PE NUMBER: 0604233F

PE TITLE: Specialized Undergraduate Pilot Training

	RDT&E BUDGET ITEM	JUSTI	FICATI	ON SH	EET (R	-2 Exhi	bit)		DATE	DATE June 2001			
	TACTIVITY Engineering and Manufacturing De	velopme	ent		UMBER AND 4233F		zed Unde	ergradua	ate Pilot	Training			
	COST (\$ in Thousands)	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	43,638	23,634	4,885	1,977	2,016	2,060	0	0	0	345,749		
4102	Joint Primary Aircraft Training System (JPATS)	36,372	21,473	1,885	1,977	2,016	2,060	0	0	0	262,154		
4376	T-38 Avionics Upgrade Program (AUP)	7,266	2,161	3,000	0	0	0	0	0	0	83,595		
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	8		

Note: The cost of the RDT&E test articles shown above includes the JPATS test aircraft (T-1) funded with FY95 through FY00 funds and Ground Based Training System (GBTS) Aircrew Training Devices (ATD), conversion software, and Training Integration Management System (TIMS) components funded with FY97 through FY01 funds (\$161,571 thousand total). It also includes two T-38C (AUP equipped) test aircraft and two ATDs (\$37,693 thousand total).

Note: FY03-FY07 budget numbers do not reflect the DoD strategic review results.

(U) A. Mission Description

Supports Air Education and Training Command's (AETC) implementation of Specialized Undergraduate Pilot Training (SUPT) and the Department of Defense initiative for joint pilot training. The Joint Primary Aircraft Training System (JPATS) is a joint USAF/USN venture to replace the Services' fleets of primary trainer aircraft (T-37 and T-34 respectively) and associated Ground Based Training Systems (GBTS). The Air Force is the Executive Service. The T-38 AUP is an integrated modernization of the T-38A and AT-38B cockpits to support mission ready fighter and bomber training. T-38 FY2002 funding is for software block updates driven by FAA-mandated changes, National Aerospace System (NAS) requirements, and enhancements identified during test and evaluation. Additionally, there are funds in this project for Phase I testing of propulsion enhancements for the T-38 aircraft and to update T-38 flight performance models, Technical Orders, and AUP software for both aircraft and Aircrew Training Devices for changes brought about by the T-38 Propulsion Modernization Program (PMP).

(U) B. Budget Activity Justification

This program element is in Budget Activity 5, Engineering and Manufacturing Development (EMD) because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.

Page 1 of 11 Pages

Exhibit R-2 (PE 0604233F)

	RDT&E BUDGET ITEM JUSTIFICAT	ION SHEET (R-2 Exhib	oit)	DATE Jun	e 2001
	GET ACTIVITY - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604233F Specializ	luate Pilot Traini	ng	
(U)	C. Program Change Summary (\$ in Thousands)				
		<u>FY 2000</u>	FY 2001	FY 2002	Total Cost
(U)	Previous President's Budget (FY 2001 PBR)	40,805	23,853	1,883	339,800
(U)	Appropriated Value	41,156	23,853		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-74			
	b. Small Business Innovative Research	-1,155			
	c. Omnibus or Other Above Threshold Reprogram	-1,103			
	d. Below Threshold Reprogram	4,975			
	e. Rescissions	-161	-219		
(U)	Adjustments to Budget Years Since FY 2001 PBR			3,002	5,949
(U)	Current Budget Submit/FY 2002 PBR	43,638	23,634	4,885	345,749

(U) Significant Program Changes:

FY2000 includes reprogrammings to JPATS that are repayment for FY1998 and FY1999 reductions used as Omnibus sources. FY2000 includes reprogrammings to the T-38 AUP to correct deficiencies found during Developmental Test and Evaluation (DT&E). FY2002 funding was added for T-38 AUP software block updates. FY2002 and out change due to revised inflation assumptions.

The following net transactions are not reflected in the FY01 program total: BTR = +\$3,100K, and SBIR = -\$366 K. These transactions are not reflected in other sections of the R-docs where an FY01 total is shown.

Page 2 of 11 Pages

	RDT&E BUDGET ITEM	DATE	DATE June 2001								
	ET ACTIVITY Engineering and Manufacturing De	о тітье Specializ	ed Unde	ergradua	ite Pilot	Training	PROJECT 4102				
	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
4102	Joint Primary Aircraft Training System (JPATS)	36,372	21,473	1,885	1,977	2,016	2,060	0	0	0	262,154

Note: FY03-FY07 budget numbers do not reflect the DoD strategic review results.

(U) A. Mission Description

The Joint Primary Aircraft Training System (JPATS) is a joint USAF/USN venture to replace the Services' fleets of primary trainer aircraft (T-37 and T-34, respectively) and associated Ground Based Training Systems (GBTS). The aircraft and GBTS will be used to train entry-level student aviators in the fundamentals of flying so they can transition into advanced training tracks leading to qualification as military pilots, navigators, and naval flight officers. The program includes the purchase of aircraft, simulators, and other associated ground-based training devices, Training Integration Management System (TIMS), instructional courseware, and logistics support.

(U) <u>FY 2000 (\$ in Thousands)</u>

(U) \$2,205 Complete air vehicle related items for data, completion of Aircraft Structural Integrity Program (ASIP), and Technical Manuals

(U) \$32,942 Continue GBTS management and development of TIMS, ATDs, and Administration and Conversion Courseware

(U) \$1,225 Mission Support and Government Test

(U) \$36.372 Total

(U) FY 2001 (\$ in Thousands)

(U) \$2,619 Incorporate changes to air vehicle as a result of test findings

(U) \$18,288 Complete GBTS development

(U) \$566 Mission Support and Government Test

(U) \$21,473 Total

Note: The following transactions are not reflected in the FY01 program total: BTR = +\$3,100K and SBIR = -\$333K. These transactions are not reflected in other sections of the R-Docs where and FY01 total is shown.

(U) FY 2002 (\$ in Thousands)

(U) \$1,885 Redetermination and settlement of MD contract.

(U) \$1,885 Total

(U) <u>B. Project Change Summary</u>

FY2002 and beyond adjusted for revised inflation assumptions.

Project 4102 Page 3 of 11 Pages Exhibit R-2A (PE 0604233F)

	RDT&E BU	OGET IT	EM JUS	TIFICAT	ION SH	EET (R-	2A Exhi	bit)		DATE June 20	01
	GET ACTIVITY Engineering and Manu	ufacturing	g Develop	oment		NUMBER AND 04233F		ed Under	graduate	Pilot Training	PROJECT 4102
(U)	C. Other Program Funding S	Summary (\$ 1	in Thousand	ls)							
` ,		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
(U)	AF RDT&E Other APPN Aircraft Procurement, Air Force, BA-3	36,372	21,473	1,885	1,977	2,016	2,060	0	0	0	262,154
(U)	JPATS	107,386	131,512	228,209	202,356	218,894	227,690	253,796	254,595	336,200	2,298,738
(U)	JPATS, BA-6	0	0	0	61,357	23,830	24,582	25,464	26,303	30,500	192,036
	JPATS Mod Funding Military Construction, Air Force	0	0	200	0	0	0	0	0	0	200
` ′	PE 0804741F, JPATS RDT&E, Navy, BA-7	3,200	0	0	7,500	0	0	3,000	0	0	19,500
(U)	PE 0603208N, Training System Aircraft, H1150, JPATS Aircraft Procurement, Navy,	311	0	0	0	0	0	0	0	0	11,581
(U)	BA-3 JPATS	55,355	80,625	0	0	0	0	0	45,771	1,709,249	1,891,000
(U)	APN 6 Spares	0	00,023	0	0	0	0	0	6,349	124,900	1,891,000
` /	Military Construction, Navy	5,400	1,500	4,100	2,000	0	11,000	13,900	0,549	6,200	46,900
	(U) <u>D. Acquisition Strategy</u> Each acquisition was competitively awarded with the intent of maximizing the use of commercially available equipment and best commercial practices. The JPATS Program competitively awarded two contracts: a Firm Fixed Price Contractor Logistics Support (CLS) contract and a Fixed Price Incentive Firm manufacturing development (MD)/production contract with seven options. The follow-on contract for both the air vehicle and GBTS will be Firm Fixed Price. (U) E. Schedule Profile										
	<u> </u>					FY 2000		<u>FY 2</u>	<u>001</u>	FY 20	002
Р	roject 4102				Page 4 of	11 Pages				Exhibit R-2A (PE	0604233F)

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE June 2001			
	GET ACTIVITY - Engineering and Manufacturing Development		PE NUN	/IBER AI	ND TITLE Speci		-	gradu	ate Pi			PRO. 410	
(U) (U) (U) (U)		1	0604			alized 1 *	FY 2 2		4	1 X X X X	FY 2 2	410	
Р	Project 4102	Pag	ge 5 of 11	Pages					E	Exhibit I	R-2A (PE	06042	233F)

	RDT&E PROG	RAM ELE	MENT/PI	ROJECT C	OST BE	REAKDO	WN (R-3)		DATE	June 200)1
	GET ACTIVITY Engineering and Mar	nufacturing	Developm	ent		er and title 33F Specia	alized Und	ergraduat	e Pilot Tr	aining	PROJECT 4102
(U)	A. Project Cost Breakdown	(\$ in Thousand	<u>ls)</u>								
(II)	A. C. M	15 1 2					<u>FY 2</u>		FY 200		FY 2002
(U)	Aircraft Missionization/Test						· · · · · · · · · · · · · · · · · · ·	527	2,84		0
(U)	Ground Based Training Syste							942 903	18,28 33		0 1,885
(U) (U)	Other Government Costs (OC Total	IC)						903 372	21,47		1,885
(0)							50,	312	21,47	3	1,003
(U)	B. Budget Acquisition Histo	<u>ry and Plannin</u>	<u>g Information</u>	ı (\$ in Thousand	<u>ls</u>)						
(U)	Performing Organizations:										
	Contractor or	Contract									
	Government	Method/Type	Award or	<u>Performing</u>	Project						
	Performing	or Funding	Obligation	<u>Activity</u>	<u>Office</u>	Total Prior	Budget	Budget	Budget	Budget to	
	Activity	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	to FY 2000	FY 2000	FY 2001	FY 2002	Complete	<u>Program</u>
	Product Development Organia										
	Raytheon Aircraft Company (RAC)	C/FPI	5 Feb 96	220,296	220,296	108,230	2,205	2,619	0	0	113,054
	Flight Safety Services Corp.	N/A**	26 Sep 97	N/A	N/A	56,012	32,942	18,288	0	0	107,242
	* RAC contract Total Program	n includes contr	act value, 'to co	eiling,' Engineeri	ing Change	Order (ECO), a	and Award Fee	;			
	** Subcontract to RAC	1.00.00									
	*** RAC EAC includes subco		effort, which	is not individuall	y reported						
	Support and Management Org		3 7 •	NT/A	NT / A	22 120	1 225	F.C.C	1.005	6.052	41.050
	Various	Various	Various	N/A	N/A	32,129	1,225	566	1,885	6,053	41,858
	Test and Evaluation Organiza	uons				Total Prior	Budget	Budget	Budget	Budget to	Total
	Subtotals					to FY 2000	FY 2000	FY 2001	FY 2002	Complete	
	Subtotals Subtotal Product Developmen	nf				164,242	35,147	20,907	0	<u>compica</u>	220,296
	Subtotal Support and Manage					32,129	1,225	566	1,885	6,053	41,858
	Subtotal Test and Evaluation					5-,1-5	1,220	200	1,000	0,000	.1,000
	Total Project					196,371	36,372	21,473	1,885	6,053	262,154
L	roject 4102			D	e 6 of 11 Pa	TOS.			Evhih	it R-3 (PE ()604222E)
	10,5614102			Pag	e o or ii Pa	ges			EXHID	IL N-3 (FE (JUU4233F)

	RDT&E BUDGET ITEM	DATE	DATE June 2001								
	ET ACTIVITY Engineering and Manufacturing De		PE NUMBER AND TITLE 0604233F Specialized Undergraduate Pilot Training						PROJECT 4376		
	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
4376	T-38 Avionics Upgrade Program (AUP)	7,266	2,161	3,000	0	0	0	0	0	0	83,595

Note: FY03-FY07 budget numbers do not reflect the DoD strategic review results.

(U) A. Mission Description

The T-38 Avionics Upgrade Program (AUP) is an integrated modernization of the T-38A and AT-38B cockpits to support mission-ready fighter training and converts all T-38A and AT-38B aircraft to T-38C configuration. The modernized digital cockpit will include Global Positioning System (GPS), Head-Up Display (HUD), Inertial Navigation System (INS), Multi-Function Displays (MFDs), Up-Front Control Panel (UFCP), Data Transfer System (DTS), No-Drop Bombing System (NDBS), and Hands-On Throttle and Stick (HOTAS) switchology. HUD symbology will be the new USAF standard recently certified as a primary flight reference. Also included is the acquisition of two types of Aircrew Training Devices (ATDs) to replace the existing T-51 simulators. The program includes the design, integration, test, and installation of the cockpit prototype in aircraft, ATDs, and other training devices, as well as engineering services, studies, analysis and support to determine the feasibility of incorporating changes for purposes of making informed life-cycle cost business decisions. Additionally, funds are included in FY2000 and FY2001 for Phase I testing of engine operability/suitability for the T-38 Propulsion Modernization Program (PMP) and to update T-38 flight performance models, Technical Orders, and AUP software for changes brought about by the T-38 PMP. FY2002 funding is for AUP block software updates driven by FAA-mandated changes; National Aerospace System (NAS) requirements such as Global Air Traffic Management (GATM), Joint Precision Approach and Landing System (JPALS), GPS, GPS Embedded Module (GEM) issues (Selective Availability Anti-Spoofing Module (SAASM), precision and GPS approaches); enhancements identified during Development Testing, Operational Testing and Force Development Evaluation (FDE), and AETC operations such as scratch pad, improvements to UFCP, HUD, Built In Test (BIT), mechanization of menus/modes and mission planning/debriefing system, ATD HUD projectors, and Computer Aided Module (CAM) operations.

(U) FY 2000 (\$ in Thousands)

(U)	\$4,140	Complete ATD testing and ATD delivery; complete maintenance and ground support equipment; deliver final technical orders and drawings;
		complete Build 5 and 6 hardware and software upgrade and Phase II DT&E and IOT&E
(U)	\$738	Conduct Phase I testing and analysis of the integrated ejector/inlet portion of T-38 PMP
(U)	\$854	Conduct Government PMP flight test
(U)	\$676	Complete Government AUP Phase II flight test
	\$858	Other Government Costs

(U) \$7,266 Total

Project 4376 Page 7 of 11 Pages Exhibit R-2A (PE 0604233F)

DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit) June 2001 BUDGET ACTIVITY PE NUMBER AND TITLE PROJECT 05 - Engineering and Manufacturing Development 0604233F Specialized Undergraduate Pilot Training 4376 **(U) A. Mission Description Continued** (U)FY 2001 (\$ in Thousands) (U) \$1.911 Update T-38 flight performance models, Techical Orders, and AUP aircraft and Aircrew Training Device (ATD) software for changes brought about by the T-38 PMP (U) \$250 Other Government Costs (U)\$2,161 **Total** Note: The following net transaction is not reflected in the FY01 program total: SBIR = -\$33K. This transaction is not reflected in other sections of the R-docs where an FY01 total is shown. FY 2002 (\$ in Thousands) (U)\$2,500 (II)Develop and test Block 3 and define Block X T-38C AUP aircraft and ATD software for requirements driven by FAA/NAS mandates and identified during Test and Evaluation and by AETC operations (U)\$500 Other government cost and test (U)\$3,000 **Total** B. Project Change Summary Funds reprogrammed to FY2000 to correct deficiencies discovered during Developmental Test and Evaluation (DT&E). Additional funds were required in FY2000 to complete Phase II of IOT&E and obtain a Full Rate Production (FRP) decision. FY2002 funds added for AUP software block updates. (U) C. Other Program Funding Summary (\$ in Thousands) FY 2000 FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 Cost to **Total Cost** Estimate Estimate Estimate Estimate Estimate Estimate Estimate Actual Complete (U) AF RDT&E 7.266 2.161 3,000 0 0 0 0 0 0 83.595 (U) Other APPN (U) PE 0804741F, T-38 Avionics 32,209 80,268 75.839 99,290 99,505 55,600 53.370 41.890 43,291 598,585 Upgrade, BP 1100 (U) PE 0804741F, T-38 Avionics 0 0 0 2,400 1,264 2,200 3,800 1,000 0 11,796 Upgrade, Initial Spares (U) PE 0804741F, Propulsion 0 30,914 59,109 66,089 68,797 65,666 69,291 72,312 318,613 750,691 Modification, BP 1100 (U) PE 0804741F, Propulsion 0 5.100 4,499 5.017 4,939 4,978 5,504 22,608 58,258 5.613

Exhibit R-2A (PE 0604233F)

Project 4376

	RDT&E BUDGET ITEM JUSTIFIC	ATION SI	HEET (R-	2A Exhi	bit)		DATE J	une 20	001
	GET ACTIVITY		PE NUMBER AND TITLE						PROJECT
<u>05</u> -	 Engineering and Manufacturing Development 	<u>.</u>	604233F	Specializ	ed Under	graduate	Pilot Tra	ining	4376
(U)	C. Other Program Funding Summary (\$ in Thousands) FY 2000 FY 2001 FY 200 Actual Estimate Estimate Engine Modification, Initial Spares			FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	<u>Cos</u> <u>Comp</u>		Total Cost
(U)	D. Acquisition Strategy The T-38 AUP competitively awarded three contracts to a single fixed price CLS contract for avionics including Contractor Owne current and new Aircrew Training Devices (ATDs). The T-38 Pl be sole source additions to a current contract with General Electres the existing Contractor Field Team (CFT) contract for kit installated contract for the AUP. FY2002 software block updates will be characteristical contract.	ed and Maintaine MP will be com ic, b. the inlet/fo ation; and d. the	ed Base Supply prised of four prmer/bulkhea e T-38 software	y (COMBS); contractual e d kits will be	and c) a fixed fforts: a. J83 a competitive	d price awar 5-5 engine r e award; c.	d fee mainted modification a task order	nance cor and ejecto will be es	ntract for the or nozzle will tablished on
(U)	E. Schedule Profile								
l			FY 2000		<u>FY 2</u>			FY 2	002
l		1	2 3	4 1	2	3	4 1	2	3 4
(U)	First Production ATD Delivered		*						
(U)	Phase I Testing of PMP Complete			*					
(U)	First Production Aircraft Delivered				*				
(U)	Final Functional Configuration Audit (FCA)				*				
(U)	IOT&E Phase II Complete				*				
(U)	Full Rate Production Decision Initial Operational Capability (IOC)				*	•	X		
(U) (U)	Initiate Software Block 3 on AUP					1	X X		
(U)	Initiate Development Test/FDE 1st Qtr FY03						Λ		
. /	Field Block 3 2nd Qtr FY03								
(0)	* Denotes completed milestone								
I	X Denotes planned milestone								
	•								
P	Project 4376	Page 9	of 11 Pages				Exhibit F	R-2A (PE	0604233F)

	RDT&E PROG	RAM ELE	MENT/P	ROJECT C	OST B	REAKDO	WN (R-3))	DATE	June 200	01
	GET ACTIVITY Engineering and Mar	nufacturing	Developn	nent		er and title 3 3F Speci a	alized Und	ergraduat	e Pilot Tr	aining	PROJECT 4376
(U)	A. Project Cost Breakdown	(\$ in Thousand	<u>ds</u>)								
							FY 2	<u> 2000</u>	FY 200	<u>01</u>	FY 2002
(U)	Avionics System Upgrade						2,	091		0	0
(U)	Aircrew Training Devices						1,	629		0	0
(U)	System Engineering/Program	Management						420		0	0
(U)	Other Government Costs and	test					1,	495	25	0	500
(U)	Propulsion Modernization Pro-	ogram					1,	631	1,91	1	0
(U)	Block 3 Software Update							0		0	2,500
(U)	Total						7,	266	2,16	51	3,000
(U)	B. Budget Acquisition Histo	ry and Plannin	g Informatio	n (\$ in Thousand	<u>s)</u>						
(U)	Performing Organizations:										
	Contractor or	Contract									
	Government	Method/Type	Award or	Performing	Project						
	Performing	or Funding	Obligation	Activity	<u>Office</u>	Total Prior	Budget	Budget	Budget	Budget to	<u>Total</u>
	Activity	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	to FY 2000	FY 2000	FY 2001	FY 2002	Complete	<u>Program</u>
	Product Development Organi	zations									
	The Boeing Corporation	C/CPAF	31 Jul 96	65,585	65,585	59,514	4,140	1,911	2,500	0	68,065
	St. Louis MO										
	ASC/YT WPAFB OH	Various	Annual	N/A	N/A	9,129	472	50	60	0	9,711
	GE, Lynn MA	CPFF	Jan 00	750	750	0	738	0	0	0	738
	ASC/LP, WPAFB OH	Various	Annual	N/A	N/A	0	39	0	0	0	39
	Support and Management Organic	ganizations									
	SA-ALC/LF Kelly AFB TX	Various	Quarterly	N/A	N/A	141	53	0	0	0	194
	AETC Randolph AFB TX	Various	Quarterly	N/A	N/A	102	48	50	125	0	325
	OO-ALC/LIR Ogden AFB U	TVarious	Quarterly	N/A	N/A	245	100	0	15	0	360
	Test and Evaluation Organiza										
	445 FLTS Edwards AFB CA	PO	Annual	N/A	N/A	1,852	1,530	0	300	0	,
	AFOTEC Kirtland AFB NM	PO	Annual	N/A	N/A	185	146	150	0	0	481
D	roject 4376			Daga	10 of 11 Pa	nges			Evhih	it R-3 (PE (0604233E)
	10jeu 4370			rage	10 01 11 Pa	iges			EXHID	ILIN-3 (FE	0004233F)

RDT&E PROGRAM ELEMENT/PROJEC	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										
BUDGET ACTIVITY	PE NUMBER AND TITLE	a Dilat Ta	PROJECT								
05 - Engineering and Manufacturing Development	0604233F Specia					4376					
	Total Prior	Budget	Budget	Budget	Budget to	<u>Total</u>					
Subtotals	to FY 2000	FY 2000	FY 2001	FY 2002	Complete						
Subtotal Product Development	68,643	5,389 201	1,961	2,560	0	78,553 879					
Subtotal Support and Management Subtotal Test and Evaluation	488		50	140 300	0						
Subtotal Test and Evaluation Total Project	2,037 71,168	1,676 7,266	150 2,161	3,000	0	4,163 83,595					
Project 4376	Page 11 of 11 Pages			Exhib	it R-3 (PE 0)604233F)					