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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	1,041.192	32.513	77.252	83.985	0.000	83.985	30.826	5.255	5.366	5.471	18.311	1,300.171
655340: <i>Advanced Trainer Replacement T-7A</i>	1,041.192	32.513	77.252	83.985	0.000	83.985	30.826	5.255	5.366	5.471	18.311	1,300.171
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Program MDAP/MAIS Code: 436

A. Mission Description and Budget Item Justification

The Advanced Pilot Training (APT)/T-7A Red Hawk program will replace the Air Education Training Command's (AETC) aging T-38C fleet with new aircraft, Ground Based Training System (simulators, training devices, computer based training systems, academics, etc.), Maintenance Training System, and support infrastructure currently used in the fighter/bomber advanced Specialized Undergraduate Pilot Training track as well as in the Introduction to Fighter Fundamentals program. The APT/T-7A Red Hawk program acquisition strategy was approved by OSD (AT&L) in early FY 2017 (December 2016). At the same time, the APT/T-7A Red Hawk Team completed their Development Request for Proposal (RFP) Release Defense Acquisition Board and subsequently released the RFP to industry on 30 December 2016. The Program completed source selection evaluations and Milestone B in September 2018, and awarded a Fixed Price Incentive Firm (FPIF) Indefinite Delivery/Indefinite Quantity contract to The Boeing Company on 27 September 2018.

The Maintenance Training System (MTS) effort will be a Delivery Order under the TSA IV ID/IQ Contract and is planned to be awarded through a competitive process that will be awarded in 2024. The T-7A MTS will provide maintainers with the foundational skills and core competencies required to maintain the T-7A aircraft and its associated subsystems. The MTS will be a blended training solution to include a.) a suite of Maintenance Training Devices (MTDs) with associated support equipment; b.) Interactive Multimedia Instruction (IMI)/courseware and training material; c.) smart classrooms to facilitate instructor-led training; and d.) support environments to manage training schedules, student data, and updates to all training capabilities. The T-7A MTS program will encompass the design, development, integration, and test of the most efficient and effective combination of training capabilities, as well as Contractor Logistics Support (CLS) performance. Funding contained in this platform's documentation directly aids AETC flying training enterprise to continue its overall Future Years Defense Program pilot production increase starting in FY 2020, thus reducing the USAF Pilot Shortage. This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 \$1.785 million was expended for civilian pay expenses in this program element, and in FY 2024 \$2.654 million is forecast for civilian pay expenses in this program element.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	33.621	77.252	81.778	0.000	81.778
Current President's Budget	32.513	77.252	83.985	0.000	83.985
Total Adjustments	-1.108	0.000	2.207	0.000	2.207
• 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	-1.108	0.000			
• Other Adjustments	0.000	0.000	2.207	0.000	2.207

Change Summary Explanation

FY 2023 funding was reduced by \$1.018 million for Small Business Innovation Research (SBIR).

FY 2025 funding was increased by \$2.207 million for ramp up and development of the Maintenance Training System (MTS).

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: Advanced Pilot Training (APT) Program	32.513	77.252	83.985
Description: The Advanced Pilot Training (APT) / T-7A Red Hawk program has an approved acquisition strategy, completed Milestone B, and has progressed into the Engineering and Manufacturing Development (EMD) phase. In FY 2020, the APT/T-7A Red Hawk program concluded the Critical Design Review for the Aircraft and Ground Based Training System. This effort includes studies, analysis, acquisition documentation, market research activities, and engineering changes to reduce risk and support the acquisition strategy and engineering and manufacturing development. It also includes Program Support Costs (PSC) such as travel, Other Government Costs (OGC), and Advisory and Assistance Services (A&AS).			
FY 2024 Plans: Program accepted three engineering manufacturing test aircraft and anticipate accepting delivery of two remaining engineering manufacturing test aircraft and multiple ground training devices. Start government flight test and continue Developmental Test & Evaluation.			
FY 2025 Plans:			

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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Continue Developmental Test & Evaluation, prepare for Initial Operation Test and Evaluation, and conduct Maintenance Training System (MTS) development, and execute engineering changes to include but not limited to supplemental aircraft boarding system/egress ladder.			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to ramp up of Maintenance Training System (MTS) development.			
Accomplishments/Planned Programs Subtotals	32.513	77.252	83.985

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• AP AF 03 APT000: <i>Advanced Pilot Training T-7A</i>	10.507	0.000	235.207	-	235.207	548.486	524.987	835.700	852.307	3,818.303	6,825.497
• AP AF 06 APT000: <i>Advanced Trainer Replacement T-7A</i>	0.000	0.000	19.638	-	19.638	43.161	37.545	54.982	56.076	292.808	504.210
• AP AF 07 Line Item 000075: <i>Other Production Charges</i>	4.589	44.409	22.979	-	22.979	51.702	154.454	7.654	7.806	20.622	314.215
• OPAF 02 822990: <i>Cargo and Utility Vehicles</i>	0.000	1.104	0.000	-	0.000	0.000	0.000	1.116	1.137	0.000	3.357
• OPAF 02 825990: <i>Materials Handling Vehicles</i>	0.000	0.401	0.304	-	0.304	0.000	0.116	0.000	0.000	0.000	0.821
• OPAF 03 Line Item 837300: <i>Base Comm Infrastructure</i>	0.700	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.700
• OPAF 04 845010: <i>Base Procured Equipment</i>	0.000	11.444	22.850	-	22.850	19.722	14.791	11.208	11.429	0.000	91.444
• MILCON PE 0804701F: <i>T-7A (Advanced Pilot Trainer) Procurement</i>	4.938	39.543	138.100	-	138.100	241.650	182.223	0.000	0.000	0.000	606.454

Remarks
Total MILCON funding is \$680.044 million which did not include FY 2020 \$31.600 million, FY 2021 \$23.400 million, and FY 2022 \$18.590 million of MILCON funds.

E. Acquisition Strategy
The APT/T-7A Red Hawk Program will develop, test, acquire, and sustain an affordable, agile, and integrated APT System consisting of 351 aircraft, Ground Based Training System, Maintenance Training System, support, infrastructure, and personnel to meet Air Education and Training Command's (AETC) need date of FY 2027.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)*

R-1 Program Element (Number/Name)
PE 0605223F / *Advanced Pilot Training*

The APT/T-7A Red Hawk program's acquisition strategy leveraged market conditions by competing and awarding development, production, and initial sustainment in a single contract award. The Program completed source selection evaluations and Milestone B in September 2018, and awarded a Fixed Price Incentive Fee (FPIF) Indefinite Delivery, Indefinite Quantity (IDIQ) contract to The Boeing Company on 27 September 2018 to provide for development, integration, and testing needed to meet existing APT requirements.

Additional contract options are available for Low Rate Initial Production, Full Rate Production and initial sustainment transition. The Maintenance Training System will be procured under a separate contractual vehicle.

The Maintenance Training System (MTS) acquisition strategy is to acquire Maintenance Training Devices (MTDs), and associated support structure, for an AETC Centralized Training Facility (CTF) and four Unit Training Maintenance Facilities (UMTFs). The MTS delivery order will be conducted via TSA IV ID/IQ contract per FAR Part 16. The MTS EMD phase will develop and operationalize the CTF with MTD courseware, Training System Support Center (TSSC), the technical data package, and support equipment to ensure system availability and concurrency with the aircraft. The MTS Production phase will develop and operationalize a subset of MTDs for each of the four UMTFs. The Contractor Logistics Support (CLS) will encompass sustainment support of the MTDs at the CTF and UMTFs until two years post-production completion.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 5				PE 0605223F / Advanced Pilot Training				655340 / Advanced Trainer Replacement T-7A							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Advanced Pilot Training Contracts	Various	Various : TBD	882.736	0.343	Jun 2023	21.324	Feb 2024	38.483	Apr 2025	-		38.483	17.184	960.070	1,057.316
Subtotal			882.736	0.343		21.324		38.483		-		38.483	17.184	960.070	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Advanced Pilot Training Mission Support	Various	Various : Various	29.129	5.484	Dec 2022	8.457	Jan 2024	7.640	Dec 2024	-		7.640	4.496	55.206	-
Advanced Pilot Training Direct Cite Authority Civilian Pay	Various	AFLCMC : Dayton, OH	3.841	1.785	Oct 2022	2.654	Oct 2023	2.704	Oct 2024	-		2.704	14.808	25.792	-
Subtotal			32.970	7.269		11.111		10.344		-		10.344	19.304	80.998	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Advanced Pilot Training Test Support	Various	Edwards AFB : Edwards AFB, CA	41.203	16.738	May 2023	31.276	Jan 2024	25.062	Jan 2025	-		25.062	23.882	138.161	-
Subtotal			41.203	16.738		31.276		25.062		-		25.062	23.882	138.161	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Advanced Pilot Training A&AS	Various	AFLCMC : Dayton, OH	46.735	5.127	Apr 2023	9.171	Feb 2024	6.837	Feb 2025	-		6.837	4.287	72.157	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>	Project (Number/Name) 655340 / <i>Advanced Trainer Replacement T-7A</i>
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Advanced Pilot Training PSC, Other Government Costs	Various	AFLCMC : Dayton, OH	37.548	3.036	Nov 2022	4.370	Jan 2024	3.259	Nov 2024	-		3.259	0.674	48.887	-
Subtotal			84.283	8.163		13.541		10.096		-		10.096	4.961	121.044	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		1,041.192	32.513	77.252	83.985	-	83.985	65.331	1,300.273	N/A

Remarks
 Prior Years funding total of \$4.994 million was executed in PE 0604233F.

Prior years amounts and categories under Program 0604233F, Specialized Undergraduate Flight Training include Advanced Pilot Training Studies and Analysis, \$0.935 million; Advanced Pilot Training PMA Government Costs, \$1.383 million; and, Advanced Pilot Training A&AS, \$2.676 million.

FINANCIAL PERFORMANCE: Advanced Pilot Training (APT) T-7A Red Hawk is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the Advanced Pilot Training (APT) T-7A Red Hawk EMD contract is a Fixed Price Incentive Fee (FPIF) contract with progress payments. Ten (10%) percent of incurred costs are withheld until the end of the contract, when they are liquidated. Mandatory funding obligations and progress payment withholds will cause the program to lag traditional expenditure benchmarks, painting an inaccurate portrait of overall program health.

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>	Project (Number/Name) 655340 / <i>Advanced Trainer Replacement T-7A</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Advanced Pilot Training				
Engineering and Manufacturing Development (EMD) Phase	1	2023	3	2025
Development, Test and Evaluation	1	2023	3	2025
Milestone C	3	2025	3	2025
Operational Test Readiness Review (OTRR)	1	2026	1	2026
Initial Operational Test & Evaluation (IOT&E)	2	2026	4	2026
Maintenance Training System Development	1	2025	4	2029
Full Rate Production Decision (FRPD)	2	2027	2	2027
Initial Operational Capability (IOC)	2	2028	2	2028
Aircraft / Ground Based Training System (GBTS) Production	3	2025	4	2029