

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2021 Air Force **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / <i>HC/MC-130 Recap RDT&amp;E</i>
--	--

COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	23.459	15.641	17.218	24.705	0.000	24.705	52.502	53.720	12.587	24.213	52.162	276.207
675006: <i>HC/MC-130 Recap</i>	23.459	15.641	17.218	5.739	0.000	5.739	28.677	49.632	7.408	18.939	0.000	166.713
675910: <i>Block 8.X</i>	0.000	0.000	0.000	18.966	0.000	18.966	23.825	4.088	5.179	5.274	52.162	109.494

**Program MDAP/MAIS Code:** 257

**A. Mission Description and Budget Item Justification**

HC/MC-130 Recapitalization provides a Medium lift tanker aircraft to replace and augment the aging USAF fleet of combat rescue HC-130P/N and special operations MC-130E/H/P/W aircraft for the Combat Search and Rescue (CSAR) forces, and Air Force Special Operation Forces, which are experiencing airworthiness, maintainability, and operations limitations. The HC/MC-130 Recap incorporates production line modifications to the C-130J common/baseline configuration to convert them to the HC/MC model. The program also funds post-production modifications to add special mission systems required for behind-enemy-line operations required of CSAR and Special Operations aircraft.

The RDT&E portion of the Recap program funds engineering support and studies to conduct rapid development activities, and develops major "block" upgrades to deliver specific increments of capability in common configurations across the fielded fleet. Currently, Block 7.0/8.1 leverages the baseline C-130J (PE 0401132F) Block 7.0/8.1 upgrade, but funds unique HC/AC/MC-130J integration requirements. The Block 7.0/8.1 project will deliver Communication, Navigation and Surveillance/Air Traffic Management (CNS/ATM) capabilities required for compliance with evolving international standards, thereby allowing HC/MC-130J aircraft to operate in international airspace. It also incorporates capabilities such as Link-16, a new Flight Management System (FMS), Civil GPS Navigation and Data Link, Identification Friend or Foe (IFF) Transponder Mode-5, and Automatic Dependent Surveillance-Broadcast Out (ADS-B Out).

The HC-130J Block 7.0/8.1 Integrated Baseline Review (IBR) will occur to account for the removal of the MC-130J from the original baseline. HC Block 7.0/8.1 trial kit install (TKI) will begin. The USAF has also decoupled the IFF Mode 5 and ADS-B Out portions of Block 7.0/8.1, to accelerate those requirements and comply with 2020 mandates. The USAF also added a budget line to comply with new communication modernization to include Mobile User Objective System (MUOS), Crypto Modernization, and Saturn and High Frequency (HF) Radio Satellite Communications (SATCOM) mandate.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver HC/MC-130J weapon system capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605831F.

The program may also include any Contractor Manpower Equivalent (CME)/A&AS support deemed necessary to support the program objectives. The HC/MC-130 Recap RDT&E permits the initiation and employment of rapid acquisition authorities to respond to emerging threats and requirements as needed.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2021 Air Force	<b>Date:</b> February 2020
--	----------------------------

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E
--	---

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Previous President's Budget	16.174	17.218	24.750	0.000	24.750
Current President's Budget	15.641	17.218	24.705	0.000	24.705
Total Adjustments	-0.533	0.000	-0.045	0.000	-0.045
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.533	0.000			
• Other Adjustments	0.000	0.000	-0.045	0.000	-0.045

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Air Force										<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E				<b>Project (Number/Name)</b> 675006 / HC/MC-130 Recap			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
675006: HC/MC-130 Recap	23.459	15.641	17.218	5.739	0.000	5.739	28.677	49.632	7.408	18.939	0.000	166.713
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

HC/MC-130 Recapitalization will replace and augment the aging USAF fleets of combat rescue HC-130P/N and special operations MC-130E/P/H aircraft which are experiencing airworthiness, maintainability and operational limitations.

The RDT&E portion of the Recap program funds three major thrusts to include but not limited to Continuous Improvement Program, HC Block 7.0/8.1, and Governmental Test.

The HC-130J Recap RDT&E effort integrates Block 7.0/8.1 into a HC-130J, provides program capability updates, studies, and integration with other HC-130J unique modifications. The HC-130J Block 7.0/8.1 program follows the same "Block Upgrade" strategy being used in the C-130J program (PE 0401132F).

The USAF will be fielding the IFF Mode 5, ADS-B Out and Link-16 portions of Block 7.0/8.1 ahead of the remaining 36 capabilities in order to comply with the 2020 mandates.

This program element includes necessary civilian pay expenses required to manage, execute, and deliver HC/MC-130 Recap Program weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605831F.

HC/MC-130 Recap RDT&E permits the initiation and employment of rapid acquisition authorities to respond to emerging threats and requirements as needed.

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

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<b>Title:</b> HC/MC-130 Recap Continuous Improvement Program (CIP)	1.626	3.085	2.257	-	2.257
<b>Description:</b> Recurring Software and hardware enhancements to address evolving requirements for Special Operations Forces and Personnel Recovery missions. These enhancements will be incorporated in both production and fielded aircraft. These enhancements will include, but are not limited to, parallel operational flight program (OFP) updates.					
<b>FY 2020 Plans:</b> Supports continuous improvement cycle of both hardware and software of multiple onboard systems.					
<b>FY 2021 Base Plans:</b>					

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Air Force			<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E	<b>Project (Number/Name)</b> 675006 / HC/MC-130 Recap			
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Supports continuous improvement cycle of both hardware and software of multiple onboard systems <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Funding decreased due to fewer support hardware and software improvements of multiple onboard systems.					
<b>Title:</b> HC-130 Block 7.0/8.1 <b>Description:</b> Combined software/hardware upgrade for Block 7.0/8.1. Block 7.0/8.1 includes, but is not limited to: Link 16, a new Flight Management System (FMS), Civil Global Positioning System (GPS) Navigation, a Special Mission Processor Interface (SMP-I), Identification Friend or Foe (IFF) Mode 5, Civil Data Link, Automatic Dependent Surveillance-Broadcast Out (ADS-B-Out) and the CSO 2.5. <b>FY 2020 Plans:</b> HC-130J will continue to develop software, hardware, hardware modifications, technical data and begin developmental testing. <b>FY 2021 Base Plans:</b> Operational testing and technical data package. <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Funding decrease due to reduced HC-130J TKI testing requirement.	13.503	13.817	3.162	-	3.162
<b>Title:</b> HC/MC-130J Government Test Support <b>Description:</b> Test and evaluation planning, conduct, and support to include MITRE for developmental and operational testing. <b>FY 2020 Plans:</b> Developmental and operational testing including Block 7.0/8.1 DT&E as well as communication modernization testing. <b>FY 2021 Base Plans:</b> Development and operational testing for HC-130J Block 7.0/8.1 DT&E as well as communication modernization testing. <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Funding increase due to inflation.	0.512	0.316	0.320	-	0.320
<b>Accomplishments/Planned Programs Subtotals</b>	15.641	17.218	5.739	-	5.739

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Air Force	<b>Date:</b> February 2020
---	----------------------------

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E	<b>Project (Number/Name)</b> 675006 / HC/MC-130 Recap
--	---	--

**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2019	FY 2020	FY 2021	FY 2021	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Cost To	
			Base	OCO	Total					Complete	Total Cost
• APAF 05 Line Item HCMC00: <i>HC/MC-130 Modifications</i>	125.654	34.850	20.780	58.020	78.800	49.290	14.978	4.447	33.472	0.000	341.491
• APAF 02 Line Item C130JH: <i>HC-130J</i>	183.837	0.000	0.000	-	0.000	0.000	0.000	5.035	-	0.000	188.872
• APAF 02 Line Item C-130JM: <i>MC-130J</i>	935.879	897.607	402.794	-	402.794	399.180	120.294	27.577	44.305	0.000	2,827.636

**Remarks**

**D. Acquisition Strategy**

Lockheed Martin is the primary contractor for Research and Development work in support of the HC/MC-130J Recap program. Block 7.0/8.1 strategy takes the common core Block 7.0/8.1 developed in the C-130J program and integrates it into the HC-130J. Block 7.0/8.1 will also integrate with HC- unique mods. The C-130J ADS-B Out program includes all C-130J variants.

Development work done to date on the HC-130J Recap program has been on Cost Plus Award Fee (CPAF) and Cost Plus Incentive Fee (CPIF) type contracts.

The Continuous Improvement Program (CIP) acquisition strategy is developed on an as needed basis.



**UNCLASSIFIED**

**Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E	<b>Project (Number/Name)</b> 675006 / HC/MC-130 Recap
--	---	--

FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
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

<b>HC/MC-130 Recap Development</b>	
HC-130J Government Testing	
HC-130 RECAP Block 7.0/8.1 Development	
Continuous Improvement Program (CIP)	

**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details:** PB 2021 Air Force **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E	<b>Project (Number/Name)</b> 675006 / HC/MC-130 Recap
--	---	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>HC/MC-130 Recap Development</i></b>				
HC-130J Government Testing	1	2019	4	2023
HC-130 RECAP Block 7.0/8.1 Development	3	2019	4	2021
Continuous Improvement Program (CIP)	2	2020	4	2021

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Air Force										<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E				<b>Project (Number/Name)</b> 675910 / Block 8.X			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
675910: <i>Block 8.X</i>	0.000	0.000	0.000	18.966	0.000	18.966	23.825	4.088	5.179	5.274	52.162	109.494
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Integrates Block 7.0/8.1 into AC/MC-130J; provides program capability updates, studies, and integration with other MC and AC unique modifications.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver HC/MC-130 Recap Program weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605831F.

AC-130J RDT&E permits the initiation and employment of rapid acquisition authorities to respond to emerging threats and requirements as needed.

Working to transition Budget name from Block 8.X to System Upgrades.

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

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<b>Title:</b> AC/MC-130J Block 7.0/8.1 Upgrade	0.000	0.000	15.966	-	15.966
<b>Description:</b> Combined software/hardware upgrade for AC/MC Block 7.0/8.1. Block 7.0/8.1 includes, but is not limited to: Flight Management System (FMS), Civil Global Positioning System (GPS) Navigation, a Special Mission Processor Interface (SMP-I), Identification Friend or Foe (IFF) Mode 5, Civil Data Link, Automatic Dependent Surveillance-Broadcast Out (ADS-B-Out) and the CSO 2.5.					
<b>FY 2020 Plans:</b> N/A					
<b>FY 2021 Base Plans:</b> AC/MC-130J 7.0/8.1 Block upgrade development activities.					
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Funding increased due to AC/MC-130J Block 7.0/8.1 upgrades.					
<b>Title:</b> Communication Modernization	-	0.000	3.000	-	3.000
<b>Description:</b> Complies with mandates and will provide secure voice, data, video, network-centric communications in real-time; allow continuous satellite communications (SATCOM) as satellite constellation transitions.					

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2021 Air Force **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E	<b>Project (Number/Name)</b> 675910 / Block 8.X
--	---	--

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<p><b><i>FY 2020 Plans:</i></b> N/A</p> <p><b><i>FY 2021 Base Plans:</i></b> Perform integration study with the ARC-210 radio.</p> <p><b><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i></b> Funding increased due to development of Communication Modernization effort.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	18.966	-	18.966

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

The acquisition strategy for AC/MC-130J Block 7.0/81 is being developed. Block 8.X strategy takes the common core Block 7.0/8.1 developed in the C-130J program and integrates it into the AC/MC-130J configurations.



**UNCLASSIFIED**

**Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E	<b>Project (Number/Name)</b> 675910 / Block 8.X
--	---	--

FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
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

<b>Block 8.X</b>	
Communications Modernization	[REDACTED]
Block 8.X development for AC/MC-130	[REDACTED]

**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details:** PB 2021 Air Force **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605278F / HC/MC-130 Recap RDT&E	<b>Project (Number/Name)</b> 675910 / Block 8.X
--	---	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Block 8.X</b>				
Communications Modernization	2	2021	4	2024
Block 8.X development for AC/MC-130	1	2021	4	2025