

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>	DATE <b>February 1999</b>
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<b>BUDGET ACTIVITY</b> <b>4 - Demonstration and Validation</b>	<b>PE NUMBER AND TITLE</b> <b>0603800F Joint Strike Fighter</b>	<b>PROJECT</b> <b>2025</b>
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
2025 Joint Strike Fighter (JSF)	444,277	454,789	235,374	22,558	0	0	0	0	0	1,573,681
Quantity of RDT&E Articles	0	0	4	0	0	0	0	0	0	4

**(U) A. Mission Description**

The Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike fighter aircraft for the USN, USMC, USAF and allies. Current program emphasis is on facilitating the evolution of fully validated and affordable joint operational requirements, and demonstrating cost leveraging technologies and concepts to lower risk prior to entering Engineering and Manufacturing Demonstration (E&MD) in FY 2001. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding for the program. The United Kingdom (UK) is a collaborative partner in this phase of the program and several other countries also participate.

**(U) FY 1998 (\$ in Thousands): (Breakout reflects Air Force, Navy, DARPA, UK, Multi-Lateral and Canadian funding)**

- (U) \$717,026 Continued Concept Demonstration efforts by Boeing, Lockheed Martin and Pratt & Whitney including company unique technology demonstrations and concept refinement for a tri-service family of aircraft.
- (U) \$34,956 Continued the Alternate Engine Program.
- (U) \$179,584 Continued technology maturation demonstrations and assessments in the areas of airframe, flight systems, manufacturing and producibility, propulsion, and mission systems. Continued systems engineering support for the Concept Demonstration Phase in the areas of system test, air vehicle analysis and integration, advanced cost estimating, survivability, integrated flight and propulsion control and carrier suitability.
- (U) \$23,325 Continued technology maturation demonstrations and assessments in the area of prognostics and health management and supportability and training.
- (U) \$20,642 Continued modeling and simulation activities to support strike warfare mission area analysis and requirements analysis efforts including Cost and Operational Performance Trades (COPT) to facilitate the Services' joint requirements definition.
- (U) \$15,005 Continued mission support, including program office functions.
- (U) \$990,538 Total

**(U) FY 1999 (\$ in Thousands): (Breakout reflects Air Force, Navy, UK, Multi-Lateral, Canadian and Italian Funding)**

- (U) \$670,284 Continue Concept Demonstration efforts by Boeing, Lockheed Martin and Pratt & Whitney including company unique technology demonstrations, complete final design and continue build of Concept Demonstrator Aircraft (CDA) and continue concept refinement for a tri-service family of aircraft.

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– (U) \$25,790	Continue the Alternate Engine Program.	
– (U) \$195,011	Continue technology maturation demonstrations and assessments in the areas of airframe, flight systems, manufacturing and producibility, propulsion, and mission systems. Complete approximately half of the demonstrations. Continue systems engineering support for the Concept Demonstration Phase in the areas of system test, air vehicle analysis and integration, advanced cost estimating, survivability, integrated flight and propulsion control and carrier suitability.	
– (U) \$28,009	Continue technology maturation demonstrations and assessments in the area of prognostics and health management and supportability and training.	
– (U) \$13,328	Continue modeling and simulation activities to support strike warfare mission area analysis and requirements analysis efforts including COPT to facilitate the Services' joint requirements definition. Complete requirements analysis in support of final requirements document. Continue modeling and simulation support testing, training, and refinement of concept of operations for the weapons system (simulation based acquisition).	
– (U) \$15,174	Continue mission support, including program office functions.	
– (U) \$7,980	Anticipated General Reductions.	
– (U) \$11,003	Portion of extramural program reserved for Small Business Innovative Research (SBIR) assessment in accordance with 15 USC 638. (USN Only)	
– (U) \$11,219	Identified as a source for SBIR. (USAF only)	
– (U) \$977,798	Total	
<b>(U) FY 2000 (\$ in Thousands):</b> (Breakout reflects Air Force, Navy, UK, Multi-Lateral and Canadian Funding)		
– (U) \$357,791	Continue Concept Demonstration efforts by Boeing, Lockheed Martin and Pratt & Whitney including ground and flight demonstrations and concept refinement for a tri-service family of aircraft. Request proposals from contractors for their designs and EMD programs.	
– (U) \$33,000	Continue the Alternate Engine Program.	
– (U) \$76,000	Continue technology maturation demonstrations and assessments in the areas of airframe, flight systems, manufacturing and producibility, propulsion and mission systems. Continue systems engineering support for the Concept Demonstration Phase in the areas of system test air vehicle analysis and integration, advanced cost estimating, survivability, integrated flight and propulsion control and carrier suitability.	
– (U) \$22,438	Continue technology maturation demonstrations and assessments in the area of prognostics and health management and supportability and training.	
– (U) \$10,000	Continue modeling and simulation activities to support strike warfare mission area analysis and requirements analysis efforts including COPT to facilitate the Services' joint requirements definition. Support analysis as required for final Joint Operational Requirements Document (JORD) coordination and signature. Continue modeling and simulation support testing, training, and refinement of concept of operations for the weapons system (simulation based acquisition).	
– (U) \$11,183	Continue mission support, including program office functions.	
– (U) \$510,412	Total	
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<p>(U) <u>FY 2001 (\$ in Thousands)</u>: (Breakout reflects Air Force, Navy, UK, Multi-Lateral and Canadian Funding)</p> <ul style="list-style-type: none"> <li>- (U) \$20,092 Complete Concept Demonstration efforts by Boeing, Lockheed Martin and Pratt &amp; Whitney including ground and flight demonstrations and concept refinement for a tri-service family of aircraft. Perform source selection evaluation to down-select for final design.</li> <li>- (U) \$0 Complete this phase of the Alternate Engine Program.</li> <li>- (U) \$13,303 Complete any remaining technology maturation demonstrations and assessments in the areas of airframe, flight systems, manufacturing and producibility, propulsion and mission systems. Continue systems engineering support for the Concept Demonstration Phase in the areas of system test, air vehicle analysis and integration, advanced cost estimating, survivability, integrated flight and propulsion control and carrier suitability. Support analyses required for Milestone II.</li> <li>- (U) \$11,945 Complete technology maturation demonstrations and assessments in the area of supportability and training.</li> <li>- (U) \$3,400 Complete modeling and simulation activities to support Milestone II analyses. Complete modeling and simulation support testing, training, and refinement of concept of operations for the weapons system (simulation based acquisition).</li> <li>- (U) \$1,880 Complete mission support, including program office functions</li> <li>- (U) \$50,620 Total</li> </ul> <p>(U) <b>B. Budget Activity Justification:</b> This program is funded under DEMONSTRATION &amp; VALIDATION because it includes all efforts necessary to evaluate integrated technologies in as realistic an operating environment as possible to assess the performance of advanced technology.</p> <p>(U) <b>C. Program Change Summary (\$ in Thousands)</b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;"></th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 1999 PB)</td> <td style="text-align: right;">432,277</td> <td style="text-align: right;">456,137</td> <td style="text-align: right;">239,659</td> <td style="text-align: right;">22,988</td> <td style="text-align: right;">1,567,744</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">458,052</td> <td style="text-align: right;">456,137</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: right;">-15,086</td> <td style="text-align: right;">-1,348</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. SBIR</td> <td style="text-align: right;">-10,749</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogramming</td> <td style="text-align: right;">14,999</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 1999 PB</td> <td style="text-align: right;">-2,939</td> <td></td> <td style="text-align: right;">-4,285</td> <td style="text-align: right;">-430</td> <td style="text-align: right;">-5,937</td> </tr> <tr> <td>(U) Current Budget Submit/FY2000 PB</td> <td style="text-align: right;">444,277</td> <td style="text-align: right;">454,789</td> <td style="text-align: right;">235,374</td> <td style="text-align: right;">22,558</td> <td style="text-align: right;">1,573,681</td> </tr> </tbody> </table>							<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 1999 PB)	432,277	456,137	239,659	22,988	1,567,744	(U) Appropriated Value	458,052	456,137				(U) Adjustments to Appropriated Value						a. Congressional/General Reductions	-15,086	-1,348				b. SBIR	-10,749					c. Omnibus or Other Above Threshold Reprogram						d. Below Threshold Reprogramming	14,999					(U) Adjustments to Budget Years Since FY 1999 PB	-2,939		-4,285	-430	-5,937	(U) Current Budget Submit/FY2000 PB	444,277	454,789	235,374	22,558	1,573,681
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(U) \$11,219 thousand identified as a source for SBIR.

(U) Significant Program Changes: FY98 reduction of -\$2,939 thousand resulted from USAF omnibus reprogramming. General reduction of -\$1,348 in FY 99 reflects - \$60 thousand for Administrative and Advisory Services and -\$1,288 thousand for revised economic assumptions. FY00 reduction of -\$4,285 thousand and FY 01 reduction of -\$430 thousand reflects Inflation adjustment.

(U) **D. Other Program Funding Summary (\$ in Thousands):** This is a joint program with no executive service. The United Kingdom is a full collaborative partner in this phase of the program, and several other countries also participate.

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) RDT&E 0603800N	448,236	468,509	241,238	25,762	0	0	0	0	0	1,635,252
(U) RDT&E 0603800E	20,925	0	0	0	0	0	0	0	0	118,006
(U) United Kingdom	55,000	34,000	26,000	0	0	0	0	0	0	200,000
(U) Multi-Lateral*	17,800	7,500	5,100	1,700	0	0	0	0	0	32,100
(U) Canada	4,300	3,000	2,700	600	0	0	0	0	0	10,600
(U) Italy		10,000								10,000

\* Netherlands, Norway and Denmark

(U) **Related Program Funding Summary (\$ in Thousands):** Milestone II for E&MD of the Joint Strike Fighter (JSF) is planned in FY 2001.

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost *</u>
(U) RDT&E 0604800F	0	0	0	536,586	1,332,890	1,814,352	1,871,288	1,649,464	TBD**	TBD**
(U) RDT&E 0604800N	0	0	0	535,757	1,338,397	1,823,084	1,881,144	1,658,884	TBD**	TBD**

\* Excludes anticipated foreign funding which is TBD.

\*\* TBD pending completion of the December 1998 Selected Acquisition Report (SAR).

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**(U) Related Procurement Funding:**

Advanced Procurement for the Joint Strike Fighter (JSF) is planned in FY 2004.

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost
(U) Procurement 0207142F - JSF Squadrons	0	0	0	0	0	0	18,000	599,983	TBD	TBD
(U) Procurement 0204800N - JSF Squadrons	0	0	0	0	0	0	0	58,532	TBD	TBD

**(U) E. Acquisition Strategy:**

Program activities center around three distinct objectives that provide a sound foundation for the start of Engineering and Manufacturing Development (EMD) in 2001:

- (1) facilitating the Services' development of fully validated, affordable operational requirements;
- (2) lowering the risk by investing in and demonstrating key leveraging technologies that lower the cost of development, production and ownership; and
- (3) demonstrating operational concepts.

Early warfighter and technologist interaction is an essential aspect of the requirements definition process, and key to achieving JSF affordability goals. To an unprecedented degree, the JSF program is using cost-performance trades early as an integral part of the weapon system development process. The Services are defining requirements through an iterative process, balancing weapon system capability against life cycle cost at every stage. Each iteration of the requirements is provided to industry. They evolve their designs and provide cost data back to the warfighters. The warfighters evaluate trades and make decisions for the next iteration. This process produced the Services' first Joint Initial Requirements Document (JIRD I) in 1995 and the second and third iterations in 1997 and 1998, respectively. The Services continue to refine their requirements through this process which will culminate in the Joint Operational Requirements Document (JORD) in FY 2000 to support the Milestone II decision.

A sizable technology maturation effort is underway to reduce risk and life cycle cost (LCC) through technology maturation and demonstration. The primary emphasis is on technologies which have been identified as high payoff contributors to affordability, supportability, survivability and lethality. Numerous demonstrations have been accomplished and others are in process to validate performance and life cycle cost impact to component, subsystem and the total system.

A multi-year \$2.2 billion JSF Concept Demonstration effort commenced in November 1996 with competitive contract awards to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors will build and fly concept demonstrator aircraft, conduct concept unique ground demonstrators, and continue refinement of their ultimate delivered weapon system concepts. Specifically, Boeing and Lockheed Martin will demonstrate commonality and modularity, Short Take Off/ Vertical Land (STOVL) hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt and Whitney is providing propulsion hardware and engineering support for both Boeing's and Lockheed Martin's on-going JSF Concept Demonstration efforts. The JSF Concept Demonstration approach has several benefits:

- (1) Maintains the competitive environment prior to E&MD and provides for two different STOVL approaches and two different aerodynamic configurations.

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<p>(2) Demonstrates the viability of a multi-service family of variants with high commonality and modularity between CTOL, CV and STOVL variants.                  (3) Provides affordable and low risk technology transition to the JSF E&amp;MD phase.</p> <p>The JSF Alternate Engine Program, with General Electric, continues development of an alternate engine for production..</p> <p>Downselect to a single prime weapon system contractor for E&amp;MD and Milestone II are planned in FY 2001. JSF production is planned to begin in FY 2005.</p> <p><b>(U) F. <u>Schedule Profile</u></b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;"></th> <th colspan="3" style="text-align: center;"><u>FY 1998</u></th> <th colspan="3" style="text-align: center;"><u>FY 1999</u></th> <th colspan="3" style="text-align: center;"><u>FY 2000</u></th> <th colspan="3" style="text-align: center;"><u>FY 2001</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Commenced Concept Development Phase: Dec 94</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Released RFP for Concept Demonstration Efforts: Mar 96</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Designated a joint, DoD, Acquisition Category ID Program by USD(A&amp;T): Apr 96</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Competitively awarded Concept Demonstration Contracts to Boeing and Lockheed Martin: Nov 1996</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Complete Joint Operational Requirements Document (JORD) Approval: Dec 99</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Milestone II for JSF E&amp;MD: Mar 01</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td> </tr> </tbody> </table>													<u>FY 1998</u>			<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Commenced Concept Development Phase: Dec 94													(U) Released RFP for Concept Demonstration Efforts: Mar 96													(U) Designated a joint, DoD, Acquisition Category ID Program by USD(A&T): Apr 96													(U) Competitively awarded Concept Demonstration Contracts to Boeing and Lockheed Martin: Nov 1996													Complete Joint Operational Requirements Document (JORD) Approval: Dec 99								X					(U) Milestone II for JSF E&MD: Mar 01											X	
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<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>		DATE <b>February 1999</b>		
BUDGET ACTIVITY	PE NUMBER AND TITLE			PROJECT
<b>4 - Demonstration and Validation</b>	<b>0603800F Joint Strike Fighter</b>			<b>2025</b>
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>				
Project Cost Categories:	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) a. Weapon System Concept Demonstrations Contracts (including flying demonstrations)	717,026	670,284	357,791	20,092
(U) b. Alternate Engine Program	34,956	25,790	33,000	
(U) c. Technology Maturation and Systems Engineering Support Total	179,584	195,011	76,000	13,304
Breakout:				
<u>Technology Maturation</u>				
Airframe	1,442	1,228	1,500	
Flight Systems	29,867	37,107	9,842	
Manufacturing & Producibility	4,630	4,215	1,700	
Propulsion	36,316	23,037	3,600	
Mission Systems	61,596	90,625	24,340	8,848
Subtotal - Technology Maturation	133,851	156,212	40,982	8,848
Plus: Systems Engineering Support	45,733	38,799	35,018	4,456
(U) d. Prognostics and Health Management/ Supportability and Training	23,325	28,009	22,438	11,944
(U) f. Requirements:	20,642	13,328	10,000	3,400
(U) g. Mission Support	15,005	15,174	11,183	1,880
(U) h. Anticipated Service Reductions		7,980		
(U) i. Identified as candidate for SBIR (USN)		11,003		
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Project Cost Categories:					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U) j. Identified as candidate for SBIR (USAF)						11,219					
(U) Total					990,538	977,798	510,412	50,620			
Funding Resources:											
0603800F					444,277	454,789	235,374	22,558			
0603800N					448,236	468,509	241,238	25,762			
0603800E					20,925	0	0	0			
United Kingdom					55,000	34,000	26,000				
Multi-Lateral					17,800	7,500	5,100	1,700			
Canada					4,300	3,000	2,700	600			
Italy						10,000					
(U) Total					990,538	977,798	510,412	50,620			
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
Contractor or Government <u>Performing Activity</u>	Contract Method/ Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Product Development Organizations:											
<u>Strike Warfare Concept Studies (Total Prior to FY 2000)</u>											
Miscellaneous	Various	Oct93 - Sep94	11,467	11,467	11,467						11,467
<u>Technology Maturation Concept Exploration Phase (Total Prior to FY 2000)</u>											

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<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>										DATE <b>February 1999</b>	
BUDGET ACTIVITY <b>4 - Demonstration and Validation</b>					PE NUMBER AND TITLE <b>0603800F Joint Strike Fighter</b>					PROJECT <b>2025</b>	
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/ Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Fld. Act.	Various	Oct93 - Sep94	3,432	3,432	3,432						3,432
<u>Strike Warfare Systems Design Development(Total Prior to FY 2000)</u>											
Boeing Seattle WA	C/CPFF	Dec 94	32,770	32,770	32,770						32,770
McAir St. Louis MO	C/CPFF	Dec 94	23,708	23,708	23,708						23,708
Northrop Pico Rivera CA	C/CPFF	Dec 94	21,358	21,358	21,358						21,358
Lockheed Fort Worth, TX	C/CPFF	Dec 94	28,311	28,311	28,311						28,311
Miscellaneous Fld. Activ.	Various	Various Oct95-Sep96	1,121 8,322	1,121 8,322	1,121 8,322						1,121 8,322
<b>SUBTOTAL</b>			<b>115,590</b>	<b>115,590</b>	<b>115,590</b>						<b>115,590</b>
<u>ASTOVL (Total Prior to FY 2000)</u>											
Lockheed	SS/CPFF	Oct 94	16,416	16,416	16,416						16,416
Boeing	SS/CPFF	Jan 95	11,200	11,200	11,200						11,200
Miscellaneous	Various	Various	15,539	15,539	15,539						15,539
<b>SUBTOTAL</b>			<b>43,155</b>	<b>43,155</b>	<b>43,155</b>						<b>43,155</b>
<u>Core Team Support (Total Prior to FY 2000)</u>											
Fld. Activ.	Various	Oct 96-Sep 97	2,522	2,522	2,522						2,522
<u>Weapon System Concept Demonstrations (including flying demonstrators and supporting propulsion efforts)</u>											
Boeing	C/CPFF	Nov 96	644,852	644,852	72,208	195,527	223,734	142,491	10,892		644,852

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<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>										DATE <b>February 1999</b>	
BUDGET ACTIVITY <b>4 - Demonstration and Validation</b>					PE NUMBER AND TITLE <b>0603800F Joint Strike Fighter</b>					PROJECT <b>2025</b>	
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/ Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Lockheed	C/CPFF	Nov 96	701,850	701,850	105,900	215,900	231,950	139,100	9,000		701,850
Pratt & Whitney West Palm Beach FL	SS/CPAF	Nov 96	751,148	751,148	216,936	285,230	188,808	59,974	200		751,148
*includes government managed equipment											
Note: Pratt & Whitney Total Program excludes award fees reflected below.											
<u>Award Fees</u>											
Pratt & Whitney	C/CPFF		77,070	77,070	14,683	20,369	25,792	16,226			77,070
<b>SUBTOTAL</b>			<b>2,174,920</b>	<b>2,174,920</b>	<b>409,727</b>	<b>717,026</b>	<b>670,284</b>	<b>357,791</b>	<b>20,092</b>		<b>2,174,920</b>
<u>Alternative Engine Program</u>											
General Electric Cincinnati, OH	SS/CPFF	Nov 95	7,000	7,000	7,000						7,000
GE	SS/CPFF	Feb 97	118,746	118,746	25,000	34,956	25,790	33,000			118,746
<b>SUBTOTAL</b>			<b>125,746</b>	<b>125,746</b>	<b>32,000</b>	<b>34,956</b>	<b>25,790</b>	<b>33,000</b>			<b>125,746</b>
<u>Technology Maturation</u>											
<u>Airframe</u>											
McAir	SS/CPFF	Dec 94	19,240	19,240	19,240						19,240
Miscellaneous	Various	Various	2,985	2,985	1,885	100	500	500			2,985
Fld. Activ.	Various	Oct99-Sep00	5,964	5,964	2,894	1,342	728	1,000			5,964
<b>SUBTOTAL</b>			<b>28,189</b>	<b>28,189</b>	<b>24,019</b>	<b>1,442</b>	<b>1,228</b>	<b>1,500</b>			<b>28,189</b>
<u>Flight Systems</u>											
Lockheed	C/CPFF	Dec 94	50,748	50,748	31,386	10,129	7,731	1,502			50,748
McAir	C/CPFF	Dec 94	64,821	64,821	31,601	15,300	13,300	4,620			64,821
TBD	TBD	TBD					8,000				8,000
Miscellaneous	Various	Various	10,001	10,001	8,433	657	600	311			10,001

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<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>										DATE <b>February 1999</b>	
BUDGET ACTIVITY <b>4 - Demonstration and Validation</b>					PE NUMBER AND TITLE <b>0603800F Joint Strike Fighter</b>					PROJECT <b>2025</b>	
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/ Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Fld. Activ.	Various	Oct99-Sep00	24,136	24,136	9,798	3,693	7,356	3,289			24,136
<b>SUBTOTAL</b>			157,706	157,706	81,218	29,779	36,987	9,722			157,706
<u>Manufacturing &amp; Producibility</u>											
Hughes Los Angeles CA	C/CPFF	Dec 94	5,065	5,065	5,065						5,065
Lockheed General Res. Corp. Huntsville AL	C/CPFF	Dec 94	10,560	10,560	4,733	2,767	2,890	170			10,560
	C/CPFF	Dec 94	1,945	1,945	1,945						1,945
Scaled Comp Lockheed	C/CPFF	Jun 97	2,000	2,000	2,000						2,000
	C/CPFF	Aug 98	700	700		700					700
Miscellaneous Fld. Activ.	Various	Various	1,613	1,613	1,008	335	270				1,613
	Various	Oct99-Sep00	5,871	5,871	2,458	828	1,055	1,530			5,871
<b>SUBTOTAL</b>			27,754	27,754	17,209	4,630	4,215	1,700			27,754
<u>Propulsion</u>											
Pratt/Whitney GE	C/CPFF	Dec 94	5,448	5,448	5,448						5,448
	SS/CPFF	Dec 94	5,681	5,681	5,681						5,681
Pratt/Whitney GE	SS/CPFF	Nov 95	30,000	30,000	30,000						30,000
	SS/CPFF	Feb 97	3,000	3,000	3,000						3,000
Pratt/Whitney	SS/CPFF	Feb 97	26,777	26,777	10,559	12,429	3,789				26,777
Pratt/Whitney	SS/CPFF	Mar 97	3,640	3,640	3,640						3,640
Pratt/Whitney NASA	SS/TBD	Dec 97	8,200	8,200	2,400	4,600	1,200				8,200
	NASA	Aug 98	700	700		700					700
Miscellaneous Fld. Activ.	Various	Various	12,895	12,895	12,895						12,895
	Various	Oct99-Sep00	46,132	46,132	5,897	18,587	18,048	3,600			46,132
<b>SUBTOTAL</b>			142,473	142,473	79,520	36,316	23,037	3,600			142,473

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<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>										DATE <b>February 1999</b>	
BUDGET ACTIVITY <b>4 - Demonstration and Validation</b>					PE NUMBER AND TITLE <b>0603800F Joint Strike Fighter</b>					PROJECT <b>2025</b>	
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/ Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Mission Systems</u>											
TI	C/CPFF	Dec 94	2,464	2,464	2,464						2,464
Plano TX											
Lockheed	SS/CPFF	Dec 95	6,856	6,856	5,256	1,600					6,856
McAir	SS/CPFF	Dec 95	6,524	6,524	4,924	1,600					6,524
Raytheon	C/CPFF	Dec 95	53,368	53,368	13,772	13,502	22,582	3,512			53,368
Northrop Grumman	C/CPFF	Dec 95	46,915	46,915	12,448	13,498	19,272	1,697			46,915
Baltimore MD											
Boeing	C/CPFF	Mar 96	32,864	32,864	4,174	11,000	16,700	990			32,864
Lockheed	C/CPFF	Mar 96	32,888	32,888	4,143	10,840	16,700	1,205			32,888
Boeing	C/CPFF	Jan 98	10,724	10,724		1,100	2,500	2,747	4,377		10,724
Lockheed	C/CPFF	Feb 98	10,563	10,563		1,100	2,500	2,747	4,216		10,563
Hughes	C/CPFF	Dec 94	3,681	3,681	3,681						3,681
Classified	Classified		3,000	3,000		2,000	1,000				3,000
Miscellaneous	Various	Various	27,855	27,855	19,783	314	3,114	4,644			27,855
Fld. Activ.	Various	Oct99-Sep00	34,992	34,992	17,528	4,755	5,956	6,498	255		34,992
<b>SUBTOTAL</b>			<b>272,694</b>	<b>272,694</b>	<b>88,173</b>	<b>61,309</b>	<b>90,324</b>	<b>24,040</b>	<b>8,848</b>		<b>272,694</b>
<u>Systems</u>											
<u>Engineering Spt</u>											
Miscellaneous	Various	Various	23,975	23,975	4,780	7,213	5,667	5,658	657		23,975
Fld. Activ.	Various	Oct99-Sep00	136,839	136,839	33,578	38,070	36,632	28,860	3,699		136,839
<b>SUBTOTAL</b>			<b>160,814</b>	<b>160,814</b>	<b>38,358</b>	<b>45,283</b>	<b>38,299</b>	<b>34,518</b>	<b>4,356</b>		<b>160,814</b>

DATE  
**February 1999**

BUDGET ACTIVITY					PE NUMBER AND TITLE						
<b>4 - Demonstration and Validation</b>					<b>0603800F Joint Strike Fighter</b>						
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/ Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Prognostics and Health Management and Supportability and Training</u>											
Boeing	C/CPFF	Jun 97	11,024	11,024	750	3,700	3,706	2,868			11,024
Lockheed	C/CPFF	Apr 97	13,047	13,047	2,050	3,000	5,350	2,647			13,047
Pratt/Whitney	C/CPFF	Jun 97	10,100	10,100	3,920	6,180					10,100
General Electric	C/CPFF		1,500	1,500			1,500				1,500
Classified											
Project 3	C/CPFF	Dec 94	8,576	8,576	5,262	2,564	750				8,576
Project 4	C/CPFF	Dec 94	5,549	5,549	3,563	1,236	750				5,549
Boeing	C/CPFF	Jun 97	3,387	3,387	1,000	1,375	1,012				3,387
Lockheed	C/CPFF	Jun 97	4,000	4,000	1,000	1,375	1,625				4,000
Boeing	C/CPFF	Dec 98	7,730	7,730			2,465	4,265	1,000		7,730
Lockheed	C/CPFF	Jan 99	7,730	7,730			2,465	4,265	1,000		7,730
New Contract	TBD	Mar 01	7,000	7,000					7,000		7,000
Miscellaneous	Various	Various	10,209	10,209	2,830	985	3,394	2,500	500		10,209
Fld. Activ.	Various	Oct99-Sep00	21,529	21,529	5,317	2,885	4,990	5,893	2,444		21,529
SUBTOTAL			111,381	111,381	25,692	23,300	28,007	22,438	11,944		111,381
<u>Modeling and Simulation and Analysis, Threat, COPT and Core Support</u>											
Miscellaneous	Various	Various	57,440	57,440	22,098	15,963	9,281	7,583	2,515		57,440
Fld. Activ.	Various	Oct99-Sep00	24,711	24,711	14,809	4,199	3,001	2,017	685		24,711

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<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>										DATE <b>February 1999</b>	
BUDGET ACTIVITY <b>4 - Demonstration and Validation</b>					PE NUMBER AND TITLE <b>0603800F Joint Strike Fighter</b>					PROJECT <b>2025</b>	
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/ Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<b>SUBTOTAL</b>			82,151	82,151	36,907	20,162	12,282	9,600	3,200		82,151
<u>Mission Support</u>											
Institute for Defense Anal	Grant	Jan 97	2,500	2,500	2,500						2,500
Fld. Activ.	Various	Oct99-Sep00	32,739	32,739	12,725	6,564	7,332	3,438	1,880		32,739
<b>SUBTOTAL</b>			35,239	35,239	15,225	6,564	7,332	3,438	1,880		35,239
<u>Support and Management Organizations (CS):</u>											
ANSER Arlington VA	SS/CPFF	Apr 94	28,981	28,981	14,821	4,720	4,720	4,720			28,981
Miscellaneous	Various	Various	26,023	26,023	11,236	5,051	5,091	4,345	300		26,023
<b>SUBTOTAL</b>			55,004	55,004	26,057	9,771	9,811	9,065	300		55,004
<u>Test and Evaluation Organizations: (Included Above)</u>											
<b>(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)</b>											
<b><u>Government Furnished Property:</u></b>											
Not Applicable											
					Total						
					Prior to	Budget	Budget	Budget	Budget	Budget to	Total
					<u>FY 1998</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					1,024,214	980,767	937,768	501,347	50,320		3,494,416
Subtotal Support and Management					26,057	9,771	9,811	9,065	300		55,004
Services' General Reductions							7,980				
SBIR Assessment (USN)							11,003				
Identified as source for SBIR (USAF)							11,219				



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