Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	0.767	0.710	0.823	-	0.823	0.889	0.422	0.328	0.332	Continuing	Continuing
106: *A/C COMPON IMPROV PROG*	0.767	0.710	0.823	-	0.823	0.889	0.422	0.328	0.332	Continuing	Continuing

Note

Funds realigned to higher priority requirements.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. CIP is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	0.788	0.710	0.852	-	0.852
Current President's Budget	0.767	0.710	0.823	-	0.823
Total Adjustments	-0.021	-	-0.029	-	-0.029
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.021	-			
• Adjustments to Budget Years	-	-	-0.029	-	-0.029

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
106: *A/C COMPON IMPROV PROG*	0.767	0.710	0.823	-	0.823	0.889	0.422	0.328	0.332	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. CIP is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: T700 Engine	0.300	0.275	0.321
Articles:	0	0	
Description: Majority of funding for this program has been reallocated to PE 273744. Previously, this program addressed flight safety and readiness problems that arise in the field by providing timely engineering support, continued the development of the T700-GE-701D, provided engineering support of fielded engines to enhance war fighting capability and improve durability and reliability while reducing cost of ownership. ***FY 2010 Accomplishments:*** Began test effort for the T700-GE-701D engine to address overspeed and burst safety concerns and reduce O&S costs. ***FY 2011 Plans:*** Complete overspeed/burst testing for the T700-GE-701D engine to address safety concerns. ***FY 2012 Plans:*** Will complete 701D qualification reports, provide rapid response to resolve field related issues.			
Title: T55 Engine	0.303	0.275	0.321
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Provide timely support to field users, applying engineering effort to resolve unanticipated flight safety problems revealed in the field. Continue the engineering support of fielded engines to enhance war-fighting capability, improve durability and reliability while reducing CH-47 engine cost of ownership. ***FY 2010 Accomplishments:*** Funded efforts on 1553 Engine Control Unit (ECU) program to incorporate Bus capabilities for F model installation. Funded N1 Drive Line redesign to improve accessory gearbox reliability and reduce O&S costs. ***FY 2011 Plans:*** Finish 1553 ECU Effort for F Model incorporation and continue N1 Drive Line redesign and qualification. ***FY 2012 Plans:*** Start the ECU Software Block Update to improve ECU functionality and Start the Qualification of a new oil pump to address reliability/maintenance issues (oil leaks).			
Title: GTCP36 Auxiliary Power Unit (APU) ***Articles:*** ***Description:*** Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2010 Accomplishments:*** Formulated correlation factors to publish life limits and address service revealed deficiencies that affect safe operation of the GTCP 36 APU. ***FY 2011 Plans:*** Continue formulating correlation factors to publish life limits and address service revealed deficiencies that affect safe operation of the GTCP 36 APU. ***FY 2012 Plans:*** Address service revealed deficiencies that affect safe operation of the GTCP 36 series APUs.	0.025 0	0.025 0	0.030
Title: T62 Auxiliary Power Unit (APU) ***Articles:***	0.035 0	0.025 0	0.030

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2010 Accomplishments:*** Delivered two assembled Flex Fuel Manifolds to US Army for qualification testing, prepared drawing for T62-T-2B Fuel Pump/Fuel Control assembly, addressed SRDs affecting T62 series APUs. ***FY 2011 Plans:*** Finish the qualification of the Flex Fuel Manifolds and provide a class I Engineering Change Proposal for incorporation, address service revealed deficiencies affecting the T62 APU. ***FY 2012 Plans:*** Will address service revealed deficiencies affecting safe operation of the T-62T series APUs.			
Title: UAV Shadow Engine ***Articles:*** ***Description:*** UAV Shadow Engine Investigation at U.S. Army Research Laboratory (ARL) Cleveland: US Army Vehicle Technology Directorate (VTD) at ARL Cleveland. Provide research to support airworthiness, reliability and performance improvements of the Unmanned Aerial Vehicle (UAV) shadow engine. Investigate and research the technology challenges (i.e. engine performance, engine durability, engine life, and engine modifications) for reliable engine operation using JP-8 fuel and readily available MIL-spec lubricants. ***FY 2010 Accomplishments:*** Completed and qualified ARL engine test cell, researched improved oil pump and engine bearings to improve engine life and safety. Researched thermal barrier coatings to improve performance and durability. ***FY 2011 Plans:*** Continue research of improved oil pump and engine bearings to improve engine life and safety and continue research on thermal barrier coatings to improve performance and durability. ***FY 2012 Plans:*** Will continue to research improvements to address service related deficiencies.	0.079 0	0.067 0	0.070
Title: In-House Support ***Articles:***	0.025 0	0.043 0	0.051

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: In-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2010 Accomplishments:*** Provided in-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2011 Plans:*** Provide in-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2012 Plans:*** Continue to provide in-house support for the CIP engineers. Contracting support for CIP contracts.			
Accomplishments/Planned Programs Subtotals	0.767	0.710	0.823

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Improved designs will be implemented via Engineering Change Proposal (ECP) and follow-on procurement or modification to a production contract to introduce the improved hardware.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house Engineering	Various	various:various	10.342	-		-		-		-	Continuing	Continuing	0.000
In-house Engineering	WR	AMRDEC:Redstone Arsenal, AL	2.062	0.043		0.051		-		0.051	Continuing	Continuing	Continuing
TBD	TBD	TBD:TBD	0.140	-		-		-		-	Continuing	Continuing	0.000
Prior Year Closed Account Funding	Various	various:various	0.005	-		-		-		-	Continuing	Continuing	0.000
SBIR/STTR	Various	various:various	0.176	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	12.725	0.043		0.051		-		0.051			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T700 Engine	SS/IDIQ	GE-Air:Lynn, MA	61.016	0.255		0.321		-		0.321	Continuing	Continuing	Continuing
T55 Engine	SS/IDIQ	Honeywell:Phoenix, AZ	28.497	0.255		0.321		-		0.321	Continuing	Continuing	Continuing
APU's	SS/IDIQ	Air Force:Kelly AFB, TX	13.557	0.090		-		-		-	Continuing	Continuing	0.000
EDECU	Various	GE-Air:Lynn, MA	0.774	-		-		-		-	0.000	0.774	0.000
FADEC/FDU	Various	CECOM:Ft. Monmouth, NJ	12.895	-		-		-		-	Continuing	Continuing	0.000
LOLA	Various	CECOM:Ft. Monmouth, NJ	0.938	-		-		-		-	Continuing	Continuing	0.000
APU's	SS/IDIQ	Air Force:Hill AFB, UT	2.259	-		0.060		-		0.060	Continuing	Continuing	Continuing
UAV Shadow Engine	Various	ARL-Vehicle Technology Directorate:TBD	-	0.067		0.070		-		0.070	Continuing	Continuing	0.000
		Subtotal	119.936	0.667		0.772		-		0.772			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Engineering 1	Various	various:various	0.010	-		-		-		-	Continuing	Continuing	0.000
Contract Engineering 2	Various	Various:Various	0.199	-		-		-		-	Continuing	Continuing	0.000
Contract Engineering 3	Various	various:variious	0.107	-		-		-		-	Continuing	Continuing	0.000
Contract Engineering 4	Various	various:various	0.030	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.346	-		-		-		-			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Redstone Avn Prop Test Res (RAPTR) Facility Data Reduction Prog	Various	Redstone Technical Test Center:Redstone Arsenal, AL	0.946	-		-		-		-	Continuing	Continuing	Continuing
T-62T-2B Vibration Test	Various	Redstone Technical Text Center:Redstone Arsenal, AL	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.946	-		-		-		-			

Remarks

Not Applicable

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	133.953	0.710		0.823		-		0.823			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

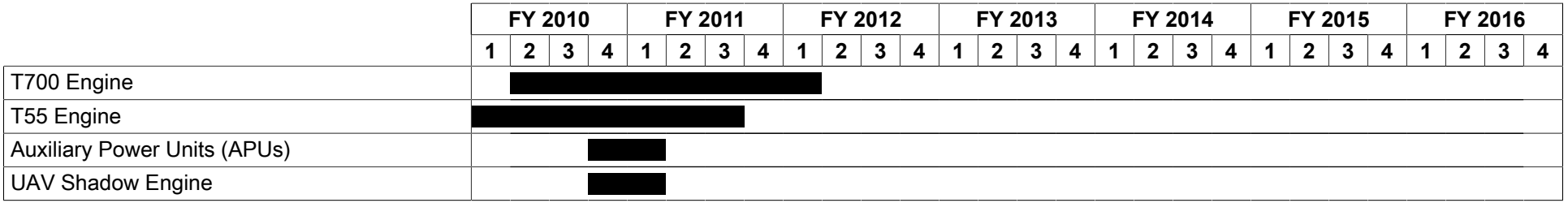

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
T700 Engine	2	2010	1	2012
T55 Engine	1	2010	3	2011
Auxiliary Power Units (APUs)	4	2010	1	2011
UAV Shadow Engine	4	2010	1	2011