

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000	
BUDGET ACTIVITY 03 - Advanced Technology Development				PE NUMBER AND TITLE 0603245F Flight Vehicle Technology Integration				PROJECT 632568	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
632568 Flight Vehicle Technology Integration	7,150	8,289	13,184	13,937	6,960	6,582	11,450	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Note: In FY 2004, Flight Vehicle Technology efforts currently conducted in PE 0603205F will transfer into this PE in Project 632568.

(U) **A. Mission Description**
 This program integrates and demonstrates advanced flight vehicle technologies that will improve the performance and supportability of existing and future manned and unmanned aerospace vehicles. System level integration brings together the aerospace vehicle technologies along with avionics, propulsion, and weapon systems to flight demonstrate them in a near-realistic operational environment. Integration and flight test demonstrations reduce the risk and time required to transition technologies into operational aircraft. This program provides proven aerospace vehicle technologies for all-weather, day or night operations, and technologies for improved affordability.

(U) **FY 1999 (\$ in Thousands)**

(U) \$2,243 Developed and integrated advanced aeromechanics, propulsion, and flight control technologies, and completed fabrication of next generation exhaust nozzle and airframe structural critical components for increasing combat effectiveness for current and future aerospace vehicle systems.

(U) \$965 Completed development and flight-tested control strategies to extend range, ensure safe operation, and allow precision close operations of mixed manned and unmanned aerospace vehicles.

(U) \$3,942 Developed flight test units of electric actuator stabilators for reducing weight and manufacturing technologies as they relate to the unmanned aerospace vehicle mission. Integrated and demonstrated advanced subsystem technologies for evaluation of significant improvement in air-to-air combat effectiveness for aerospace vehicles.

(U) \$7,150 Total

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

(U) \$2,430 Develop and integrate advanced aeromechanics, propulsion, and flight control technologies that will increase combat effectiveness for Air Force aircraft systems. Complete fabrication of next generation exhaust nozzle and airframe structural critical components.

(U) \$1,919 Develop and flight-test control strategies to extend range, ensure safe operation, and allow precision close operations of mixed manned and unmanned aerospace vehicles. Continue development and flight-test control strategies to extend range, ensure safe operation, and allow precision close operations of mixed manned and unmanned aerospace vehicles. Continue unmanned aerospace vehicle technology development.

(U) \$3,940 Develop flight test units of electric actuator stabilators for reducing weight and manufacturing technologies as they relate to the unmanned

Project 632568 Page 1 of 3 Pages Exhibit R-2 (PE 0603245F)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000			
BUDGET ACTIVITY 03 - Advanced Technology Development		PE NUMBER AND TITLE 0603245F Flight Vehicle Technology Integration		PROJECT 632568	
(U)	<u>A. Mission Description Continued</u>				
(U)	<u>FY 2000 (\$ in Thousands) Continued</u>				
	aerospace vehicle mission. Integrate and demonstrate advanced electric actuator technologies to demonstrate air-to-air combat effectiveness for aerospace vehicles.				
(U)	\$8,289	Total			
(U)	<u>FY 2001 (\$ in Thousands)</u>				
(U)	\$11,011	Develop and demonstrate technologies to support the joint Air Force/Defense Advanced Research Projects Agency unmanned combat air vehicle goals. Demonstrate lightweight/low-cost composite structures, multifunction apertures, compact low-observable inlets and exhaust, and advanced materials technologies for affordable low-observables. Demonstrate advanced weapons suspension and release technologies, and the integration of human system interface technologies for advanced manned and unmanned operations.			
(U)	\$1,058	Develop and demonstrate new control techniques to enable safe, highly autonomous mixed-fleet and multi-unmanned air vehicle operations for increased combat effectiveness. Continue unmanned aerospace vehicle development to ensure safe operation, and allow precision close operations of mixed manned and unmanned aerospace vehicles. Develop adaptive flight control algorithms for autonomous operations of mixed fleet air operations.			
(U)	\$1,115	Develop and demonstrate advanced flight control techniques for affordable and reliable autonomous control. Integrate, develop, and test advanced vehicle management technology with advanced system prognostics and autonomous control software to achieve reliability and affordability goals. Complete integrated flight control technology specification for unmanned air vehicles.			
(U)	\$13,184	Total			
(U)	<u>B. Budget Activity Justification</u>				
	This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing system upgrades and/or new system developments that have military utility and address warfighter needs.				
(U)	<u>C. Program Change Summary (\$ in Thousands)</u>				
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>
(U)	Previous President's Budget (FY 2000 PBR)	7,642	8,335	9,711	
(U)	Appropriated Value	7,674	8,335		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-32	-1		
	b. Small Business Innovative Research	-255			
	c. Omnibus or Other Above Threshold Reprogram		-45		
Project 632568		Page 2 of 3 Pages		Exhibit R-2 (PE 0603245F)	

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT
03 - Advanced Technology Development		0603245F Flight Vehicle Technology Integration		February 2000 632568
(U)	<u>C. Program Change Summary (\$ in Thousands) Continued</u>			
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
		<u>Total Cost</u>		
	d. Below Threshold Reprogram	-197		
	e. Rescissions	-40		
	f. Other			
(U)	Adjustments to Budget Years Since FY 2000 PBR			3,473
(U)	Current Budget Submit/FY 2001 PBR	7,150	8,289	13,184
				TBD
(U)	<u>Significant Program Changes:</u>			
	Air Force funding for the joint Air Force/Defense Advanced Research Projects Agency unmanned combat air vehicle was recently consolidated and part of the funding was placed into this PE.			
(U)	<u>D. Other Program Funding Summary (\$ in Thousands)</u>			
(U)	Related Activities:			
(U)	PE 0603106F, Logistics Systems Technology.			
(U)	PE 0603205F, Flight Vehicle Technology.			
(U)	PE 0603211F, Aerospace Structures.			
(U)	PE 0604237F, Variable Stability In-Flight Simulation Test Aircraft.			
(U)	This project has been coordinated through the Reliance process to harmonize efforts and eliminate duplication.			
(U)	<u>E. Acquisition Strategy</u>			
	Not Applicable.			
(U)	<u>F. Schedule Profile</u>			
(U)	Not Applicable.			
Project 632568		Page 3 of 3 Pages	Exhibit R-2 (PE 0603245F)	