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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army **Date:** March 2014

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0605830A / <i>Aviation Ground Support Equipment</i>							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	-	-	10.041	-	10.041	8.880	7.880	7.000	7.161	Continuing	Continuing
EE5: <i>Aviation Ground Support Equipment</i>	-	-	-	10.041	-	10.041	8.880	7.880	7.000	7.161	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

The increase of \$10,041K reflects the realignment of funds from PE 0603801A.

A. Mission Description and Budget Item Justification

This Program Element provides advanced development aviation support of programs that include advanced maintenance concepts and equipment. The FY 2015 budget request funds Aviation Advanced Development which supports Aviation Ground Support Equipment developmental testing and prototypes which will enhance the functionality of current and future aircraft by improving the effectiveness of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, improve aircraft maintenance processes, reduce Operation and Support costs, and insert diagnostics technologies for product supportability and maintainability to replace obsolete and unsupported equipment. This program provides for the development of rapid battle repair procedures, tools development to speed the return of aircraft to a full mission status, and development of new equipment for aerial recovery of damaged aircraft. Included in this program are: Aircraft Cleaning and De-Icing System (ACDS - formerly ACS), Aviation Foot Locker (AFL), Aviation Ground Power Unit (AGPU) equipment familiarization software, redesign and incorporation of AGPU modularity capabilities, Aviation Unit Maintenance Shop Set (AVUM SS), Family of Aviation Lifting Devices (F-ALD), Common Aviation Tool System (CATS), Non-Destructive Test Equipment System (NDTE), Swaging Tool Kits (SWTK), Unit Maintenance Aerial Recovery Kit (UMARK) and development support for tools required to provide maintenance support to modernized/future force aircraft.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	10.041	-	10.041
Total Adjustments	-	-	10.041	-	10.041
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	10.041	-	10.041

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army										Date: March 2014		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment				Project (Number/Name) EE5 / Aviation Ground Support Equipment			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
EE5: Aviation Ground Support Equipment	-	-	-	10.041	-	10.041	8.880	7.880	7.000	7.161	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Beginning in FY 2015, funding on this Project was realigned from PE/Project 0603801A/B32 to reflect the program's development efforts in Budget Activity 05, System Development and Demonstration.

A. Mission Description and Budget Item Justification

This Project provides advanced development aviation support of programs that include advanced maintenance concepts and equipment. The FY 2015 budget request funds Aviation Advanced Development which supports Aviation Ground Support Equipment developmental testing and prototypes which will enhance the functionality of current and future aircraft by improving the effectiveness of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, improve aircraft maintenance processes, reduce Operation and Support costs, and insert diagnostics technologies for product supportability and maintainability to replace obsolete and unsupported equipment. This program provides for the development of rapid battle repair procedures, tools development to speed the return of aircraft to a full mission status, and development of new equipment for aerial recovery of damaged aircraft. Included in this program are: Aircraft Cleaning and De-Icing System (ACDS - formerly ACS), Aviation Foot Locker (AFL), Aviation Ground Power Unit (AGPU) equipment familiarization software, redesign and incorporation of AGPU modularity capabilities, Aviation Unit Maintenance Shop Set (AVUM SS), Family of Aviation Lifting Devices (F-ALD), Common Aviation Tool System (CATS), Non-Destructive Test Equipment System (NDTE), Swaging Tool Kits (SWTK), Unit Maintenance Aerial Recovery Kit (UMARK) and development support for tools required to provide maintenance support to modernized/future force aircraft.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2013	FY 2014	FY 2015
Title: Aircraft Cleaning and De-Icing System (ACDS)	-	-	0.750
Description: The ACDS will provide aviation maintenance units with a capability to clean external and internal aircraft surfaces and components as well as de-ice aircraft when in the field and deployed locations.			
FY 2015 Plans:			
Perform market survey, trade studies, and generate Purchase Item Description (PID) and Request For Proposal (RFP). Perform technical review of proposals, source selection, test sample procurement, systems performance test demonstration for evaluation, and conduct systems safety evaluation to certify and qualify the ACDS for Army aircraft operation.			
Title: Aviation Foot Locker (AFL)	-	-	0.200

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015
<p>Description: The AFL provides a standard Aviation Maintenance capability in a durable outer shell which augments the aviation maintainers' individual tool kits to maintain Army aircraft.</p> <p>FY 2015 Plans: Perform requirements analysis required to standardize AFL across the Force Structure.</p>				
<p>Title: Aviation Ground Power Unit (AGPU)</p> <p>Description: The AGPU provides the capability to meet Army helicopter servicing requirements into the next decade by providing a modular system with external hydraulic, pneumatic, and AC/DC electrical power to all Modernized Force Aircraft.</p> <p>FY 2015 Plans: Develop prototype AGPUs incorporating the redesigned hydraulic module, upgraded electrical system, and power generation replacement and perform prototype testing.</p>		-	-	1.400
<p>Title: Aviation Unit Maintenance Shop Set (AVUM SS)</p> <p>Description: The AVUM SS consists of three deployable shelters which provide deployable tool loads required for unit-level aviation maintenance tasks.</p> <p>FY 2015 Plans: Procure test samples, perform both developmental and operational testing, and finalize acquisition documentation in preparation for procurement.</p>		-	-	2.309
<p>Title: Family of Aviation Lifting Devices (F-ALD)</p> <p>Description: F-ALD provides Army Aviation Maintenance units with the required lifting capability ranging from simple scheduled maintenance lifting on the flight line and other improved areas, to maintenance lifting required during contact maintenance and Downed Aircraft Recovery Team operations while forward deployed.</p> <p>FY 2015 Plans: Perform Market Survey, prepare Statement of Work, create detailed test plan, prepare Contract Requirements Package, perform technical reviews of proposals, and procure samples for testing.</p>		-	-	2.750
<p>Title: Common Aviation Tool System (CATS)</p> <p>Description: CATS consists of individual aviation mechanics tool kit containers, aerospace standard tools, foam shadowed drawers and a component listing with picture diagrams for ease of inventory and to minimize foreign object damage to aircraft.</p>		-	-	0.100

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment	Project (Number/Name) EE5 / Aviation Ground Support Equipment		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015
CATS provides standardized tools, kits and outfits which meet transformation modularity, flexibility and mobility requirements for repair of rotary wing aircraft during combat, contingency and training operations.				
FY 2015 Plans: Perform tool study analysis as required to determine whether Army Aviation Maintenance Units require further CATS modernization.				
Title: Non-Destructive Test Equipment (NDTE) Description: NDTE provides Army Aviation Maintenance units with an electronic test instrument to inspect aircraft components and structures without complete disassembly or removal of components from the aircraft. FY 2015 Plans: Begin research and development of Non-Destructive Test Equipment (eddy current, ultrasonic, harmonic bond, and radiography) for modernization and technology advancements, prepare Statement of Work, create detailed test plan, and prepare contract requirements package.		-	-	0.450
Title: Swaging Tool Kits (SWTK) Description: The SWTK provides Aviation Technicians with fast and reliable methods for joining aircraft tubing and repairing high pressure fluid, fuel, and hydraulic lines. FY 2015 Plans: Perform requirement analysis to ensure currently fielded SWTKs provide the required capability to service all Army rotary-winged aircraft requirements.		-	-	0.150
Title: Unit Maintenance Aerial Recovery Kit (UMARK) Description: UMARK provides Aviation Support Company and Aviation Maintenance Company units with the ability to quickly rig for transport crash-damaged non-flyable modernized aircraft or aircraft undergoing maintenance for evacuation. FY 2015 Plans: Finalize UMARK Test Data Package, procedures and manuals.		-	-	0.800
Title: Management Support Services Description: Management Support Services in support of the Aviation Ground Support Equipment Product Management Office. FY 2015 Plans:		-	-	0.300

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2013	FY 2014	FY 2015
Management Support Services.			
Title: RDTE Project Test Support Description: RDTE Project Test Support for the Aviation Ground Support Equipment Product Management Office. FY 2015 Plans: RDTE Project Test Support.	-	-	0.440
Title: Technical Engineering Services Description: Technical Engineering Services in support of the Aviation Ground Support Equipment Product Management Office. FY 2015 Plans: Technical Engineering Services.	-	-	0.392
Accomplishments/Planned Programs Subtotals	-	-	10.041

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Aviation Ground Support Equipment: <i>Aviation Ground Support Equipment, SSN AZ3520</i>	-	-	29.231	-	29.231	65.367	69.017	91.931	63.568	-	319.114

Remarks

D. Acquisition Strategy
This project is an aggregate of advanced maintenance concepts related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program documentation for milestone decision is prepared, as appropriate, concurrently with the development effort.

E. Performance Metrics
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army **Date:** March 2014

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment	Project (Number/Name) EE5 / Aviation Ground Support Equipment
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Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	Various	PM AGSE : Redstone Arsenal, AL	0.000	-		-		0.300	Sep 2015	-		0.300	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		0.300		-		0.300	-	-	-

Remarks
None.

Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ACDS	Various	AATD, Ft. Eustis, VA, , Aberdeen Test Center (ATC), Aberdeen Proving Ground, MD : APB	0.000	-		-		0.750	Mar 2015	-		0.750	Continuing	Continuing	Continuing
AFL	Various	AMCOM, SRA; TRADOC, : Fort Rucker, AL	0.000	-		-		0.200	Jan 2015	-		0.200	-	0.200	-
AGPU	Various	RTTC, Redstone Arsenal, AL; AMRDEC, RSA, AL; Aberdeen Test Center, : Aberdeen Proving Ground, MD	0.000	-		-		1.400	Jun 2015	-		1.400	Continuing	Continuing	Continuing
AVUM SS	Various	AMRDEC, RSA; RTTC, RSA; Aberdeen Test Center, : Aberdeen Proving Ground, MD	0.000	-		-		2.309	Jul 2015	-		2.309	-	2.309	-
CATS	MIPR	AMRDEC(RSA), AL; Aberdeen Test Center (ATC), :	0.000	-		-		0.100	Mar 2015	-		0.100	-	0.100	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army											Date: March 2014				
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Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Aberdeen Proving Ground, MD													
F-ALD	Various	AMCOM, RSA; AMRDEC, RSA : Redstone Arsenal, AL	0.000	-		-		2.750	Jan 2015	-		2.750	Continuing	Continuing	Continuing
NDTE	Various	AMRDEC, RSA, AL; ATC : Aberdeen Proving Ground, MD	0.000	-		-		0.450	Apr 2015	-		0.450	-	0.450	-
SWTK	Various	AMRDEC : Redstone Arsenal, AL	0.000	-		-		0.150	Mar 2015	-		0.150	-	0.150	-
UMARK	Various	AMRDEC, RSA, AL; Aberdeen Test Center, APG, MD; AATD : Fort Eustis, VA	0.000	-		-		0.800	Feb 2015	-		0.800	-	0.800	-
Subtotal			0.000	-		-		8.909		-		8.909	-	-	-

Remarks
None.

Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technical Engineering Services	MIPR	AATD : Ft. Eustis, VA	0.000	-		-		0.250	Apr 2015	-		0.250	Continuing	Continuing	Continuing
Technical Engineering Services	MIPR	AED : Redstone Arsenal, AL	0.000	-		-		0.142	Apr 2015	-		0.142	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		0.392		-		0.392	-	-	-

Remarks
None.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army **Date:** March 2014

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment	Project (Number/Name) EE5 / Aviation Ground Support Equipment
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Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RDTE Project Test Support	MIPR	ATC : Aberdeen Proving Gound, MD	0.000	-		-		0.300	Jan 2015	-		0.300	Continuing	Continuing	Continuing
RDTE Project Test Support	Various	AMRDEC : Redstone Arsenal, AL	0.000	-		-		0.100	May 2015	-		0.100	Continuing	Continuing	Continuing
RDTE Project Test Support	Various	AMCOM, : Redstone Arsenal, AL	0.000	-		-		0.040	Jan 2015	-		0.040	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		0.440		-		0.440	-	-	-

Remarks
None.

Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-	-	10.041	-	10.041	-	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment	Project (Number/Name) EE5 / Aviation Ground Support Equipment

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Aircraft Cleaning and De-Icing System (ACDS)																												
Aviation Foot Locker (AFL)																												
Aviation Ground Power Unit (AGPU)																												
Aviation Ground Power Unit (AGPU) Next Gen																												
Aviation Maintenance Support System (AMSS)																												
Aviation Unit Maintenance Shop Set (AVUMSS)																												
Common Aviation Tool System (CATS)																												
Family of Aviation Lifting Devices (F-ALD)																												
Digital Flexible Engine Diagnostic System (DFEDS)																												
Generic Aircraft Nitrogen Generator (GANG)																												
Non-Destructive Test Equipment (NDTE)																												
Pitot Static Test Set (PSTS)																												
Swaging Tool Kit (SWTK)																												
Unit Maintenance Aerial Recovery Kit (UMARK)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment	Project (Number/Name) EE5 / Aviation Ground Support Equipment

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Aircraft Cleaning and De-Icing System (ACDS)	2	2015	4	2017
Aviation Foot Locker (AFL)	2	2015	2	2016
Aviation Ground Power Unit (AGPU)	3	2015	4	2016
Aviation Ground Power Unit (AGPU) Next Gen	2	2018	2	2020
Aviation Maintenance Support System (AMSS)	3	2019	2	2024
Aviation Unit Maintenance Shop Set (AVUM SS)	4	2015	4	2016
Common Aviation Tool System (CATS)	2	2015	2	2016
Family of Aviation Lifting Devices (F-ALD)	2	2015	2	2017
Digital Flexible Engine Diagnostic System (DFEDS)	3	2016	4	2017
Generic Aircraft Nitrogen Generator (GANG)	2	2018	2	2019
Non-Destructive Test Equipment (NDTE)	3	2015	3	2016
Pitot Static Test Set (PSTS)	2	2017	4	2019
Swaging Tool Kit (SWTK)	2	2015	2	2016
Unit Maintenance Aerial Recovery Kit (UMARK)	2	2015	2	2016