THE F-35 COALITION

F-35 LIGHTNING II PROGRAM TEAM

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
Agenda

- Program Overview
- Upcoming Milestones & Major Accomplishments
- F-35 Performance & Capabilities
- Logistics System
F-35 Lightning II Development Progress

- Interoperability
- Global Sustainment
- CV (Carrier Variant)
- CTOL (Conventional Take-Off and Landing)
- STOVL (Short Take-Off and Vertical Landing)
- P&W F135
- GE/RR F136
- 3 Services
- 8 International Partners
- 2 Security Cooperation Participants
- Domestic / International Suppliers
- Autonomic Logistics
- 3 Flight Test Facilities
- Integrated Training

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Service & International Needs

- **Netherlands**: 85
- **Canada**: 88
- **Norway**: 48
- **United States**
  - **USAF**: 1,763
  - **DoN**: 680
- **Italy**: 131
- **Denmark**: 48
- **Turkey**: 100
- **Australia**: 100

- **USAF**: Multi-role (primary air-to-ground) fighter to replace F-16 & A-10 & to complement F/A-22
- **USMC**: Multi-role, short takeoff, vertical landing strike fighter to replace AV-8B & F/A-18C/D
- **USN**: Multi-role strike fighter to complement the F/A-18E/F
- **UK (RN and RAF)**: Supersonic replacement for Sea Harrier and GR-7

**2,593 US/UK JSFs > 2,000 International JSFs**

*DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.*
JSF Family Of Aircraft
One Program -- Three Variants
Meeting Service and International Needs
F-35 Enables True Joint/Coalition Operations

Domestic and UK
- F-16
- A-10
- F/A-18
- F/A-18
- AV-8B
- Sea Harrier
- Harrier GR7
- USAF
- USN
- USMC
- RN/RAF

F-35 Joint Strike Fighter

International
- Denmark
- Norway
- Netherlands
- Italy
- Turkey
- Australia
- Canada
- F-16
- F/A-18
- F-111
- AMX
- Harrier
- Tornado

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
# Configuration 240-4

<table>
<thead>
<tr>
<th>Configuration</th>
<th>CTOL</th>
<th>STOVL</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span (ft)</td>
<td>35</td>
<td>35</td>
<td>43</td>
</tr>
<tr>
<td>Length (ft)</td>
<td>51.4</td>
<td>51.1</td>
<td>51.4</td>
</tr>
<tr>
<td>Wing Area (ft(^2))</td>
<td>460</td>
<td>460</td>
<td>668</td>
</tr>
</tbody>
</table>

- **CTOL**
  - Weight Empty (lb): 29,036
  - Internal Fuel (lb): 18,480

- **STOVL**
  - Weight Empty (lb): 32,161
  - Internal Fuel (lb): 14,003

- **CV**
  - Weight Empty (lb): 32,072
  - Internal Fuel (lb): 20,085

*Folded Span 31.1 ft*

All Mission Fuel Internal --

Very large Fuel Fraction Support Extended Range Requirements In VLO

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
CTOL Comparison

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Span</th>
<th>Wing Area</th>
<th>Internal Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-35 Lightning I</td>
<td>49.7 ft</td>
<td>31 ft</td>
<td>300 ft²</td>
<td>7,162 lb</td>
</tr>
<tr>
<td>F-35 Lightning II</td>
<td>51.1 ft</td>
<td>35 ft</td>
<td>460 ft²</td>
<td>18,480 lb</td>
</tr>
<tr>
<td>F-35 Lightning III</td>
<td>62.1 ft</td>
<td>44.5 ft</td>
<td>840 ft²</td>
<td></td>
</tr>
</tbody>
</table>
### Carrier Comparison

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td>56 ft</td>
<td>51.4 ft</td>
<td>60.38 ft</td>
</tr>
<tr>
<td><strong>Span</strong></td>
<td>37.4 ft</td>
<td>43 ft</td>
<td>42 ft</td>
</tr>
<tr>
<td><strong>Wing Area</strong></td>
<td>400 ft²</td>
<td>668 ft²</td>
<td>500 ft²</td>
</tr>
<tr>
<td><strong>Internal Fuel</strong></td>
<td>10,800 lb</td>
<td>20,085 lb</td>
<td>14,708 lb</td>
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<tr>
<td><strong>Spot Factor</strong></td>
<td>1.0</td>
<td>1.17</td>
<td>1.24</td>
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</tbody>
</table>

_DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited._
First Flights Status

CTOL AA-1
4th Qtr ‘06

CATB
4th Qtr ‘06

STOVL (BF-1)
1st Qtr ‘08

CTOL (AF-1)
3rd Qtr ‘08

CV (CF-1)
1st Qtr ‘09

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- F-35 Performance & Capabilities
- Logistics System
F-35 AA-1 rolls into hangar 8 before the inauguration event
Ongoing F-35 System Testing
Major Accomplishments

• **AA-1 First Flight Status**
  - 0.1a "Mission Alpha" combined Vehicle Systems/Mission Systems Laboratory executed Aug 06
  - 20 Integrated Power Package starts – no SW updates
  - 12 Engine Run Tests from idle to full AB – 18 Sept 06
  - Accomplished 676 formal flight controls test cases

• **Production Status (15 Sep 06)**
  - **Aircraft:**
    - Center Fuselages: 8 (5 STOVL, 3 CTOL) in assembly
    - Forward Fuselages: 4 (4 STOVL) in assembly
    - Wing Section: 2 (2 STOVL) in assembly
    - Aft Fuselage: 2 (2 STOVL) in assembly
  - **Engines:**
    - Ground Test: 9 Delivered, 1 in assembly
    - Flight Test Engines: 3 Delivered, 4 in assembly

• **Subsystems development on-track**
  - 4 Radar working in MS Integration Lab and Aircraft testbed
  - Delivered 655 VS parts for 1st AC build
  - Block 1 Integrated Core Processor powered-up, configured, and booted
  - Panoramic Cockpit Display (PCD) System Processor On-Track for delivery

• **F135 – 5,667 total hrs on 11 engines** (as of 6 Sep 06)
• **F136 – 240 Total Test Hours on 2 engines (SDD & Phase IIIB)**
# AA-1 Actual Weights vs Calculated

<table>
<thead>
<tr>
<th>CTOL AA-1 Component Category</th>
<th>Total Calculated (lb)</th>
<th>Total Actual (lb)</th>
<th>Percent of Total Weight</th>
<th>Variance (lb)</th>
<th>Variance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airframe</td>
<td>9260.9</td>
<td>9333.6</td>
<td>58%</td>
<td>72.7</td>
<td>0.78%</td>
</tr>
<tr>
<td>Systems</td>
<td>4282.4</td>
<td>4162.6</td>
<td>69%</td>
<td>-119.8</td>
<td>-2.80%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>13543.2</td>
<td>13496.1</td>
<td>61%</td>
<td>-47.1</td>
<td>-0.35%</td>
</tr>
</tbody>
</table>

No Propulsion

AA-1 Actual Weight Measurements Demonstrate High Confidence in Weight Calculations

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# AVD Maturity Statistics

**August 06**

## STOVL Air Vehicle Weight Growth since SWAT (Oct 2004):
- 363 lb.
- 45,140 hrs (93.3%)
- 11,836 Total Rounds Fired
- Longest Burst: Full Fire out of 181 Rounds

<table>
<thead>
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<th>Radars in Test</th>
<th>4</th>
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<tbody>
<tr>
<td>65 Flt Hrs on Radars</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Drawings Frozen (Cum for All Variants)</th>
<th>23,632 (61%)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Engine Test Hours Completed</th>
<th>5796</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift Fan Test Hours Completed</td>
<td>969</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Parts Delivered</th>
<th>18,992</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Parts Del.</td>
<td>790 of 831</td>
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<tr>
<td>Lab Parts Delivered</td>
<td>3500</td>
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</table>

<table>
<thead>
<tr>
<th>Lab Test Hrs so far in 2006</th>
<th>10,000+</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Lab Maturity:</th>
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</thead>
<tbody>
<tr>
<td>100% VSIF (AA-1)</td>
</tr>
<tr>
<td>75% VSIF (BF-1)</td>
</tr>
<tr>
<td>50% MSIL</td>
</tr>
<tr>
<td>100% VIF</td>
</tr>
<tr>
<td>100% FSS (AA-1)</td>
</tr>
<tr>
<td>50% OASIS</td>
</tr>
</tbody>
</table>

### Code Development
- 2.04 Million (83%) Lines of Code Developed for Block 0.1
- 1.41 Million (64%) Lines of Code Developed for Block 0.5

### Software Releases
- 10 S/W Releases (OFP Loads) to AA-1
- 4 Engine Installs Accomplished to AA-1
- 9 Escape System Tests Conducted - Up to 450 kts

### SOF Testing
- 386 LRCs in SOF Testing (VS)
- 325 (84%) LRCs have COMPLETED SOF Testing (VS)
- 150 of 191 (79%) Building Block Tests Completed

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**Comprehensive Analysis and Testing Provide Design Confidence**

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Agenda

- Program Overview
- Upcoming Milestones & Major Accomplishments
- F-35 Performance & Capabilities
- Logistics System
Key Performance Parameter Status
(As of 24 August 06)

**Combat Radius**
- CTOL 240-4.4; STOVL 240-4.3; CV 240-4.5
- CTOL
- CV
- STOVL

**Mission Reliability**
- CTOL 240-4.4; STOVL 240-4.3; CV 240-4.5
- CTOL
- CV
- STOVL USMC

**CV Recovery**
- 240-4.5
- $V_{p_{\text{min}}}$

**STOVL Performance**
- STO Distance
- Flat Deck
- Ski Jump
- VLBB

**Sortie Generation Rate**
- CTOL
- CV
- STOVL USMC

**Logistics Footprint—C-17 Loads**
- CTOL
- STOVL USMC

**Logistics Footprint—Volume**
- CV
- STOVL USMC

**Logistics Footprint—Weight**
- CV
- STOVL USMC

**Interoperability**
- 67 Critical IERs
- Info Exchange Rqmnts

**RF Signature**
- CTOL 240-4.4; STOVL 240-4.3; CV 240-4.5
- Threshold Requirement
- CE Performance
- Exceeds ORD Objective
- Meets Rqmt/Exceeds Tripwire
- Meets Rqmt/In Tripwire Band
- Does Not Meet Requirement

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
Fighter Aircraft Generations

The Evolution of Stealth

- High and Fast
- Air-to-Ground Only at Night
- All Stealth – 24/7/365

Capability
- 1st Jets
- Subsonic
- Guns
- Bombs
- Rockets

- Supersonic
- 1st Radar
- Missiles
- Guns

- Multi-Role
- Supersonic
- Radar
- Missiles

- Adv Avionics
- Guided Weapons
- Agility & Speed

Advantage With Training

- Stealth
- Fighter Performance
- Internal Payload
- Info Fusion
- Net-Centric Ops
- Sustainable
- Deployable
- Total Air Dominance

5th Gen -- Integration of All-Aspect Stealth, Advanced Sensors and Weapons
F-35 Survivable & Lethal

F-35 Leveraged all of the F-22 State of the Art VLO Technology and Design Lessons Learned

Legacy TACAIR

- Engaged and Shot by Ground Defenses
- Surprise Lost
- Mission Effectiveness Degraded/Lost
- Access Denied

5th Gen TACAIR

- Surprise Maintained
- Access Assured
- Survivable
- Lethal

Stealth Shrinks Air-to-Air Detection Capability

F-35 built from the ground up to be VLO and supportable!
F-35 Lightning II Warfighter Capability

- Cooperative Ops
  Off-Board Connectivity

- Multi-Function AESA

- EO Targeting
  Versatile Weapons Capability

- All Around Situation Awareness

- Passive Precision Emitter Location and Targeting

- Fused, Coherent Common Operational Picture
What F-35 Provides to the Warfighter

- Day “One” Stealthy (VLO) Supersonic, Multi-Role Fighter designed to execute Air-to-Air and Air-to-Ground missions in high threat areas:

  - **Air Interdiction**
    - Fixed, Stationary & Moving Tgts

  - **SEAD & DEAD**
    - (Strategic & Tactical)

  - **Offensive Counter Air**
    - (Fighter Sweep/Escort)

  - **Strategic Attack**
    - (Bunkers and Shelters)

  - **Close Air Support**
    - (Precision Day/Night Adv WX)

  - **Defensive Counter-Air**
    - (Fighters, Bombers & Cruise Missiles)

Versatile fighter which fulfills multiple missions; These are six of the twelve core missions.
What F-35 Provides to the Combatant Commander

Day One Stealthy (VLO) Long Range, Interoperable, Multi-Role Coalition Fighter which can be deployed from Main Operating Bases, Aircraft Carriers, “L” Class Ships and Austere Air Bases

USN Nimitz Class Carrier CV

Main Operating Base CTOL

USMC Austere Basing STOVL

USMC “L” Class Ship STOVL

Combat Radius

650+nm

600+nm

500+nm

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
Surface Target Detection, Track, Classification And Identification

Target Class:  
- Day/Night Capable
- All Classes
- Moving
- Relocatable
- Emitting

Increasing Range

JSF Is Autonomous, Long Range, and Weather-Capable

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
APG-81 Advanced Electronically Scanned Array (AESA) Radar

Near Precision Adverse Weather Self-Targeting Capability
Target Details Are Clear with F-35 APG-81 SAR

APG-81 High Resolution SAR Imagery

APG-81 Provides Exceptional Target and Context Detail
Precise Alignment of GMTI Targets on SAR Map

GMTI Superimposed on SAR Map for Target Context
APG-81 Provides Rapid and Increased Search Volume and Track Accuracy in Air-to-Air Modes

Enhanced Search Range and Performance Advantage over Legacy

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
Electro Optical Targeting System Operational Capabilities

- Internally Mounted
- Long Range, High Resolution
- NAVFLIR, Targeting FLIR, IRST Functions
- Digital Continuous Zoom
- Laser Designation
- Laser Spot Tracker

The Advanced EOTS Provides Passive Multi-Spectral A/A and A/G Capabilities As Well as Enhanced A/G Target ID Capability
EOTS System Summary (U)

**EUO #2 Test Article in Fixture**

**Functions**

- **Air-to-Air Tracking**
  - Infrared Video Imaging
  - Image Track
- **Air-to-Surface Targeting**
  - Infrared Video Imaging
  - Target Search, Cue, and Image Track
  - **Laser Spot Tracker**
  - Target Search & Cue
- **Long Range IRST**
  - Target Tracking
- **Multi-Function Laser**
  - Target Designation
  - Laser Range Measurement

"DAY 1" FIXED CHIN INSTALLATION WITH FACETTED WINDOW
Distributed Aperture System (DAS) Summary (U)

Test DAS Sensor Image

DAS Provides All Functions Simultaneously

- SAIRST
- Spherical Coverage
- Missile Warning
- NavFLIR on HMD
- Thermal Cuer
- STOVL Auto Land & Pilot Landing Aid
- BDI - Explosion Detection
- SAM Launch Point Report

DAS Window Panel

DAS Sensor

DAS Sensors

DAS Sensors
Electronic Support Measure (ESM)

- Radar Warning Receiver (RWR)
- Precision Direction Finding (PDF)

ESM Capabilities Support Enhanced Passive SA, and Suppression & Destruction of Enemy Air Defenses Capabilities
F-35 Multi-Spectral Fused Sensors

- Synthetic Aperture Radar (SAR)
- Electronic Support Measures (ESM)
- Distributed Aperture System (DAS)
- Ground Moving Target Indication
- Electro-Optical Targeting System (EOTS)
Pilot System Products

- Helmet-Mounted Display
- Standby Flight Display (SFD)
- Throttle and Side Stick (HOTAS)
- Mk.16 Seat (Martin Baker)
- MFD and Display Management Computers (Kaiser)

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
Weapons Carriage Arrangement

CTOL/CV Common Bay Stations

2K JDAM

1K JDAM

CTOL/STOVL Common External Stations

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
CTOL 240-4 Weapons Carriage Arrangement

<table>
<thead>
<tr>
<th>Station</th>
<th>11</th>
<th>10</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>300</td>
<td>2,500</td>
<td>5,000</td>
<td>2,500</td>
<td>350</td>
<td>1,000</td>
<td>350</td>
<td>2,500</td>
<td>5,000</td>
<td>2,500</td>
<td>300</td>
</tr>
</tbody>
</table>

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
STOVL Weapons Carriage Requirements

EXTERNAL WEAPONS

- 426-Gallon Wing Tank
- Stornshadow
- AGM-158 JASSM
- MXU-648/CNU-98 Baggage Pod
- AGM-154 A/C JSOW Glide Bomb
- AIM-120B/C AMRAAM
- GBU-31 JDAM 2,000-lb (MK-83 Warhead)
- AIM-9X Sidewinder
- GBU-32 JDAM 1,000-lb (MK-83/BLU-110 Warhead)
- BDU-57/58/60 Laser-Guided Training Round
- GBU-31 JDAM 2,000-lb (BLU-109 Warhead)
- Missionized Gun
- Brimstone/Joint Common Missile

INTERNAL

- GBU-32 JDAM 500-lb (MK-82 Warhead)
- GBU-12 Paveway II 500-lb LGB (MK-82 Warhead)
- CBU-103/105 WCMD
- AIM-120C AMRAAM
- AIM-132 ASRAAM
- Brimstone/Joint Common Missile
- UK 500# PGB
- Phase I SDB

EXTERNAL WEAPONS

- GBU-10 Paveway II 2,000-lb LGB (MK-84 Warhead)
- GBU-24A/B Paveway III 2,000-lb LGB (MK-84 / BLU-109 Warhead)
- GBU-16 Paveway II 1,000-lb LGB (MK-83 Warhead)
- MK-83 BLU-110 LDGP 1,000-lb LDGP
- MK-83 BSU-85 HDGP
- MK-84 2,000-lb LD/HDGP
- MK-84 BSU-50 Ballute 2,000-lb HDGP
- GBU-12 Paveway II 500-lb LGB (MK-82 Warhead)
- MK-82 500-lb LD & HD
- CBU-99/100 Rockeye II Cluster Munition
- CBU-103/105 WCMD
- AIM-132 ASRAAM

Store Fully Certified During SDD

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
## Mission Area Coverage

### JSF and Legacy

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Funded</th>
<th>CAS</th>
<th>Interdiction</th>
<th>Interdiction</th>
<th>Strategic</th>
<th>Tactical</th>
<th>Strategic</th>
<th>ASUV</th>
<th>Fighter Sweep</th>
<th>DCA</th>
<th>DCA-CMD</th>
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<tbody>
<tr>
<td>Block III (End of SDD)</td>
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<td></td>
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<tr>
<td>F-35 CTOL</td>
<td>Yes</td>
<td>Leth</td>
<td>Surv</td>
<td>Leth</td>
<td>Surv</td>
<td>Fixed</td>
<td>Moving</td>
<td>Attack</td>
<td>SEAD/DEAD</td>
<td>SEAD/DEAD</td>
<td>ASUV</td>
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<td>F-35 STOVL</td>
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<td>Surv</td>
<td>Leth</td>
<td>Surv</td>
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<td>Moving</td>
<td>Attack</td>
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<td>SEAD/DEAD</td>
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<td>Surv</td>
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<td>Surv</td>
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<td>Block IV Weapons (SDB JSOW-C P3)</td>
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<td>Surv</td>
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<td>Surv</td>
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<td>Moving</td>
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<td>ASUV</td>
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<td>Surv</td>
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<td>Surv</td>
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<td>Surv</td>
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<td>Surv</td>
<td>Leth</td>
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<td>Surv</td>
<td>Leth</td>
<td>Surv</td>
<td>Leth</td>
<td>Surv</td>
<td>Tactical</td>
<td>Strategic</td>
<td>ASUV</td>
<td>Leth</td>
</tr>
</tbody>
</table>

**Legend:**
- **Significant Capability/Little Operational Risk**
- **Good Capability/Low Operational Risk**
- **Good Capability/Minor Operational Risk**
- **Some Capability/Moderate Operational Risk**
- **Little Capability/High Operational Risk**
- **AAM—Air-to-Air Missile**
- **2K—2000lb JDAMs (Mk-84, BLU-109)**
- **1K—1000lb JDAM (Mk-83)**
- **EO—Electro-Optical**

### External Carriage

- **Lack of Stealth**
- **Lack of Advanced Sensors & Multi Spectral Detections & Sensor Fusion**

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JSF In Middle of Warfighting Transformation

Present Environment

One-to-One Exchanges
- Interoperability Defined by Information Exchange Requirements (IERs)
- Strategy – Satisfy via Standards To Be Compatible With 2010 Architecture Defined via This Approach
- Measured by a Interoperability KPP

Net-Centric Environment

One-to-Many Exchanges
- “Publish and Subscribe” Networks
- Strategy – Develop JSF Air System With Sufficient Flexibility To Adapt To Changing Environment
- Managed Networks – Key Interface Profiles (KIP) and Enterprise Services
- Measured by a Net-Ready KPP

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Envisioned Voice and Datalinks Interoperability

Current Concerns Over New Standards Implementation Timing. Concurrent with IOC

Beyond Line of Sight
SATCOM

Link -16
Aviation & Air Defense Assets
F-16
F/A-18
Blue SAMs
V-22
AWACs
JSTARS
E-2
AEGIS

Comms

PHM Datalink
CV
LH/LP
Air Base

Joint Tactical Radio System (JTRS)
Joint Variable Message Format (JVMF)

Over 120 Information Exchange Requirements to Ensure Interoperability Across US and Coalition Forces

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What F-35 Means To the Enemy

There's No Place on Earth to Hide!
Agenda

- Program Overview
- Upcoming Milestones & Major Accomplishments
- F-35 Performance & Capabilities
- Logistics System
JSF Autonomic Logistics System

Highly Supportable Aircraft
- Smart / Reliable Design
- Prognostics and Health Management
- Remove and Replace (R/R) Maintenance
- On Condition Maintenance

Training System
- Integrated Training
- Embedded Pilot Training
- On Demand Maintenance Training
- Air Vehicle Software Reuse

Support System
- Sustaining Engineering
  - 24/7 Help Desk
- Electronic Joint-Service Tech Data
- Intelligent Maintenance Management
- Global Supply Chain Insight
- Support Equipment Management

Autonomic Logistics Information System
- Distributed Information System
- Enterprise Resource Solution
- Secure
- Scalable
- Deployable

Autonomic Logistics Provides Order Of Magnitude O&S Savings
Global Sustainment Strategy

1. JSF Program Office

2. Team JSF / Propulsion System Contractors / Government


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F-35 has three supportability KPPs, the combination of which improve deployability and inherently help reduce Operating and Support (O&S) costs.
Pilot Program for Performance-Based Logistics

**TRADITIONAL LOGISTICS PROCESS**
Contractor Paid for Breakage

- Airplane Flies – Airplane Breaks
- Maintainer Finds Problem
- Maintainer Replaces Failed Part
- Airplane Flies
- Failed Part Sent for Repair
- Failed Part Repaired (Without Reliability Improvements) and Returned to Supply
- Contractor is Paid for Repair

**JSF LOGISTICS PROCESS**
Contractor Paid for Usage

- Contractor Paid to Support XX Flight Hours
- Airplane Flies
- Airplane Notifies Maintenance a Part Will Fail in XX Hours
- Maintainer Decides When to Replace
- Maintainer Replaces Part
- Airplane Flies
- Part Sent for Repair
- Contractor Repairs Part With Improved Reliability Modifications (at His Cost) and Improved Part is Returned to Supply

Contractor Aligned With Warfighter to Improve Availability and Reduce Cost

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F35 Reliability, Maintainability & Supportability Approach Advantages over Legacy AC

Support

Support Required vs Legacy

- MTBM: 50% Less
- Airlift To Deploy: 36-45% Less
- Support Personnel: 33% Less
- Spare Parts: 43% Less
- Support Equipment: 60% Less

F-35 provides significant improvements in overall supportability vs legacy AC.

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5th Generation Stealth Is Affordable

99% of total F-35 maintenance actions require No LO restoration.
Affordability
Total Ownership Cost Reduction

Production

Airframe 70-90% Common or Cousin Parts
Common Core Propulsion System
Avionics System ~100% COMMON
Joint Training & Support

Commonality Key to Affordable URF

Reduced Total Ownership Costs

Operations & Support

EMD Costs
CTOL STOVL CV Total JSF
Three Stand Alone Programs

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Summary

The F-35 Lighting II Provides the US Warfighter, our Coalition Partners, and the Combatant Commanders with a Highly Deployable 5th Generation Multi-Role Strike Fighter Force that is:

- Lethal
- Survivable
- Supportable
- Interoperable

... And do it Affordably
F-35

THE REVOLUTION BEGINS