

<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>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0605011F RDT&amp;E FOR AGING AIRCRAFT</b>	<b>PROJECT</b> <b>4685</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
4685 Aging Aircraft	0	4,887	4,889	14,310	28,451	42,427	43,311	44,213	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

**(U) A. Mission Description:** This program is comprised of multiple efforts which will transition needed technologies from laboratory research and commercial technology development into fieldable tools or capabilities. Projects will target critical needs of the aging fleet such as corrosion, structural integrity, and improved non-destructive inspection (NDI) methods. Corrosion-related projects include hidden corrosion detection (NDI methods such as eddy current and thermography) and developing a corrosion prediction capability. Structural integrity projects will include the development of alternate repair capabilities and the capability to predict widespread fatigue damage. In addition to the NDI projects addressing corrosion detection, other NDI projects will address multi-layer crack detection and detection of cracks under composite patches. These projects are focused on developing tools (NDI equipment, computer models) and capabilities (alternate repair processes) for Air Logistics Centers (ALCs) use in extending useful aircraft service life, resolving flight safety problems, or replacing components no longer procurable. Projects will typically yield a single, validated prototype system or capability that is production ready; final depot or field implementation (equipment purchases, tech order updates, training, etc.) will be the responsibility of the Major Commands (MAJCOMs) and ALCs. There is strong emphasis on developing solutions that will benefit multiple weapon systems, thereby reducing or eliminating stovepipe development of platform-specific solutions. Note: This is a new program element in FY1999, but not a new start program as efforts were previously funded in PE 0708026F, Productivity/Reliability/Availability/Maintainability (PRAM).

(U) FY 1998: Not Applicable.

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

- (U) \$2,609     Develop improved capabilities for corrosion abatement, prevention, and control to reduce the associated maintenance burden. Improve corrosion detection capabilities to decrease inspection times and/or detect corrosion earlier. Develop and integrate software and analytical tools for more effective fleet corrosion management.
- (U) \$1,016     Develop improved non-destructive inspection techniques that will reduce the time required to detect flaws and damage, such as fatigue cracking, corrosion, disbonds, and trapped moisture, and/or allow the damage to be found earlier, thus allowing for less extensive or costly repairs.
- (U) \$1,119     Develop technologies to ensure the continued structural integrity of aging weapon systems, thus ensuring continued flight safety.
- (U) \$143        Identified as a source for SBIR.
- (U) \$4,887     Total

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BUDGET ACTIVITY  
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<b>5 - Engineering and Manufacturing Development</b>	<b>0605011F RDT&amp;E FOR AGING AIRCRAFT</b>	<b>4685</b>
<p>(U) <u>FY 2000 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$2,750 Continue work in corrosion abatement, prevention, and control to reduce the associated maintenance burden. Continue work on improved corrosion detection capabilities to decrease inspection times and/or detect corrosion earlier. Continue the development and integration of software and analytical tools for more effective fleet corrosion management.</li> <li>- (U) \$1,028 Continue work on improved non-destructive inspection techniques that will reduce the time required to detect flaws and damage, such as fatigue cracking, corrosion, disbonds, and trapped moisture, and/or allow the damage to be found earlier, thus allowing for less extensive or costly repairs.</li> <li>- (U) \$1,111 Continue work on technologies to maintain the structural integrity of aging weapon systems, thus ensuring continued flight safety.</li> <li>- (U) \$4,889 Total</li> </ul> <p>(U) <u>FY 2001 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$5,200 Continue work in corrosion abatement, prevention, and control to reduce the associated maintenance burden. Continue work on improved corrosion detection capabilities to decrease inspection times and/or detect corrosion earlier. Continue the development and integration of software and analytical tools for more effective fleet corrosion management.</li> <li>- (U) \$4,550 Continue work on improved non-destructive inspection techniques that will reduce the time required to detect flaws and damage, such as fatigue cracking, corrosion, disbonds, and trapped moisture, and/or allow the damage to be found earlier, thus allowing for less extensive or costly repairs.</li> <li>- (U) \$4,560 Continue work on technologies to maintain the structural integrity of aging weapon systems, thus ensuring continued flight safety.</li> <li>- (U) \$14,310 Total</li> </ul> <p>(U) <b>B. <u>Budget Activity Justification:</u></b> This program is in Budget Activity 5, Engineering and Manufacturing Development, because projects/capabilities will be developed in this program, then made available for procurement by already operational systems.</p>		
Project 4685	Page 2 of 4 Pages	Exhibit R-2 (PE 0605011F)

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 EXHIBIT)</b>												DATE <b>February 1999</b>					
<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>						<b>PE NUMBER AND TITLE</b> <b>0605011F RDT&amp;E FOR AGING AIRCRAFT</b>						<b>PROJECT</b> <b>4685</b>					
<b>(U) C. <u>Program Change Summary (\$ in Thousands):</u></b>																	
		<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		0			4,901		4,978		14,583		Continuing						
(U) Appropriated Value					4,901												
(U) Adjustments to Appropriated Value																	
a. Congressional/General Reductions					-14												
b. SBIR																	
c. Omnibus/Other Above Threshold Reprogrammings																	
d. Below Threshold Reprogrammings																	
(U) Adjustments to Budget Years Since FY 1999 PB							-89		-273								
(U) Current Budget Submit/FY 2000 PB		0			4,887		4,889		14,310		Continuing						
 (U) Significant Program Changes: This is a new program element, but not a new start program as efforts were previously funded in PE 0708026F, Productivity/Reliability/Availability/Maintainability (PRAM).																	
FY 1999: \$143 identified as a source for SBIR.																	
<b>(U) D. <u>Other Program Funding Summary:</u></b>																	
(U) <u>Related Activities:</u>																	
- (U) PE 0708026F, Productivity/Reliability/Availability/Maintainability.																	
 (U) <b>E. <u>Acquisition Strategy:</u></b> Funding will be released to the Air Logistics Centers for the projects for which they are the Office of Primary Responsibility (OPR) that year. OPR will determine the most appropriate contract vehicle, Design Engineering Program (DEP) contract or full and open competition, to accomplish the project.																	
<b>(U) F. <u>Schedule Profile:</u></b>																	
		<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	1	2	3	4
(U) Project Screening				X				X				X				X	
(U) Request For Proposal Release					X				X				X				
(U) Contract Awards						X	X	X		X	X	X			X	X	X
Project 4685		Page 3 of 4 Pages						Exhibit R-2 (PE 0605011F)									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 1999	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0605011F RDT&E FOR AGING AIRCRAFT					PROJECT 4685	
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands):</u></b>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U)	Corrosion prevention and control techniques				0	2,609	2,750	5,200			
(U)	Improved non-destructive inspection capabilities				0	1,016	1,028	4,550			
(U)	Technologies to enhance structural integrity				0	1,119	1,111	4,560			
(U)	Identified as a source for SBIR				0	143	0	0			
(U)	Total				0	4,887	4,889	14,310			
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands):</u></b>											
<b><u>Performing Organizations:</u></b>											
Contractor or Government Performing Activity	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	To Complete	Total Program
Product Development Organizations											
Identified as a source for SBIR											
Numerous	Various	Various	None	None	0	0	4,744	4,889	14,310	Cont	Cont
Support and Management Organizations - In-House Support.											
Test and Evaluation Organizations - Not Applicable.											
<u>Government Furnished Property - Not Applicable.</u>											
Identified as a source for SBIR											
Subtotal Product Development					0	0	4,744	4,889	14,310	Cont	Cont
Subtotal Support and Management					0	0	0	0	0	0	0
Subtotal Test and Evaluation					0	0	0	0	0	0	0
Total Project					0	0	4,887	4,889	14,310	Cont	Cont
Project 4685					Page 4 of 4 Pages			Exhibit R-3 (PE 0605011F)			