

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE <b>June 2001</b>																																														
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>					PE NUMBER AND TITLE <b>0604239F F-22 EMD</b>																																																		
COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost																																													
Total Program Element (PE) Cost	2,239,065	1,398,835	865,464	320,525	0	0	0	0	0	24,215,651																																													
4069 Advanced Tactical Fighter FSD	1,517,936	998,503	716,594	320,525	0	0	0	0	0	22,945,320																																													
4874 PRTVII Aircraft Acquisition	721,129	400,332	148,870	0	0	0	0	0	0	1,270,331																																													
Quantity of RDT&E Articles	1	4	6	2	0	0	0	0	0	0																																													
<p>The FY03-FY07 budget numbers do not reflect DoD's strategic review results.</p> <p>(U) <b><u>A. Mission Description</u></b>  The F-22 is designed to penetrate enemy airspace and achieve a first look, first kill capability against multiple targets. The F-22 is characterized by a low observable, highly maneuverable airframe, advanced integrated avionics, and aerodynamic performance that allows supersonic cruise without the use of afterburner. The F-22 is currently in the Engineering and Manufacturing Development (EMD) phase of acquisition.</p> <p>(U) <b><u>B. Budget Activity Justification</u></b>  This program is in Budget Activity 5, Engineering and Manufacturing Development, because the F-22 Program is developing the next-generation air superiority fighter for the USAF to counter emerging worldwide threats.</p> <p>(U) <b><u>C. Program Change Summary (\$ in Thousands)</u></b></p> <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th></th> <th style="text-align: right;"><u>FY 2000</u></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 2001 PBR)</td> <td style="text-align: right;">1,945,138</td> <td style="text-align: right;">1,411,786</td> <td style="text-align: right;">860,676</td> <td style="text-align: right;">23,925,670</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">1,945,138</td> <td style="text-align: right;">1,411,786</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>    a. Congressional/General Reductions</td> <td></td> <td style="text-align: right;">-9,882</td> <td></td> <td></td> </tr> <tr> <td>    b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>    c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>    d. Below Threshold Reprogram</td> <td style="text-align: right;">3,999</td> <td></td> <td></td> <td style="text-align: right;">3,999</td> </tr> <tr> <td>    e. Rescissions</td> <td style="text-align: right;">-4,779</td> <td style="text-align: right;">-3,069</td> <td></td> <td style="text-align: right;">-7,848</td> </tr> </tbody> </table>												<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 2001 PBR)	1,945,138	1,411,786	860,676	23,925,670	(U) Appropriated Value	1,945,138	1,411,786			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions		-9,882			b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	3,999			3,999	e. Rescissions	-4,779	-3,069		-7,848
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## UNCLASSIFIED

## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

June 2001

BUDGET ACTIVITY

**05 - Engineering and Manufacturing Development**

PE NUMBER AND TITLE

**0604239F F-22 EMD**(U) **C. Program Change Summary (\$ in Thousands) Continued**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Adjustments to Budget Years Since FY 2001 PBR	294,707		4,788	301,509
(U) Current Budget Submit/FY 2002 PBR	2,239,065	1,398,835	865,464	24,215,651

(U) **Significant Program Changes:**

\* FY00 - \$300M appropriated for F-22 termination liability was erroneously placed in F-22 EMD BPAC 4069.

\*\* FY00-FY02 test article quantities were revised to reflect delayed delivery.

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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

**05 - Engineering and Manufacturing Development**

PE NUMBER AND TITLE

**0604239F F-22 EMD**

PROJECT

**4069**

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4069 Advanced Tactical Fighter FSD	1,517,936	998,503	716,594	320,525	0	0	0	0	0	22,945,320

Unit cost of RDT&E articles not separately priced (NSP).

\* Total Cost includes \$3,779,811,000 of Demonstration and Validation funding prior to FY 1992 funded in PE 0603230F.

\*\* Quantity of RDT&E Articles includes one EMD flight test aircraft delivered in FY 1997 and one in FY98.

\*\*\* The following net transactions are not reflected in the FY01 program total: BTR = +\$2.854M and ATR = +\$6.388M. These transactions are not reflected in other sections of the RDocs where an FY01 total is shown. The FY03-FY07 budget numbers do not reflect DoD's strategic review results.

(U) **A. Mission Description**

The F-22 is designed to penetrate enemy airspace and achieve a first look, first kill capability against multiple targets. The F-22 is characterized by a low observable, highly maneuverable airframe, advanced integrated avionics, and aerodynamic performance that allows supersonic cruise without the use of afterburner. The F-22 is currently in the Engineering and Manufacturing Development (EMD) phase of acquisition.

The EMD phase effort includes delivery of nine flight test vehicles and two ground test vehicles (static and fatigue); delivery of 25 flight qualified engines; integration and test of the EMD avionics suite including air-to-surface provision; development and test of the F-22 weapons system support and training system; and updating the YF-22 Avionics Flying Laboratory with EMD assets and software to become an avionics integration Flying Test Bed (FTB).

The following are representative activities of efforts being accomplished in the given fiscal year.

(U) **FY 2000 (\$ in Thousands)**

- (U) \$638,711 Air Vehicle
- Continued full-scale airframe static testing. (NSP)
  - Completed assembly of EMD aircraft #4003. (NSP)
  - Continued assembly of EMD aircraft #4004-4009. (NSP)
  - Initiated First Flight Readiness Review (FFRR) for aircraft #4004. (NSP)
  - Continued flight test and flight test support. (NSP)
- (U) \$364,024 Avionics
- Initiated Avionics Integration Lab (AIL) Block 3.0 integration. (NSP)

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Exhibit R-2A (PE 0604239F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
<b>05 - Engineering and Manufacturing Development</b>		<b>0604239F F-22 EMD</b>
		<b>4069</b>
(U)	<b><u>A. Mission Description Continued</u></b>	
(U)	<b><u>FY 2000 (\$ in Thousands) Continued</u></b>	
	<ul style="list-style-type: none"> <li>- Continued incorporating avionics software/hardware into the Flight Test Bed (FTB). (NSP)</li> <li>- Continued Diminishing Manufacturing Sources (DMS) redesign activities for production incorporation. (NSP)</li> <li>- Initiated/completed Block 3S FTB testing. (NSP)</li> <li>- Initiated Block 3.0 FTB testing. (NSP)</li> <li>- Completed all remaining Block 3.1 Critical Design Review (CDRs). (NSP)</li> </ul>	
(U)	\$123,400	Engine
	<ul style="list-style-type: none"> <li>- Continued production engine configuration development testing. (NSP)</li> <li>- Continued to deliver and support eleven additional flight test engines (24 total). (NSP)</li> <li>- Continued verification of engine support system products. (NSP)</li> <li>- Continued to build and test additional flight test engines. (NSP)</li> <li>- Continued Initial Service Release (ISR) milestone activities. (NSP)</li> </ul>	
(U)	\$91,800	Other Government Cost
	<ul style="list-style-type: none"> <li>- Continued flight test and flight test support at Edwards AFB.</li> <li>- Continued support of engine testing at Arnold Engineering Development Center (AEDC).</li> <li>- Continued aperture measurements at Rome Labs.</li> <li>- Continued avionics ground testing at various government facilities.</li> <li>- Mission support of the SPO; travel, computer costs, misc contracts, etc.</li> <li>- Procurement of required Government Furnished Equipment (GFE).</li> <li>- Continued live fire testing at Air Force Research Labs.</li> <li>- Completed stores separation testing at AEDC.</li> </ul>	
(U)	\$300,001	Other
	- FY00 PRTV II Term Liability should be in BPAC 4874 (PRTV II Aircraft Acquisition)	
(U)	\$1,517,936	Total
Project 4069		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
<b>05 - Engineering and Manufacturing Development</b>		<b>0604239F F-22 EMD</b>
		<b>4069</b>
<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b></p> <p>(U) \$528,827      Air Vehicle</p> <ul style="list-style-type: none"> <li>- Complete full-scale airframe static testing. (NSP)</li> <li>- Initiate 1st full-scale airframe lifetime fatigue testing. (NSP)</li> <li>- Complete assembly of EMD aircraft #4004-4007. (NSP)</li> <li>- Continue assembly of EMD aircraft #4008-4009. (NSP)</li> <li>- Complete flight readiness review of EMD aircraft #4004. (NSP)</li> <li>- Complete final production readiness review. (NSP)</li> <li>- Continue flight test and flight test support. (NSP)</li> <li>- Initiate structural certification analysis activities. (NSP)</li> </ul> <p>(U) \$280,576      Avionics</p> <ul style="list-style-type: none"> <li>- Complete AIL Block 3.0 integration. (NSP)</li> <li>- Complete Block 3.0 FTB testing. (NSP)</li> <li>- First flight of the first avionics test aircraft. (NSP)</li> <li>- Initiate avionics software Block 3.0 flight testing. (NSP)</li> <li>- Initiate AIL Block 3.1 integration. (NSP)</li> <li>- Continue DMS redesign, requalification and retesting activities. (NSP)</li> <li>- Continue incorporating avionics software/hardware into the FTB. (NSP)</li> <li>- Initiate Block 3.1 FTB testing.</li> </ul> <p>(U) \$53,600      Engine</p> <ul style="list-style-type: none"> <li>- Completed delivery and support of 25 flight test engines. (NSP)</li> <li>- Continue production engine configuration development testing. (NSP)</li> <li>- Continue verification of engine support system products. (NSP)</li> <li>- Continue to test flight test engines. (NSP)</li> <li>- Complete Initial Service Release (ISR) milestone activities. (NSP)</li> <li>- Initiate Operational Capability Release (OCR) activities. (NSP)</li> </ul> <p>(U) \$135,500      Other Government Cost</p> <ul style="list-style-type: none"> <li>- Continue flight test and flight test support at Edwards AFB.</li> <li>- Continue aperture measurements at Rome Labs.</li> </ul>		
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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>		DATE <b>June 2001</b>
<b>BUDGET ACTIVITY</b> <b>05 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604239F F-22 EMD</b>	<b>PROJECT</b> <b>4069</b>
<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>(U) <b><u>FY 2001 (\$ in Thousands) Continued</u></b></p> <ul style="list-style-type: none"> <li>- Complete engine testing at AEDC.</li> <li>- Complete avionics ground testing at various government facilities.</li> <li>- Mission support of the SPO; travel, computer costs, misc contracts, etc.</li> <li>- Procurement of required GFE.</li> <li>- Continue live fire testing at Air Force Research Labs.</li> </ul> <p>(U) \$998,503      Total</p> <p>The following net transactions are not reflected in the FY01 program total: BTR = +\$2.854M and ATR = +6.388M. These transactions are not reflected in other sections of the RDocs where an FY01 total is shown.</p> <p>(U) <b><u>FY 2002 (\$ in Thousands)</u></b></p> <p>(U) \$435,520      Air Vehicle</p> <ul style="list-style-type: none"> <li>- Complete 1st full-scale airframe lifetime fatigue test. (NSP)</li> <li>- Initiate 2nd full-scale airframe lifetime fatigue test. (NSP)</li> <li>- Continue flight test and flight test support. (NSP)</li> <li>- Continue structural certification analysis activities. (NSP)</li> <li>- Complete assembly of EMD aircraft #4008-4009. (NSP)</li> </ul> <p>(U) \$116,374      Avionics</p> <ul style="list-style-type: none"> <li>- Complete AIL Block 3.1 integration. (NSP)</li> <li>- Complete Block 3.1 FTB testing. (NSP)</li> <li>- Initiate avionics software Block 3.1 flight testing. (NSP)</li> <li>- Continue incorporating avionics software/hardware into the FTB. (NSP)</li> <li>- Continue DMS redesign, requalification and retesting activities. (NSP)</li> <li>- Initiate revised Block 4.0 implementation. (NSP)</li> </ul> <p>(U) \$18,300      Engine</p> <ul style="list-style-type: none"> <li>- Continue verification of engine support system products. (NSP)</li> <li>- Continue to test flight test engines. (NSP)</li> <li>- Continue Operational Capability Release (OCR) activities. (NSP)</li> </ul> <p>(U) \$146,400      Other Government Cost</p>		
<div style="display: flex; justify-content: space-between;"> <span>Project 4069</span> <span>Page 6 of 15 Pages</span> <span>Exhibit R-2A (PE 0604239F)</span> </div>		

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(U) A. Mission Description Continued(U) FY 2002 (\$ in Thousands) Continued

- Continue flight test and flight test support at Edwards AFB.
- Continue aperture measurements at Rome Labs.
- Complete live fire testing at Air Force Research Labs.
- Mission support of the SPO; travel, computer costs, misc contracts, etc.

(U) \$716,594 Total

(U) B. Project Change Summary(U) C. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) PRTV II (6)	721,129	400,332	148,870							1,270,331
(U) (U) F-22 Squadrons (PE 0207138F)			16,092	51,339	137,096	100,828	122,371	158,091		585,817
(U) (U) Military Construction (PE 0604239F)	18,600	0	0	0	0	0			0	39,700
(U) (U) Military Construction (PE 0207219F)*	0	25,300	54,050	18,000	16,800	13,200	23,800	23,000	51,600	225,750
(U) (U) Aircraft Procurement (PE 0207219F) Advanced Tactical Fighter, P-1 Line Item #003**	571,514	2,530,370	3,037,312	4,238,783	4,058,014	3,651,719	3,502,100	3,396,417	11,917,292	37,492,734
(U) (U) Munitions Procurement (PE 0207219F)	1,425	2,702	4,322	6,435	9,556	9,526	11,051	10,930	36,642	93,038

PE 0207138F includes manpower authorizations, peculiar and common support equipment, necessary facilities and the associated costs specifically identified and measurable to the following: Operation, maintenance, and logistical support of the F-22 fighter

\* NOTE: FY04 and outyears not listed in ABIDES. Estimate reflected in DAES/SAR.

\*\* NOTE: Includes BP 10, 11, 16, 19 and Advance Buy.

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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

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PE NUMBER AND TITLE

PROJECT

**05 - Engineering and Manufacturing Development****0604239F F-22 EMD****4069**(U) **D. Acquisition Strategy**

The EMD contract is Cost Plus Award Fee with Lockheed Martin Aeronautical Systems (LMAS) to produce the F-22 air vehicle and Pratt & Whitney (P&W) to produce the F119 engines. The engines are provided to LMAS as GFE.

(U) **E. Schedule Profile**

	<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) (U) Aircraft Delivered (EMD Test Article)					*			X	X			
(U) (U) Aircraft Delivered (EMD Test Article)					*				X			
(U) (U) Aircraft Delivered (EMD Test Article)					*							
(U) Program Milestones												
(U) - Program Review, PRTV Award (1QFY99), PRTV II (6) LL (1QFY00)				*								
(U) - DAB MS III, 4QFY03												
(U) Engineering Milestones												
(U) - Final PRR					*							
(U) - First Avionics Flight					*							
(U) T&E Milestones												
(U) - Dedicated IOT&E												
DIOT&E testing has slipped from Aug 02 to Apr 03 (obj)/Oct 03 (threshold).												

EMD = Engineering and Manufacturing Development, DAB = Defense Acquisition Board LRIP = Low Rate Initial Production, LL = Long Lead, MS = Milestone, DT&E = Developmental Test & Evaluation, IOT&E = Initial Operational Test & Evaluation

NOTE: Schedule is according to current A/C build schedule.

\* - Completed

X - Planned Event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
<b>05 - Engineering and Manufacturing Development</b>					<b>0604239F F-22 EMD</b>			<b>4069</b>		
(U)	<b><u>A. Project Cost Breakdown (\$ in Thousands)</u></b>									
						<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>		
(U)	Air Vehicle/Avionics					1,002,735	809,403	551,894		
(U)	Engine					123,400	53,600	18,300		
(U)	Government Cost									
(U)	- Government Test					77,900	116,500	132,200		
(U)	- Mission Support					11,000	11,500	11,500		
(U)	- HAZMAT					0	0	0		
(U)	- GFE					2,900	7,500	2,700		
(U)	Other - PRTV II Term Liability Misplaced					300,001				
(U)	Total					1,517,936	998,503	716,594		
(U)	<b><u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>									
(U)	<b><u>Performing Organizations:</u></b>									
	<u>Contractor or</u>	<u>Contract</u>								
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>					
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>
	<u>Product Development Organizations</u>									
	Lockheed (Air Veh)	C/CPAF	Aug 91	13,184,000	15,396,904	12,838,447	1,002,735	809,403	551,894	194,425
	Pratt & Whitney	C/CPFF	Aug 91	2,265,600	2,415,179	2,208,279	123,400	53,600	18,300	11,600
	<u>Support and Management Organizations</u>									
	Support Contracts	Various	Various	N/A	N/A	12,402	1,900	1,600	1,500	1,500
	In House Support	Various	Various	N/A	N/A	94,998	9,100	9,900	10,000	10,000
	<u>Test and Evaluation Organizations</u>									
	AEDC	PO		N/A	N/A	124,600	18,300	12,500	0	0
	AFFTC	PO		N/A	N/A	192,600	56,800	99,600	109,600	64,400
	All Other Tests	Various	Various	N/A	N/A	95,025	2,800	4,400	22,600	36,800
Note: The Project Office EAC includes the following items not included in the Performing Activity (i.e., Contractor) EAC - Base Fee, Award Fee, SPO Planned CCPs not yet on contract, and other adjustments based on results of the restructured program.										
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE		June 2001	
BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT	
05 - Engineering and Manufacturing Development				0604239F F-22 EMD					4069	
(U) <u>Government Furnished Property:</u>										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Property</u>										
GFE	Various	Various	Various	45,600	2,900	7,500	2,700	1,800	60,500	
<u>Support and Management Property</u>										
Other - PRTV II Term					300,001				300,001	
Liability										
<u>Test and Evaluation Property</u>										
Not Applicable										
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Subtotals</u>				<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>	
Subtotal Product Development				15,092,326	1,129,035	870,503	572,894	207,825	17,872,583	
Subtotal Support and Management				107,400	311,001	11,500	11,500	11,500	452,901	
Subtotal Test and Evaluation				412,225	77,900	116,500	132,200	101,200	840,025	
Total Project				15,611,951	1,517,936	998,503	716,594	320,525	19,165,509	
NOTE: Total program cost for Engineering and Manufacturing Development only. Does not include \$3,779,811,000 of Demonstration and Validation funding prior to FY92.										

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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

**05 - Engineering and Manufacturing Development**

PE NUMBER AND TITLE

**0604239F F-22 EMD**

PROJECT

**4874**

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4874 PRTVII Aircraft Acquisition	721,129	400,332	148,870	0	0	0	0	0	0	1,270,331

The following net transactions are not reflected in the FY01 program total: BTR = +\$1.145M and ATR = +\$2.561M. These transactions are not reflected in other sections of the RDocs where an FY01 total is shown. The FY03 - FY07 budget numbers do not reflect DoD's strategic review results.

(U) **A. Mission Description**

Complete test aircraft to support continued F-22 development and production. The PRTV II (6) Full Contract Award (Dec 99) criteria, approved by OUSD (A&T) on 23 Dec 98, required the program to demonstrate maturity prior to a contract award.

Following successful completion of all CY99 DAE criteria, the Air Force awarded contracts for PRTV II (6) and Lot 1 Advanced Buy aircraft on 30 Dec 99.

(U) **FY 2000 (\$ in Thousands)**

(U) \$656,972 Air Vehicle  
 (U) \$60,000 Engine  
 (U) \$4,157 Other Government Cost  
 (U) \$721,129 Total

\*FY00 - Does not include \$300M appropriated for F-22 termination liability or for other F-22 program contractual requirements in lieu of termination liability obligations. This was erroneously placed in the F-22 EMD BPAC 4069.

(U) **FY 2001 (\$ in Thousands)**

(U) \$308,167 Air Vehicle  
 (U) \$90,100 Engine  
 (U) \$2,065 Other Government Cost  
 (U) \$400,332 Total

The following net transactions are not reflected in the FY01 program total: BTR = +\$1.145M and ATR = +\$2.561M. These transactions are not reflected in other sections of the RDocs where an FY01 total is shown.

Project 4874

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Exhibit R-2A (PE 0604239F)

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE <b>June 2001</b>		
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604239F F-22 EMD</b>				PROJECT <b>4874</b>		
(U) <b><u>A. Mission Description Continued</u></b>										
(U) <u>FY 2002 (\$ in Thousands)</u>										
(U)	\$148,568	Air Vehicle								
(U)	\$302	Engine								
(U)	\$0	Other Government Cost								
(U)	\$148,870	Total								
(U) <b><u>B. Project Change Summary</u></b>										
N/A										
(U) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b>										
	<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>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E	1,517,936	998,503	716,594	320,525					22,945,320
(U)	F-22 Squadrons (PE 0207138F)			16,092	51,339	137,096	100,828	122,371	158,091	585,817
(U)	Military Construction (PE 0604239F)	18,600	0	0	0	0			0	39,700
(U)	Military Construction (PE 0207219F)*	0	25,300	54,050	18,000	16,800	13,200	23,800	23,000	225,750
(U)	Aircraft Procurement (PE 0207219F) Advanced Tactical Fighter, P-1 Line Item #003**	571,514	2,530,370	3,037,312	4,238,783	4,058,014	3,651,719	3,502,100	3,396,417	37,492,734
(U)	Munitions Procurement (PE 0207219F)	1,425	2,702	4,322	6,435	9,556	9,526	11,051	10,930	93,038
(U) Other APPN										
PE 0207138F includes manpower authorizations, peculiar and common support equipment, necessary facilities and the associated costs specifically identified and measurable to the following: Operation, maintenance, and logistical support of the F-22 fighter.										
*NOTE: FY04 and outyears not listed in ABIDES. Estimate reflected in DAES/SAR.										
Project 4874										

## UNCLASSIFIED

## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

05 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

0604239F F-22 EMD

PROJECT

4874

(U) **C. Other Program Funding Summary (\$ in Thousands)**

<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>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	

\*\*NOTE: Includes BP10, 11, 16, 19 and Advance Buy.

(U) **D. Acquisition Strategy**

The PRTV II contract is Firm Fixed Price with Lockheed Martin Aeronautical Systems (LMAS) to produce the F-22 air vehicle and Pratt & Whitney (P&W) to produce the F119 engines. The engines are provided to LMAS as GFE.

(U) **E. Schedule Profile**

	<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4

(U) Aircraft Delivered (PRTV II Test Article)

X X

(U) Aircraft Delivered (PRTV II Test Article)

X X

Aircraft Delivered beyond FY 2002 as follows:

FY 2003 1Q 2

NOTE: Schedule is according to current A/C build schedule.

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE			
								June 2001			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - Engineering and Manufacturing Development				0604239F F-22 EMD				4874			
(U) A. Project Cost Breakdown (\$ in Thousands)											
				FY 2000		FY 2001		FY 2002			
(U) Air Vehicle				656,972		308,167		148,568			
(U) Engine				60,000		90,100		302			
(U) Other Government Cost				4,157		2,065		0			
(U) Total				721,129		400,332		148,870			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>		<u>Contract Method/Type</u>		<u>Award or Obligation</u>		<u>Performing Activity</u>		<u>Project Office</u>			
<u>Performing Activity</u>		<u>or Funding Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		<u>Total Prior to FY 2000</u>	
<u>Budget FY 2000</u>		<u>Budget FY 2001</u>		<u>Budget FY 2002</u>		<u>Budget to Complete</u>		<u>Total Program</u>			
<u>Product Development Organizations</u>											
Lockheed (Air Veh)		FFP		Dec 99		1,344,132		1,344,132		656,972	
Pratt & Whitney		FFP		Dec 99		180,402		180,402		60,000	
										308,167	
										148,568	
										302	
										0	
<u>Support and Management Organizations</u>											
N/A		N/A		N/A		N/A		N/A			
<u>Test and Evaluation Organizations</u>											
N/A		N/A		N/A		N/A		N/A			
(U) Government Furnished Property:											
<u>Contract</u>		<u>Method/Type</u>		<u>Award or Obligation</u>		<u>Delivery</u>		<u>Total Prior to FY 2000</u>		<u>Budget FY 2000</u>	
<u>Item</u>		<u>or Funding Vehicle</u>		<u>Date</u>		<u>Date</u>		<u>Budget FY 2001</u>		<u>Budget FY 2002</u>	
<u>Description</u>								<u>Budget to Complete</u>		<u>Total Program</u>	
<u>Product Development Property</u>											
GFE		Various		Various		Various		4,157		2,065	
								0		0	
<u>Support and Management Property</u>											
Not Applicable		N/A		N/A		N/A					
Project 4874											
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Exhibit R-3 (PE 0604239F)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE		
							June 2001		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
05 - Engineering and Manufacturing Development				0604239F F-22 EMD			4874		
(U) <u>Government Furnished Property Continued:</u>									
<u>Test and Evaluation Property</u>									
Not Applicable		N/A		N/A		N/A			
				<u>Total Prior</u>		<u>Budget</u>		<u>Budget</u>	
				<u>to FY 2000</u>		<u>FY 2000</u>		<u>FY 2001</u>	
<u>Subtotals</u>						<u>Budget</u>		<u>Budget to</u>	
						<u>FY 2002</u>		<u>Complete</u>	
Subtotal Product Development						721,129		400,332	
Subtotal Support and Management						148,870		0	
Subtotal Test and Evaluation								1,270,331	
Total Project						721,129		400,332	
						148,870		0	
								1,270,331	

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Exhibit R-3 (PE 0604239F)

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Exhibit R-3 (PE 0604239F)

## UNCLASSIFIED

<b>Exhibit P-5. Weapon System Cost Analysis</b>										Date: June 2001			
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number										P-1 Line Item Nomenclature			
<b>Aircraft Procurement, Air Force, Budget Activity 01, Combat Aircraft, Item No.</b>										<b>F-22 RDT&amp;E Procurement</b>			
Manufacturer's Name/Plant City/State Location							Subline Item						
Weapon System Cost Elements	Ident Code	add to total program	calc unit cost	Total Cost In Millions of Dollars									
				FY 2000			FY 2001			FY 2002			
				Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
Airframe Flyaway (TPC & PSAS)	A	1		6		782.51			308.17			148.57	
Installed Engines	A	1				58.22			90.10			0.30	
Airframe Term Liability	A	1											
Engine Term Liability	A	1											
Avionics	A												
Armament	A												
Software	A												
Other Government Furnished Equipment (GFE)	A												
Engineering Change Orders (ECO)	A												
Nonrecurring Costs	A												
Other Costs	A												
FLYAWAY COST SUBTOTAL	A	0				840.73			398.27			148.87	
Airframe Peculiar Ground Support Equipment (PGSE)	A												
Airframe Support	A	1				144.48							
Engine Support	A	1				31.77							
OGC	A	1				4.16			2.07				
Engine PGSE	A												
Peculiar Training Equipment	A												
Publications/Technical Data	A												
ECOs	A												
Other	A												
SUPPORT COST SUBTOTAL	A	0				180.40			2.07				
TOTAL PROGRAM						1021.13			400.33			148.87	
<b>Comments</b>													
FY00 - Includes \$300M appropriated for F-22 termination liability that was subsequently obligated against program contractual requirements. The \$300M was loaded in the F-22 EMD BPAC 4069 in error. The correct BPAC is 4874.													
<b>P-1 Shopping List Item No.</b>										<b>Weapon System Cost Analysis</b>			
										<b>Exhibit P-5 738</b>			

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