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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605830A I Aviation Ground Support Equipment							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	6.653	7.703	1.664	-	1.664	1.468	1.386	1.334	1.162	0.000	21.370
EE5: Aviation Ground Support Equipment	-	6.653	7.703	1.664	-	1.664	1.468	1.386	1.334	1.162	0.000	21.370

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: Tool Set, Aviation Unit Maintenance (TS, AUM) (formerly Aviation Unit Maintenance Shop Set), Self-propelled Crane Aircraft Maintenance and Positioning Increment II (SCAMP II) Type 2 (Expeditionary Variant), Pitot Static Test Set (PSTS), Aviation Ground Power Unit Next Generation (AGPU Nex Gen), Modernized Flexible Engine Diagnostic System (MFEDS), Modernized Maintenance Stands (MMS), and development of support equipment required for maintenance of modernized/future force aircraft.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>
Previous President's Budget	6.930	2.706	5.430	-	5.430
Current President's Budget	6.653	7.703	1.664	-	1.664
Total Adjustments	-0.277	4.997	-3.766	-	-3.766
• Congressional General Reductions	-0.006	-0.003			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.271	-			
• Adjustments to Budget Years	-	-	-3.766	-	-3.766

Change Summary Explanation

FY 2020 budget adjustment of -\$3.766 million from the President's Budget 2019 submission was in support of Army modernization priorities.

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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
EE5: Aviation Ground Support Equipment	-	6.653	7.703	1.664	-	1.664	1.468	1.386	1.334	1.162	0.000	21.370
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: Tool Set, Aviation Unit Maintenance (TS, AUM) (formerly Aviation Unit Maintenance Shop Set), Self-propelled Crane Aircraft Maintenance and Positioning Increment II (SCAMP II) Type 2 (Expeditionary Variant), Pitot Static Test Set (PSTS), Aviation Ground Power Unit Next Generation (AGPU Nex Gen), Modernized Flexible Engine Diagnostic System (MFEDS), Modernized Maintenance Stands (MMS), and development of support equipment required for maintenance of modernized/future force aircraft.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020	
Title: Tool Set, Aviation Unit Maintenance									0.710	-	-	
Description: The Tool Set, Aviation Unit Maintenance consists of three deployable shelters which provide tool loads required for unit-level aviation maintenance tasks.												
Title: SCAMP II, Type 2 (Expeditionary Variant)									0.568	0.400	-	
Description: The SCAMP II, Type 2 will remove and replace major aircraft components (maintenance lifting) in support of Army Aviation Maintenance. Type 2 supports maintenance on unimproved, austere locations, split operations and downed aircraft recovery.												
FY 2019 Plans: Conduct Customer Test and Logistics Demonstration/Tech Manual Verification.												
FY 2019 to FY 2020 Increase/Decrease Statement: Will complete Customer Test and Logistics Demonstration/Tech Manual Verification in FY19.												
Title: Pitot Static Test Set (PSTS)									-	1.175	0.824	
Description: PSTS is a portable aircraft air data systems tester which provides the capability of troubleshooting, repairing, and verifying proper operation of flight critical aircraft air data systems.												

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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 2018	FY 2019	FY 2020
FY 2019 Plans: Conduct Acceptance Tests and Airworthiness Release and Safety Conformation.				
FY 2020 Plans: Conduct logistics demonstrations, verify tech manual and develop TDP.				
FY 2019 to FY 2020 Increase/Decrease Statement: The logistics demonstration and tech manual verification require less resources than the Acceptance Tests and Airworthiness Release efforts.				
Title: Aviation Ground Power Unit Next Generation (AGPU Next Gen) Description: The AGPU Next Gen provides external hydraulic, pneumatic, and AC/DC electrical power to meet Army helicopter servicing requirements.		4.226	0.541	0.840
FY 2019 Plans: Conduct testing of the AGPU Next Gen to secure an Airworthiness requirements memorandum.				
FY 2020 Plans: Begin the Initial Operational Test and Evaluation (IOT&E) of the AGPU Next Gen candidates.				
FY 2019 to FY 2020 Increase/Decrease Statement: Increase is due to the transition to start the qualification process of the Next Generation Aviation Ground Power Unit.				
Title: Modernized Flexible Engine Diagnostic System (MFEDS) Description: The MFEDS is an advanced technology engine test system designed to test and verify flight readiness of engines removed from aircraft for maintenance.		0.045	-	-
Title: Modernized Maintenance Stand (MMS) Description: 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.		0.124	-	-
Title: Next Generation Health Monitoring System Description: Congressional increase fo the Next Generation Health Monitoring System was placed on the wrong budget line. This PE Project does not fund this effort.		-	5.000	-
FY 2019 Plans:				

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B. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020	
None											
FY 2019 to FY 2020 Increase/Decrease Statement: FY2019 funding reflects a Congressional increase that was placed on the wrong line. This Budget Line does not procure Next Generation Health Monitoring Systems.											
Title: Management Support Services Description: Management Support Services in support of the Aviation Ground Support Equipment Product Management Office.								0.609	-	-	
Title: Technical Engineering Services Description: Technical Engineering Services in support of Airworthiness and Safety certifications for Aviation Ground Support Equipment. FY 2019 Plans: Continue Technical Engineering Services FY 2019 to FY 2020 Increase/Decrease Statement: Decrease due to Technical Engineering Services spread between the programs.								0.371	0.500	-	
Title: FY2019 SBIR/STTR Transfer Description: FY2019 SBIR STTR Transfer FY 2019 Plans: FY2019 SBIR STTR Transfer FY 2019 to FY 2020 Increase/Decrease Statement: FY2019 SBIR STTR Transfer								-	0.087	-	
Accomplishments/Planned Programs Subtotals								6.653	7.703	1.664	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• AZ3520: AVIATION GROUND SUPPORT EQUIPMENT	47.404	34.818	18.624	-	18.624	18.825	16.121	16.455	17.429	0.000	169.676
Remarks											

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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 each 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 2020 Army												Date: March 2019			
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 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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	0.977	0.609	Oct 2018	-		-		-		-	0.000	1.586	-
FY2019 SBIR STTR Transfer	TBD	HQDA : Washington D.C.	-	-		0.087	Oct 2018	-		-		-	0.000	0.087	-
Subtotal			0.977	0.609		0.087		-		-		-	0.000	1.673	N/A
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Tool Set, Aviation Unit Maintenance	Various	AMRDEC, RSA; RTTC, RSA; Aberdeen Test Center, : Aberdeen Proving Ground, MD	4.591	0.710	Aug 2018	-		-		-		-	0.000	5.301	-
SCAMP II, Type 2 (Expeditionary)	Various	AMCOM, RSA; AMRDEC, RSA : Redstone Arsenal, AL	1.178	0.568	Nov 2019	0.400	Feb 2019	-		-		-	0.000	2.146	-
PSTS	C/TBD	To Be Determined : To Be Determined	-	-		1.175	Apr 2019	0.824	Apr 2020	-		0.824	Continuing	Continuing	Continuing
AGPU Next Gen.	PO	RTC : Redstone Arsenal, AL	-	4.226	Aug 2018	0.541	Jun 2019	0.840	May 2020	-		0.840	Continuing	Continuing	Continuing
Modernized Maintenance Stand	MIPR	ATEC : Redstone Arsenal	-	0.124	Jun 2018	-		-		-		-	0.000	0.124	-
Modernized Flexible Diangnostic System	MIPR	RTC : Redstone Arsenal	-	0.045	May 2018	-		-		-		-	0.000	0.045	-
Next Generation Health Monitoring System	TBD	To Be Determined : To Be Determined	-	-		5.000	Dec 2018	-		-		-	0.000	5.000	-
Subtotal			5.769	5.673		7.116		1.664		-		1.664	Continuing	Continuing	N/A

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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					
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Technical Engineering Services	MIPR	AATD : Ft. Eustis, VA	0.756	0.221	Apr 2018	0.500		-		-		-	0.000	1.477	-
Technical Engineering Services	MIPR	AED : Redstone Arsenal, AL	0.347	0.150	Apr 2018	-		-		-		-	0.000	0.497	-
Subtotal			1.103	0.371		0.500		-		-		-	0.000	1.974	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			7.849	6.653		7.703		1.664		-		1.664	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army			Date: March 2019		
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	

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
AGPU Next Gen. Test Articles																												
AGPU Next Gen.																												
AGPU Next Gen. Milestone C																												
Tool Set, Aviation Unit Maintenance (TS, AUM)																												
Self-Propelled Crane Aircraft Maintenance and Positioning II, Type 2																												
Pitot Static Test Set (PSTS)																												
Aircraft Cleaning and Deicing System (ACDS)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army			Date: March 2019
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
AGPU Next Gen. Test Articles	3	2022	3	2023
AGPU Next Gen.	4	2018	4	2022
AGPU Next Gen. Milestone C	3	2024	3	2024
Tool Set, Aviation Unit Maintenance (TS, AUM)	4	2016	4	2019
Self-Propelled Crane Aircraft Maintenance and Positioning II, Type 2	3	2015	4	2019
Pitot Static Test Set (PSTS)	3	2019	4	2021
Aircraft Cleaning and Deicing System (ACDS)	1	2023	4	2024