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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>					PE 0605830A / <i>Aviation Ground Support Equipment</i>							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	9.655	13.880	2.142	-	2.142	6.808	4.117	7.092	5.387	Continuing	Continuing
EE5: <i>Aviation Ground Support Equipment</i>	-	9.655	13.880	2.142	-	2.142	6.808	4.117	7.092	5.387	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element funds Aviation Ground Support Equipment (AGSE) developmental testing and acquisition of prototypes to enhance the functionality of current and future aircraft maintenance equipment. This will be accomplished by identifying more effective aircraft maintenance equipment, validating new maintenance concepts, improving machine interfaces, updating aircraft maintenance processes, and developing improved diagnostic technologies which will reduce Operation and Support costs. This program provides for the development of rapid battle repair procedures, tools, ground handling, and test equipment to speed the return of aircraft to a fully mission capable status. Included in this program are: Aviation Ground Power Unit (AGPU), Self-propelled Crane Aircraft Maintenance and Positioning Increment II (SCAMP II), Aviation Unit Maintenance Shop Set (AVUM SS), Modernized Flexible Engine Diagnostic System (MFEDS), (formerly referred to as Digital Flexible Engine Diagnostic System (DFEDS)), Modernized Maintenance Stands (MMS), Unit Maintenance Aerial Recovery Kit (UMARK), Aviation Maintenance Support System (AMSS), Generic Aircraft Nitrogen Generator (GANG), Pitot Static Test Set (PSTS) and development of support equipment required for maintenance support to modernized/future force aircraft.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	10.036	8.880	7.880	-	7.880
Current President's Budget	9.655	13.880	2.142	-	2.142
Total Adjustments	-0.381	5.000	-5.738	-	-5.738
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.381	-			
• Adjustments to Budget Years	-	-	-5.738	-	-5.738

Change Summary Explanation

FY 2016 increase of \$5.000 million is a program increase as a result of the FY16 OMNIBUS Appropriation Act.

FY 2017 decrease of \$5.738 million reflects an adjustment to align funding including a Resource Management Decision decrement of \$2,364K.

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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			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
EE5: Aviation Ground Support Equipment	-	9.655	13.880	2.142	-	2.142	6.808	4.117	7.092	5.387	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project funds Aviation Ground Support Equipment (AGSE) developmental testing and acquisition of prototypes to enhance the functionality of current and future aircraft maintenance equipment. This will be accomplished by identifying more effective aircraft maintenance equipment, validating new maintenance concepts, improving machine interfaces, updating aircraft maintenance processes, and developing improved diagnostic technologies which will reduce Operation and Support costs. This program provides for the development of rapid battle repair procedures, tools, ground handling, and test equipment to speed the return of aircraft to a fully mission capable status. Included in this program are: Aviation Ground Power Unit (AGPU), Self-propelled Crane Aircraft Maintenance and Positioning Increment II (SCAMP II), Aviation Unit Maintenance Shop Set (AVUM SS), Modernized Flexible Engine Diagnostic System (MFEDS), (formerly referred to as Digital Flexible Engine Diagnostic System (DFEDS)), Modernized Maintenance Stands (MMS), Unit Maintenance Aerial Recovery Kit (UMARK), Aviation Maintenance Support System (AMSS), Generic Aircraft Nitrogen Generator (GANG), Pitot Static Test Set (PSTS) and development of support equipment required for maintenance support to modernized/future force aircraft.

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

	FY 2015	FY 2016	FY 2017
<p>Title: Aviation Ground Power Unit (AGPU)</p> <p>Description: The AGPU provides external hydraulic, pneumatic, and AC/DC electrical power to meet Army helicopter servicing requirements.</p> <p>FY 2015 Accomplishments: Completed development and component level testing of redesigned hydraulic and electrical modules.</p> <p>FY 2016 Plans: Conduct system level testing and evaluation with redesigned components into prototype AGPUs.</p>	2.099	1.015	-
<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 Accomplishments:</p>	2.596	0.850	-

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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 2015	FY 2016	FY 2017
<p>Procured test samples, performed both developmental and operational testing, and finalized acquisition documentation in preparation for procurement.</p> <p>FY 2016 Plans: Complete developmental and operational testing of test samples and finalize acquisition documentation in preparation for procurement.</p>				
<p>Title: SCAMP II Flight Line/Expeditionary</p> <p>Description: SCAMP II maintenance lifting capability ranges from simple scheduled maintenance lifting on the flight line and other improved Aviation maintenance areas to maintenance lifting required during contact maintenance and Downed Aircraft Recovery Team (DART) operations in unimproved environments.</p> <p>FY 2015 Accomplishments: Performed market research, prepared Statement of Work, created detailed test plan and prepared contract requirements package.</p> <p>FY 2016 Plans: Perform technical reviews of proposals, procure samples for testing, initiate testing of product samples and update acquisition documentation supporting a Milestone C decision.</p> <p>FY 2017 Plans: Complete Source Selection Evaluation Board, and acquisition documentation supporting a Milestone C decision.</p>		0.367	1.712	1.449
<p>Title: Non-Destructive Test Equipment (NDTE)</p> <p>Description: NDTE provides Army Aviation Maintenance units with an electronic test instrument to inspect aircraft components and structures without complete disassembly or removal from the aircraft (includes eddy current, ultrasonic and harmonic bond capabilities).</p> <p>FY 2015 Accomplishments: Completed market research for modernization of Non-Destructive Test Equipment to incorporate technology advancements, verified and developed purchase item description and created contracts requirements package.</p> <p>FY 2016 Plans: Purchase product samples, conduct performance verification testing and technical manual updates.</p>		0.055	0.200	-
<p>Title: Modernized Flexible Engine Diagnostic System (MFEDS)</p> <p>Description: The MFEDS is an advanced technology engine test system designed to test and verify flight readiness of engines removed from aircraft for maintenance.</p>		2.401	4.453	-

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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 2015	FY 2016	FY 2017
<p><i>FY 2015 Accomplishments:</i> Performed prototype system performance assessment, fuel skid redesign, dynamometer torque measurement system integration testing, International Organization for Standardization (ISO) shelter design.</p> <p><i>FY 2016 Plans:</i> Perform system level performance verification testing and technical manual development.</p>				
<p><i>Title:</i> Modernized Maintenance Stand (MMS)</p> <p><i>Description:</i> The Modernized Maintenance Stand provides a stable work platform for aircraft maintainers from ground level to the rotor systems. It enhances the occupational safety environment during scheduled and unscheduled maintenance operations.</p> <p><i>FY 2015 Accomplishments:</i> Completed a Source Selection Evaluation Board which identified two vendors technically acceptable for this requirement. One production sample from each was purchased for performance testing to determine final selection and contract award.</p> <p><i>FY 2016 Plans:</i> Complete performance testing and Source Selection Evaluation Board.</p>		0.382	0.049	-
<p><i>Title:</i> Unit Maintenance Aerial Recovery Kit (UMARK)</p> <p><i>Description:</i> UMARK provides Aviation Support Company and Aviation Maintenance Company units with the ability to quickly rig for transport crash-damaged non-flyable aircraft for evacuation and maintenance.</p> <p><i>FY 2015 Accomplishments:</i> Finalized UMARK Technical Data Package, rigging procedures and manuals.</p>		0.473	-	-
<p><i>Title:</i> Management Support Services</p> <p><i>Description:</i> Management Support Services in support of the Aviation Ground Support Equipment Product Management Office.</p> <p><i>FY 2015 Accomplishments:</i> Continued Management Support Services.</p> <p><i>FY 2016 Plans:</i> Continue Management Support Services.</p> <p><i>FY 2017 Plans:</i> Continue Management Support Services</p>		0.350	0.306	0.321
<p><i>Title:</i> Research, Development, Test, and Evaluation (RDTE) Project Test Support</p>		0.490	5.000	0.062

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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 2015	FY 2016	FY 2017
<p>Description: RDTE Project Test Support for the Aviation Ground Support Equipment Product Management Office.</p> <p>FY 2015 Accomplishments: Continued RDTE Project Test Support.</p> <p>FY 2016 Plans: Continue Project Test Support</p> <p>FY 2017 Plans: Continue Project Test Support</p>			
<p>Title: Technical Engineering Services</p> <p>Description: Technical Engineering Services in support of the Aviation Ground Support Equipment Product Management Office.</p> <p>FY 2015 Accomplishments: Continued Technical Engineering Services.</p> <p>FY 2016 Plans: Continue Technical Engineering Services</p> <p>FY 2017 Plans: Continue Technical Engineering Services</p>	0.442	0.295	0.310
Accomplishments/Planned Programs Subtotals	9.655	13.880	2.142

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• Aviation Ground Support Equipment: <i>Aviation Ground Support Equipment, SSN AZ3520</i>	31.681	58.067	48.234	-	48.234	47.404	37.529	37.154	34.795	Continuing	Continuing

Remarks

D. Acquisition Strategy

This project is an aggregate of aviation ground support equipment related projects. While the detailed acquisition strategy varies from program to program, the general strategy for each individual program 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.

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / <i>Aviation Ground Support Equipment</i>	Project (Number/Name) EE5 / <i>Aviation Ground Support Equipment</i>

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army											Date: February 2016				
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				

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
Management Support Services	Various	PM AGSE : Redstone Arsenal, AL	0.000	0.350	Oct 2014	0.306	Feb 2016	0.321	Oct 2016	-		0.321	Continuing	Continuing	Continuing
Subtotal			0.000	0.350		0.306		0.321		-		0.321	-	-	-

Remarks

None.

Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
AGPU	Various	UAH, RSA, AL; RTTC, Redstone Arsenal, AL; AMRDEC, RSA, AL; Aberdeen Test Center, : Aberdeen Proving Ground, MD	0.000	2.099	Apr 2015	1.015	Aug 2016	-		-		-	0	3.114	0
AVUM SS	Various	AMRDEC, RSA; RTTC, RSA; Aberdeen Test Center, : Aberdeen Proving Ground, MD	0.000	2.596	Apr 2015	0.850	Jun 2016	-		-		-	0	3.446	0
SCAMP II Flight Line/ Expeditionary	Various	AMCOM, RSA; AMRDEC, RSA : Redstone Arsenal, AL	0.000	0.367	Jun 2015	1.712	Jul 2016	1.449	Jun 2017	-		1.449	Continuing	Continuing	Continuing
NDTE	Various	AMRDEC, RSA, AL; ATC : Aberdeen Proving Ground, MD	0.000	0.055	Apr 2015	0.200	May 2016	-		-		-	0	0.255	0
MFEDS	Various	RTTC (RSA); AMDREDEC	0.000	2.401	Jan 2015	4.453	Apr 2016	-		-		-	0	6.854	0

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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
		(RSA); : Redstone Arsenal, AL													
MMS	C/IDIQ	PM, AGSE : Redstone Arsenal, AL	0.000	0.382	Sep 2015	0.049	May 2016	-		-		-	0	0.431	0
UMARK	Various	AMRDEC, RSA, AL; Aberdeen Test Center, APG, MD; AATD : Fort Eustis, VA	0.000	0.473	Feb 2015	-		-		-		-	0	0.473	0
Subtotal			0.000	8.373		8.279		1.449		-		1.449	-	-	-

Remarks
None.

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	0.300	Apr 2015	0.200	Apr 2016	0.200	Apr 2017	-		0.200	Continuing	Continuing	Continuing
Technical Engineering Services	MIPR	AED : Redstone Arsenal, AL	0.000	0.142	Apr 2015	0.095	Apr 2016	0.110	Apr 2017	-		0.110	Continuing	Continuing	Continuing
Subtotal			0.000	0.442		0.295		0.310		-		0.310	-	-	-

Remarks
None.

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Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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 Ground, MD	0.000	0.320	Jan 2015	0.100	Jan 2016	-		-		-	Continuing	Continuing	Continuing
RDTE Project Test Support	Various	AMRDEC : Redstone Arsenal, AL	0.000	0.115	May 2015	0.075	May 2016	-		-		-	Continuing	Continuing	Continuing
RDTE Project Test Support	Various	AMCOM, : Redstone Arsenal, AL	0.000	0.055	Jan 2015	4.825	Jan 2016	0.062	Jan 2017	-		0.062	Continuing	Continuing	Continuing
Subtotal			0.000	0.490		5.000		0.062		-		0.062	-	-	-

Remarks
None.

Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract			
Project Cost Totals			0.000	9.655	13.880	2.142	-	2.142	-	-	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

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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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Aviation Ground Power Unit (AGPU)					AGPU																							
Aviation Unit Maintenance Shop Set (AVUM SS)					AVUM SS																							
Self-propelled Crane Aircraft Maintenance and Positioning II									SCAMP II																			
Non-Destructive Test Equipment (NDTE)					NDTE																							
Unit Maintenance Aerial Recovery Kit (UMARK)	UMARK																											
Modernized Maintenance Stands (MMS)					MMS																							
Modernized Flexible Engine Diagnostic System (MFEDS)	MFEDS																											
Aviation Maintenance Support System (AMSS)													AMSS															
Generic Aircraft Nitrogen Generator (GANG)													GANG															
Pitot Static Test Set (PSTS)													PSTS															

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
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
Aviation Ground Power Unit (AGPU)	3	2015	4	2017
Aviation Unit Maintenance Shop Set (AVUM SS)	3	2015	4	2017
Self-propelled Crane Aircraft Maintenance and Positioning II	3	2015	3	2020
Non-Destructive Test Equipment (NDTE)	3	2015	2	2017
Unit Maintenance Aerial Recovery Kit (UMARK)	2	2015	2	2016
Modernized Maintenance Stands (MMS)	4	2015	3	2017
Modernized Flexible Engine Diagnostic System (MFEDS)	1	2015	3	2017
Aviation Maintenance Support System (AMSS)	1	2019	4	2021
Generic Aircraft Nitrogen Generator (GANG)	2	2018	2	2019
Pitot Static Test Set (PSTS)	1	2018	4	2019

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