Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	0.688	0.822	0.898	-	0.898	0.423	0.326	0.330	0.334	Continuing	Continuing
106: *A/C COMPON IMPROV PROG*	0.688	0.822	0.898	-	0.898	0.423	0.326	0.330	0.334	Continuing	Continuing

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.710	0.823	0.889	-	0.889
Current President's Budget	0.688	0.822	0.898	-	0.898
Total Adjustments	-0.022	-0.001	0.009	-	0.009
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.022	-0.001	0.009	-	0.009

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
106: *A/C COMPON IMPROV PROG*	0.688	0.822	0.898	-	0.898	0.423	0.326	0.330	0.334	Continuing	Continuing
Quantity of RDT&E Articles											

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 2011	FY 2012	FY 2013
Title: T700 Engine	0.255	0.321	0.349
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 2011 Accomplishments: Continued effort on overspeed/burst testing for the T700-GE-701D engine to address safety concerns.			
FY 2012 Plans: Complete overspeed and burst testing and qualification reports for the T700-GE-701D engine, provide rapid response to resolve field related issues.			
FY 2013 Plans: Will perform an instrumented engine test to measure gas generator turbine hardware metal temperatures. Will evaluate clean air combustor shield hardware for redesign effort.			
Title: T55 Engine	0.233	0.321	0.349
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2011 Accomplishments:*** Continued 1553 ECU Effort for F Model incorporation and continued N1 Drive Line redesign and qualification. ***FY 2012 Plans:*** Complete 1553 ECU effort for F Model incorporation and start the ECU Software Block Update to improve ECU functionality and Start the Qualification of a new oil pump and improved T4.5 Sensor/Harness to address reliability/maintenance issues. ***FY 2013 Plans:*** Will complete ECU Software Block Update to improve ECU functionality and address field software issues. Will begin development of improved growth engine (-715) to address new performance, maintenance, and reliability requirements.			
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 2011 Accomplishments:*** Continued formulating correlation factors to publish life limits and addressed 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. ***FY 2013 Plans:*** Will complete formulating correlation factors to published life limits and will address service revealed deficiencies that affect safe operation of the GTCP 36 APU	0.045 0	0.030 0	0.030
Title: T62 Auxiliary Power Unit (APU) ***Articles:***	0.045 0	0.030 0	0.030

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2011 Accomplishments:*** Continued the qualification of the Flex Fuel Manifolds and started a Class I Engineering Change Proposal (ECP) for incorporation, address service revealed deficiencies affecting the T62 APU ***FY 2012 Plans:*** Complete the qualification of the Flex Fuel Manifolds and submit a Class I ECP. Address service revealed deficiencies affecting safe operation of the T-62T series APUs. ***FY 2013 Plans:*** Will continue to address service revealed deficiencies affecting safe operation of US Army APUs.			
Title: UAV Shadow Engine	0.067	0.070	0.060
Articles:	0	0	
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 2011 Accomplishments:*** Continued research of improved oil pump and engine bearings to improve engine life and safety; continued research on thermal barrier coatings to improve performance and durability. ***FY 2012 Plans:*** Continue to research improvements to address service related deficiencies. ***FY 2013 Plans:*** Will continue to research improvements to address service related deficiencies to improve safety and reduce O&S costs.			
Title: In-House Support	0.043	0.050	0.080
Articles:	0	0	
Description: In-house support for the CIP engineers. Contracting support for CIP contracts.			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Provided in-house support for the CIP engineers and contracting support for CIP contracts ***FY 2012 Plans:*** Provide in-house support for the CIP engineers and contracting support for CIP contracts. ***FY 2013 Plans:*** Will continue to provide in-house support for the CIP engineers and contracting support for CIP contracts.			
Accomplishments/Planned Programs Subtotals	0.688	0.822	0.898

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 2013 Army			DATE: February 2012
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*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house Engineering	WR	AMRDEC:Redstone Arsenal, AL	2.250	0.050		0.080		-		0.080	Continuing	Continuing	Continuing
		Subtotal	2.250	0.050		0.080		-		0.080			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T700 Engine	SS/IDIQ	GE-Air:Lynn, MA	61.311	0.321		0.349		-		0.349	Continuing	Continuing	Continuing
APU's	SS/IDIQ	Air Force:Kelly AFB, TX	13.647	-		-		-		-	Continuing	Continuing	0.000
T55 Engine	SS/IDIQ	Honeywell:Phoenix, AZ	29.262	0.321		0.349		-		0.349	Continuing	Continuing	Continuing
UAV Shadow Engine	Various	ARL-Vehicle Technology Directorate:TBD	0.067	0.070		0.060		-		0.060	Continuing	Continuing	0.000
APU's	SS/IDIQ	Air Force:Hill AFB, UT	2.259	0.060		0.060		-		0.060	Continuing	Continuing	Continuing
		Subtotal	106.546	0.772		0.818		-		0.818			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T-62T-2B Vibration Test	Various	Redstone Technical Text Center:Redstone Arsenal, AL	0.050	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.050	-		-		-		-			0.000

Remarks

Not Applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army			DATE: February 2012
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*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	108.846	0.822		0.898		-		0.898			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
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*

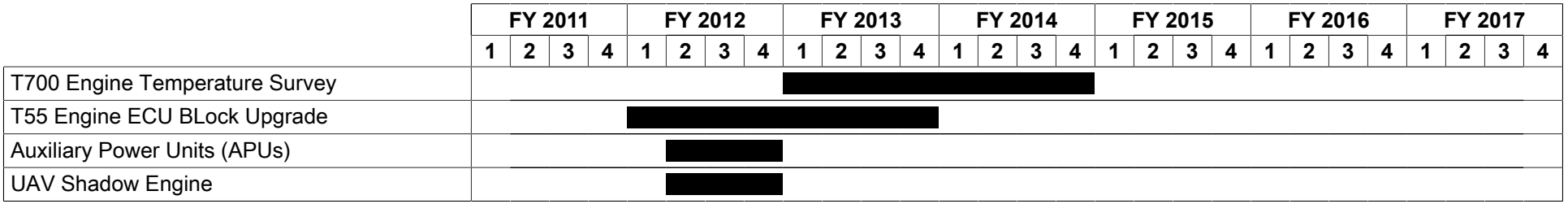

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
T700 Engine Temperature Survey	1	2013	4	2014
T55 Engine ECU BLock Upgrade	1	2012	4	2013
Auxiliary Power Units (APUs)	2	2012	4	2012
UAV Shadow Engine	2	2012	4	2012