- The carrier variant seems the most logical to cancel if you want longer reach from the CVNs
 - UCAS-D
- Decide soon; do *not* lower production rates

Broader Implications

- Has classic close air support (CAS) been *obsolesced* by all-weather, 24/7 guided munitions for indirect fire support?
 - OIF experience (3rd ID) with JDAM
 - Growing lethality of low-altitude air defenses
 - Guided munitions now organic to field artillery
- Today's "horse cavalry"?
 - A-10s
 - F-35Bs
 - Attack helicopters
- Over-investment in short-range strike

Affordability Overview

- **F-35 Program Cost**
- **Affordability of Current Tacair Plans**
- **Options for Scaling Back the F-35**
- **Areas of uncertainty**

Cost of the F-35 program

- **Official Estimate: \$242 billion (FY 2008 dollars)**
 - R&D: \$45 billion
 - Procurement: \$197 billion
 - 2,443 aircraft
 - ✦ Air Force: 1,763
 - ✦ Navy/Marine Corps: 680
 - Unit Procurement Cost: \$81 million
 - ✦ Air Force (F-35A): \$74 million
 - ✦ Navy/Marine Corps (F-35C/B): \$97 million

Cost of F-35 Program (Cont.)

- **Cost Growth to Date:**
 - 1997 unit procurement cost: \$60 million
 - 2007: \$81 million
- **Future cost growth? (not CSBA prediction)**
 - 10% additional growth in procurement costs would increase total program acquisition costs from \$242 billion to \$262 billion
- **Average annual procurement requirements: \$7.3-8 billion (FY 2008-34)**

Affordability of Tacair Plans

- **May Be Affordable**
 - Tacair Historical Share of Procurement: 9.9%
 - DoD procurement in FY 2008 Base Budget Request: \$102 billion
 - Implies \$10.1 billion annually for tacair programs if current budget level for procurement can be sustained over the
 - More than enough to sustain F-35 program

Affordability of Tacair Plans (Cont.)

- **May Not Be Affordable**
 - Pressures on DoD Topline
 - Pressures within DoD Topline
 - ✦ Rising O&S Costs
 - ✦ Increases In Size of Ground Forces
 - ✦ Higher R&D funding
 - ✦ Other Programmatic Priorities

Options for Scaling Back the F-35 Program

1. Cancel: \$3.3-3.7 billion average annual savings
2. Cut Air Force Buy in Half: \$300-500 million
3. Cancel Navy Variant: \$450-550 million
4. Cut Air Force Buy in Half, Cancel Navy Variant: \$800 million-\$1.2 billion
5. Cut Force Structure

Areas of Uncertainty

- **Cost of F-35 Program**
- **Cost of Buying F-16 Block 60 & Other Alternatives**
- **Impact on Unit Procurement Costs of Quantity Changes**
- **Degree of Commonality**
- **O&S Costs of F-35**

Affordability Conclusions

- **Necessity/Affordability of F-35 is Unclear**
- **Outright Cancellation Probably Unwise**
- **Wide Range of Less Drastic Options for Scaling Back the Plan Exist**
- **More Detailed Analysis Needed Before Deciding which, if any, of these alternative options is appropriate**