

**UNCLASSIFIED**

PE NUMBER: 0604233F  
 PE TITLE: Specialized Undergraduate Pilot Training

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	<b>DATE</b> <b>February 2008</b>
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<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0604233F Specialized Undergraduate Pilot Training</b>
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	4.112	14.927	7.462	3.977	5.105	3.665	5.338	Continuing	TBD
4102 Joint Primary Aircraft Training System (JPATS)	2.486	4.646	2.287	2.345	3.892	2.427	4.075	Continuing	TBD
4376 T-38 Avionics Upgrade Program (AUP)	1.626	10.281	5.175	1.632	1.213	1.238	1.263	Continuing	TBD

**(U) A. Mission Description and Budget Item Justification**

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. For FY2006, FY2011 and FY2013, Project 4102, JPATS, includes funding for upgrades to the Simulator for Electronic Combat Training (SECT), a one-of-a-kind simulator at Randolph AFB TX used to train electronic warfare officers. The T-38 AUP is an integrated modernization of the T-38A and AT-38B cockpits to support mission ready fighter and bomber training. 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).

T-38 FY2007 - FY2013 funding is for software block updates driven by FAA-mandated changes, National Aerospace System (NAS) requirements, and enhancements identified during test and evaluation. FY2008 and FY2009 includes development funding for improved T-38 brakes.

JPATS T-6 FY2007 - FY2013 includes annual funding for the development and test of upgrades and enhancements to both the aircraft and the Ground Based Training System (GBTS) hardware and software components.

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

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## Exhibit R-2, RDT&amp;E Budget Item Justification

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BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604233F Specialized Undergraduate Pilot Training

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	3.689	12.622	7.524
(U) Current PBR/President's Budget	4.112	14.927	7.462
(U) Total Adjustments	0.423	2.305	
(U) Congressional Program Reductions			
Congressional Rescissions		-0.095	
Congressional Increases		2.400	
Reprogrammings	0.527		
SBIR/STTR Transfer	-0.104		

(U) **Significant Program Changes:**

FY2007 includes a Below Threshold Reprogramming for implementation of Military Flight Operations Quality Assurance (MFOQA) in Joint Primary Aircraft Training System (JPATS) T-6A aircraft.

FY2008 includes a Congressional increase to develop/demonstrate potential Air National Guard (ANG) operational mission capabilities for the AT-6B.

**Exhibit R-2a, RDT&E Project Justification**

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<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>				<b>PE NUMBER AND TITLE</b> <b>0604233F Specialized Undergraduate Pilot Training</b>			<b>PROJECT NUMBER AND TITLE</b> <b>4102 Joint Primary Aircraft Training System (JPATS)</b>		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4102 Joint Primary Aircraft Training System (JPATS)	2.486	4.646	2.287	2.345	3.892	2.427	4.075	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

**(U) A. Mission Description and Budget Item Justification**

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.

FY2008 includes a Congressional increase to develop/demonstrate potential Air National Guard (ANG) operational mission capabilities for the AT-6B.

FY2009 and other annual JPATS funding requests are used to develop and test upgrades and enhancements to program hardware and software components.

FY2011 and FY2013 include funding to upgrade the Simulator for Electronic Combat Technology (SECT), which supports Air Education and Training Command's (AETC) implementation of Joint Undergraduate Navigator Training.

Budget Activity Justification: This program element is in Budget Activity 5, System Development and Demonstration (SDD) because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) JPATS studies & development efforts.	2.486	2.316	2.287
(U) AT6B		2.330	
(U) Total Cost	2.486	4.646	2.287

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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>Complete</u>	
(U) AF RDT&E	2.486	4.646	2.287	2.345	3.892	2.427	4.075	Continuing	TBD
(U) Other APPN									
(U) Aircraft Procurement, Air Force, BA-3									
(U) JPATS	302.541	244.227	27.654	15.960	0.000	0.000	0.000	0.000	590.382

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**Exhibit R-2a, RDT&E Project Justification**

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BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604233F Specialized Undergraduate Pilot Training</b>	PROJECT NUMBER AND TITLE <b>4102 Joint Primary Aircraft Training System (JPATS)</b>
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**(U) C. Other Program Funding Summary (\$ in Millions)**

(U) JPATS, BA-6	0.000	0.000	14.750	2.560	0.470	0.000	0.000	0.000	17.780
(U) JPATS Mod Funding	6.138	17.089	20.755	34.003	45.578	36.633	20.965	Continuing	TBD
(U) JPATS Post Production	0.000	0.000	0.000	0.000	9.719	0.000	0.000	0.000	11.448
(U) Military Construction, Air Force									
(U) PE 0804741F, JPATS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
(U) RDT&E, Navy, BA-7									
(U) PE 0603208N, Training System Aircraft, H1150, JPATS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
(U) Aircraft Procurement, Navy, BA-3	145.013	293.277	289.253	291.102	293.790	297.402	239.348	26.299	1,875.484
(U) JPATS									
(U) APN 5 Mod Funding	1.649	9.805	8.892	6.929	0.000	1.597	1.631	104.100	134.603
(U) APN 6 Spares	3.826	8.435	8.637	10.131	9.661	9.288	6.664	0.000	56.642
(U) Military Construction, Navy	0.000	23.850	0.000	0.000	0.000	0.000	0.000	0.000	23.850
(U) Aircraft Procurement, Air Force, BA 7									
(U) SECT	0.000	5.819	0.000	0.000	1.513	0.000	1.599	0.000	8.931

**(U) D. Acquisition Strategy**

JPATS was competitively awarded with the intent of maximizing the use of commercially available equipment and best commercial practices. Initially, the JPATS Program competitively awarded two contracts: a Firm Fixed Price Contractor Logistics Support (CLS) - Operations and Maintenance funds - contract and a Fixed Price Incentive Firm Target (FPIF) manufacturing development (MD)/production contract with seven options. The FY2002 (Lots 9-13) production contract for both the air vehicle and GBTS is Firm Fixed Price, FAR Part 12 (commercial). The FY2007 production contract for both the air vehicle and GBTS will be awarded as a FAR Part 15 action.

The acquisition strategy for the Congressionally-directed AT-6B effort is under development.

The SECT upgrade effort is an Engineering Change Proposal (ECP) to the competitively awarded Firm Fixed Price Contractor Logistics Support (CLS) contract.

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**Exhibit R-3, RDT&E Project Cost Analysis**

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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
<b>05 System Development and Demonstration (SDD)</b>				<b>0604233F Specialized Undergraduate Pilot Training</b>				<b>4102 Joint Primary Aircraft Training System (JPATS)</b>				
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> Hawker Beechcraft Corporation (HBC)	C/FPI	HBC, Wichita KS	220.530	2.486	Aug-07	2.316		2.287		Continuing	TBD	TBD
AT-6B	TBD	TBD	0.000	0.000		2.330		0.000		0.000	2.330	TBD
SECT Upgrade	C/FFP	AAI Services Corp, Hunt Valley MD	4.088	0.000		0.000		0.000		Continuing	TBD	4.088
Subtotal Product Development			224.618	2.486		4.646		2.287		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>											0.000	0.000
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Management</u>											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			224.618	2.486		4.646		2.287		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604233F Specialized Undergraduate Pilot Training

PROJECT NUMBER AND TITLE

4102 Joint Primary Aircraft Training System (JPATS)

JPATS Schedule

ID	Task Name	06				07				08				09			
		Q1	Q2	Q3	Q4												
1	TAS Development																
2	UWARS Development																
3	Life Raft Development																
4	Parachute Surveillance Development																
5	IDARS Memory Upgrade Development																
6	Canopy Fracture Initiation System																
7	Landing Gear Handle Redesign																
8	PCL Cut Off Protection																

**Exhibit R-4a, RDT&E Schedule Detail**

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**February 2008**

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604233F Specialized Undergraduate Pilot Training</b>	PROJECT NUMBER AND TITLE <b>4102 Joint Primary Aircraft Training System (JPATS)</b>
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(U) <u>Schedule Profile</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) JPATS GBTS Traffic Alert System Development Complete	3Q		
(U) JPATS - Certification of New Emergency Locator Transponder	1Q		
(U) JPATS Follow-on Contract Award	3Q		
(U) JPATS Complete FOT&E	3Q		
(U) JPATS Integrated Data Acquisition Recording System (IDARS) Memory Upgrade Development	1-4Q		
(U) JPATS Brake System Redesign	3Q	3Q	
(U) JPATS Canopy Fracture Initiation System Development		1Q	2Q
(U) JPATS Start of Student Training at Sheppard AFB TX		2Q	
(U) JPATS Parachute Surveillance System Development Complete		4Q	

**Exhibit R-2a, RDT&E Project Justification**

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BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>				PE NUMBER AND TITLE <b>0604233F Specialized Undergraduate Pilot Training</b>			PROJECT NUMBER AND TITLE <b>4376 T-38 Avionics Upgrade Program (AUP)</b>		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4376 T-38 Avionics Upgrade Program (AUP)	1.626	10.281	5.175	1.632	1.213	1.238	1.263	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

**(U) A. Mission Description and Budget Item Justification**

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 is the new USAF standard recently certified as a primary flight reference. Also included is the acquisition of three 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.

FY 2007 - FY2013 funding is to develop and test aircraft and ATD hardware/software block updates, mission planning software, requirements driven by DoD, FAA and National Aerospace System (NAS) mandated changes (Crash Survivable Flight Data Recorder, Cockpit Voice Recorder, Emergency Locator Transmitter, etc.), enhancements identified during test and evaluation Global Air Traffic Management (GATM), Joint Precision Approach and Landing System (JPALS), GPS, GPS Embedded Module (GEM) issues such as Selective Availability Anti-Spoofing Module (SAASM), and precision and GPS approaches. Other upgrades will include enhancements identified during Development Testing, Operational Testing and Force Development Evaluation (FDE), and AETC operations, such as a scratch pad, improvements to UFCP, HUD, Built In Test (BIT), mechanization of menus/modes and mission planning/debriefing system, ATD HUD projectors, and Companion Aircraft Model (CAM) operations.

FY 2008 and FY 2009 includes development funding for the T-38C Improved Brake System Program (IBSP). This effort will include development/missionization of Commercial Off The Shelf (COTS) brakes, wheels, and anti-skid systems as well as necessary flight testing, validation, any additional studies and analysis, and appropriate updates to all ATDs.

Budget Activity Justification. This project is in Budget Activity 5, System Development and Demonstration (SDD) because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Develop and test Block 7 AUP aircraft and ATD hardware/software upgrades, mission planning software, requirements driven by DoD/ FAA/NAS mandates, and/or improvements identified during Test and Evaluation and AETC operations.	1.626		
(U) Develop and test Block 8 AUP aircraft and ATD hardware/software upgrades, mission planning software,		1.489	

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604233F Specialized Undergraduate Pilot Training</b>	PROJECT NUMBER AND TITLE <b>4376 T-38 Avionics Upgrade Program (AUP)</b>
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(U) <b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
requirements driven by DoD/ FAA/NAS mandates, and/or improvements identified during Test and Evaluation and AETC operations.			
(U) Develop and test Block 9 AUP aircraft and ATD hardware/software upgrades, mission planning software, requirements driven by DoD/ FAA/NAS mandates, and/or improvements identified during Test and Evaluation and AETC operations.			1.602
(U) Improved Brake System Program, wheel and brake replacement, anti-skid capability modification and its associated integration issues, studies and analyses		8.792	3.573
(U) Total Cost	1.626	10.281	5.175

(U) <b>C. Other Program Funding Summary (\$ in Millions)</b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to Complete</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) AF RDT&E	1.626	10.281	5.175	1.632	1.213	1.238	1.263	Continuing	TBD
(U) Other APPN									
(U) PE 0804741F, T-38 Avionics Upgrade, BP 1100	40.345	0.781	0.000	0.000	0.000	0.000	0.000	0.000	510.596
(U) PE 0804741F, T-38 Improved Brakes, BP 1100	0.000	0.000	9.798	9.597	5.531	5.612	5.688	29.804	66.030

(U) **D. Acquisition Strategy**  
 The T-38C AUP competitively awarded three contracts: a) a cost plus award fee EMD contract with six firm fixed price production options; b) a firm fixed price CLS contract for avionics including Contractor Owned and Maintained Base Supply (COMBS) (O&M funds); and c) a fixed price award fee maintenance contract for the current and new Aircrew Training Devices (ATDs). During FY2004 new firm fixed priced contracts were negotiated to complete the AUP modification, and unpriced delivery orders for the period FY2005-2008 were negotiated for the aircraft CLS contract. FY2005-2009 block updates are being exercised under the new contract.

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**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
<b>05 System Development and Demonstration (SDD)</b>				<b>0604233F Specialized Undergraduate Pilot Training</b>				<b>4376 T-38 Avionics Upgrade Program (AUP)</b>				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> The Boeing Corporation	C/CPAF	The Boeing Corporation St. Louis MO		1.626		1.489		1.602		Continuing	TBD	TBD
TBD	PO	TBD		0.000		8.792	Mar-08	3.573		0.000	12.365	TBD
Subtotal Product Development			0.000	1.626		10.281		5.175		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>											0.000	0.000
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Management</u>											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	1.626		10.281		5.175		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY  
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE  
0604233F Specialized Undergraduate  
Pilot Training

PROJECT NUMBER AND TITLE  
4376 T-38 Avionics Upgrade Program  
(AUP)

T-38 Avionics Upgrade Program

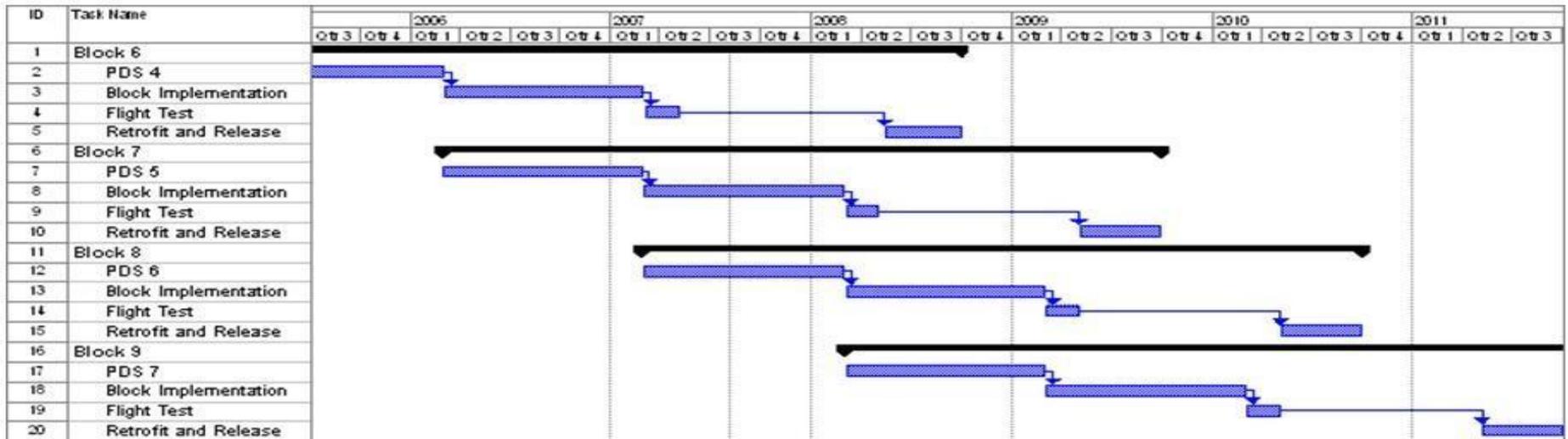


Exhibit R-4, RDT&E Schedule Profile

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05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604233F Specialized Undergraduate Pilot Training

PROJECT NUMBER AND TITLE

4376 T-38 Avionics Upgrade Program (AUP)

T-38 Improved Brake System Program

ID	Task Name	Duration	2006		2007				2008				2009				2010				2011				2012				2013							
			Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2						
1	REQUIREMENTS	563 days?	[Gantt bar spanning from Q3 2006 to Q4 2007]																																	
2	PROPOSAL PREP/ISS	415 days?																																		
3	CONTRACT AWARD	1 day?																																		
4	DESIGN INTEGRATION	260 days																																		
5	TEST	150 days																																		
6	PRODUCTION	2218 days																																		

Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604233F Specialized Undergraduate  
Pilot Training

PROJECT NUMBER AND TITLE

4376 T-38 Avionics Upgrade Program  
(AUP)

(U) Schedule Profile

(U) AUP Block 6

(U) AUP Block 7

(U) AUP Block 8

(U) AUP Block 9

(U) IBSP Requirements

(U) IBSP Proposal Preparation/Source Selection

(U) IBSP Contract Award

(U) IBSP Design Intergration

FY 2007

3Q

2Q

2Q

FY 2008

3Q

2Q

2Q

FY 2009

4Q

1Q

1Q

1Q