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**Department of Defense  
Fiscal Year (FY) 2021 Budget Estimates**

February 2020



**Air Force**

*Justification Book Volume 1 of 1*

***Procurement of Ammunition, Air Force***

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Air Force • Budget Estimates FY 2021 • Procurement

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### Appropriation Language Fiscal Year (FY) 2021 President's Budget Procurement of Ammunition, Air Force

For construction, procurement, production, and modification of ammunition and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including ammunition facilities authorized by section 2854 of title 10, United States Code, and the land necessary therefor, for the foregoing purposes, and such lands and interests therein, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; other expenses necessary for the foregoing purposes, and overseas contingency operations, \$1,398,793,000 to remain available for obligation until September 30, 2023.

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FY 2021 Overseas Contingency Operations funding can be separated into the following categories:

- OCO for Direct War Costs (\$802,455,000): Direct War costs are those combat or direct combat support costs that will not continue to be expended once combat operations end at major contingency locations.
- OCO for Enduring Requirements: OCO for Enduring Requirements are enduring in-theater and in-CONUS costs that will likely remain after combat operations cease, and have previously been funded in OCO.
- OCO for Base Requirements (\$596,338,000): OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

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Department of the Air Force  
FY 2021 President's Budget  
Exhibit P-1 FY 2021 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

22 Jan 2020

Appropriation: Procurement of Ammunition, Air Force

| Budget Activity<br>-----                   | FY 2019<br>(Base + OCO)<br>----- | FY 2020<br>Base Enacted<br>----- | FY 2020<br>Emergency<br>----- | FY 2020<br>OCO Enacted<br>----- |
|--|----------------------------------|----------------------------------|-------------------------------|---------------------------------|
| 01. Ammunition                             | 2,756,370                        | 1,588,165                        |                               | 928,663                         |
| 02. Weapons                                | 73,002                           | 37,496                           |                               | 6,095                           |
| Total Procurement of Ammunition, Air Force | 2,829,372                        | 1,625,661                        |                               | 934,758                         |

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Department of the Air Force  
FY 2021 President's Budget  
Exhibit P-1 FY 2021 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

22 Jan 2020

Appropriation: Procurement of Ammunition, Air Force

| Budget Activity<br>-----                   | FY 2020<br>Total Enacted<br>(Base+Emerg+<br>OCO)<br>----- | FY 2021<br>Base<br>----- | FY 2021<br>OCO for Base<br>Requirements<br>----- | FY 2021<br>OCO for<br>Direct War<br>and Enduring<br>Costs<br>----- |
|--|---|--------------------------|--|--|
| 01. Ammunition                             | 2,516,828   | 582,413                  |  | 796,238  |
| 02. Weapons                                | 43,591  | 13,925                   |  | 6,217  |
| Total Procurement of Ammunition, Air Force | 2,560,419   | 596,338                  |  | 802,455  |

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Department of the Air Force  
FY 2021 President's Budget  
Exhibit P-1 FY 2021 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

22 Jan 2020

Appropriation: Procurement of Ammunition, Air Force

| Budget Activity<br>-----                   | FY 2021<br>Total<br>OCO<br>----- | FY 2021<br>Total<br>(Base + OCO)<br>----- |
|--|----------------------------------|---|
| 01. Ammunition                             | 796,238                          | 1,378,651                                 |
| 02. Weapons                                | 6,217                            | 20,142                                    |
| Total Procurement of Ammunition, Air Force | 802,455                          | 1,398,793                                 |

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Department of the Air Force  
 FY 2021 President's Budget  
 Exhibit P-1 FY 2021 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2020

Appropriation: 3011F Procurement of Ammunition, Air Force

| Line No                        | Item Nomenclature   | Ident Code | FY 2019<br>(Base + OCO) |                    | FY 2020<br>Base Enacted |           | FY 2020<br>Emergency |      | FY 2020<br>OCO Enacted |         | S e c |
|--------------------------------|---|------------|-------------------------|--------------------|-------------------------|-----------|----------------------|------|------------------------|---------|-------|
|                                |   |            | Quantity                | Cost               | Quantity                | Cost      | Quantity             | Cost | Quantity               | Cost    |       |
| Budget Activity 01: Ammunition |   |            |                         |                    |                         |           |                      |      |                        |         |       |
| -----                          |   |            |                         |                    |                         |           |                      |      |                        |         |       |
| Rockets                        |   |            |                         |                    |                         |           |                      |      |                        |         |       |
| 1                              | Rockets   | A          |                         | 271,611            |                         | 122,968   |                      |      |                        | 84,960  | U     |
| Cartridges                     |   |            |                         |                    |                         |           |                      |      |                        |         |       |
| 2                              | Cartridges  | A          |                         | 188,227            |                         | 140,449   |                      |      |                        | 52,642  | U     |
| Bombs                          |   |            |                         |                    |                         |           |                      |      |                        |         |       |
| 3                              | Practice Bombs  | A          |                         | 19,079             |                         | 29,313    |                      |      |                        |         | U     |
| 4                              | General Purpose Bombs                                       | A          |                         | 811,170            |                         | 85,885    |                      |      |                        | 545,309 | U     |
| 5                              | Massive Ordnance Penetrator (MOP)                           |            |                         | 38,111             |                         |           |                      |      |                        |         | U     |
| 6                              | Joint Direct Attack Munition                                | A          | 30872                   | 922,649            | 25000                   | 1,034,224 |                      |      |                        |         | U     |
| 7                              | B61   |            | 250                     | (110,731)          | 533                     | (80,773)  |                      |      |                        |         | U     |
|                                | Less: Advance Procurement (PY)                              |            |                         | (-11,239)          |                         |           |                      |      |                        |         | U     |
|                                |   |            |                         | 99,492             |                         | 80,773    |                      |      |                        |         |       |
| 8                              | B61 Advance Procurement (CY)<br>C (FY 2019 for FY 2020) (M) |            |                         | 52,731<br>(52,731) |                         |           |                      |      |                        |         | U     |
| Other Items                    |   |            |                         |                    |                         |           |                      |      |                        |         |       |
| 9                              | Cad/Pad   | A          |                         | 51,277             |                         | 47,069    |                      |      |                        |         | U     |
| 10                             | Explosive Ordnance Disposal (EOD)                           | A          |                         | 6,038              |                         | 6,133     |                      |      |                        |         | U     |
| 11                             | Spares And Repair Parts                                     | A          |                         |                    |                         | 533       |                      |      |                        |         | U     |
| 12                             | Modifications   | A          |                         | 847                |                         | 1,291     |                      |      |                        |         | U     |

Department of the Air Force  
 FY 2021 President's Budget  
 Exhibit P-1 FY 2021 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2020

Appropriation: 3011F Procurement of Ammunition, Air Force

| Line No                        | Item Nomenclature  | Ident Code | FY 2020 Total Enacted (Base+Emerg+OCO) |           | FY 2021 Base |          | FY 2021 OCO for Base Requirements |      | FY 2021 OCO for Direct War and Enduring Costs |         | S e c |
|--------------------------------|--|------------|--|-----------|--------------|----------|-----------------------------------|------|---|---------|-------|
|                                |  |            | Quantity                               | Cost      | Quantity     | Cost     | Quantity                          | Cost | Quantity                                      | Cost    |       |
| Budget Activity 01: Ammunition |  |            |  |           |              |          |                                   |      |   |         |       |
| Rockets                        |  |            |  |           |              |          |                                   |      |   |         |       |
| 1                              | Rockets  | A          |  | 207,928   |              | 14,962   |                                   |      |   | 19,489  | U     |
| Cartridges                     |  |            |  |           |              |          |                                   |      |   |         |       |
| 2                              | Cartridges   | A          |  | 193,091   |              | 123,365  |                                   |      |   | 40,434  | U     |
| Bombs                          |  |            |  |           |              |          |                                   |      |   |         |       |
| 3                              | Practice Bombs   | A          |  | 29,313    |              | 59,725   |                                   |      |   |         | U     |
| 4                              | General Purpose Bombs                                    | A          |  | 631,194   |              |          |                                   |      |   | 369,566 | U     |
| 5                              | Massive Ordnance Penetrator (MOP)                        |            |  |           |              |          |                                   |      |   |         | U     |
| 6                              | Joint Direct Attack Munition                             | A          | 25000                                  | 1,034,224 | 10000        | 206,989  |                                   |      | 6800  | 237,723 | U     |
| 7                              | B61  |            | 533                                    | (80,773)  |              | (35,634) |                                   |      |   |         | U     |
|                                | Less: Advance Procurement (PY)                           |            |  |           |              |          |                                   |      |   |         | U     |
|                                |  |            |  | 80,773    |              | 35,634   |                                   |      |   |         |       |
| 8                              | B61 Advance Procurement (CY) C (FY 2019 for FY 2020) (M) |            |  |           |              |          |                                   |      |   |         | U     |
| Other Items                    |  |            |  |           |              |          |                                   |      |   |         |       |
| 9                              | Cad/Pad  | A          |  | 47,069    |              | 47,830   |                                   |      |   |         | U     |
| 10                             | Explosive Ordnance Disposal (EOD)                        | A          |  | 6,133     |              | 6,232    |                                   |      |   |         | U     |
| 11                             | Spares And Repair Parts                                  | A          |  | 533       |              | 542      |                                   |      |   |         | U     |
| 12                             | Modifications  | A          |  | 1,291     |              | 1,310    |                                   |      |   |         | U     |

Department of the Air Force  
 FY 2021 President's Budget  
 Exhibit P-1 FY 2021 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2020

Appropriation: 3011F Procurement of Ammunition, Air Force

| Line No                        | Item Nomenclature   | Ident Code | FY 2021 Total |         | FY 2021 Total         |          | S e c |
|--------------------------------|---|------------|---------------|---------|-----------------------|----------|-------|
|                                |   |            | Quantity      | Cost    | (Base + OCO) Quantity | Cost     |       |
| Budget Activity 01: Ammunition |   |            |               |         |                       |          |       |
| Rockets                        |   |            |               |         |                       |          |       |
| 1                              | Rockets   | A          |               | 19,489  |                       | 34,451   | U     |
| Cartridges                     |   |            |               |         |                       |          |       |
| 2                              | Cartridges  | A          |               | 40,434  |                       | 163,799  | U     |
| Bombs                          |   |            |               |         |                       |          |       |
| 3                              | Practice Bombs  | A          |               |         |                       | 59,725   | U     |
| 4                              | General Purpose Bombs                                       | A          |               | 369,566 |                       | 369,566  | U     |
| 5                              | Massive Ordnance Penetrator (MOP)                           |            |               |         |                       |          | U     |
| 6                              | Joint Direct Attack Munition                                | A          | 6800          | 237,723 | 16800                 | 444,712  | U     |
| 7                              | B61   |            |               |         |                       | (35,634) | U     |
|                                | Less: Advance Procurement (PY)                              |            |               |         |                       |          | U     |
|                                |   |            |               |         |                       | 35,634   |       |
| 8                              | B61 Advance Procurement (CY)<br>C (FY 2019 for FY 2020) (M) |            |               |         |                       |          | U     |
| Other Items                    |   |            |               |         |                       |          |       |
| 9                              | Cad/Pad   | A          |               |         |                       | 47,830   | U     |
| 10                             | Explosive Ordnance Disposal (EOD)                           | A          |               |         |                       | 6,232    | U     |
| 11                             | Spares And Repair Parts                                     | A          |               |         |                       | 542      | U     |
| 12                             | Modifications   | A          |               |         |                       | 1,310    | U     |

P-121PB: FY 2021 President's Budget (Published Version), as of January 22, 2020 at 10:33:23

Department of the Air Force  
 FY 2021 President's Budget  
 Exhibit P-1 FY 2021 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2020

Appropriation: 3011F Procurement of Ammunition, Air Force

| Line No                                    | Item Nomenclature            | Ident Code | FY 2019<br>(Base + OCO) |           | FY 2020<br>Base Enacted |           | FY 2020<br>Emergency |      | FY 2020<br>OCO Enacted |         | S e c |
|--|------------------------------|------------|-------------------------|-----------|-------------------------|-----------|----------------------|------|------------------------|---------|-------|
|  |                              |            | Quantity                | Cost      | Quantity                | Cost      | Quantity             | Cost | Quantity               | Cost    |       |
| 13   | Items Less Than \$5,000,000  | A          |                         | 3,070     |                         | 1,677     |                      |      |                        |         | U     |
| 14   | Cancelled Account Adjustment |            |                         | 2,394     |                         |           |                      |      |                        |         | U     |
|  | Flares                       |            |                         |           |                         |           |                      |      |                        |         |       |
| 15   | Flares                       | A          |                         | 109,402   |                         | 36,116    |                      |      |                        | 93,272  | U     |
|  | Fuzes                        |            |                         |           |                         |           |                      |      |                        |         |       |
| 16   | Fuzes                        | A          |                         | 180,272   |                         | 1,734     |                      |      |                        | 152,480 | U     |
| Total Ammunition                           |                              |            |                         | 2,756,370 |                         | 1,588,165 |                      |      |                        | 928,663 |       |
| Budget Activity 02: Weapons                |                              |            |                         |           |                         |           |                      |      |                        |         |       |
| -----                                      |                              |            |                         |           |                         |           |                      |      |                        |         |       |
|  | Small Arms                   |            |                         |           |                         |           |                      |      |                        |         |       |
| 17   | Small Arms                   | A          |                         | 73,002    |                         | 37,496    |                      |      |                        | 6,095   | U     |
| Total Weapons                              |                              |            |                         | 73,002    |                         | 37,496    |                      |      |                        | 6,095   |       |
| Total Procurement of Ammunition, Air Force |                              |            |                         | 2,829,372 |                         | 1,625,661 |                      |      |                        | 934,758 |       |

Department of the Air Force  
 FY 2021 President's Budget  
 Exhibit P-1 FY 2021 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2020

Appropriation: 3011F Procurement of Ammunition, Air Force

| Line No                                    | Item Nomenclature            | Ident Code | FY 2020 Total Enacted (Base+Emerg+OCO) |           | FY 2021 Base |         | FY 2021 OCO for Base Requirements |      | FY 2021 OCO for Direct War and Enduring Costs |         | S e c |
|--|------------------------------|------------|--|-----------|--------------|---------|-----------------------------------|------|---|---------|-------|
|  |                              |            | Quantity                               | Cost      | Quantity     | Cost    | Quantity                          | Cost | Quantity                                      | Cost    |       |
| 13   | Items Less Than \$5,000,000  | A          |  | 1,677     |              | 4,753   |                                   |      |   |         | U     |
| 14   | Cancelled Account Adjustment |            |  |           |              |         |                                   |      |   |         | U     |
|  | Flares                       |            |  |           |              |         |                                   |      |   |         |       |
| 15   | Flares                       | A          |  | 129,388   |              | 40,088  |                                   |      |   | 21,171  | U     |
|  | Fuzes                        |            |  |           |              |         |                                   |      |   |         |       |
| 16   | Fuzes                        | A          |  | 154,214   |              | 40,983  |                                   |      |   | 107,855 | U     |
| Total Ammunition                           |                              |            |  | 2,516,828 |              | 582,413 |                                   |      |   | 796,238 |       |
| Budget Activity 02: Weapons                |                              |            |  |           |              |         |                                   |      |   |         |       |
| -----                                      |                              |            |  |           |              |         |                                   |      |   |         |       |
|  | Small Arms                   |            |  |           |              |         |                                   |      |   |         |       |
| 17   | Small Arms                   | A          |  | 43,591    |              | 13,925  |                                   |      |   | 6,217   | U     |
| Total Weapons                              |                              |            |  | 43,591    |              | 13,925  |                                   |      |   | 6,217   |       |
| Total Procurement of Ammunition, Air Force |                              |            |  | 2,560,419 |              | 596,338 |                                   |      |   | 802,455 |       |

Department of the Air Force  
 FY 2021 President's Budget  
 Exhibit P-1 FY 2021 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2020

Appropriation: 3011F Procurement of Ammunition, Air Force

| Line<br>No | Item Nomenclature                          | Ident<br>Code | FY 2021<br>Total<br>OCO |         | FY 2021<br>Total<br>(Base + OCO) |      | S<br>e<br>c<br>- |
|------------|--|---------------|-------------------------|---------|----------------------------------|------|------------------|
|            |  |               | Quantity                | Cost    | Quantity                         | Cost |                  |
| 13         | Items Less Than \$5,000,000                | A             |                         |         | 4,753                            |      | U                |
| 14         | Cancelled Account Adjustment               |               |                         |         |                                  |      | U                |
|            | Flares                                     |               |                         |         |                                  |      |                  |
| 15         | Flares                                     | A             |                         | 21,171  | 61,259                           |      | U                |
|            | Fuzes                                      |               |                         |         |                                  |      |                  |
| 16         | Fuzes                                      | A             |                         | 107,855 | 148,838                          |      | U                |
|            | Total Ammunition                           |               |                         | 796,238 | 1,378,651                        |      |                  |
|            | Budget Activity 02: Weapons                |               |                         |         |                                  |      |                  |
|            | Small Arms                                 |               |                         |         |                                  |      |                  |
| 17         | Small Arms                                 | A             |                         | 6,217   | 20,142                           |      | U                |
|            | Total Weapons                              |               |                         | 6,217   | 20,142                           |      |                  |
|            | Total Procurement of Ammunition, Air Force |               |                         | 802,455 | 1,398,793                        |      |                  |

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**Line Item Table of Contents (by Appropriation then Line Number)**

***Appropriation 3011F: Procurement of Ammunition, Air Force***

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| 3             | 01        | 13         | 353010                  | Practice Bombs.....                    | Volume 1 - 21 |
| 4             | 01        | 13         | 353020                  | General Purpose Bombs.....             | Volume 1 - 25 |
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| 13            | 01        | 15         | 355990                  | Items Less Than \$5,000,000.....       | Volume 1 - 79 |
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***Appropriation 3011F: Procurement of Ammunition, Air Force***

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| B61, Advance Procurement          | 354040                  | 8             | 01        | 13.....    | Volume 1 - 61  |
| Cad/Pad                           | 355100                  | 9             | 01        | 15.....    | Volume 1 - 65  |
| Cartridges                        | 352010                  | 2             | 01        | 12.....    | Volume 1 - 9   |
| Explosive Ordnance Disposal (EOD) | 355450                  | 10            | 01        | 15.....    | Volume 1 - 69  |
| FUZES                             | 356120                  | 16            | 01        | 18.....    | Volume 1 - 97  |
| Flares                            | 356010                  | 15            | 01        | 16.....    | Volume 1 - 81  |
| General Purpose Bombs             | 353020                  | 4             | 01        | 13.....    | Volume 1 - 25  |
| Items Less Than \$5,000,000       | 355990                  | 13            | 01        | 15.....    | Volume 1 - 79  |
| Joint Direct Attack Munition      | 353620                  | 6             | 01        | 13.....    | Volume 1 - 43  |
| Massive Ordnance Penetrator (MOP) | 353190                  | 5             | 01        | 13.....    | Volume 1 - 39  |
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| Practice Bombs                    | 353010                  | 3             | 01        | 13.....    | Volume 1 - 21  |
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## ACRONYMS

### *GENERAL ACRONYMS*

|         |  |
|---------|--|
| A&AS    | - Advisory & Assistance Services                           |
| ABIDES  | - Automated Budget Interactive Data Environment System     |
| ACAT    | - Acquisition Category                                     |
| ACTD    | - Advanced Concept Technology Demonstration                |
| AGM     | - Air-to-Ground Missile                                    |
| AIM     | - Air Intercept Missile                                    |
| AIS     | - Avionics Intermediate Shop                               |
| ACMI    | - Aircraft Combat Maneuvering Instrumentation              |
| AMRAAM  | - Advanced Medium-Range Air-to-Air Missile                 |
| APPN    | - Appropriation  |
| ATD     | - Advanced Technology Development                          |
| BA      | - Budget Activity  |
| BES     | - Budget Estimate Submission                               |
| BY      | - Budget Year  |
| C3      | - Command, Control, and Communication System               |
| CFE     | - Contractor Furnished Equipment                           |
| CONOPS  | - Concept of Operation                                     |
| CONUS   | - Continental United States                                |
| CPMS    | - Comprehensive Power Management System                    |
| CPT     | - Cockpit Procedures Trainer                               |
| CRA     | - Continuing Resolution Authority                          |
| CTS     | - Countermeasures Test Set                                 |
| CY      | - Current Year   |
| ECCM    | - Electronic Counter Counter-Measures                      |
| ECM     | - Electronic Counter Measures                              |
| ECO     | - Engineering Change Orders                                |
| EOQ     | - Economic Order Quantity                                  |
| ECP     | - Engineering Change Proposal                              |
| EPA     | - Economic Price Adjustment                                |
| EW      | - Electronic Warfare                                       |
| EWAIISP | - Electronic Warfare Avionics Integration Support Facility |
| FLIR    | - Forward Looking Infra Red                                |

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|          |   |
|----------|---|
| FOT&E    | - Follow-on Test and Evaluation                 |
| FOC      | - Fully Operational Capability                  |
| FLTS     | - Flight Line Test Set                          |
| FPIF     | - Fixed Price Incentive Firm                    |
| FPIS     | - Fixed Price Incentive Fee, Successive Targets |
| FY       | - Fiscal Year                                   |
| GANS     | - Global Access Navigation & Safety             |
| GATM     | - Global Air Traffic Management                 |
| GFE      | - Government Furnished Equipment                |
| GFP      | - Government Furnished Property                 |
| GPS      | - Global Positioning System                     |
| GSE      | - Ground Support Equipment                      |
| ICS      | - Interim Contractor Support                    |
| IOC      | - Initial Operating Capability                  |
| IT       | - Information Technology                        |
| JUON     | - Joint Urgent Operational Need                 |
| MAIS     | - Major Automated Information System Program    |
| MDAP     | - Major Defense Acquisition Program             |
| METS     | - Mobile Electronic Test Stations               |
| MYP      | - Multiyear Procurement                         |
| NAVWAR   | - Navigation Warfare                            |
| NMC Rate | - Not Mission Capable Rate                      |
| OCO      | - Overseas Contingency Operations               |
| OT&E     | - Operational Test and Evaluation               |
| OWRM     | - Other War Reserve Material                    |
| PAGEL    | - Priced Aerospace Ground Equipment List        |
| PB       | - President's Budget                            |
| PBR      | - Program Budget Review                         |
| PMA      | - Program Management Administration             |
| PMC      | - Procurement Method Code                       |
| PNO      | - Acquisition Program Number (MDAP Codes)       |
| PR       | - Purchase Request                              |
| PRCP     | - Program Resource Collection Process           |
| PTT      | - Part Task Trainer                             |
| PY       | - Prior Year                                    |
| R&M      | - Reliability and Maintainability               |

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|       |  |
|-------|--|
| RAA   | - Rapid Acquisition Authority                  |
| RDT&E | - Research, Development, Test and Evaluation   |
| RWR   | - Radar Warning Receiver                       |
| ROM   | - Rough Order of Magnitude                     |
| SS    | - Sole Source                                  |
| SOF   | - Special Operation Force                      |
| TAF   | - Tactical Air Force                           |
| TCAS  | - Traffic Collision Alert and Avoidance System |
| TEWS  | - Tactical Electronic Warfare System           |
| TISS  | - TEWS Intermediate Support System             |
| TOA   | - Total Obligation Authority                   |
| WCF   | - Working Capital Fund                         |
| WRM   | - War Reserve Material                         |
| WST   | - Weapon System Trainer                        |
| UAV   | - Unmanned Aerial Vehicle                      |
| XML   | - Extensible Markup Language                   |

### ***BASE / ORGANIZATIONAL ACRONYMS***

|          |  |
|----------|--|
| ACC      | - Air Combat Command                             |
| AETC     | - Air Education & Training Command               |
| AFCAO    | - Air Force Computer Acquisition Office          |
| AFCEA    | - Air Force Civil Engineering Support Agency     |
| AFCIC    | - AF Communications & Information Center         |
| AFCSC    | - Air Force Cryptologic Service Center           |
| AFESC    | - Air Force Engineering Services Center          |
| AFGWC    | - Air Force Global Weather Central               |
| AFIT     | - Air Force Institute of Technology              |
| AFLCMC   | - Air Force Life Cycle Management Center         |
| AFMC     | - Air Force Materiel Command                     |
| AFMETCAL | - Air Force Metrology and Calibration Office     |
| AFMLO    | - Air Force Medical Logistics Office             |
| AFOSI    | - Air Force Office of Special Investigation      |
| AFOTEC   | - Air Force Operational Test & Evaluation Center |
| AFPC     | - Air Force Personnel Center                     |
| AFPSL    | - AF Primary Standards Lab                       |

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|            |  |
|------------|--|
| AFR        | - Air Force Reserve                    |
| AFSOC      | - AF Special Operations Command        |
| AFSPC      | - Air Force Space Command              |
| AIA        | - Air Intelligence Agency              |
| ALC        | - Air Logistics Center                 |
| AMC        | - Air Mobility Command                 |
| ANG        | - Air National Guard                   |
| ASC        | - Aeronautical Systems Center          |
| AETC       | - Air Education Training Command       |
| AU         | - Air University                       |
| AWS        | - Air Weather Service                  |
| CIA        | - Central Intelligence Agency          |
| DGSC       | - Defense General Support Center       |
| DLA        | - Defense Logistics Center             |
| DOE        | - Department of Energy                 |
| DPSC       | - Defense Personnel Support Center     |
| DSCC       | - Defense Supply Center, Columbus      |
| DTIC       | - Defense Technical Information Center |
| ER         | - Eastern Range                        |
| ESC        | - Electronic Systems Center            |
| FAA        | - Federal Aviation Agency              |
| FBI        | - Federal Bureau of Investigation      |
| GSA        | - General Services Administration      |
| JCS        | - Joint Chiefs of Staff                |
| NATO       | - North Atlantic Treaty Organization   |
| OSD        | - Office of the Secretary of Defense   |
| PACAF      | - Pacific Air Forces                   |
| USAF       | - United States Air Force              |
| USAFA      | - United States Air Force Academy      |
| USAFE      | - United States Air Force Europe       |
| USCENTCOM  | - United States Central Command        |
| USEUCOM    | - United States European Command       |
| USMC       | - United States Marine Corps           |
| USSTRATCOM | - United States Strategic Command      |
| WP AFB     | - Wright-Patterson AFB, OH             |

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### *CONTRACT METHOD / TYPE ACRONYMS*

|          |   |
|----------|---|
| C        | - Competitive   |
| BA       | - Basic Agreement   |
| BOA      | - Basic Ordering Agreement                                  |
| BPA      | - Blanket Purchasing Agreement                              |
| CS       | - Cost Sharing  |
| IDDQ     | - Indefinite Delivery, Definite Quantity                    |
| IDIQ     | - Indefinite Delivery, Indefinite Quantity                  |
| IDRT     | - Indefinite Delivery, Requirements                         |
| Letter   | - Letter  |
| LH       | - Labor-hour  |
| MIPR     | - Military Interdepartmental Purchase Request               |
| MIPR-C   | - Military Interdepartmental Purchase Request - Competitive |
| MIPR-OPT | - Military Interdepartmental Purchase Request - Option      |
| MIPR-OTH | - Military Interdepartmental Purchase Request – Other       |
| MIPR-SS  | - Military Interdepartmental Purchase Request - Sole Source |
| OPT      | - Option  |
| OTH      | - Other   |
| PO       | - Project Order   |
| REQN     | - Requisition   |
| SS       | - Sole Source   |
| T&M      | - Time and Materials  |
| UCA      | - Undefinitized Contract Action                             |
| WP       | - Work Project  |

### *CONTRACTED BY ACRONYMS*

|         |   |
|---------|---|
| 11 WING | - 11th Support Wing, Washington, DC                               |
| ACC     | - Air Combat Command, Langley AFB, VA                             |
| AEDC    | - Arnold Engineering Development Center, Arnold AFB, TN           |
| AAC     | - Air Armament Center, Eglin AFB, FL                              |
| AEDC    | - Arnold Engineering Development Center, Arnold AFB, TN           |
| AETC    | - Air Education and Training Command, Randolph AFB, TX            |
| AFCIC   | - Air Force Communications and Information Center, Washington, DC |
| AFCESA  | - Air Force Civil Engineering Support Agency, Tyndall AFB, FL     |
| AFFTC   | - Air Force Flight Test Center, Edwards AFB, CA                   |

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|             |   |
|-------------|---|
| AFLCMC      | - Air Force Life Cycle Management Center, Wright-Patterson AFB, OH      |
| AFMC        | - Air Force Materiel Command, Wright-Patterson AFB, OH                  |
| AFMETCAL    | - Air Force Metrology and Calibration Office, Heath, Ohio               |
| AFMLO       | - Air Force Medical Logistics Office, Ft Detrick, MD                    |
| AIA         | - Air Intelligence Agency, Kelly AFB, TX                                |
| AMC         | - Air Mobility Command, Scott AFB, IL                                   |
| ASC         | - Aeronautical Systems Center, Wright-Patterson AFB, OH & Eglin AFB, FL |
| AFWA        | - Air Force Weather Agency, Offutt AFB, NE                              |
| DGSC        | - Defense General Support Center, Richmond, VA                          |
| DPSC        | - Defense Personnel Support Center, Philadelphia, PA                    |
| ER          | - Eastern Range, Patrick AFB, FL  |
| ESC         | - Electronic Systems Center, Hanscom AFB, MA                            |
| HSC         | - Human Services Center, Brook AFB, TX                                  |
| OC-ALC      | - Oklahoma City Air Logistics Center, Tinker AFB, OK                    |
| OO-ALC      | - Ogden Air Logistics Center, Hill AFB, UT                              |
| SMC         | - Space & Missile Systems Center, Los Angeles AFB, CA                   |
| US STRATCOM | - US Strategic Command, Offutt AFB, NE                                  |
| WACC        | - Washington Area Contracting Center, Washington DC                     |
| WR          | - Western Range, Vandenberg AFB, CA                                     |
| WR-ALC      | - Warner-Robins Air Logistics Center, Robins AFB, GA                    |
| AFSPC       | - Air Force Space Command, Peterson AFB, CO                             |
| HQ ANG      | - Headquarters, Air National Guard, Washington, DC                      |
| USAFE       | - United States Air Force Europe, Ramstein AB, GE                       |
| USAFA       | - United States Air Force Academy, Colorado Springs, CO                 |

### ***IDENTIFICATION CODES***

|          |  |
|----------|--|
| Code "A" | - Line items of material which have been approved for Air Force service use. |
| Code "B" | - Line items of material that have not been approved for Service use         |
| OBAN     | - Operating Budget Account Number, 2-digit code for unit allocated funds     |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|  |  |
|--|--|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 11: Rockets | <b>P-1 Line Item Number / Title:</b><br>351010 / Rockets |
|--|--|

|   |  |                                     |
|---|--|-------------------------------------|
| ID Code (A=Service Ready, B=Not Service Ready): A | Program Elements for Code B Items: N/A | Other Related Program Elements: N/A |
|---|--|-------------------------------------|

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019        | FY 2020        | FY 2021 Base  | FY 2021 OCO   | FY 2021 Total | FY 2022       | FY 2023       | FY 2024       | FY 2025       | To Complete | Total          |
|---|-------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|----------------|
| Procurement Quantity ( <i>Units in Each</i> )             | -           | -              | -              | -             | -             | -             | -             | -             | -             | -             | -           | -              |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )        | -           | 271.611        | 207.928        | 14.962        | 19.489        | 34.451        | 24.026        | 24.011        | 19.967        | 25.420        | -           | 607.414        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )     | -           | -              | -              | -             | -             | -             | -             | -             | -             | -             | -           | -              |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )           | -           | 271.611        | 207.928        | 14.962        | 19.489        | 34.451        | 24.026        | 24.011        | 19.967        | 25.420        | -           | 607.414        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )     | -           | -              | -              | -             | -             | -             | -             | -             | -             | -             | -           | -              |
| <b>Total Obligation Authority (<i>\$ in Millions</i>)</b> | -           | <b>271.611</b> | <b>207.928</b> | <b>14.962</b> | <b>19.489</b> | <b>34.451</b> | <b>24.026</b> | <b>24.011</b> | <b>19.967</b> | <b>25.420</b> | -           | <b>607.414</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

FY2020 funding totals include \$84.96M appropriated for Overseas Contingency Operations (OCO). These funds procure 3,927 APKWS guidance sections and associated All-Up-Round (AUR) items and training/support equipment.

- The WGU-59B Advanced Precision Kill Weapon System II (APKWS II) is employed on the A-10 and F-16 aircraft. APKWS II AUR is composed of a fuze, M151/M282 warhead, WGU-59B guidance and control section, and a MK66 rocket motor launched from a LAU-131A/A or LAU-68F/A rocket launcher. The weapon is effective in any terrain, including, but not limited to, urban, desert and mountainous. It provides an ability to engage and destroy moving and transient targets. APKWS II offers greater precision, reduced collateral damage, and increased standoff range to enhance crew survivability.

- The APKWS II guidance section is a mid-body, semi-active laser guidance and control kit that converts an unguided 2.75 inch rocket into a precision laser-guided rocket. APKWS II guidance sections are compatible with new and existing inventories of rocket motors, warheads, and launchers. The guidance sections are procured through Department of the Navy PMA-242 at Patuxent River Naval Air Station.

- The Air Force uses the 2.75 inch diameter rocket system to support various missions including low collateral damage engagements, target marking, and battle field illumination. The system can be employed from both high and low speed aircraft. The 2.75 inch diameter rocket motor (HA07) is a single stage, solid grain rocket motor used to propel unguided and guided payloads to their targets. The HA07 is able to carry the WGU-59B (HB24) Advanced Precision Kill Weapon System II (APKWS II) guidance section, and the following payloads: illuminating flare warhead (H812), infrared (IR) illuminating flare warhead (HA06), Signal Practice warhead (H872), White Phosphorus (WP) warhead (H855), M151 High Explosive warheads (H842 and H843), and M282A2 (HB45) Penetrator warhead. The 2.75 inch rockets are launched from reusable pods, the LAU-131A (H149) and LAU-131A/A (HA91) extended length launcher, carried on A-10 and F-16 aircraft. These items are procured by AFLCMC/EBH through the U.S. Army Missile Command, Joint Attack Munitions Systems (JAMS), PEO Missile and Space at Redstone Arsenal, Alabama, and Department of the Navy PMA-242 at Patuxent River Naval Air Station.

- The M151 (H843) and M282 Multi-Purpose Penetrator (MPP) warheads are low-cost, low-collateral damage capabilities. The M282 MPP warhead provides aircrew and ground commanders greatly enhanced weaponing options to engage targets protected by urban and cave environments. Equipment such as MKIII, MKIV, and AN/USM-715 testers, peculiar support equipment, clamping and torquing fixtures and tools, or other assets that pertain to assembling and testing APKWS or unguided rockets are also procured.

- The Illuminating Flare (H812) and IR illuminating flare (HA06) warheads provide forward air control aircraft with the target locations from a standoff distance in a hostile environment.

- The Signal Practice (H872) warhead provides a training capability.

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force   |   | <b>Date:</b> February 2020                               |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 11:<br>Rockets  |   | <b>P-1 Line Item Number / Title:</b><br>351010 / Rockets |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A   | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A               |
| <b>Line Item MDAP/MAIS Code:</b> N/A   |   |  |
| <p>- The WP (H855) warhead provides forward air control aircraft with target locations from a standoff distance in a hostile environment.</p> <p>- The LAU-131A/A (HA91) and the LAU-68F/A (HA94) are seven tube (capacity) extended length launchers that can accommodate both legacy length 2.75 inch diameter rockets and the extended length of the APKWS II rockets. The extended length launchers are designed to accommodate the guidance and control section within the launcher.</p> <p>- Items Less Than Five Million Dollars: All items have an annual procurement value of less than \$5,000,000 and are Code A. These items are procured by AFLCMC/EBH through the U.S. Army Missile Command Joint Attack Munitions Systems (JAMS), PEO Missiles and Space at Redstone Arsenal Alabama, and/or the U.S. Navy PMA-242 at Patuxent River Naval Air Station. In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>Funding may be used to address production Diminishing Manufacturing Sources and Material Shortages (DMSMS) and obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply; and qualification activities to preserve future production capabilities and capacities.</p> <p>Note: Procurement quantities can change based on negotiated options/pricing bands and available funding, in accordance with Title 10, U.S. Code Section 2308 BUY-TO-BUDGET ACQUISITION.</p> <p>These funds may also procure inventoried items which may not be procured on an annual basis and could be required on an emerging basis. Variations to cover critical shortfalls to inventory objectives as well as actual and planned expenditures will be addressed during execution year.</p> <p>Funding for this exhibit is contained in PE 0207599F and PE 0208030F.</p> |   |  |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 11: Rockets **P-1 Line Item Number / Title:** 351010 / Rockets

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |                                       |             |       |                | Prior Years                           | FY 2019                               | FY 2020                               | FY 2021 Base                          | FY 2021 OCO                           | FY 2021 Total                         |
|-------------------|---------------------------------------|-------------|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) |
| P-40a             | (H812) WHD ILLUM M257                 |             |       |                | - / -                                 | - / 12.000                            | - / 0.000                             | - / 1.000                             | - / 0.000                             | - / 1.000                             |
| P-40a             | (H855) WHD 2.75 RKT SMK M156 PD M427  |             |       |                | - / -                                 | - / 13.437                            | - / 0.000                             | - / 0.000                             | - / 0.000                             | - / 0.000                             |
| P-40a             | (HA06) WARHEAD, 2.75 ILLUM            |             |       |                | - / -                                 | - / 14.300                            | - / 0.000                             | - / 1.500                             | - / 0.000                             | - / 1.500                             |
| P-5               | APKWS                                 |             | A     |                | - / -                                 | - / 231.874                           | - / 207.928                           | - / 12.462                            | - / 19.489                            | - / 31.951                            |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | - / -                                 | - / 271.611                           | - / 207.928                           | - / 14.962                            | - / 19.489                            | - / 34.451                            |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY2021 funding totals include \$14.962M to procure 170 APKWS guidance sections and \$19.489M in Overseas Contingency Operations (OCO) to procure 850 APKWS guidance sections.  
 Funding supports the purchase of rockets, launchers, warheads, and guidance sections to constitute the APKWS II all-up-round (AUR). Additionally, funding supports training and support equipment required for APKWS.  
 The Air Force procures munitions to maintain appropriate operational quantity levels, as well as War Reserve Materiel (WRM) munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 11 **P-1 Line Item Number / Title:** 351010 / Rockets **Aggregated Items Title:** (H812) WHD ILLUM M257

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (H812) WHD ILLUM M257          | A     |                | -                | -          | -                 | -                | -          | 12.000            | -                | -          | 0.000             | -                | -          | 1.000             | -                | -          | 0.000             | -                | -          | 1.000             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>12.000</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>1.000</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>1.000</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>12.000</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>1.000</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>1.000</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>Exhibit P-40a, Budget Item Justification For Aggregated Items:</b> PB 2021 Air Force |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>Date:</b> February 2020   |  |  |  |  |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 11        |  |  |  |  |  |  | <b>P-1 Line Item Number / Title:</b><br>351010 / Rockets |  |  |  |  |  |  | <b>Aggregated Items Title:</b><br>(H855) WHD 2.75 RKT SMK M156 PD M427 |  |  |  |  |  |

| Item Number / Title [DODIC] | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|-----------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                             |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Hardware</b>             |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Warhead SMK M156 (H855)     | A     |                | -                | -          | -                 | -                | -          | 13.437            | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             |
| <b>Subtotal: Hardware</b>   |       |                | -                | -          | -                 | -                | -          | 13.437            | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             |
| <b>Total</b>                |       |                | -                | -          | -                 | -                | -          | 13.437            | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 11 **P-1 Line Item Number / Title:** 351010 / Rockets **Aggregated Items Title:** (HA06) WARHEAD, 2.75 ILLUM

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (HA06) WARHEAD, 2.75 ILLUM     | A     |                | -                | -          | -                 | -                | -          | 14.300            | -                | -          | 0.000             | -                | -          | 1.500             | -                | -          | 0.000             | -                | -          | 1.500             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>14.300</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>1.500</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>1.500</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>14.300</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>1.500</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>1.500</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020                   |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 11 | <b>P-1 Line Item Number / Title:</b><br>351010 / Rockets | <b>Item Number / Title [DODIC]:</b><br>APKWS |

|   |                        |
|---|------------------------|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A | <b>MDAP/MAIS Code:</b> |
|---|------------------------|

| Resource Summary                                   | Prior Years | FY 2019        | FY 2020        | FY 2021 Base  | FY 2021 OCO   | FY 2021 Total |
|--|-------------|----------------|----------------|---------------|---------------|---------------|
| Procurement Quantity (Units in Each)               | -           | -              | -              | -             | -             | -             |
| Gross/Weapon System Cost (\$ in Millions)          | -           | 231.874        | 207.928        | 12.462        | 19.489        | 31.951        |
| Less PY Advance Procurement (\$ in Millions)       | -           | -              | -              | -             | -             | -             |
| Net Procurement (P-1) (\$ in Millions)             | -           | 231.874        | 207.928        | 12.462        | 19.489        | 31.951        |
| Plus CY Advance Procurement (\$ in Millions)       | -           | -              | -              | -             | -             | -             |
| <b>Total Obligation Authority (\$ in Millions)</b> | -           | <b>231.874</b> | <b>207.928</b> | <b>12.462</b> | <b>19.489</b> | <b>31.951</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| Initial Spares (\$ in Millions)                | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost (\$ in Millions) | - | - | - | - | - | - |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements  | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| Hardware - Advanced Precision Kill Weapon System (APKWS) Cost                  |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Recurring Cost   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Guidance Section   | -                | -          | -                 | 0.023            | 6,879      | 154.812           | 0.022            | 5,826      | 126.016           | 0.023            | 170        | 3.933             | 0.023            | 850        | 19.489            | 0.023            | 1,020      | 23.422            |
| (HA07) ROCKET MOTOR MK-66  | -                | -          | -                 | 0.001            | 70,000     | 59.428            | 0.001            | 65,000     | 58.237            | 0.001            | 85         | 0.074             | -                | -          | 0.000             | 0.001            | 85         | 0.074             |
| (HA91) LAU-131A/A ROCKET LAUNCHER  | -                | -          | -                 | 0.007            | 400        | 2.652             | 0.007            | 250        | 1.676             | 0.008            | 250        | 1.925             | -                | -          | 0.000             | 0.008            | 250        | 1.925             |
| Warhead M151   | -                | -          | -                 | 0.000            | 8,530      | 2.500             | 0.000            | 10,125     | 3.000             | 0.001            | 2,800      | 1.493             | -                | -          | 0.000             | 0.001            | 2,800      | 1.493             |
| Warhead M282   | -                | -          | -                 | 0.003            | 3,136      | 8.023             | 0.003            | 5,517      | 14.269            | 0.003            | 1,146      | 2.997             | -                | -          | 0.000             | 0.003            | 1,146      | 2.997             |
| Rocket Launcher Tester (AN/USM-715)  | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             |
| <i>Subtotal: Recurring Cost</i>  | -                | -          | -                 | -                | -          | 227.415           | -                | -          | 203.198           | -                | -          | 10.422            | -                | -          | 19.489            | -                | -          | 29.911            |
| <i>Subtotal: Hardware - Advanced Precision Kill Weapon System (APKWS) Cost</i> | -                | -          | -                 | -                | -          | 227.415           | -                | -          | 203.198           | -                | -          | 10.422            | -                | -          | 19.489            | -                | -          | 29.911            |
| Support - APKWS Cost   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Production Support   | -                | -          | -                 | -                | -          | 4.459             | -                | -          | 4.730             | -                | -          | 2.040             | -                | -          | 0.000             | -                | -          | 2.040             |
| <i>Subtotal: Support - APKWS Cost</i>  | -                | -          | -                 | -                | -          | 4.459             | -                | -          | 4.730             | -                | -          | 2.040             | -                | -          | 0.000             | -                | -          | 2.040             |
| <b>Gross/Weapon System Cost</b>  | -                | -          | -                 | -                | -          | 231.874           | -                | -          | 207.928           | -                | -          | 12.462            | -                | -          | 19.489            | -                | -          | 31.951            |

**Remarks:**  
Production Support includes travel, shipping, and PMA.

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| <b>Exhibit P-5, Cost Analysis:</b> PB 2021 Air Force                             |  | <b>Date:</b> February 2020                   |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 11 | <b>P-1 Line Item Number / Title:</b><br>351010 / Rockets | <b>Item Number / Title [DODIC]:</b><br>APKWS |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A                        |  | <b>MDAP/MAIS Code:</b>                       |
|  |  |  |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 12: Cartridges

**P-1 Line Item Number / Title:**  
352010 / Cartridges

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019        | FY 2020        | FY 2021 Base   | FY 2021 OCO   | FY 2021 Total  | FY 2022        | FY 2023        | FY 2024        | FY 2025        | To Complete | Total            |
|---|-------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|-------------|------------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -              | -              | -              | -             | -              | -              | -              | -              | -              | -           | -                |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 188.227        | 193.091        | 123.365        | 40.434        | 163.799        | 161.666        | 145.812        | 109.608        | 122.330        | -           | 1,084.533        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -              | -              | -              | -             | -              | -              | -              | -              | -              | -           | -                |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 188.227        | 193.091        | 123.365        | 40.434        | 163.799        | 161.666        | 145.812        | 109.608        | 122.330        | -           | 1,084.533        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -              | -              | -              | -             | -              | -              | -              | -              | -              | -           | -                |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>188.227</b> | <b>193.091</b> | <b>123.365</b> | <b>40.434</b> | <b>163.799</b> | <b>161.666</b> | <b>145.812</b> | <b>109.608</b> | <b>122.330</b> | -           | <b>1,084.533</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

FY2019 funding includes \$29.587M appropriated for Overseas Contingency Operations.

FY2020 funding includes \$52.642M appropriated for Overseas Contingency Operations.

The following Weapon System Cost Elements are represented in this P-1 line:

**IMPULSE CARTRIDGES:**

-BBU-35 Impulse Cartridge (MG62): Deploys countermeasure chaff and ignites flares from the aircraft dispenser for multiple aircraft. Applicable to the M206, MJU-61, MJU-66, MJU-64, MJU-71, MJU-73, MJU-75, etc. countermeasure flares and RR170 and RR188 chaff.

-BBU-36 Impulse Cartridge (MG11): Deploys countermeasure flare on multiple aircraft to protect aircraft from IR weapons. Flare applications include: MJU-7, MJU-10, MJU-40, MJU-53 AND MJU-62.

-BBU-46 Impulse Cartridge (MT40): Deploys a MJU-23 countermeasure flare on the B-1.

-BBU-48 Impulse Cartridge (SS27): Deploys countermeasure chaff on multiple aircraft to protect aircraft from radar and radar guided weapons. Chaff applications include: RR-180 and RR-196.

-BBU-59 Impulse Cartridge (WD01): Deploys a MJU-39 countermeasure flare on the F-22.

-BBU-63 Impulse Cartridge (SS44): Bomb ejection cartridge used with the BRU-44 bomb rack on the B-2.

-ARD 446 Impulse Cartridge (WB33): Weapon and store release cartridge.

-ARD 863 Impulse Cartridge (M189): Weapon and store release cartridge.

-RR-170 Chaff (LY07): RF countermeasure; dispensed by BBU-35

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force  |   | <b>Date:</b> February 2020                                  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 12: Cartridges   |   | <b>P-1 Line Item Number / Title:</b><br>352010 / Cartridges |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A  | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A                  |
| <b>Line Item MDAP/MAIS Code:</b> N/A  |   |   |
| <p>-RR-180 Chaff (SY16): RF countermeasure; dispensed by BBU-48</p> <p>-RR-188 Chaff (3W37): RF countermeasure; dispensed by BBU-35</p> <p>-RR-196 Chaff (CY94): RF countermeasure; dispensed by BBU-48</p> <p>-RR-196(T-1) Chaff (NY02): RF countermeasure; dispensed by BBU-48</p> <p>-CCU-136 (WA83): Deploys towed decoy; used with AN/ALE-70(V)1</p> <p>-CCU-145 (WB24): Deploys countermeasure flares from F-35. Applicable to MJU-68 and MJU-71</p> <p>-CCU-41 (MF60): Deploys towed decoy for F-15 and B-1; used with ALE-50</p> <p>-MK 107 MOD 1 (M943): Used on rotary launcher for B-1, MXU-611 Fuel Tank Release mechanism and LAU-93A Phoenix Missile Launcher</p> <p>-M21 (M500): Parachute reefing line cutter on C-17</p> <p>-CCU-167 (DWGY): Cutter cart for steel hoist cables on helicopters and various towed targets on multiple aircraft</p> <p>MEDIUM CAL AMMO:</p> <p>-25MM Target Practice (TP), PGU-23/U (A978): 25MM PGU-23 is a target practice round used in the GAU-12/A gun systems applicable to the F-35 and AC-130U aircraft. The round is also a kinetic energy combat round used to limit collateral damage potential. Air Force procures 25MM through the Single Manager for Conventional Ammunition (SMCA), Department of the Army.</p> <p>-20MM PGU-28A/B (AA22): Primary combat round, high explosive incendiary used with the M61 gun system applicable to the F-15 and F-16 aircraft. Designed for use against air-to-air and air-to-ground targets. Both the Air Force and Navy use this ammunition for combat only. Air Force procures 20MM through the Single Manager for Conventional Ammunition (SMCA), Department of the Army.</p> <p>-20MM TP Round PGU-27A/B (AA24): This round is used for air-to-air and air-to-ground training in the M61 aircraft gun on F-15, F-16 and F-22A aircraft. The cartridge is electrically primed and has no fuze. The projectile is a solid slug sized to match the ballistics of the 20MM combat round. 20MM is the primary ammunition used in Air Force and Navy aircraft gun systems to provide a training capability to complement the PGU-28 high explosive incendiary combat round and ensure training is consistent with combat operations. Air Force procures 20MM through the Army Single Manager for Conventional Ammunition (SMCA), Department of the Army and engineering support from the Navy.</p> <p>-20MM PGU-39 (A931): PGU-39 is a dummy round that provides gun system training, and aids in troubleshooting, as well as being utilized to verify weapon system readiness for the M61 gun system.</p> <p>-30MM HEI PGU-13D/B Round (B104): This is a High Explosive Incendiary (HEI) round for the GAU-8/A cannon on the A-10 aircraft. It contains an explosive material for use against light armor and personnel. Air Force procures 30MM from the Single Manager for Conventional Ammunition (SMCA), Department of the Army.</p> <p>-30MM Target Practice (TP) Cartridge PGU-15A/B (B116): A solid, inert projectile used to train aircrew in the use of the GAU-8/A cannon on the A-10 aircraft. The cartridge is mechanically primed and has no fuze, while the projectile is a solid slug designed to match the ballistics of high explosive incendiary and armor piercing incendiary cartridges. Air Force procures 30MM from the Single Manager for Conventional Ammunition (SMCA), Department of the Army.</p> |   |   |

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force   |   | <b>Date:</b> February 2020                                  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 12: Cartridges  |   | <b>P-1 Line Item Number / Title:</b><br>352010 / Cartridges |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A   | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A                  |
| <b>Line Item MDAP/MAIS Code:</b> N/A   |   |   |
| <p>-30MM Combat Mix (AC56) (Formerly B103) consists of two Armor Piercing Incendiary rounds (PGU-14) and one High Explosive Incendiary (PGU-13) round and is employed on the GAU-8 cannon on the A-10 aircraft. Combat Mix is a primary combat ammunition for the A-10. The AF procures this item through Single Manager for Conventional Ammunition( SMCA).</p> <p>-30MM Urban Mix (AC29) consists of two High Explosive Incendiary (PGU-13) and one Target Practice (PGU-15) rounds and is employed on the GAU-8 cannon on the A-10 aircraft. Urban Mix is an alternate (lower collateral damage) combat ammunition for the A-10. The AF procures this item through Single Manager for Conventional Ammunition( SMCA).</p> <p>-25MM PGU-48/B (AB98): 25MM PGU-48/B (formerly Frangible Armor Piercing (FAP)) round to be used in GAU-22 gun on F-35/JSF.</p> <p>SMALL CAL/GROUND MUNITIONS:</p> <p>-7.62MM Ball Linked M80 (A143): The M240 Machine Gun requires this linked round, used against personnel and unarmored targets. Air Force procures this item through the Single Manager for Conventional Ammunition (SMCA), Department of the Army.</p> <p>-5.56MM Blue Marking Cartridge (AB09): This round is used in force-on-force training of personnel in M16A2 and M4 rifles. It consists of a plastic projectile in a brass cartridge case. Air Force procures this item through the Single Manager for Conventional Ammunition (SMCA), Department of the Army.</p> <p>-5.56MM Frangible (AA40): This is the primary training round for the Air Force and consists of a lead-free small rifle primer in a brass cartridge case. These cartridges are more environmentally friendly than standard 5.56MM ball cartridges. The case is made of reusable/recyclable brass, which is the same as 5.56MM ball ammunition. The 5.56MM frangible cartridges are used in M16-series rifles, which include M4 rifles. The Air Force procures this item through the Navy.</p> <p>-5.56MM Ball M855 (AB57): This is a lead-free primary combat round used in the M16A2 and M4 rifles, against personnel and unarmored targets. Air Force procures this item through the Single Manager for Conventional Ammunition (SMCA), Department of the Army.</p> <p>-Items Less Than Five Million Dollars: All items have an annual procurement of less than \$5,000,000 and are Code A.</p> <p>These funds may also procure inventoried items which may not be procured on an annual basis and could be required on an emerging basis. Variations to cover critical shortfalls to inventory objectives as well as actual and planned expenditures will be addressed during execution year.</p> <p>Funds may be used to address production Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply; and, qualification activities to preserve future production capabilities and capacities.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>Funding for this exhibit contained in PEs: 0207580F, 0207599F, 0208015F and 0208030F.</p> |   |   |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 12: Cartridges

**P-1 Line Item Number / Title:**  
352010 / Cartridges

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |                                       |             |       |                | Prior Years                           | FY 2019                               | FY 2020                               | FY 2021 Base                          | FY 2021 OCO                           | FY 2021 Total                         |
|-------------------|---------------------------------------|-------------|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) |
| P-40a             | IMPULSE CARTRIDGES                    |             |       |                | - / -                                 | - / 25.316                            | - / 26.618                            | - / 26.618                            | - / -                                 | - / 26.618                            |
| P-40a             | Small Cal/Ground Munitions            |             |       |                | - / -                                 | - / 46.239                            | - / 47.379                            | - / 39.000                            | - / -                                 | - / 39.000                            |
| P-40a             | Medium Cal Ammo                       |             |       |                | - / -                                 | - / 116.672                           | - / 119.094                           | - / 57.747                            | - / 40.434                            | - / 98.181                            |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | <b>- / -</b>                          | <b>- / 188.227</b>                    | <b>- / 193.091</b>                    | <b>- / 123.365</b>                    | <b>- / 40.434</b>                     | <b>- / 163.799</b>                    |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.  
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**

FY2021 funds purchase small arms ammunition for use against personnel and unarmored targets; medium caliber ammunition used in aircraft gun systems against air-to-air, air-to-ground and light armored targets, as well as certain impulse cartridges needed to eject weapons stores from bomb racks and instigate aircraft countermeasures. In FY2021, this funding includes \$40.434M in OCO.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) Munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

**MEDIUM CAL AMMO**

-20MM PGU-28 (AA22): This procurement will fulfill WRM requirements. Current stockpile inventory is 27% of total inventory objective and has low combat use.

-20MM PGU-27 (AA24): Procurements will support replenishments for expenditures used in pilot training and proficiency.

-20MM PGU-39 (A931): Procurement is necessary to replenish aging stockpiles of dummy ammunition rounds. Rounds are critical in providing gun system training and troubleshooting, and to verify weapon system readiness. Current inventory is severely aged (30+ years).

-30MM PGU-15 (B116): This procurement is critical to replenish WRM stockpiles to support pilot training and proficiency. Current stockpile inventory is 41% of total inventory objective.

-30MM PGU-13 (B104): This procurement is critical to replenish WRM stockpiles to support. Current stockpile inventory is 31% of total inventory objective and current expenditures meet or exceed previous procurement levels.

-30MM Combat Mix (AC56): NO PROCUREMENT ACTION IS PENDING

-30MM Urban Mix (AC29): NO PROCUREMENT ACTION IS PENDING

-25MM PGU-48/B (AB98): Procurement will fulfill WRM requirements. Current stockpile inventory is 74% of total inventory objective.

-25MM PGU-23 (A978): No procurement action is pending.

-25MM PGU-24 (A968): No procurement action is pending.

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force  |   | <b>Date:</b> February 2020                                  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 12: Cartridges   |   | <b>P-1 Line Item Number / Title:</b><br>352010 / Cartridges |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A  | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A                  |
| <b>Line Item MDAP/MAIS Code:</b> N/A  |   |   |
| <p>-20MM PGU-39 Dummy (A931): Procurement is critical to replenish aging stockpiles of dummy ammunition rounds. Rounds are critical in providing gun system training, troubleshooting, and to verify weapon system readiness. Current inventory is severely aged (30+ years).</p> <p>IMPULSE CARTRIDGES</p> <p>-BBU-35A/B IMPULSE CARTRIDGE (MG62): This procurement is critical to replenish WRM stockpiles/requirements. Approximately 2M assets are expended annually and 24% (1.4M) of the current stockpile is projected to expire by the end of FY18 if unused. Current stockpile inventory is 48% of the total inventory objective requirement.</p> <p>-BBU-36A/B IMPULSE CARTRIDGE (MG11): This procurement is critical to maintain WRM stockpiles/requirements. Approximately 427K assets are expended annually and 12% (162K) of the current stockpile is projected to expire by the end of FY18 if unused. Current stockpile inventory is currently meeting the total inventory objective requirement.</p> <p>-BBU-48A/B IMPULSE CARTRIDGE (SS27): This procurement is critical to replenish WRM stockpiles/requirements. Approximately 68K assets are expended annually and none are projected to expire in FY18. Current stockpile inventory is 46% of the total inventory objective requirement.</p> <p>SMALL CAL/GROUND MUNITIONS<br/>See SMALL CAL/GROUND MUNITIONS P-40a</p> |   |   |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 12 **P-1 Line Item Number / Title:** 352010 / Cartridges **Aggregated Items Title:** IMPULSE CARTRIDGES

| Item Number / Title [DODIC]         | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|-------------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                     |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Impulse Cartridges</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (MT40) BBU-46                       | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.000             | 200,000          | 1.000      | -                 | -                | -          | 0.000             | 200,000          | 1.000      |                   |
| (WB33) ARD-446                      | A     |                | -                | -          | -                 | 0.000            | 74,074     | 0.600             | 0.000            | 123,457    | 1.000             | 0.000            | 222,222    | 1.800             | -                | -          | -                 | 0.000            | 222,222    | 1.800             |
| (3W37) CHAFF, RR-188                | A     |                | -                | -          | -                 | 0.000            | 1,325,648  | 4.600             | 0.000            | 449,438    | 2.000             | 0.000            | 449,438    | 2.000             | -                | -          | -                 | 0.000            | 449,438    | 2.000             |
| (JN31) CU-168 SQUIB                 | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (M189) ARD-863                      | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.000             | 83,195           | 0.500      | -                 | -                | -          | 0.000             | 83,195           | 0.500      |                   |
| (M943) MK107 IMPULSE CARTRIDGE      | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 4,021      | 1.500             | 0.000            | 4,021      | 1.500             | -                | -          | -                 | 0.000            | 4,021      | 1.500             |
| (MF60) CTG 25MM TP PGU-23/U         | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (MG11) CTG, IMPULSE, BBU-36/B       | A     |                | -                | -          | -                 | 0.000            | 509,554    | 1.600             | 0.000            | 453,333    | 1.700             | 0.000            | 453,333    | 1.700             | -                | -          | -                 | 0.000            | 453,333    | 1.700             |
| (MG62) BBU-35/ B IMPULSE CARTRIDGE  | A     |                | -                | -          | -                 | 0.000            | 1,926,230  | 4.700             | 0.000            | 1,723,509  | 4.912             | 0.000            | 1,725,614  | 4.918             | -                | -          | -                 | 0.000            | 1,725,614  | 4.918             |
| (MT40) BBU-46 SQUIB, ELECTRIC       | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (NY02) CHAFF, RR-196(T-1)AL         | A     |                | -                | -          | -                 | 0.000            | 33,907     | 1.400             | 0.000            | 46,221     | 1.700             | 0.000            | 27,189     | 1.000             | -                | -          | -                 | 0.000            | 27,189     | 1.000             |
| (SS-27) BBU-48/ B IMPULSE CARTRIDGE | A     |                | -                | -          | -                 | 0.000            | 44,101     | 4.000             | 0.000            | 842,857    | 5.900             | 0.000            | 857,143    | 6.000             | -                | -          | -                 | 0.000            | 857,143    | 6.000             |
| (SS44) BBU63/ B IMPULSE CARTRIDGE   | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.001            | 2,154      | 2.000             | -                | -          | -                 | 0.001            | 2,154      | 2.000             |
| (LY07) RR-170 CHAFF CARTRIDGE       | A     |                | -                | -          | -                 | 0.000            | 62,500     | 0.500             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (SY16) RR-180 CHAFF CARTRIDGE       | A     |                | -                | -          | -                 | 0.000            | 436,105    | 4.300             | 0.000            | 315,032    | 3.500             | 0.000            | 378,038    | 4.200             | -                | -          | -                 | 0.000            | 378,038    | 4.200             |
| (MF60) CCU-41                       | A     |                | -                | -          | -                 | 0.000            | 120,000    | 0.600             | 0.000            | 60,000     | 0.300             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (WA83) CCU-136                      | A     |                | -                | -          | -                 | 0.000            | 1,450      | 0.007             | 0.000            | 1,200      | 0.006             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (WB24) CCU-145                      | A     |                | -                | -          | -                 | 0.000            | 560,000    | 2.800             | 0.000            | 160,000    | 0.800             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| Items less than 5 M                 | A     |                | -                | -          | -                 | 0.000            | 209,000    | 0.209             | 0.000            | 3,300,000  | 3.300             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Subtotal: Impulse Cartridges</b> |       |                | -                | -          | -                 | -                | -          | <b>25.316</b>     | -                | -          | <b>26.618</b>     | -                | -          | <b>26.618</b>     | -                | -          | -                 | -                | -          | <b>26.618</b>     |
| <b>Total</b>                        |       |                | -                | -          | -                 | -                | -          | <b>25.316</b>     | -                | -          | <b>26.618</b>     | -                | -          | <b>26.618</b>     | -                | -          | -                 | -                | -          | <b>26.618</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 12 **P-1 Line Item Number / Title:** 352010 / Cartridges **Aggregated Items Title:** Small Cal/Ground Munitions

| Item Number / Title [DODIC]               | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>AMMUNITION CARTRIDGES</b>              |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (A014) CTG, 12 GA SHOTGUN, 7-1//2 PLASTIC | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A011) CTG 12 GAUGE NO. 00 BUCKSHOT       | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.000             | 80,645           | 0.050      | -                 | -                | -          | 0.000             | 80,645           | 0.050      | -                 |
| (A017) CTG, 12 GA BUCKSHOT                | A     |                | -                | -          | -                 | 0.000            | 17,544     | 0.010             | 0.000            | 17,544     | 0.010             | 0.000            | 160,000    | 0.056             | -                | -          | -                 | 0.000            | 160,000    | 0.056             |
| (A062) CTG, 5.56MM BALL M855 LINKED       | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 1,013,514  | 0.750             | 0.000            | 2,273,712  | 1.050             | -                | -          | -                 | 0.000            | 2,273,712  | 1.050             |
| (A059) 5.56 BALL M855 CLIPPED             | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 2,640,613  | 1.000             | -                | -          | -                 | 0.000            | 2,640,613  | 1.000             |
| (A080) CTG, 5.56MM BLANK M200             | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 142,857    | 0.100             | 0.000            | 3,260,870  | 0.750             | -                | -          | -                 | 0.000            | 3,260,870  | 0.750             |
| (A091) CTG, .22 CAL LONG RIFLE            | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 416,667    | 0.100             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A131) CTG, 7.62MM BALL 4-1 LINKED        | A     |                | -                | -          | -                 | 0.000            | 3,448,276  | 2.000             | 0.000            | 5,172,413  | 3.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A143) 7.62MM BALL LINKED (M80)           | A     |                | -                | -          | -                 | 0.000            | 7,142,857  | 4.000             | 0.000            | 10,714,285 | 6.000             | 0.000            | 365,854    | 0.300             | -                | -          | -                 | 0.000            | 365,854    | 0.300             |
| (A164) CTG, 7.62MM LINKED                 | A     |                | -                | -          | -                 | 0.000            | 1,851,852  | 1.000             | 0.000            | 1,851,852  | 1.000             | 0.000            | 909,091    | 0.600             | -                | -          | -                 | 0.000            | 909,091    | 0.600             |
| (A246) CTG, .30 CAL BALL BULK             | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 19,231     | 0.005             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A165) CARTRIDGE 7.62MM M80               | A     |                | -                | -          | -                 | 0.000            | 1,818,182  | 1.000             | 0.000            | 2,181,818  | 1.200             | 0.000            | 1,447,178  | 1.000             | -                | -          | -                 | 0.000            | 1,447,178  | 1.000             |
| (A257) CTG, 7.62MM 9-1 DIM TRACER         | A     |                | -                | -          | -                 | 0.000            | 363,636    | 0.200             | 0.000            | 363,636    | 0.200             | 0.000            | 285,714    | 0.200             | -                | -          | -                 | 0.000            | 285,714    | 0.200             |
| (A363) 9MM BALL NATO XM882 PISTOL         | A     |                | -                | -          | -                 | 0.000            | 5,000,000  | 1.000             | 0.000            | 5,750,000  | 1.150             | 0.000            | 3,750,000  | 0.750             | -                | -          | -                 | 0.000            | 3,750,000  | 0.750             |
| (A358) 9MM SUBCAL AT4 TRACER              | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A404) CTG, .38 CAL SP BALL WADCUTTER     | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A475) CTG, CAL .45 BALL M1911            | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A482) CTG CAL .45 BALL WADCUTTER         | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A483) CTG CAL .45 BALL M1911 MTCHGRD     | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 12 **P-1 Line Item Number / Title:** 352010 / Cartridges **Aggregated Items Title:** Small Cal/Ground Munitions

| Item Number / Title [DODIC]                    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| (A552) CTG, .50 CAL BALL SINGLE ROUND, M33     | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 13,953     | 0.030             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (A555) CTG, CAL .50 BALL M2 LINKED             | A     |                | -                | -          | -                 | 0.000            | 473,934    | 1.000             | 0.000            | 473,934    | 1.000             | 0.000            | 1,000,000  | 2.600             | -                | -          | -                 | 0.000            | 1,000,000  | 2.600             |
| (A557) CTG, CAL .50 BALL/TRACER/ LINKED M2/M9  | A     |                | -                | -          | -                 | 0.000            | 909,091    | 2.000             | 0.000            | 568,182    | 1.250             | 0.000            | 985,663    | 2.750             | -                | -          | -                 | 0.000            | 985,663    | 2.750             |
| (A598) CTG CAL.50 BLNK CRMPD W/M9 LNK          | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A606) CTG, CAL.50 API MK211 MOD 0             | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A607) CTG, .50 CAL ARMOR PIERCING INCENDIARY  | A     |                | -                | -          | -                 | 0.000            | 75,949     | 0.600             | 0.000            | 75,949     | 0.600             | 0.000            | 247,525    | 2.500             | -                | -          | -                 | 0.000            | 247,525    | 2.500             |
| (AA02) CTG 5.56MM AP/TR M995/M856 4-1          | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AA03) CTG. 7.62 M993 AP                       | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AA04) CTG. 7.62MM 4 AP M9331/1TR M62 W/LK M13 | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AA11) CTG. 7.62 NATO M118 SPEC BALL           | A     |                | -                | -          | -                 | 0.000            | 735,294    | 0.500             | 0.000            | 294,118    | 0.200             | 0.000            | 222,222    | 0.200             | -                | -          | -                 | 0.000            | 222,222    | 0.200             |
| (AA16) 9 MILLIME CARTRIDGE FRANG               | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 3,000,000  | 3.000             | -                | -          | -                 | 0.000            | 3,000,000  | 3.000             |
| (AA40) 5.56 FRANGIBLE                          | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 33,333,333 | 13.000            | -                | -          | -                 | 0.000            | 33,333,333 | 13.000            |
| (AA51) 12 GA NON-LETHAL PT-CONT                | A     |                | -                | -          | -                 | 0.000            | 22,727     | 0.050             | 0.000            | 22,727     | 0.050             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AA52) 12 GA NON-LETHAL CROWD                  | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AA53) CTG 5.56 SPECIAL MK262 MOD 1            | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AB10) 5.56 RED MARKING CARTRIDGES             | A     |                | -                | -          | -                 | 0.000            | 5,238,095  | 3.300             | 0.000            | 5,238,095  | 3.300             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AB13) 9MM BLUE MARKING CARTRIDGE              | A     |                | -                | -          | -                 | 0.000            | 3,770,492  | 2.300             | 0.000            | 2,868,852  | 1.750             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AB14) 9M RED MARKING CARTRIDGE                | A     |                | -                | -          | -                 | 0.000            | 3,770,492  | 2.300             | 0.000            | 2,868,852  | 1.750             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 12 **P-1 Line Item Number / Title:** 352010 / Cartridges **Aggregated Items Title:** Small Cal/Ground Munitions

| Item Number / Title [DODIC]                      | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| (AB39) 7.62MM SPECIAL BALL, LONG RANGE           | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (AB16) 5.56 BLUE MARKING CARTRIDGE               | A     |                | -                | -          | -                 | 0.000            | 2,702,703  | 2.000             | 0.000            | 1,013,514  | 0.750             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (AB56) 5.56MM M855A1 LINKED LEAD FREE CART       | A     |                | -                | -          | -                 | 0.000            | 2,702,703  | 1.000             | 0.000            | 2,702,703  | 1.000             | 0.000            | 2,884,615  | 1.500             | -                | -          | -                 | 0.000            | 2,884,615  | 1.500             |
| (AB46) 5.56MM SINGLE ROUND DUMMY                 | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (AB47) 7.62MM DUMMY                              | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (AB48) .50 CAL SINGLE DUMMY CART                 | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (AB57) 5.56 M855A1 CLIPPED, LEAD FREE            | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 1,041,667  | 0.500             | -                | -          | -                 | 0.000            | 1,041,667  | 0.500             |
| (AB72) CTG, 7.62MM SINGLE ROUND BLANK (was A112) | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 119,048    | 0.100             | -                | -          | -                 | 0.000            | 119,048    | 0.100             |
| (AB73) 5.56 M856 A1 LEAD FREE                    | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 2,542,373  | 1.500             | -                | -          | -                 | 0.000            | 2,542,373  | 1.500             |
| (AB74) 5.56 TRACER ROUND                         | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 64,103     | 0.100             | -                | -          | -                 | 0.000            | 64,103     | 0.100             |
| (AB75) 5.56 LINKDED M855A1/M86A1                 | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 114,000    | 0.114             | -                | -          | -                 | 0.000            | 114,000    | 0.114             |
| (AC20) 9MM BALL                                  | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 16,120,365 | 3.000             | -                | -          | -                 | 0.000            | 16,120,365 | 3.000             |
| (AC21) 9MM HOLLOW POINT                          | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 1,826,484  | 0.400             | -                | -          | -                 | 0.000            | 1,826,484  | 0.400             |
| (AC36) 9MM BLUE MARKING CARTRIDGE                | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.500             | 0.000            | 604,138    | 0.400             | -                | -          | -                 | 0.000            | 604,138    | 0.400             |
| (AC37) 9MM RED MARKING CARTRIDGE                 | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.500             | 0.000            | 599,700    | 0.400             | -                | -          | -                 | 0.000            | 599,700    | 0.400             |
| (AC39) 5.56 BLUE MARKING CARTRIDGE               | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 1.000             | 0.000            | 132,223    | 0.100             | -                | -          | -                 | 0.000            | 132,223    | 0.100             |
| (AC40) 5.56 RED MARKING CARTRIDGE                | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 1.000             | 0.000            | 720,555    | 0.550             | -                | -          | -                 | 0.000            | 720,555    | 0.550             |
| (AY04) CTG 12 GAGE BIRD SCARE                    | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 30,000     | 0.030             | -                | -          | -                 | 0.000            | 30,000     | 0.030             |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 12 **P-1 Line Item Number / Title:** 352010 / Cartridges **Aggregated Items Title:** Small Cal/Ground Munitions

| Item Number / Title [DODIC]                      | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| (B508) 40MM CTG GREEN SMOKE M175                 | A     |                | -                | -          | -                 | 0.000            | 3,530      | 0.500             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (B509) 40MM CTG YELLOW SMOKE                     | A     |                | -                | -          | -                 | 0.000            | 3,562      | 0.500             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (B519) CARTRIDGE, 40MM PRACTICE M781             | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (B535) 40MM SWS M583                             | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (B542) 40 MIL CARTRIDGE HEDP                     | A     |                | -                | -          | -                 | 0.000            | 59,900     | 4.084             | 0.000            | 22,000     | 1.500             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (B576) CTG, 40MM PRACTICE, LINKED, HIGH VELOCITY | A     |                | -                | -          | -                 | 0.000            | 20,738     | 0.500             | 0.000            | 4,148      | 0.100             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| AIR FORCE SHOOTING TEAM                          | A     |                | -                | -          | -                 | -                | -          | 0.087             | -                | -          | 0.087             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (BA21) 40MM PRACTICE, DAY/ NIGHT LINKED          | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (BA54) 40MM PRACTICE, DAY/ NIGHT LINKED          | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.000             | 30,760           | 0.500      | -                 | -                | -          | 0.000             | 30,760           | 0.500      |                   |
| (LA51) SIMULATOR, SMALL ARMS FIRE                | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (LA52) SIMULATOR, SMALL ARMS FIRE                | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| <b>Subtotal: AMMUNITION CARTRIDGES</b>           |       |                | -                | -          | -                 | -                | -          | <b>29.931</b>     | -                | -          | <b>29.882</b>     | -                | -          | <b>39.000</b>     | -                | -          | -                 | -                | -          | <b>39.000</b>     |
| <b>IMPULSE CARTRIDGES</b>                        |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (3W37) CHAFF, RR-188                             | A     |                | -                | -          | -                 | 0.000            | 665,129    | 2.308             | 0.000            | 1,007,397  | 3.496             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MG11) CTG, IMPULSE, BBU-36/B                    | A     |                | -                | -          | -                 | 0.000            | 955,414    | 3.000             | 0.000            | 955,414    | 3.000             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (JN31) CU-168 SQUIB                              | A     |                | -                | -          | -                 | 0.001            | 2,647      | 2.000             | 0.001            | 2,647      | 2.000             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (WA83) CCU-136                                   | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (WB24) CCU-145                                   | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (M943) MK107 IMPULSE CARTRIDGE                   | A     |                | -                | -          | -                 | 0.000            | 4,230      | 1.500             | 0.000            | 4,230      | 1.500             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MF60) CTG 25MM TP PGU-23/U                      | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MT40) BBU-46 SQUIB, ELECTRIC                    | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 12 **P-1 Line Item Number / Title:** 352010 / Cartridges **Aggregated Items Title:** Small Cal/Ground Munitions

| Item Number / Title [DODIC]         | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |               |                   |
|-------------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|---------------|-------------------|
|                                     |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each)    | Total Cost (\$ M) |
| (NY02) CHAFF, RR-196(T-1)AL         | A     |                | -                | -          | -                 | 0.000            | 72,664     | 3.000             | 0.000            | 72,664     | 3.000             | -                | -          | -                 | -                | -          | -                 | -                | -             |                   |
| (SS44) BBU63/ B IMPULSE CARTRIDGE   | A     |                | -                | -          | -                 | 0.000            | 4,040      | 2.000             | 0.000            | 4,040      | 2.000             | -                | -          | -                 | -                | -          | -                 | -                | -             |                   |
| (SY16) RR-180 CHAFF CARTRIDGE       | A     |                | -                | -          | -                 | 0.000            | 253,642    | 2.500             | 0.000            | 253,642    | 2.501             | -                | -          | -                 | -                | -          | -                 | -                | -             |                   |
| <b>Subtotal: IMPULSE CARTRIDGES</b> |       |                | -                | -          | -                 | -                | -          | <b>16.308</b>     | -                | -          | <b>17.497</b>     | -                | -          | -                 | -                | -          | -                 | -                | -             |                   |
| <b>Total</b>                        |       |                | -                | -          | -                 | -                | -          | <b>46.239</b>     | -                | -          | <b>47.379</b>     | -                | -          | <b>39.000</b>     | -                | -          | -                 | -                | <b>39.000</b> |                   |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

All Ammunition Cartridges:

Prices are provided by the Single Manager for Conventional Ammunition (SMCA), Department of the Army. Prices shown represent the SMCA efforts to obtain munitions items for the DoD Military Services purchasing the same or similar items. Cost drivers include economic price adjustments, currency rate fluctuations, price of complex or scarce materials and orders from other Military Services (increases/decreases). FY14 price changes are due to new contracts with Lake City Army Ammo Plant (LCAAP) and the planned procurements of other customers.

The Navy procures Frangible rounds such as DODIC AA16, 9MM for the Air Force and prices provided based on vendor estimates and AF and Navy combined planned procurements.

All Chaff and Impulse Cartridges:

The Navy procures Chaff and some Impulse Cartridge (all CCU and MK cartridges) items based on planned Air Force and Navy requirements.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 12 **P-1 Line Item Number / Title:** 352010 / Cartridges **Aggregated Items Title:** Medium Cal Ammo

| Item Number / Title [DODIC]          | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                      |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Medium Cal</b>                    |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (A931) 20MM, PGU -29                 | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A968) PGU-24 DUMMY ROUND            | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (A978) CTG, 25MM, TP (PGU-23/U)      | A     |                | -                | -          | -                 | 0.000            | 173,913    | 4.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AA22) 20MM, PGU-28 A/B Semi-AP, HEI | A     |                | -                | -          | -                 | 0.000            | 99,370     | 3.000             | -                | -          | -                 | 0.000            | 530,390    | 16.600            | -                | -          | -                 | 0.000            | 530,390    | 16.600            |
| (AA24), 20MM, TP PGU-27 A/B          | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 633,667    | 8.110             | 0.000            | 657,451    | 8.980             | -                | -          | -                 | 0.000            | 657,451    | 8.980             |
| (AA94) 30MM, PGU-15                  | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AB18) 30MM, PGU-13 D/B              | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AB98) 25MM PGU-48/B                 | A     |                | -                | -          | -                 | 0.000            | 135,472    | 20.100            | 0.000            | 112,300    | 16.662            | 0.000            | 97,054     | 14.400            | -                | -          | -                 | 0.000            | 97,054     | 14.400            |
| (AC29) 30MM, URBAN MIX               | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (AC56) COMBAT MIX 2:1                | A     |                | -                | -          | -                 | 0.000            | 1,750,000  | 52.722            | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (B103) COMBAT MIX                    | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (B104) 30MM, PGU-13/B                | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 1,376,681  | 33.728            | 0.000            | 650,000    | 8.700             | -                | -          | -                 | 0.000            | 650,000    | 8.700             |
| (B116) 30MM PGU-15/B, TP             | A     |                | -                | -          | -                 | 0.000            | 1,499,796  | 36.850            | 0.000            | 2,461,059  | 60.594            | 0.000            | 301,214    | 9.067             | 0.000            | 1,343,255  | 40.434            | 0.000            | 1,644,469  | 49.501            |
| <b>Subtotal: Medium Cal</b>          |       |                | -                | -          | -                 | -                | -          | <b>116.672</b>    | -                | -          | <b>119.094</b>    | -                | -          | <b>57.747</b>     | -                | -          | <b>40.434</b>     | -                | -          | <b>98.181</b>     |
| <b>Total</b>                         |       |                | -                | -          | -                 | -                | -          | <b>116.672</b>    | -                | -          | <b>119.094</b>    | -                | -          | <b>57.747</b>     | -                | -          | <b>40.434</b>     | -                | -          | <b>98.181</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|  |   |
|--|---|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs | <b>P-1 Line Item Number / Title:</b><br>353010 / Practice Bombs |
|--|---|

|  |   |  |
|--|---|--|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A |
|--|---|--|

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years   | FY 2019       | FY 2020       | FY 2021 Base  | FY 2021 OCO  | FY 2021 Total | FY 2022       | FY 2023       | FY 2024       | FY 2025       | To Complete | Total          |
|---|---------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|-------------|----------------|
| Procurement Quantity ( <i>Units in Each</i> )             | 13,365        | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | 13,365         |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )        | 28.509        | 19.079        | 29.313        | 59.725        | 0.000        | 59.725        | 50.341        | 50.879        | 31.454        | 32.031        | -           | 301.331        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )     | -             | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )           | 28.509        | 19.079        | 29.313        | 59.725        | 0.000        | 59.725        | 50.341        | 50.879        | 31.454        | 32.031        | -           | 301.331        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )     | -             | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| <b>Total Obligation Authority (<i>\$ in Millions</i>)</b> | <b>28.509</b> | <b>19.079</b> | <b>29.313</b> | <b>59.725</b> | <b>0.000</b> | <b>59.725</b> | <b>50.341</b> | <b>50.879</b> | <b>31.454</b> | <b>32.031</b> | <b>-</b>    | <b>301.331</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |       |   |   |   |   |   |   |   |   |   |   |       |
|---|-------|---|---|---|---|---|---|---|---|---|---|-------|
| Initial Spares ( <i>\$ in Millions</i> )                | -     | - | - | - | - | - | - | - | - | - | - | -     |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | -     | - | - | - | - | - | - | - | - | - | - | -     |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | 0.002 | - | - | - | - | - | - | - | - | - | - | 0.023 |

**Description:**

The following Weapon System Cost Elements are represented in this P-1 line:

- BDU-56/B: A 2,000-pound, nonexplosive training shape, without internal plumbing, used to provide combat forces with aircrew weapons delivery training. The BDU-56 simulates the drop trajectory of a live MK-84/BLU-117. This item is procured through the Single Manager for Conventional Ammunition(SMCA)/Army.
- BDU-50C/B: A 500-pound thick-wall cast ductile iron, non-explosive training shape used to provide combat air forces with aircrew weapons delivery training. The BDU-50 simulates the drop trajectory of a live MK-82/BLU-111. This item is procured through the Single Manager for Conventional Ammunition (SMCA)/Army.
- MK-84 Inert : A 2,000-pound, nonexplosive training shape, with internal plumbing, used to provide combat forces with aircrew weapons delivery training. The MK-84 Inert simulates the drop trajectory of a live MK-84/BLU-117. This item is procured through the Single Manager for Conventional Ammunition(SMCA)/Army.
- BDU-33: A 25-pound, nonexplosive ,tear shaped, practice bomb used to simulate the 500 lb. MK-82/BLU-111 and 2000 lb. MK-84/BLU-117general purpose, non-guided, bombs in a low drag configuration. Upon impact the bomb dives a firing pin assembly against a primer activating the signal charge, permitting visual evaluation of accuracy. This item is procured through the Single Manager for Conventional Ammunition(SMCA)/Army.
- MK4 Mod 3, Signal Cartridge: The cartridge consists of an aluminum case. The rim end has a percussion primer, and the opposite end is sealed with an aluminum disk. The cartridge produces a flash of light and a puff of smoke. The MK4 Mod 3 is primarily used for night operations as a visual indication of bomb impact and fuze function. This item is procured through the Single Manager for Conventional Ammunition(SMCA)/Army.
- CXU-3A/B, Signal Cartridge: The cartridge consists of an aluminum case. The rim end has a percussion primer, and the opposite end is sealed with an aluminum disk. The cartridge produces a dense, white smoke display. The CXU-3A/B is primarily used for day operations as a visual indication of bomb impact and fuze function. This item is procured through the Single Manager for Conventional Ammunition(SMCA)/Army.

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force  |   | <b>Date:</b> February 2020                                      |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13:<br>Bombs   |   | <b>P-1 Line Item Number / Title:</b><br>353010 / Practice Bombs |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A  | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A                      |
| <b>Line Item MDAP/MAIS Code:</b> N/A  |   |   |
| <p>Funds may be used to address production Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply, and qualification activities to preserve future production capabilities and capacities.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>These funds may also procure inventoried items which may not be procured on an annual basis and could be required on an emerging basis. Variations to cover critical shortfalls to inventory objectives as well as actual and planned expenditures will be addressed during execution year. Examples include, but are not limited to, BDU-56/B, BDU-50C/B, MK-84 Inert, BDU-33, MK4 Mod 3 Signal Cartridge, CXU-3A/B Signal Cartridge.</p> <p>Funding for this exhibit contained in PE 0207599F.</p> |   |   |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs

**P-1 Line Item Number / Title:**  
353010 / Practice Bombs

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |                                       |             |       |                | Prior Years                              | FY 2019                                  | FY 2020                                  | FY 2021 Base                             | FY 2021 OCO                              | FY 2021 Total                            |
|-------------------|---------------------------------------|-------------|-------|----------------|--|--|--|--|--|--|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost<br>(Each) / (\$ M) |
| P-40a             | Practice Bombs                        |             |       |                | - / 28.509                               | - / 19.079                               | - / 29.313                               | - / 59.725                               | - / 0.000                                | - / 59.725                               |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | <b>13,365 / 28.509</b>                   | <b>- / 19.079</b>                        | <b>- / 29.313</b>                        | <b>- / 59.725</b>                        | <b>- / 0.000</b>                         | <b>- / 59.725</b>                        |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**

This program, Category Uncategorized Item (ED12) BDU-56/B, is a new start.  
This program, Category Uncategorized Item (XXXX) BDU-50 C/B, is a new start.

FY2021 funding purchases BDU-56 and BDU-50 non-explosive training bombs and also MK4 Mod 3 and CSU-3A/B Signal Cartridges to provide combat air forces with weapons build-up and aircrew weapons delivery training. These practice bombs simulate drop trajectory and weight of explosive-filled weapons.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) Munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353010 / Practice Bombs **Aggregated Items Title:** Practice Bombs

| Item Number / Title [DODIC]        | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|------------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                    |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>               |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (ED12) BDU-56/B                    | A     |                | -                | -          | -                 | -                | -          | -                 | 0.002            | 11,684     | 17.536            | 0.002            | 16,483     | 24.725            | -                | -          | -                 | 0.002            | 16,483     | 24.725            |
| (XXXX) BDU-50 C/B                  | A     |                | 0.002            | 13,365     | 28.509            | 0.002            | 12,531     | 19.079            | 0.002            | 7,734      | 11.777            | 0.002            | 13,134     | 20.000            | -                | -          | 0.000             | 0.002            | 13,134     | 20.000            |
| (F262) MK84 INERT PRAC BOMB        | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (XXXX) BDU-33                      | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 10.000            | -                | -          | -                 | -                | -          | 10.000            |
| (XXXX) MK4 Mod 3, Signal Cartridge | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 138,889    | 2.500             | -                | -          | -                 | 0.000            | 138,889    | 2.500             |
| (XXXX) CSU-3A/B, Signal Cartridge  | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 138,889    | 2.500             | -                | -          | -                 | 0.000            | 138,889    | 2.500             |
| <b>Subtotal: Uncategorized</b>     |       |                | -                | -          | <b>28.509</b>     | -                | -          | <b>19.079</b>     | -                | -          | <b>29.313</b>     | -                | -          | <b>59.725</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>59.725</b>     |
| <b>Total</b>                       |       |                | -                | -          | <b>28.509</b>     | -                | -          | <b>19.079</b>     | -                | -          | <b>29.313</b>     | -                | -          | <b>59.725</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>59.725</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|  |  |
|--|--|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs |
|--|--|

|  |   |  |
|--|---|--|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A |
|--|---|--|

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years    | FY 2019        | FY 2020        | FY 2021 Base | FY 2021 OCO    | FY 2021 Total  | FY 2022        | FY 2023        | FY 2024        | FY 2025        | To Complete | Total            |
|---|----------------|----------------|----------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------|------------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -              | -              | -              | -            | -              | -              | -              | -              | -              | -              | -           | -                |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | 223.532        | 811.170        | 631.194        | 0.000        | 369.566        | 369.566        | 394.673        | 692.700        | 414.356        | 370.988        | -           | 3,908.179        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -              | -              | -              | -            | -              | -              | -              | -              | -              | -              | -           | -                |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | 223.532        | 811.170        | 631.194        | 0.000        | 369.566        | 369.566        | 394.673        | 692.700        | 414.356        | 370.988        | -           | 3,908.179        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -              | -              | -              | -            | -              | -              | -              | -              | -              | -              | -           | -                |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | <b>223.532</b> | <b>811.170</b> | <b>631.194</b> | <b>0.000</b> | <b>369.566</b> | <b>369.566</b> | <b>394.673</b> | <b>692.700</b> | <b>414.356</b> | <b>370.988</b> | -           | <b>3,908.179</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

FY2019 funding total includes \$551.862M appropriated for Overseas Contingency Operations.

FY2020 funding total includes \$549.390M appropriated for Overseas Contingency Operations.

The following Weapon System Cost Elements are represented in this P-1 line:

- MXU-651 B/B (EC31/EC28) is an airfoil group consisting of an aft wing assembly, forward canards and attaching hardware needed to assemble a GBU-10 Laser Guided Bomb (BLU-109 2000 pound (lb) Hard Target Penetrator Bomb or MK84 2000lb class bomb). The system has folding wings which open upon release for increased maneuverability. This item is procured by Munitions Sustainment Division at Hill AFB, UT.

- MXU-650 Fin Assembly kit (EC32) consists of a tail fin, forward canards and attachment hardware needed to assemble the GBU-12 (MK-82 Warhead, 500lb class) Laser Guided Bomb (LGB). This Fin assembly kit, coupled with a Computer Control Group (ED58) complete the GBU-12 weapons build. These weapons are primarily used for precision bombing against non-hardened targets. This item is procured by Munitions Sustainment Division at Hill AFB.

- MAU-209/MAU-169 (ED58) GBU-10/12 Computer Control Group is a laser homing guidance unit used on the GBU-10 and GBU-12 Laser Guided Bombs, (GBU-10, MK-84 Warhead, 2000lb class or GBU-12, MK-82 Warhead, 500lb class). The system has folding wings which open upon release for maneuverability and increased aircraft payload. This item is procured by Hill AFB. Laser Guided Bombs are essential to meeting training, operational and inventory objective requirements worldwide for precision bombing against hardened and non-hardened targets. Yearly procurements ensure the necessary stock on hand to meet these requirements. Paveway II telemetry (TM) kits are radio monitored modules installed in the GBU-10, 12 and 16 weapon systems that monitor and track data during flight. They provide essential data for issues such as flight failures and weapon accuracy as well as data for the long term sustainment of the weapon system.

- BLU-117/MK-84 is a 2,000lb class general purpose bomb. The bomb produces blast and fragmentation effects and can be used as either an unguided high or low drag weapon. When used with a guidance kit, it can be employed as a precision guided bomb. The warhead is used on the GBU-10/12 (PAVEWAY) and Joint Direct Attack Munition (GBU-31) weapon systems. The BLU-117 can also be fuzed with proximity, instantaneous, or delayed fuzes to provide a variety of military effects. This item is procured through the Army Single Manager for Conventional Ammunition (SMCA). The MK-84 is a tritonal-filled variant.

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force  |   | <b>Date:</b> February 2020   |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs  |   | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A  | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A                             |
| <b>Line Item MDAP/MAIS Code:</b> N/A  |   |  |
| <p>- BLU-111 (all variants) is a 500lb General Purpose Bomb, based on the tritonal-filled MK-82. It has a relatively thin case with a slender body designed for improved ballistics. It can be employed as a general purpose/penetrator bomb delivered in high and low drag modes with ground burst, delayed, or air burst fuzes, and as precision-guided munitions (GBU-12,-38, or -54) and aerial mines depending on the fin/airfoil group and fuzing. Funding may be used to correct BLU-111 (all variants) deficiencies resulting in new fielding nomenclatures.</p> <p>- BLU-109 warhead is a 2000lb hard target penetrator bomb used against bunkers, aircraft shelters, and reinforced concrete structures. The warhead is used on the GBU-10, 24, and 27 as well as Joint Direct Attack Munition (JDAM) GBU-31V3 weapon systems. This item is procured through the Army Single Manager for Conventional Ammunition (SMCA). Variants are filled with tritonal or with a more Insensitive munitions (IM) compliant fill.</p> <p>- BLU-137/B Advanced 2,000lb Penetrator (A2K) is a weapon used against bunkers, aircraft shelters, and reinforced concrete structures and is compatible with the JDAM guidance tail kit. The BLU-137/B design is an advanced/modernized BLU-109 warhead with increased reliability and survivability. A2K will replace the legacy BLU-109. Procurement started in FY18 at Eglin AFB (AFLCMC/EBD) but will transition to Hill AFB (AFLCMC/EBH)~FY20.</p> <p>- BLU-129/B Composite Case Warhead - Carbon fiber composite case for high near-field lethality to deliver 3x reduction in collateral damage.</p> <p>- MK-81 is a 250lb class general purpose bomb. The bomb is designed for soft, fragment sensitive targets, such as troops, POL, and radars. The item is procured through Army Single Manager for Conventional Ammunition (SMCA).</p> <p>- Next Generation Area Attack Weapons (NGAAWs) are a family of unitary area attack weapons which meet the DoD policy on cluster munitions. It consists of the BLU-134/B and BLU-136/B warheads with a height of burst sensor. The BLU-134/B, Improved Lethality Warhead (ILW), Next Generation Area Attack Weapon Increment I, is a 500lb area attack warhead with improved lethality against personnel and materiel targets. The unitary warhead meets DoD policy on cluster munitions. The BLU-136/B, Next Generation Area Attack Weapon Increment II, is a 2,000lb, high fragmentation area attack warhead which, augmented by the BLU-134/B, provides for significant improved lethality against personnel and materiel targets and meets DoD policy on cluster munitions.</p> <p>- Items Less Than Five Million Dollars: All items have an annual procurement of less than \$5,000,000 and are Code A.</p> <p>Portion of FY20-FY24 funding will be used for facilitization efforts. This will enhance production line capacity required to replenish inventory, accommodate large caliber warheads, and provide for alternative explosive fills.</p> <p>Funds may be used to address production Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply, and qualification activities to preserve future production capabilities and capacities.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>These funds may also procure inventoried items which may not be procured on an annual basis and could be required on an emerging basis. Variations to cover critical shortfalls to inventory objectives as well as actual and planned expenditures will be addressed during execution year.</p> <p>Funding for this exhibit contained in PEs: 0208030F, 0207599F</p> |   |  |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs

**P-1 Line Item Number / Title:**  
353020 / General Purpose Bombs

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |   |             |       |                | Prior Years                           | FY 2019                               | FY 2020                               | FY 2021 Base                          | FY 2021 OCO                           | FY 2021 Total                         |
|-------------------|---|-------------|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Exhibit Type      | Title*  | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) |
| P-40a             | (E466) MK-81, 250LB GP BOMB, TRITONAL               |             |       |                | - / -                                 | - / 45.000                            | - / 4.000                             | - / 0.000                             | - / 0.000                             | - / 0.000                             |
| P-40a             | (EC32) MXU-650 GCG, FIN ASSEMBLY                    |             |       |                | - / -                                 | - / 21.300                            | - / 14.797                            | - / 0.000                             | - / 0.000                             | - / 0.000                             |
| P-40a             | 2000LB GP BOMB Variants                             |             |       |                | - / -                                 | - / 149.996                           | - / 95.500                            | - / 0.000                             | - / 77.878                            | - / 77.878                            |
| P-40a             | 500LB GP Bomb Variants                              |             |       |                | - / 17.228                            | - / 204.927                           | - / 133.800                           | - / -                                 | - / 67.000                            | - / 67.000                            |
| P-40a             | 2000LB Hard Target Penetrator Variants              |             |       |                | - / 69.176                            | - / 252.983                           | - / 146.577                           | - / -                                 | - / 69.500                            | - / 69.500                            |
| P-40a             | (ED58) MAU-209C/B CCG                               |             |       |                | - / -                                 | - / 41.700                            | - / 28.820                            | - / 0.000                             | - / 0.000                             | - / 0.000                             |
| P-40a             | (ED78) BLU-129/B 500LB BOMB                         |             |       |                | - / 19.000                            | - / 3.601                             | - / 29.000                            | - / -                                 | - / 26.000                            | - / 26.000                            |
| P-5               | (EE59) BLU-137/A2K                                  |             | A     |                | - / 29.859                            | - / 10.092                            | - / 45.000                            | - / -                                 | - / 70.583                            | - / 70.583                            |
| P-40a             | BLU-134/B CDI 500LB                                 |             |       |                | - / 29.419                            | - / 28.341                            | - / 41.000                            | - / -                                 | - / -                                 | - / -                                 |
| P-40a             | BLU-136/B 2000LB GP BOMB                            |             |       |                | - / -                                 | - / 15.152                            | - / 23.000                            | - / -                                 | - / 29.000                            | - / 29.000                            |
| P-40a             | GENERAL PURPOSE BOMBS (ITEMS LESS THAN \$5 MILLION) |             |       |                | - / 58.850                            | - / 38.078                            | - / 69.700                            | - / -                                 | - / 29.605                            | - / 29.605                            |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b>               |             |       |                | <b>- / 223.532</b>                    | <b>- / 811.170</b>                    | <b>- / 631.194</b>                    | <b>- / 0.000</b>                      | <b>- / 369.566</b>                    | <b>- / 369.566</b>                    |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**

FY2021 funds purchase 500, 1,000, and 2,000 pound conventional general purpose bombs, guidance and control kits, and energetics to provide precision bombing capability. In addition, funds may be used for equipment or support required to enhance production line capacity as required for inventory replenishment, as well as obsolescence and deficiency corrections. These weapons are used to defeat non-hard, hardened and deeply buried targets, bunkers, aircraft shelters, reinforced concrete structures and various armored targets. Built up with assorted componentry, the bombs can also be employed as Joint Direct Attack Munitions or Laser Guided Bombs. In FY2021, this funding includes \$369.566M in OCO.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) Munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

Procurement/Replenishment is required to maintain readiness objectives and worldwide war reserve materiel (WRM) stockpiles to support requirements for penetrator bombs, low collateral damage bombs, and multiple precision guided bomb configurations as determined by the non-nuclear consumables annual analysis (NCAA), to execute DoD approved combat plans and training requirements.

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| <b>Exhibit P-40a, Budget Item Justification For Aggregated Items:</b> PB 2021 Air Force |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>Date:</b> February 2020 |  |  |  |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13        |  |  |  |  |  | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs |  |  |  |  |  | <b>Aggregated Items Title:</b><br>(E466) MK-81, 250LB GP BOMB,<br>TRITONAL |  |  |                            |  |  |  |  |

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>UNCATEGORIZED</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (E466) MK-81, 250LB BOMB       | A     |                | -                | -          | -                 | 0.002            | 19,468     | 45,000            | 0.003            | 1,600      | 4,000             | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             |
| <b>Subtotal: UNCATEGORIZED</b> |       |                | -                | -          | -                 | -                | -          | 45,000            | -                | -          | 4,000             | -                | -          | 0,000             | -                | -          | 0,000             | -                | -          | 0,000             |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | 45,000            | -                | -          | 4,000             | -                | -          | 0,000             | -                | -          | 0,000             | -                | -          | 0,000             |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353020 / General Purpose Bombs **Aggregated Items Title:** (EC32) MXU-650 GCG, FIN ASSEMBLY

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| MXU-650 FIN ASSEMBLY - EC32    | A     |                | -                | -          | -                 | 0.004            | 5,592      | 21.300            | 0.004            | 3,840      | 14.797            | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>21.300</b>     | -                | -          | <b>14.797</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>21.300</b>     | -                | -          | <b>14.797</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

Prices shown reflect the average unit cost of split-award contracts plus inflation. Due to the competitive nature of the currently qualified vendors, estimated unit cost information from the vendors is not available for planning purposes.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353020 / General Purpose Bombs **Aggregated Items Title:** 2000LB GP BOMB Variants

| Item Number / Title [DODIC]            | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Hardware</b>                        |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (ED09) BLU-117, 2000LB GP BOMB         | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 31.500            | -                | -          | 0.000             | -                | -          | -                 | -                | -          | 0.000             |
| (F275) MK-84, 2000LB GP BOMB, Tritonal | A     |                | -                | -          | -                 | 0.012            | 12,398     | 149.996           | 0.012            | 5,500      | 64.000            | -                | -          | -                 | 0.016            | 4,750      | 77.878            | 0.016            | 4,750      | 77.878            |
| <b>Subtotal: Hardware</b>              |       |                | -                | -          | -                 | -                | -          | <b>149.996</b>    | -                | -          | <b>95.500</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>77.878</b>     | -                | -          | <b>77.878</b>     |
| <b>Total</b>                           |       |                | -                | -          | -                 | -                | -          | <b>149.996</b>    | -                | -          | <b>95.500</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>77.878</b>     | -                | -          | <b>77.878</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353020 / General Purpose Bombs **Aggregated Items Title:** 500LB GP Bomb Variants

| Item Number / Title [DODIC]         | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|-------------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                     |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>500 LB Variants</b>              |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (ED15) BLU-111 A/B 500LB GP BOMB    | A     |                | -                | -          | -                 | 0.006            | 3,611      | 19.996            | 0.003            | 10,000     | 30.000            | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (485) MK-82 500LB GP BOMB, Tritonal | A     |                | -                | -          | -                 | 0.004            | 17,328     | 63.998            | -                | -          | -                 | -                | -          | -                 | 0.004            | 5,754      | 22.000            | 0.004            | 5,754      | 22.000            |
| BLU-111 500LB Penetrator (UON)      | A     |                | -                | -          | 17.228            | -                | -          | 120.933           | 0.042            | 2,500      | 103.800           | -                | -          | -                 | 0.039            | 1,150      | 45.000            | 0.039            | 1,150      | 45.000            |
| <b>Subtotal: 500 LB Variants</b>    |       |                | -                | -          | <b>17.228</b>     | -                | -          | <b>204.927</b>    | -                | -          | <b>133.800</b>    | -                | -          | -                 | -                | -          | <b>67.000</b>     | -                | -          | <b>67.000</b>     |
| <b>Total</b>                        |       |                | -                | -          | <b>17.228</b>     | -                | -          | <b>204.927</b>    | -                | -          | <b>133.800</b>    | -                | -          | -                 | -                | -          | <b>67.000</b>     | -                | -          | <b>67.000</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353020 / General Purpose Bombs **Aggregated Items Title:** 2000LB Hard Target Penetrator Variants

| Item Number / Title [DODIC]                             | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>2000LB Hard Target Penetrator Variants</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (F140) BLU-109/B 2000LB Penetrator, Tritonal            | A     |                | -                | -          | -                 | 0.025            | 48         | 1.192             | 0.032            | 500        | 16.000            | -                | -          | -                 | 0.034            | 500        | 17.000            | 0.034            | 500        | 17.000            |
| (ED49) BLU-109C/B IM, 2000LB Penetrator                 | A     |                | -                | -          | 69.176            | 0.042            | 6,046      | 251.791           | 0.035            | 3,730      | 130.577           | -                | -          | -                 | 0.035            | 1,500      | 52.500            | 0.035            | 1,500      | 52.500            |
| <b>Subtotal: 2000LB Hard Target Penetrator Variants</b> |       |                | -                | -          | <b>69.176</b>     | -                | -          | <b>252.983</b>    | -                | -          | <b>146.577</b>    | -                | -          | -                 | -                | -          | <b>69.500</b>     | -                | -          | <b>69.500</b>     |
| <b>Total</b>  |       |                | -                | -          | <b>69.176</b>     | -                | -          | <b>252.983</b>    | -                | -          | <b>146.577</b>    | -                | -          | -                 | -                | -          | <b>69.500</b>     | -                | -          | <b>69.500</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353020 / General Purpose Bombs **Aggregated Items Title:** (ED58) MAU-209C/B CCG

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| MAU-209C/B - ED58              | A     |                | -                | -          | -                 | 0.008            | 5,385      | 41.700            | 0.008            | 3,679      | 28.820            | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>41.700</b>     | -                | -          | <b>28.820</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>41.700</b>     | -                | -          | <b>28.820</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>0.000</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

Prices shown reflect the average unit cost of split-award contracts plus inflation. Due to the competitive nature of the currently qualified vendors, estimated unit costs are not available for planning purposes.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

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| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs | <b>Aggregated Items Title:</b><br>(ED78) BLU-129/B 500LB BOMB |
|--|--|---|

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| BLU-129/B 500LB BOMB           | A     |                | -                | -          | 19.000            | -                | -          | 3.601             | 0.138            | 210        | 29.000            | -                | -          | -                 | 0.090            | 289        | 26.000            | 0.090            | 289        | 26.000            |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | <b>19.000</b>     | -                | -          | <b>3.601</b>      | -                | -          | <b>29.000</b>     | -                | -          | -                 | -                | -          | <b>26.000</b>     | -                | -          | <b>26.000</b>     |
| <b>Total</b>                   |       |                | -                | -          | <b>19.000</b>     | -                | -          | <b>3.601</b>      | -                | -          | <b>29.000</b>     | -                | -          | -                 | -                | -          | <b>26.000</b>     | -                | -          | <b>26.000</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

BLU-129/B Composite Case Warhead - carbon fiber composite case for high near-field lethality to deliver 3x reduction in collateral damage.

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020                                |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs | <b>Item Number / Title [DODIC]:</b><br>(EE59) BLU-137/A2K |

|   |                        |
|---|------------------------|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A | <b>MDAP/MAIS Code:</b> |
|---|------------------------|

| Resource Summary                                   | Prior Years   | FY 2019       | FY 2020       | FY 2021 Base | FY 2021 OCO   | FY 2021 Total |
|--|---------------|---------------|---------------|--------------|---------------|---------------|
| Procurement Quantity (Units in Each)               | -             | -             | -             | -            | -             | -             |
| Gross/Weapon System Cost (\$ in Millions)          | 29.859        | 10.092        | 45.000        | -            | 70.583        | 70.583        |
| Less PY Advance Procurement (\$ in Millions)       | -             | -             | -             | -            | -             | -             |
| Net Procurement (P-1) (\$ in Millions)             | 29.859        | 10.092        | 45.000        | -            | 70.583        | 70.583        |
| Plus CY Advance Procurement (\$ in Millions)       | -             | -             | -             | -            | -             | -             |
| <b>Total Obligation Authority (\$ in Millions)</b> | <b>29.859</b> | <b>10.092</b> | <b>45.000</b> | <b>-</b>     | <b>70.583</b> | <b>70.583</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| Initial Spares (\$ in Millions)                | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost (\$ in Millions) | - | - | - | - | - | - |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements                                   | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Hardware - (EE59) BLU-137 Cost</b>           |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Recurring Cost                                  |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Load Assemble Pack (LAP)                        | -                | -          | -                 | -                | -          | 9.000             | -                | -          | -                 | -                | -          | -                 | 0.009            | 1,000      | 9.000             | 0.009            | 1,000      | 9.000             |
| BLU-137/B Warhead Case and Assembly             | -                | -          | 23.382            | -                | -          | -                 | 0.032            | 1,000      | 32.270            | -                | -          | -                 | 0.050            | 1,000      | 49.983            | 0.050            | 1,000      | 49.983            |
| BLU-137 Energetics                              | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.009            | 1,000      | 9.000             | 0.009            | 1,000      | 9.000             |
| <i>Subtotal: Recurring Cost</i>                 | -                | -          | 23.382            | -                | -          | 9.000             | -                | -          | 32.270            | -                | -          | -                 | -                | -          | 67.983            | -                | -          | 67.983            |
| <i>Subtotal: Hardware - (EE59) BLU-137 Cost</i> | -                | -          | 23.382            | -                | -          | 9.000             | -                | -          | 32.270            | -                | -          | -                 | -                | -          | 67.983            | -                | -          | 67.983            |
| <b>Support - (EE59) BLU-137 Cost</b>            |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Production Engineering                          | -                | -          | 6.477             | -                | -          | 1.092             | -                | -          | 12.730            | -                | -          | -                 | -                | -          | 2.600             | -                | -          | 2.600             |
| <i>Subtotal: Support - (EE59) BLU-137 Cost</i>  | -                | -          | 6.477             | -                | -          | 1.092             | -                | -          | 12.730            | -                | -          | -                 | -                | -          | 2.600             | -                | -          | 2.600             |
| <b>Gross/Weapon System Cost</b>                 | -                | -          | 29.859            | -                | -          | 10.092            | -                | -          | 45.000            | -                | -          | -                 | -                | -          | 70.583            | -                | -          | 70.583            |

**Remarks:**

The BLU-137/Advanced 2,000lb Penetrator (A2K) is a weapon used against bunkers, aircraft shelters, and reinforced concrete structures and is compatible with the JDAM guidance tail kit. The BLU-137/B (A2K) design is an advanced/modernized BLU-109 warhead with increased reliability and survivability. A2K will replace the legacy BLU-109.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

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| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs | <b>Aggregated Items Title:</b><br>BLU-134/B CDI 500LB |
|--|--|---|

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| BLU-134/B, CDI 500 lb          | A     |                | -                | -          | 29.419            | -                | -          | 28.341            | 0.009            | 4,555      | 41.000            | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | <b>29.419</b>     | -                | -          | <b>28.341</b>     | -                | -          | <b>41.000</b>     | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Total</b>                   |       |                | -                | -          | <b>29.419</b>     | -                | -          | <b>28.341</b>     | -                | -          | <b>41.000</b>     | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

Next Generation Area Attack Weapons (NGAAWs) are a family of unitary area attack weapons which meet the DoD policy on cluster munitions. They consist of BLU-134/B and BLU-136/B warheads with a height of burst sensor.

BLU-134/B, Improved Lethality Warhead (ILW), NGAAW Increment I, is a 500 lb area attack warhead with improved lethality against personnel and materiel targets. The unitary warhead meets DoD policy on cluster munitions.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

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| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs | <b>Aggregated Items Title:</b><br>BLU-136/B 2000LB GP BOMB |
|--|--|--|

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| BLU-136/B, 2,000 lb.           | A     |                | -                | -          | -                 | -                | -          | 15.152            | -                | -          | 23.000            | -                | -          | -                 | 0.064            | 450        | 29.000            | 0.064            | 450        | 29.000            |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>15.152</b>     | -                | -          | <b>23.000</b>     | -                | -          | -                 | -                | -          | <b>29.000</b>     | -                | -          | <b>29.000</b>     |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>15.152</b>     | -                | -          | <b>23.000</b>     | -                | -          | -                 | -                | -          | <b>29.000</b>     | -                | -          | <b>29.000</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

Next Generation Area Attack Weapons (NGAAWs) are a family of unitary area attack weapons which meet the DoD policy on cluster munitions. It consists of the BLU-134/B and BLU-136/B warheads with a cockpit-selectable height of burst sensor.

BLU-136/B, NGAAW Increment II, is a 2,000lb area attack warhead which, augmented by the BLU-134/B, provides for significant improvement of lethality against personnel and materiel targets while meeting the DoD policy on cluster munitions.

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| <b>Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force</b> |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>Date:</b> February 2020  |  |  |  |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13        |  |  |  |  |  |  | <b>P-1 Line Item Number / Title:</b><br>353020 / General Purpose Bombs |  |  |  |  |  |  |  | <b>Aggregated Items Title:</b><br>GENERAL PURPOSE BOMBS (ITEMS LESS THAN \$5 MILLION) |  |  |  |  |

| Item Number / Title [DODIC]            | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>                   |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| FEM Conversion                         | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 17.000            | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| MXU-651 AFG, GBU-10 (EC31)             | A     |                | -                | -          | -                 | -                | -          | 1.800             | -                | -          | 1.800             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| Facilitization                         | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 24.300            | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| BOMB FUZE PROTECTION ASSEMBLY (ED67)   | A     |                | -                | -          | -                 | -                | -          | 0.500             | -                | -          | 0.500             | -                | -          | -                 | -                | -          | 0.500             | -                | -          | 0.500             |
| MK84 FIN ASSEMBLY (F607)               | A     |                | -                | -          | -                 | -                | -          | 1.000             | -                | -          | 1.000             | -                | -          | -                 | -                | -          | 1.000             | -                | -          | 1.000             |
| FIN ASSY BSU-33B/ B (EE10)             | A     |                | -                | -          | -                 | -                | -          | 3.000             | -                | -          | 3.000             | -                | -          | -                 | -                | -          | 3.000             | -                | -          | 3.000             |
| (ED41) BLU-110B/B GENERAL PURPOSE BOMB | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| IM                                     | A     |                | -                | -          | 31.598            | -                | -          | 6.129             | -                | -          | 6.900             | -                | -          | -                 | -                | -          | 6.900             | -                | -          | 6.900             |
| LWIP                                   | A     |                | -                | -          | 23.815            | -                | -          | 2.991             | -                | -          | 3.000             | -                | -          | -                 | -                | -          | 3.000             | -                | -          | 3.000             |
| WEAPS                                  | A     |                | -                | -          | 3.437             | -                | -          | 0.700             | -                | -          | 1.400             | -                | -          | -                 | -                | -          | 1.400             | -                | -          | 1.400             |
| First Destination Transportation Costs | A     |                | -                | -          | -                 | -                | -          | 8.010             | -                | -          | 6.300             | -                | -          | -                 | -                | -          | 4.500             | -                | -          | 4.500             |
| Support Cups                           | A     |                | -                | -          | -                 | -                | -          | 1.500             | -                | -          | 1.500             | -                | -          | -                 | -                | -          | 1.500             | -                | -          | 1.500             |
| Nose Plugs                             | A     |                | -                | -          | -                 | -                | -          | 2.000             | -                | -          | 2.000             | -                | -          | -                 | -                | -          | 2.200             | -                | -          | 2.200             |
| PMA OTHER GOVERNMENT COSTS             | A     |                | -                | -          | -                 | -                | -          | 10.448            | -                | -          | 1.000             | -                | -          | -                 | -                | -          | 5.605             | -                | -          | 5.605             |
| <b>Subtotal: Uncategorized</b>         |       |                | -                | -          | <b>58.850</b>     | -                | -          | <b>38.078</b>     | -                | -          | <b>69.700</b>     | -                | -          | -                 | -                | -          | <b>29.605</b>     | -                | -          | <b>29.605</b>     |
| <b>Total</b>                           |       |                | -                | -          | <b>58.850</b>     | -                | -          | <b>38.078</b>     | -                | -          | <b>69.700</b>     | -                | -          | -                 | -                | -          | <b>29.605</b>     | -                | -          | <b>29.605</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|  |  |
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| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs | <b>P-1 Line Item Number / Title:</b><br>353190 / Massive Ordnance Penetrator (MOP) |
|--|--|

|  |   |   |
|--|---|---|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> 0604327F |
|--|---|---|

**Line Item MDAP/MAIS Code:** 527

| Resource Summary  | Prior Years | FY 2019       | FY 2020      | FY 2021 Base | FY 2021 OCO | FY 2021 Total | FY 2022      | FY 2023      | FY 2024      | FY 2025      | To Complete | Total         |
|---|-------------|---------------|--------------|--------------|-------------|---------------|--------------|--------------|--------------|--------------|-------------|---------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -             | -            | -            | -           | -             | -            | -            | -            | -            | -           | -             |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 38.111        | 0.000        | 0.000        | -           | 0.000         | 0.000        | 0.000        | 0.000        | 0.000        | -           | 38.111        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -             | -            | -            | -           | -             | -            | -            | -            | -            | -           | -             |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 38.111        | 0.000        | 0.000        | -           | 0.000         | 0.000        | 0.000        | 0.000        | 0.000        | -           | 38.111        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -             | -            | -            | -           | -             | -            | -            | -            | -            | -           | -             |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>38.111</b> | <b>0.000</b> | <b>0.000</b> | -           | <b>0.000</b>  | <b>0.000</b> | <b>0.000</b> | <b>0.000</b> | <b>0.000</b> | -           | <b>38.111</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

Massive Ordnance Penetrator (MOP) is a 30,000 lb class precision-guided penetrator designed to defeat hard and deeply buried targets.

Funding may be used to address Diminishing Manufacturing Sources and Materiel Shortages (DMSMS)/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply, energetics, and qualification activities to preserve future production capabilities and capacities.

Funding for this exhibit is contained in PE 0208030F, project 353190.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs **P-1 Line Item Number / Title:** 353190 / Massive Ordnance Penetrator (MOP)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604327F

**Line Item MDAP/MAIS Code:** 527

| Exhibits Schedule |                                       |             |       |                | Prior Years                              | FY 2019                                  | FY 2020                                  | FY 2021 Base                             | FY 2021 OCO                              | FY 2021 Total                            |
|-------------------|---------------------------------------|-------------|-------|----------------|--|--|--|--|--|--|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost<br>(Each) / (\$ M) |
| P-5               | Massive Ordnance Penetrator (MOP)     |             | A     |                | - / -                                    | - / 38.111                               | - / 0.000                                | - / 0.000                                | - / -                                    | - / 0.000                                |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | - / -                                    | - / 38.111                               | - / 0.000                                | - / 0.000                                | - / -                                    | - / 0.000                                |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
No FY 2021 funding requested.

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020   |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>353190 / Massive Ordnance Penetrator (MOP) | <b>Item Number / Title [DODIC]:</b><br>Massive Ordnance Penetrator (MOP) |

|   |                        |
|---|------------------------|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A | <b>MDAP/MAIS Code:</b> |
|---|------------------------|

| <b>Resource Summary</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> |
|---|--------------------|----------------|----------------|---------------------|--------------------|----------------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -                  | -              | -              | -                   | -                  | -                    |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -                  | 38.111         | 0.000          | 0.000               | -                  | 0.000                |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -                  | -              | -              | -                   | -                  | -                    |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -                  | 38.111         | 0.000          | 0.000               | -                  | 0.000                |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -                  | -              | -              | -                   | -                  | -                    |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -                  | <b>38.111</b>  | <b>0.000</b>   | <b>0.000</b>        | -                  | <b>0.000</b>         |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| <b>Cost Elements</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>Unit Cost</b><br>(\$ M) | <b>Qty</b><br>(Each) | <b>Total Cost</b><br>(\$ M) | <b>Unit Cost</b><br>(\$ M) | <b>Qty</b><br>(Each) | <b>Total Cost</b><br>(\$ M) | <b>Unit Cost</b><br>(\$ M) | <b>Qty</b><br>(Each) | <b>Total Cost</b><br>(\$ M) | <b>Unit Cost</b><br>(\$ M) | <b>Qty</b><br>(Each) | <b>Total Cost</b><br>(\$ M) | <b>Unit Cost</b><br>(\$ M) | <b>Qty</b><br>(Each) | <b>Total Cost</b><br>(\$ M) | <b>Unit Cost</b><br>(\$ M) | <b>Qty</b><br>(Each) | <b>Total Cost</b><br>(\$ M) |
| Hardware - MASSIVE ORDNANCE PENETRATOR (MOP) Cost                  |                            |                      |                             |                            |                      |                             |                            |                      |                             |                            |                      |                             |                            |                      |                             |                            |                      |                             |
| Recurring Cost   |                            |                      |                             |                            |                      |                             |                            |                      |                             |                            |                      |                             |                            |                      |                             |                            |                      |                             |
| MASSIVE ORDNANCE PENETRATOR (MOP)                                  | -                          | -                    | -                           | -                          | -                    | 38.111                      | -                          | -                    | 0.000                       | -                          | -                    | 0.000                       | -                          | -                    | -                           | -                          | -                    | 0.000                       |
| <i>Subtotal: Recurring Cost</i>                                    | -                          | -                    | -                           | -                          | -                    | 38.111                      | -                          | -                    | 0.000                       | -                          | -                    | 0.000                       | -                          | -                    | -                           | -                          | -                    | 0.000                       |
| <i>Subtotal: Hardware - MASSIVE ORDNANCE PENETRATOR (MOP) Cost</i> | -                          | -                    | -                           | -                          | -                    | 38.111                      | -                          | -                    | 0.000                       | -                          | -                    | 0.000                       | -                          | -                    | -                           | -                          | -                    | 0.000                       |
| <b>Gross/Weapon System Cost</b>                                    | -                          | -                    | -                           | -                          | -                    | 38.111                      | -                          | -                    | 0.000                       | -                          | -                    | 0.000                       | -                          | -                    | -                           | -                          | -                    | 0.000                       |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|   |   |
|---|---|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13:<br>Bombs | <b>P-1 Line Item Number / Title:</b><br>353620 / Joint Direct Attack Munition |
|---|---|

|   |  |                                     |
|---|--|-------------------------------------|
| ID Code (A=Service Ready, B=Not Service Ready): A | Program Elements for Code B Items: N/A | Other Related Program Elements: N/A |
|---|--|-------------------------------------|

**Line Item MDAP/MAIS Code:** 503

| Resource Summary  | Prior Years      | FY 2019        | FY 2020          | FY 2021 Base   | FY 2021 OCO    | FY 2021 Total  | FY 2022        | FY 2023        | FY 2024       | FY 2025        | To Complete  | Total            |
|---|------------------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|--------------|------------------|
| Procurement Quantity ( <i>Units in Each</i> )             | 275,801          | 30,872         | 25,000           | 10,000         | 6,800          | 16,800         | 5,500          | 6,000          | 750           | 750            | -            | 361,473          |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )        | 6,690.782        | 922.649        | 1,034.224        | 206.989        | 237.723        | 444.712        | 277.718        | 247.697        | 90.434        | 112.431        | 0.000        | 9,820.647        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )     | -                | -              | -                | -              | -              | -              | -              | -              | -             | -              | -            | -                |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )           | 6,690.782        | 922.649        | 1,034.224        | 206.989        | 237.723        | 444.712        | 277.718        | 247.697        | 90.434        | 112.431        | 0.000        | 9,820.647        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )     | -                | -              | -                | -              | -              | -              | -              | -              | -             | -              | -            | -                |
| <b>Total Obligation Authority (<i>\$ in Millions</i>)</b> | <b>6,690.782</b> | <b>922.649</b> | <b>1,034.224</b> | <b>206.989</b> | <b>237.723</b> | <b>444.712</b> | <b>277.718</b> | <b>247.697</b> | <b>90.434</b> | <b>112.431</b> | <b>0.000</b> | <b>9,820.647</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |       |       |       |       |       |       |       |       |       |       |   |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|-------|
| Initial Spares ( <i>\$ in Millions</i> )                | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | - | -     |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | - | -     |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | 0.024 | 0.030 | 0.041 | 0.021 | 0.035 | 0.026 | 0.050 | 0.041 | 0.121 | 0.150 | - | 0.027 |

**Description:**

FY 2019 funding totals include \$688.451M appropriated for Overseas Contingency Operations (OCO). These funds procure 30,252 JDAM guidance kits.

The Joint Direct Attack Munition (JDAM) program is a joint Air Force/Navy program with the Air Force as the lead service. Designated ACAT 1C, this program upgrades the existing inventory of general purpose bombs by integrating the bombs with a field installed guidance kit using a Global Positioning System-aided Inertial Navigation System (GPS/INS). JDAM provides an accurate, adverse weather capability. JDAM is integrated with the B-52H, B-2A, B-1B, F-16 (all variants), F/A-18A+/C/D/E/F, F-15E, AV-8B, A-10C and F-22A aircraft. Integration with the MQ-9 and F-35 are in progress.

The Air Force is developing the BLU-137 which is a modernized 2,000-lb. penetrator warhead. The BLU-137 will increase fuze survivability when used against bunkers, aircraft shelters, and reinforced targets. This new warhead uses a modified JDAM tail kit hardback design which will increase tail kit unit costs for this variant.

Under an Urgent Operational Need (UON), the Air Force is procuring Strategic Anti-Jam Beamforming Receiver Y-Code (SABR-Y) tail kits which are enhanced GPS-denied environment guidance systems. As a stop-gap capability, the Air Force is working to procure SABR-Y as a follow-on requirement until M-Code integration is achieved. The SABR-Y tail kit will increase anti-jam capabilities in GPS degraded theaters, and leverages existing JDAM tail kit designs, however; per unit costs will increase with the upgraded GPS receiver.

Pursuant to section 2308 of Title 10, U.S. Code, this program will seek cost efficiencies where available through production lot negotiations. This program will continue procurement past FY 2025 due to evolving warfighter requirements driven by ongoing combat expenditures.

Funding may be used to address production Diminishing Manufacturing Sources and Material Shortages (DMSMS) and obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply; and qualification activities to preserve future production capabilities and capacities.

Funding may be used to increase production capacity in order to meet warfighter demand.

Funding for this exhibit is contained in PE 0207583F.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs

**P-1 Line Item Number / Title:**  
353620 / Joint Direct Attack Munition

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** 503

| Exhibits Schedule |                                       |             |       |                | Prior Years                           | FY 2019                               | FY 2020                               | FY 2021 Base                          | FY 2021 OCO                           | FY 2021 Total                         |
|-------------------|---------------------------------------|-------------|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) |
| P-5               | Joint Direct Attack Munition          | P-5a, P-21  | A     |                | 275,801 / 6,690.782                   | 30,872 / 922.649                      | 25,000 / 1,034.224                    | 10,000 / 206.989                      | 6,800 / 237.723                       | 16,800 / 444.712                      |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | <b>275,801 / 6,690.782</b>            | <b>30,872 / 922.649</b>               | <b>25,000 / 1,034.224</b>             | <b>10,000 / 206.989</b>               | <b>6,800 / 237.723</b>                | <b>16,800 / 444.712</b>               |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
The unit cost reflected in FY21 is incorrect. The correct FY 2021 unit cost is \$.036M. The FY 2021 funding totals include \$206.989M to procure 3,400 JDAM guidance kits and \$237.723M in Overseas Contingency Operations (OCO) to procure 6,600 JDAM guidance kits.

Unit costs increase in FY2020, FY2021, and FY2022 while SABR-Y assets are procured.

This program procures JDAM guidance kits, laser sensors, airborne test equipment, and supporting activities to include software block upgrades, integration, and other technical services. The hardware purchase includes a mixture of JDAM guidance kits as well as precision laser guidance sensors, and airborne test equipment for flight test.

This procurement is critical to replenish stockpiles supporting on-going warfighter missions in which JDAM comprises the majority of combat expenditures.

Note: Procurement quantities can change based on negotiated options/pricing curves and available funding, in accordance with Title 10, U.S. Code Section 2308 BUY-TO-BUDGET ACQUISITION.

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 |  | <b>P-1 Line Item Number / Title:</b><br>353620 / Joint Direct Attack Munition |
|  |  | <b>Item Number / Title [DODIC]:</b><br>Joint Direct Attack Munition           |

|   |                        |
|---|------------------------|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A | <b>MDAP/MAIS Code:</b> |
|---|------------------------|

| Resource Summary                                   | Prior Years      | FY 2019        | FY 2020          | FY 2021 Base   | FY 2021 OCO    | FY 2021 Total  |
|--|------------------|----------------|------------------|----------------|----------------|----------------|
| Procurement Quantity (Units in Each)               | 275,801          | 30,872         | 25,000           | 10,000         | 6,800          | 16,800         |
| Gross/Weapon System Cost (\$ in Millions)          | 6,690.782        | 922.649        | 1,034.224        | 206.989        | 237.723        | 444.712        |
| Less PY Advance Procurement (\$ in Millions)       | -                | -              | -                | -              | -              | -              |
| Net Procurement (P-1) (\$ in Millions)             | 6,690.782        | 922.649        | 1,034.224        | 206.989        | 237.723        | 444.712        |
| Plus CY Advance Procurement (\$ in Millions)       | -                | -              | -                | -              | -              | -              |
| <b>Total Obligation Authority (\$ in Millions)</b> | <b>6,690.782</b> | <b>922.649</b> | <b>1,034.224</b> | <b>206.989</b> | <b>237.723</b> | <b>444.712</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|  |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|
| Initial Spares (\$ in Millions)                | -     | -     | -     | -     | -     | -     |
| Gross/Weapon System Unit Cost (\$ in Millions) | 0.024 | 0.030 | 0.041 | 0.021 | 0.035 | 0.026 |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements  | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Hardware - END ITEM Cost</b>                            |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Recurring Cost   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| JDAM TAIL KIT <sup>(1)</sup>                               | 0.022            | 274,909    | 6,082.730         | 0.029            | 30,872     | 880.660           | 0.034            | 25,000     | 840.804           | 0.012            | 10,000     | 121.206           | 0.035            | 6,800      | 237.723           | 0.021            | 16,800     | 358.929           |
| LASER SENSOR   | 0.013            | 23,817     | 305.208           | 0.012            | 1,618      | 18.870            | 0.014            | 10,000     | 136.000           | 0.014            | 3,500      | 47.860            | -                | -          | -                 | 0.014            | 3,500      | 47.860            |
| <i>Subtotal: Recurring Cost</i>                            | -                | -          | 6,387.938         | -                | -          | 899.530           | -                | -          | 976.804           | -                | -          | 169.066           | -                | -          | 237.723           | -                | -          | 406.789           |
| <i>Subtotal: Hardware - END ITEM Cost</i>                  | -                | -          | 6,387.938         | -                | -          | 899.530           | -                | -          | 976.804           | -                | -          | 169.066           | -                | -          | 237.723           | -                | -          | 406.789           |
| <b>Ancillary Equipment - TEST EQUIPMENT Cost</b>           |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Recurring Cost   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| AIRBORNE TEST EQUIPMENT                                    | -                | -          | 100.778           | -                | -          | 0.434             | -                | -          | 0.803             | -                | -          | 8.375             | -                | -          | -                 | -                | -          | 8.375             |
| <i>Subtotal: Recurring Cost</i>                            | -                | -          | 100.778           | -                | -          | 0.434             | -                | -          | 0.803             | -                | -          | 8.375             | -                | -          | -                 | -                | -          | 8.375             |
| <i>Subtotal: Ancillary Equipment - TEST EQUIPMENT Cost</i> | -                | -          | 100.778           | -                | -          | 0.434             | -                | -          | 0.803             | -                | -          | 8.375             | -                | -          | -                 | -                | -          | 8.375             |
| <b>Support - END ITEM SUPPORT Cost</b>                     |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| PROGRAM MANAGEMENT ADMINISTRATION                          | -                | -          | 50.742            | -                | -          | 2.624             | -                | -          | 3.801             | -                | -          | 3.899             | -                | -          | -                 | -                | -          | 3.899             |
| PRODUCTION SUSTAINING ENGINEERING                          | -                | -          | 151.324           | -                | -          | 20.061            | -                | -          | 52.816            | -                | -          | 25.649            | -                | -          | -                 | -                | -          | 25.649            |
| <i>Subtotal: Support - END ITEM SUPPORT Cost</i>           | -                | -          | 202.066           | -                | -          | 22.685            | -                | -          | 56.617            | -                | -          | 29.548            | -                | -          | -                 | -                | -          | 29.548            |

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|--|--|--|--|--|--|---|--|--|--|--|--|---|--|--|--|--|--|
| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  |  |  |  |  |   |  |  |  |  |  | <b>Date:</b> February 2020  |  |  |  |  |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 |  |  |  |  |  | <b>P-1 Line Item Number / Title:</b><br>353620 / Joint Direct Attack Munition |  |  |  |  |  | <b>Item Number / Title [DODIC]:</b><br>Joint Direct Attack Munition |  |  |  |  |  |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A                        |  |  |  |  |  |   |  |  |  |  |  | <b>MDAP/MAIS Code:</b>  |  |  |  |  |  |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements            | Prior Years         |               |                      | FY 2019             |               |                      | FY 2020             |               |                      | FY 2021 Base        |               |                      | FY 2021 OCO         |               |                      | FY 2021 Total       |               |                      |
|--------------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|
|                          | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) |
| Gross/Weapon System Cost | 0.024               | 275,801       | 6,690.782            | 0.030               | 30,872        | 922.649              | 0.041               | 25,000        | 1,034.224            | 0.021               | 10,000        | 206.989              | 0.035               | 6,800         | 237.723              | 0.026               | 16,800        | 444.712              |

(t) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning:** PB 2021 Air Force **Date:** February 2020

|  |   |   |
|--|---|---|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>353620 / Joint Direct Attack Munition | <b>Item Number / Title [DODIC]:</b><br>Joint Direct Attack Munition |
|--|---|---|

| Cost Elements                | O<br>C<br>O | FY   | Contractor and Location | Method/Type<br>or<br>Funding Vehicle | Location of PCO | Award<br>Date | Date<br>of First<br>Delivery | Qty<br><i>(Each)</i> | Unit Cost<br><i>(\$ M)</i> | Specs<br>Avail<br>Now? | Date<br>Revision<br>Available | RFP Issue<br>Date |
|------------------------------|-------------|------|-------------------------|--------------------------------------|-----------------|---------------|------------------------------|----------------------|----------------------------|------------------------|-------------------------------|-------------------|
| JDAM TAIL KIT <sup>(†)</sup> |             | 2019 | BOEING / ST CHARLES, MO | SS / FFP                             | AFLCMC Hill AFB | Jun 2019      | Feb 2020                     | 30,872               | 0.029                      | Y                      |                               | Aug 2017          |
| JDAM TAIL KIT <sup>(†)</sup> |             | 2020 | BOEING / ST CHARLES, MO | SS / FFP                             | AFLCMC Hill AFB | Feb 2020      | Feb 2021                     | 25,000               | 0.034                      | Y                      |                               | Aug 2017          |
| JDAM TAIL KIT <sup>(†)</sup> |             | 2021 | BOEING / ST CHARLES, MO | SS / FFP                             | AFLCMC Hill AFB | Feb 2021      | Feb 2022                     | 10,000               | 0.012                      | Y                      |                               | Aug 2017          |
| JDAM TAIL KIT <sup>(†)</sup> | ✓           | 2021 | BOEING / ST CHARLES, MO | SS / FFP                             | AFLCMC Hill AFB | Feb 2021      | Feb 2022                     | 6,800                | 0.035                      | Y                      |                               | Aug 2017          |

<sup>(†)</sup> indicates the presence of a P-21

**Remarks:**

The FY21 JDAM tail kit increased unit cost includes the SABR-Y upgraded GPS receiver and the modified JDAM tail kit hardback design used for the BLU-137 penetrator warhead.

The Air Force is developing the BLU-137 which is a modernized 2,000-lb. penetrator warhead. The BLU-137 will increase fuze survivability when used against bunkers, aircraft shelters, and reinforced targets.

Under an Urgent Operational Need (UON), the Air Force is procuring Strategic Anti-Jam Beamforming Receiver Y-Code (SABR-Y) tail kits which are enhanced GPS-denied environment guidance systems. As a stop-gap capability, the Air Force is working to procure SABR-Y as a follow-on requirement until M-Code integration is achieved. The SABR-Y tail kit will increase anti-jam capabilities in GPS degraded theaters, and leverages existing JDAM tail kit designs.



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**Exhibit P-21, Production Schedule:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353620 / Joint Direct Attack Munition **Item Number / Title [DODIC]:** Joint Direct Attack Munition

| Cost Elements<br><i>(Units in Thousands)</i> |          |             |                   |               | Fiscal Year 2021                      |                           |                    |              |              |              |              |              |              |              |              |              |              | Fiscal Year 2022 |              |                    |              |              |              |              |              |              |              |              |              |              | BALANCE      |             |      |
|--|----------|-------------|-------------------|---------------|---------------------------------------|---------------------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|--------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|------|
| O C C O                                      | M F R #  | FY          | SERVICE           | PROC QTY      | ACCEP T P R I O R T O 1 O C T 2 0 2 0 | BAL D U E A S O F 1 O C T | Calendar Year 2021 |              |              |              |              |              |              |              |              |              |              |                  |              | Calendar Year 2022 |              |              |              |              |              |              |              |              |              |              |              |             |      |
|  |          |             |                   |               |                                       |                           | O C T              | N O V        | D E C        | J A N        | F E B        | M A R        | A P R        | M A Y        | J U N        | J U L        | A U G        | S E P            | O C T        | N O V              | D E C        | J A N        | F E B        | M A R        | A P R        | M A Y        | J U N        | J U L        | A U G        | S E P        |              |             |      |
| JDAM TAIL KIT                                |          |             |                   |               |                                       |                           |                    |              |              |              |              |              |              |              |              |              |              |                  |              |                    |              |              |              |              |              |              |              |              |              |              |              |             |      |
| Prior Years Deliveries: 274909               |          |             |                   |               |                                       |                           |                    |              |              |              |              |              |              |              |              |              |              |                  |              |                    |              |              |              |              |              |              |              |              |              |              |              |             |      |
|  | 1        | 2019        | AF                | 30.872        | 20.584                                | 10.288                    | 2.573              | 2.573        | 2.573        | 2.569        |              |              |              |              |              |              |              |                  |              |                    |              |              |              |              |              |              |              |              |              |              |              |             | .000 |
|  | 1        | 2019        | FMS (+)           | 1.403         | .928                                  | .475                      | .116               | .116         | .116         | .127         |              |              |              |              |              |              |              |                  |              |                    |              |              |              |              |              |              |              |              |              |              |              |             | .000 |
|  | 1        | 2019        | NAVY (+)          | 7.597         | 5.056                                 | 2.541                     | .632               | .632         | .632         | .645         |              |              |              |              |              |              |              |                  |              |                    |              |              |              |              |              |              |              |              |              |              |              |             | .000 |
|  | <b>1</b> | <b>2019</b> | <b>Total</b>      | <b>39.872</b> | <b>26.568</b>                         | <b>13.304</b>             | <b>3.321</b>       | <b>3.321</b> | <b>3.321</b> | <b>3.341</b> | -            | -            | -            | -            | -            | -            | -            | -                | -            | -                  | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | <b>.000</b> |      |
|  | 1        | 2020        | AF                | 25.000        | .000                                  | 25.000                    | -                  | -            | -            | -            | 2.083        | 2.083        | 2.083        | 2.083        | 2.083        | 2.083        | 2.083        | 2.083            | 2.083        | 2.083              | 2.083        | 2.083        | 2.087        |              |              |              |              |              |              |              |              | .000        |      |
|  | 1        | 2020        | FMS (+)           | 2.000         | .000                                  | 2.000                     | -                  | -            | -            | -            | .166         | .166         | .166         | .166         | .166         | .166         | .166         | .166             | .166         | .166               | .166         | .166         | .174         |              |              |              |              |              |              |              |              | .000        |      |
|  | 1        | 2020        | NAVY (+)          | 3.388         | .000                                  | 3.388                     | -                  | -            | -            | -            | .282         | .282         | .282         | .282         | .282         | .282         | .282         | .282             | .282         | .282               | .282         | .282         | .286         |              |              |              |              |              |              |              |              | .000        |      |
|  | <b>1</b> | <b>2020</b> | <b>Total</b>      | <b>30.388</b> | <b>.000</b>                           | <b>30.388</b>             | -                  | -            | -            | -            | <b>2.531</b>     | <b>2.531</b> | <b>2.531</b>       | <b>2.531</b> | <b>2.547</b> | -            | -            | -            | -            | -            | -            | -            | -            | <b>.000</b>  |             |      |
|  | 1        | 2021        | AF                | 10.000        | .000                                  | 10.000                    |                    |              |              |              | A -          | -            | -            | -            | -            | -            | -            | -                | -            | -                  | -            | -            | .833         | .833         | .833         | .833         | .833         | .833         | .833         | .833         | 3.336        |             |      |
|  | 1        | 2021        | FMS (+)           | 2.000         | .000                                  | 2.000                     |                    |              |              |              | A -          | -            | -            | -            | -            | -            | -            | -                | -            | -                  | -            | -            | .166         | .166         | .166         | .166         | .166         | .166         | .166         | .166         | .672         |             |      |
|  | 1        | 2021        | NAVY (+)          | 3.388         | .000                                  | 3.388                     |                    |              |              |              | A -          | -            | -            | -            | -            | -            | -            | -                | -            | -                  | -            | -            | .282         | .282         | .282         | .282         | .282         | .282         | .282         | .282         | 1.132        |             |      |
|  | <b>1</b> | <b>2021</b> | <b>Total Base</b> | <b>15.388</b> | <b>.000</b>                           | <b>15.388</b>             |                    |              |              |              | -            | -            | -            | -            | -            | -            | -            | -                | -            | -                  | -            | -            | <b>1.281</b> | <b>5.140</b> |             |      |
| ✓  | 1        | 2021        | AF                | 6.800         | .000                                  | 6.800                     |                    |              |              |              | A -          | -            | -            | -            | -            | -            | -            | -                | -            | -                  | -            | -            | .567         | .567         | .567         | .567         | .567         | .567         | .567         | .567         | 2.264        |             |      |
|  |          |             |                   |               |                                       |                           | O C T              | N O V        | D E C        | J A N        | F E B        | M A R        | A P R        | M A Y        | J U N        | J U L        | A U G        | S E P            | O C T        | N O V              | D E C        | J A N        | F E B        | M A R        | A P R        | M A Y        | J U N        | J U L        | A U G        | S E P        |              |             |      |

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**Exhibit P-21, Production Schedule:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 13 **P-1 Line Item Number / Title:** 353620 / Joint Direct Attack Munition **Item Number / Title [DODIC]:** Joint Direct Attack Munition

| Cost Elements<br><i>(Units in Thousands)</i> |          |             |                   |               | Fiscal Year 2023           |                     |                    |              |              |              |       |       |       |       |       |       |       | Fiscal Year 2024 |       |                    |       |       |       |       |       |       |       |             |             | BALANCE |       |  |
|--|----------|-------------|-------------------|---------------|----------------------------|---------------------|--------------------|--------------|--------------|--------------|-------|-------|-------|-------|-------|-------|-------|------------------|-------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------------|-------------|---------|-------|--|
| O C C O                                      | M F R #  | FY          | SERVICE           | PROC QTY      | ACCEPT PRIOR TO 1 OCT 2022 | BAL DUE AS OF 1 OCT | Calendar Year 2023 |              |              |              |       |       |       |       |       |       |       |                  |       | Calendar Year 2024 |       |       |       |       |       |       |       |             |             |         |       |  |
|  |          |             |                   |               |                            |                     | O C T              | N O V        | D E C        | J A N        | F E B | M A R | A P R | M A Y | J U N | J U L | A U G | S E P            | O C T | N O V              | D E C | J A N | F E B | M A R | A P R | M A Y | J U N | J U L       | A U G       |         | S E P |  |
| JDAM TAIL KIT                                |          |             |                   |               |                            |                     |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             |             |         |       |  |
| Prior Years Deliveries: 274909               |          |             |                   |               |                            |                     |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             |             |         |       |  |
|  | 1        | 2019        | AF                | 30.872        | 30.872                     | .000                |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | 1        | 2019        | FMS (+)           | 1.403         | 1.403                      | .000                |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | 1        | 2019        | NAVY (+)          | 7.597         | 7.597                      | .000                |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | <b>1</b> | <b>2019</b> | <b>Total</b>      | <b>39.872</b> | <b>39.872</b>              | <b>.000</b>         | -                  | -            | -            | -            | -     | -     | -     | -     | -     | -     | -     | -                | -     | -                  | -     | -     | -     | -     | -     | -     | -     | -           | <b>.000</b> |         |       |  |
|  | 1        | 2020        | AF                | 25.000        | 25.000                     | .000                |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | 1        | 2020        | FMS (+)           | 2.000         | 2.000                      | .000                |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | 1        | 2020        | NAVY (+)          | 3.388         | 3.388                      | .000                |                    |              |              |              |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | <b>1</b> | <b>2020</b> | <b>Total</b>      | <b>30.388</b> | <b>30.388</b>              | <b>.000</b>         | -                  | -            | -            | -            | -     | -     | -     | -     | -     | -     | -     | -                | -     | -                  | -     | -     | -     | -     | -     | -     | -     | -           | <b>.000</b> |         |       |  |
|  | 1        | 2021        | AF                | 10.000        | 6.664                      | 3.336               | .834               | .834         | .834         | .834         |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | 1        | 2021        | FMS (+)           | 2.000         | 1.328                      | .672                | .166               | .166         | .166         | .174         |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | 1        | 2021        | NAVY (+)          | 3.388         | 2.256                      | 1.132               | .282               | .282         | .282         | .286         |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  | <b>1</b> | <b>2021</b> | <b>Total Base</b> | <b>15.388</b> | <b>10.248</b>              | <b>5.140</b>        | <b>1.282</b>       | <b>1.282</b> | <b>1.282</b> | <b>1.294</b> | -     | -     | -     | -     | -     | -     | -     | -                | -     | -                  | -     | -     | -     | -     | -     | -     | -     | <b>.000</b> |             |         |       |  |
| ✓  | 1        | 2021        | AF                | 6.800         | 4.536                      | 2.264               | .566               | .566         | .566         | .566         |       |       |       |       |       |       |       |                  |       |                    |       |       |       |       |       |       |       |             | .000        |         |       |  |
|  |          |             |                   |               |                            |                     | O C T              | N O V        | D E C        | J A N        | F E B | M A R | A P R | M A Y | J U N | J U L | A U G | S E P            | O C T | N O V              | D E C | J A N | F E B | M A R | A P R | M A Y | J U N | J U L       | A U G       | S E P   |       |  |

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| <b>Exhibit P-21, Production Schedule:</b> PB 2021 Air Force | <b>Date:</b> February 2020 |
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|--|---|---|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>353620 / Joint Direct Attack Munition | <b>Item Number / Title [DODIC]:</b><br>Joint Direct Attack Munition |
|--|---|---|

| MFR Ref # | Manufacturer Name - Location | Production Rates (Each / Year) |                |              | Procurement Leadtime (Months) |                 |                   |                   |                    |                 |                   |                   |    |
|-----------|------------------------------|--------------------------------|----------------|--------------|-------------------------------|-----------------|-------------------|-------------------|--------------------|-----------------|-------------------|-------------------|----|
|           |                              | MSR For 2021                   | 1-8-5 For 2021 | MAX For 2021 | Initial                       |                 |                   |                   | Reorder            |                 |                   |                   |    |
|           |                              |                                |                |              | ALT Prior to Oct 1            | ALT After Oct 1 | Manufacturing PLT | Total After Oct 1 | ALT Prior to Oct 1 | ALT After Oct 1 | Manufacturing PLT | Total After Oct 1 |    |
| 1         | BOEING - ST CHARLES, MO      | 10,500                         | 18,900         | 45,000       | 0                             | 0               | 0                 | 0                 | 0                  | 0               | 5                 | 12                | 17 |

**Remarks:**

Minimum Sustainment Rate (MSR) includes US Air Force, US Navy and Foreign Military Sales (FMS) procurement.

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|   |  |
|---|--|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13:<br>Bombs | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 |
|---|--|

|   |   |                                     |
|---|---|-------------------------------------|
| ID Code (A=Service Ready, B=Not Service Ready): B | Program Elements for Code B Items: 0101125F | Other Related Program Elements: N/A |
|---|---|-------------------------------------|

**Line Item MDAP/MAIS Code:** 468

| Resource Summary  | Prior Years   | FY 2019        | FY 2020       | FY 2021 Base  | FY 2021 OCO  | FY 2021 Total | FY 2022      | FY 2023      | FY 2024      | FY 2025      | To Complete  | Total          |
|---|---------------|----------------|---------------|---------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Procurement Quantity ( <i>Units in Each</i> )             | 30            | 250            | 533           | -             | -            | -             | -            | -            | -            | -            | -            | 813            |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )        | 74.000        | 110.731        | 80.773        | 35.634        | 0.000        | 35.634        | 2.797        | 0.000        | 0.000        | 0.000        | 0.000        | 303.935        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )     | 0.000         | 11.239         | 0.000         | 0.000         | 0.000        | 0.000         | 0.000        | 0.000        | 0.000        | 0.000        | -            | 11.239         |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )           | 74.000        | 99.492         | 80.773        | 35.634        | 0.000        | 35.634        | 2.797        | 0.000        | 0.000        | 0.000        | 0.000        | 292.696        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )     | 12.924        | 52.731         | 0.000         | 0.000         | -            | 0.000         | 0.000        | 0.000        | 0.000        | 0.000        | -            | 65.655         |
| <b>Total Obligation Authority (<i>\$ in Millions</i>)</b> | <b>86.924</b> | <b>152.223</b> | <b>80.773</b> | <b>35.634</b> | <b>0.000</b> | <b>35.634</b> | <b>2.797</b> | <b>0.000</b> | <b>0.000</b> | <b>0.000</b> | <b>0.000</b> | <b>358.351</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |       |       |       |   |   |   |   |   |   |   |   |       |
|---|-------|-------|-------|---|---|---|---|---|---|---|---|-------|
| Initial Spares ( <i>\$ in Millions</i> )                | -     | -     | -     | - | - | - | - | - | - | - | - | -     |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | -     | -     | -     | - | - | - | - | - | - | - | - | -     |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | 2.467 | 0.443 | 0.152 | - | - | - | - | - | - | - | - | 0.374 |

**Description:**

The purpose of this program is to conduct and support United States Air Force (USAF) and Joint Department of Defense (DoD) / Department of Energy (DOE) acquisition activities for the modernization of nuclear weapons.

B61-12 Life Extension Program (LEP): The B61-12 LEP will integrate DOE efforts to extend the service life of the warhead with DoD efforts to develop a guided Tail Kit Assembly (TKA) required to maintain current B61 mission characteristics. Programmatic integration of the Air Force-led, joint DoD-DOE program is accomplished through the B61 LEP Project Officers Group (POG) and its subgroups. In accordance with Air Force Materiel Command mission assignment memo (dated 17 Feb 11) and National Nuclear Security Administration (NNSA)-Air Force Nuclear Weapons Center (AFNWC) Memorandum of Understanding (MOU, dated 28 Jun 12), the USAF is responsible for development, acquisition and delivery of a guided TKA and for All Up Round (AUR) technical integration, system qualification and fielding of the B61-12 variant on multiple platforms. The production effort for the B61 TKA includes the production and delivery of TKAs, accessories, spares, ancillary equipment, Code Management System equipment, TKA and AUR trainers, lot acceptance test assets, and support. The B61 Developmental Test program is complete. Milestone C approved 1QFY19; the Milestone Decision Authority approved proceeding into LRIP/Lot 1 and Lot 2 Advanced Procurement in direct support of Full Rate Production. Initial Operational Test and Evaluation activities were completed in 1QFY20; the final report is expected in 3QFY20.

The program also plans to use some funds to evaluate Diminishing Manufacturing Sources (DMS) material shortages, obsolescence issues, and reliability improvement, including flight testing.

Funding for this exhibit contained in PE 0101125F.

The October 26, 2018, Acquisition Decision Memorandum approved the procurement of up to 60 additional TKAs to the program baseline, contingent upon funding availability, fulfilling the rigorous 90/10/2 surveillance requirement. Funding options are being explored during contract negotiations to support the additional 60 TKAs.

\$1.685M in Prior Years (FY16) advance procurement funds were not subtracted in a subsequent year, thereby causing the total Less PY Advance Procurement figure to be in error by \$1.685M in the Resource Summary table; this error carries across to the Total column. The Total Obligation Authority figure of \$358.351M is correct. Corrections will be addressed in future database updates.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13: Bombs **P-1 Line Item Number / Title:** 354040 / B61

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0101125F **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** 468

| Exhibits Schedule |                                       |             |       |                | Prior Years                           | FY 2019                               | FY 2020                               | FY 2021 Base                          | FY 2021 OCO                           | FY 2021 Total                         |
|-------------------|---------------------------------------|-------------|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) |
| P-5               | B61                                   | P-5a, P-21  | B     |                | 30 / 74.000                           | 250 / 110.731                         | 533 / 80.773                          | - / 35.634                            | - / 0.000                             | - / 35.634                            |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | <b>30 / 74.000</b>                    | <b>250 / 110.731</b>                  | <b>533 / 80.773</b>                   | <b>- / 35.634</b>                     | <b>- / 0.000</b>                      | <b>- / 35.634</b>                     |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 The B61-12 LEP TKA program has completed Critical Design Review and continues to meet Reliability and Development Test targets and Manufacturing Readiness Levels. The B61-12 LEP TKA FY19 funding includes the procurement of long lead, non-end item components that will be assembled into TKA and TKA Trainers to support 533 B61-12 LEP TKAs for Lot 2 award in FY20.

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020                 |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 | <b>Item Number / Title [DODIC]:</b><br>B61 |

|   |                        |
|---|------------------------|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B | <b>MDAP/MAIS Code:</b> |
|---|------------------------|

| Resource Summary                                   | Prior Years   | FY 2019        | FY 2020       | FY 2021 Base  | FY 2021 OCO  | FY 2021 Total |
|--|---------------|----------------|---------------|---------------|--------------|---------------|
| Procurement Quantity (Units in Each)               | 30            | 250            | 533           | -             | -            | -             |
| Gross/Weapon System Cost (\$ in Millions)          | 74.000        | 110.731        | 80.773        | 35.634        | 0.000        | 35.634        |
| Less PY Advance Procurement (\$ in Millions)       | 0.000         | 11.239         | 0.000         | 0.000         | 0.000        | 0.000         |
| Net Procurement (P-1) (\$ in Millions)             | 74.000        | 99.492         | 80.773        | 35.634        | 0.000        | 35.634        |
| Plus CY Advance Procurement (\$ in Millions)       | 12.924        | 52.731         | 0.000         | 0.000         | -            | 0.000         |
| <b>Total Obligation Authority (\$ in Millions)</b> | <b>86.924</b> | <b>152.223</b> | <b>80.773</b> | <b>35.634</b> | <b>0.000</b> | <b>35.634</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|  |       |       |       |       |   |       |
|--|-------|-------|-------|-------|---|-------|
| Initial Spares (\$ in Millions)                | -     | 0.000 | 0.000 | 0.000 | - | 0.000 |
| Gross/Weapon System Unit Cost (\$ in Millions) | 2.467 | 0.443 | 0.152 | -     | - | -     |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements                          | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Hardware - B61 Cost</b>             |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Recurring Cost                         |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Hardware End Item (TKA) <sup>(†)</sup> | -                | -          | -                 | -                | -          | 41.693            | 0.083            | 488        | 40.709            | -                | -          | -                 | -                | -          | 0.000             | -                | -          | 0.000             |
| TKA Trainers                           | 0.106            | 30         | 3.177             | 0.110            | 44         | 4.836             | 0.104            | 45         | 4.676             | -                | -          | -                 | -                | -          | 0.000             | -                | -          | 0.000             |
| <i>Subtotal: Recurring Cost</i>        | -                | -          | 3.177             | -                | -          | 46.529            | -                | -          | 45.385            | -                | -          | -                 | -                | -          | 0.000             | -                | -          | 0.000             |
| <i>Subtotal: Hardware - B61 Cost</i>   | -                | -          | 3.177             | -                | -          | 46.529            | -                | -          | 45.385            | -                | -          | -                 | -                | -          | 0.000             | -                | -          | 0.000             |
| <b>Logistics - B61 Cost</b>            |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Non Recurring Cost                     |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| CMS                                    | -                | -          | 7.124             | -                | -          | 3.312             | -                | -          | 7.008             | -                | -          | 1.644             | -                | -          | -                 | -                | -          | 1.644             |
| Technical Data                         | -                | -          | -                 | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <i>Subtotal: Non Recurring Cost</i>    | -                | -          | 7.124             | -                | -          | 3.312             | -                | -          | 7.008             | -                | -          | 1.644             | -                | -          | -                 | -                | -          | 1.644             |
| <i>Subtotal: Logistics - B61 Cost</i>  | -                | -          | 7.124             | -                | -          | 3.312             | -                | -          | 7.008             | -                | -          | 1.644             | -                | -          | -                 | -                | -          | 1.644             |
| <b>Ancillary Equipment - B61 Cost</b>  |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Recurring Cost                         |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| TKA Containers                         | -                | -          | -                 | -                | -          | 0.479             | -                | -          | 1.422             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <i>Subtotal: Recurring Cost</i>        | -                | -          | -                 | -                | -          | 0.479             | -                | -          | 1.422             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| Non Recurring Cost                     |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Bomb Assembly (BA) Trainers            | -                | -          | 46.445            | -                | -          | 21.167            | -                | -          | 8.100             | -                | -          | 11.008            | -                | -          | -                 | -                | -          | 11.008            |

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  |  |  |  |  |  |  |  |  |  |  | <b>Date:</b> February 2020                 |  |  |  |  |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 |  |  |  |  |  | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 |  |  |  |  |  | <b>Item Number / Title [DODIC]:</b><br>B61 |  |  |  |  |  |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B                        |  |  |  |  |  |  |  |  |  |  |  | <b>MDAP/MAIS Code:</b>                     |  |  |  |  |  |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements                                   | Prior Years         |               |                      | FY 2019             |               |                      | FY 2020             |               |                      | FY 2021 Base        |               |                      | FY 2021 OCO         |               |                      | FY 2021 Total       |               |                      |
|---|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|
|   | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) |
| Test Equipment (SATS)                           | -                   | -             | -                    | -                   | -             | 2.726                | -                   | -             | 0.000                | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| T&H Gear  | -                   | -             | 14.764               | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| <i>Subtotal: Non Recurring Cost</i>             | -                   | -             | 61.209               | -                   | -             | 23.893               | -                   | -             | 8.100                | -                   | -             | 11.008               | -                   | -             | -                    | -                   | -             | 11.008               |
| <i>Subtotal: Ancillary Equipment - B61 Cost</i> | -                   | -             | <b>61.209</b>        | -                   | -             | <b>24.372</b>        | -                   | -             | <b>9.522</b>         | -                   | -             | <b>11.008</b>        | -                   | -             | -                    | -                   | -             | <b>11.008</b>        |
| <b>Support - B61 Cost</b>                       |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |
| PMA   | -                   | -             | 2.490                | -                   | -             | 0.373                | -                   | -             | 3.092                | -                   | -             | 3.860                | -                   | -             | -                    | -                   | -             | 3.860                |
| NWC Mission Support                             | -                   | -             | -                    | -                   | -             | 0.000                | -                   | -             | 0.000                | -                   | -             | 1.827                | -                   | -             | -                    | -                   | -             | 1.827                |
| System T&E                                      | -                   | -             | -                    | -                   | -             | 24.740               | -                   | -             | 0.560                | -                   | -             | 17.295               | -                   | -             | -                    | -                   | -             | 17.295               |
| Training  | -                   | -             | -                    | -                   | -             | 0.000                | -                   | -             | 0.000                | -                   | -             | 0.000                | -                   | -             | -                    | -                   | -             | 0.000                |
| Production Sustaining Engineering               | -                   | -             | -                    | -                   | -             | 11.405               | -                   | -             | 15.206               | -                   | -             | 0.000                | -                   | -             | -                    | -                   | -             | 0.000                |
| <i>Subtotal: Support - B61 Cost</i>             | -                   | -             | <b>2.490</b>         | -                   | -             | <b>36.518</b>        | -                   | -             | <b>18.858</b>        | -                   | -             | <b>22.982</b>        | -                   | -             | -                    | -                   | -             | <b>22.982</b>        |
| <b>Gross/Weapon System Cost</b>                 | <b>2.467</b>        | <b>30</b>     | <b>74.000</b>        | <b>0.443</b>        | <b>250</b>    | <b>110.731</b>       | <b>0.152</b>        | <b>533</b>    | <b>80.773</b>        | -                   | -             | <b>35.634</b>        | -                   | -             | <b>0.000</b>         | -                   | -             | <b>35.634</b>        |

**Remarks:**

BA Trainer funding increase in prior years and FY20 is related to key component cost growth and rephasing of program dollars.

Code Management System increases in FY19 and FY20 are related to key component cost growth.

Remaining dollars from FY19-FY21 are related to realignment and rephasing of funds across programmatic requirements. FY21 funds support the purchase of the Technical Data Package (TDP), which was approved during Milestone C.

Programming of Production Sustaining Engineering funds in the FY20 PB were based on the Request for Proposal. The prime contractor's proposal was less than expected; the remaining funds were realigned across the program.

(t) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning:** PB 2021 Air Force **Date:** February 2020

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| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 | <b>Item Number / Title [DODIC]:</b><br>B61 |
|--|--|--|

| Cost Elements                          | O<br>C<br>O | FY   | Contractor and Location | Method/Type<br>or<br>Funding Vehicle | Location of PCO | Award<br>Date | Date<br>of First<br>Delivery | Qty<br><i>(Each)</i> | Unit Cost<br><i>(\$ M)</i> | Specs<br>Avail<br>Now? | Date<br>Revision<br>Available | RFP Issue<br>Date |
|--|-------------|------|-------------------------|--------------------------------------|-----------------|---------------|------------------------------|----------------------|----------------------------|------------------------|-------------------------------|-------------------|
| Hardware End Item (TKA) <sup>(†)</sup> |             | 2020 | Boeing / Various        | SS / FPIF                            | Eglin AFB       | Apr 2020      | Jul 2021                     | 488                  | 0.083                      | N                      | Feb 2019                      | Dec 2017          |

<sup>(†)</sup> indicates the presence of a P-21



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**Exhibit P-21, Production Schedule:** PB 2021 Air Force **Date:** February 2020

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| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 | <b>Item Number / Title [DODIC]:</b><br>B61 |
|--|--|--|

| Cost Elements<br><i>(Units in Each)</i> |                  |      |         |             |  | Fiscal Year 2022             |                    |             |             |             |             |             |             |             |             |             |             | Fiscal Year 2023 |                    |             |             |             |             |             |             |             |             |             |             | BALANCE     |             |
|---|------------------|------|---------|-------------|--|------------------------------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| O<br>C<br>C<br>#                        | M<br>F<br>R<br># | FY   | SERVICE | PROC<br>QTY | ACCEPT<br>PRIOR<br>TO 1<br>OCT<br>2021 | BAL<br>DUE<br>AS OF<br>1 OCT | Calendar Year 2022 |             |             |             |             |             |             |             |             |             |             |                  | Calendar Year 2023 |             |             |             |             |             |             |             |             |             |             |             |             |
|   |                  |      |         |             |  |                              | O<br>C<br>T        | N<br>O<br>V | D<br>E<br>C | J<br>A<br>N | F<br>E<br>B | M<br>A<br>R | A<br>P<br>R | M<br>A<br>Y | J<br>U<br>N | J<br>U<br>L | A<br>U<br>G | S<br>E<br>P      | O<br>C<br>T        | N<br>O<br>V | D<br>E<br>C | J<br>A<br>N | F<br>E<br>B | M<br>A<br>R | A<br>P<br>R | M<br>A<br>Y | J<br>U<br>N | J<br>U<br>L | A<br>U<br>G |             | S<br>E<br>P |
| Hardware End Item (TKA)                 |                  |      |         |             |  |                              |                    |             |             |             |             |             |             |             |             |             |             |                  |                    |             |             |             |             |             |             |             |             |             |             |             |             |
| 1                                       |                  | 2020 | AF      | 488         | 92                                     | 396                          | 46                 | 60          | 40          | 60          | 60          | -           | 62          | 68          |             |             |             |                  |                    |             |             |             |             |             |             |             |             |             | 0           |             |             |
|   |                  |      |         |             |  |                              | O<br>C<br>T        | N<br>O<br>V | D<br>E<br>C | J<br>A<br>N | F<br>E<br>B | M<br>A<br>R | A<br>P<br>R | M<br>A<br>Y | J<br>U<br>N | J<br>U<br>L | A<br>U<br>G | S<br>E<br>P      | O<br>C<br>T        | N<br>O<br>V | D<br>E<br>C | J<br>A<br>N | F<br>E<br>B | M<br>A<br>R | A<br>P<br>R | M<br>A<br>Y | J<br>U<br>N | J<br>U<br>L | A<br>U<br>G | S<br>E<br>P |             |

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| <b>Exhibit P-21, Production Schedule:</b> PB 2021 Air Force                      |  | <b>Date:</b> February 2020                           |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 |  | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 |
|  |  | <b>Item Number / Title [DODIC]:</b><br>B61           |

| MFR Ref # | Manufacturer Name - Location | Production Rates (Each / Month) |                |              | Procurement Leadtime (Months) |                 |                   |                   |                    |                 |                   |                   |    |
|-----------|------------------------------|---------------------------------|----------------|--------------|-------------------------------|-----------------|-------------------|-------------------|--------------------|-----------------|-------------------|-------------------|----|
|           |                              | MSR For 2021                    | 1-8-5 For 2021 | MAX For 2021 | Initial                       |                 |                   |                   | Reorder            |                 |                   |                   |    |
|           |                              |                                 |                |              | ALT Prior to Oct 1            | ALT After Oct 1 | Manufacturing PLT | Total After Oct 1 | ALT Prior to Oct 1 | ALT After Oct 1 | Manufacturing PLT | Total After Oct 1 |    |
| 1         | Boeing - Various             | 488                             | 550            | 550          | 0                             | 0               | 0                 | 0                 | 0                  | 0               | 7                 | 15                | 22 |

"A" in the Delivery Schedule indicates the Contract Award Date.  
**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Advance Procurement Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|   |  |
|---|--|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13:<br>Bombs | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 |
|---|--|

|   |                                     |
|---|-------------------------------------|
| Program Elements for Code B Items: 0101125F | Other Related Program Elements: N/A |
|---|-------------------------------------|

Line Item MDAP/MAIS Code: 468

| Resource Summary  | Prior Years   | FY 2019       | FY 2020      | FY 2021 Base | FY 2021 OCO | FY 2021 Total | FY 2022      | FY 2023      | FY 2024      | FY 2025      | To Complete | Total         |
|---|---------------|---------------|--------------|--------------|-------------|---------------|--------------|--------------|--------------|--------------|-------------|---------------|
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )        | 12.924        | 52.731        | 0.000        | 0.000        | -           | 0.000         | 0.000        | 0.000        | 0.000        | 0.000        | -           | 65.655        |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )           | 12.924        | 52.731        | 0.000        | 0.000        | -           | 0.000         | 0.000        | 0.000        | 0.000        | 0.000        | -           | 65.655        |
| <b>Total Obligation Authority (<i>\$ in Millions</i>)</b> | <b>12.924</b> | <b>52.731</b> | <b>0.000</b> | <b>0.000</b> | <b>-</b>    | <b>0.000</b>  | <b>0.000</b> | <b>0.000</b> | <b>0.000</b> | <b>0.000</b> | <b>-</b>    | <b>65.655</b> |

**Description:**

The purpose of this program element is to conduct and support United States Air Force (USAF) and Joint Department of Defense (DoD) / Department of Energy (DOE) acquisition activities for the modernization of nuclear weapons.

B61-12 Life Extension Program (LEP): The B61-12 LEP will integrate DOE efforts to extend the service life of the warhead with DoD efforts to develop a guided Tail Kit Assembly (TKA) required to maintain current B61 mission characteristics. Programmatic integration of the Air Force-led, joint DoD-DOE program is accomplished through the B61 LEP Project Officers Group (POG) and its subgroups. In accordance with Air Force Materiel Command mission assignment memo (dated 17 Feb 11) and National Nuclear Security Administration (NNSA)-Air Force Nuclear Weapons Center (AFNWC) Memorandum of Understanding (MOU dated 28 Jun 12), the USAF is responsible for development, acquisition and delivery of a guided TKA and for All Up Round (AUR) technical integration, system qualification and fielding of the B61-12 variant on multiple platforms. The production effort for the B61 TKA includes the production and delivery of TKAs, accessories, spares, ancillary equipment, trainers, lot acceptance test assets, and support. Advance procurement was required for the purchase of long lead items and life of type buy components for the TKA, the AUR trainers, and associated nuclear support equipment, and code management systems prior to entry into Milestone C and the Full Rate Production decision.

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**Exhibit P-40, Advance Procurement Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

|   |  |
|---|--|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 13:<br>Bombs | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 |
|---|--|

|  |  |
|--|--|
| <b>Program Elements for Code B Items:</b> 0101125F | <b>Other Related Program Elements:</b> N/A |
|--|--|

**Line Item MDAP/MAIS Code:** 468

| Exhibits Schedule |                                       |       |                | Prior Years                              | FY 2019                                  | FY 2020                                  | FY 2021 Base                             | FY 2021 OCO                              | FY 2021 Total                            |
|-------------------|---------------------------------------|-------|----------------|--|--|--|--|--|--|
| Exhibit Type      | Title*                                | ID CD | MDAP/MAIS Code | Quantity / Total Cost<br>(Each) / (\$ M) |
| P-10              | B61                                   |       |                | 30 / 12.924                              | 250 / 52.731                             | 533 / 0.000                              | - / 0.000                                | - / -                                    | - / 0.000                                |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |       |                | <b>30 / 12.924</b>                       | <b>250 / 52.731</b>                      | <b>533 / 0.000</b>                       | <b>- / 0.000</b>                         | <b>- / -</b>                             | <b>- / 0.000</b>                         |

\*Title represents the P-10 Title for Advance Procurement.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 The B61-12 LEP TKA program required advance procurement for long lead and non-end item components that will be assembled into Tailkit Assemblies (TKA), TKA trainers, All-Up Round (AUR) trainers, Code Management Systems (CMS), and Nuclear Support Equipment (NSE).  
 - FY18 \$11.239M Advance Procurement: supports up to 80 Lot 1 TKAs, TKA trainers, CMS and NSE.  
 - FY19 \$52.731M Advance Procurement: supports 533 Lot 2 TKA and TKA Trainers.

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|   |   |  |  |                                 |  |                                   |  |
|---|---|--|--|---------------------------------|--|-----------------------------------|--|
| <b>Exhibit P-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification):</b> PB 2021 Air Force |   |  |  |                                 | <b>Date:</b> February 2020                   |                                   |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13  |   |  | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 |                                 |  | <b>P-5 Number / Title:</b><br>B61 |  |
| <b>First System (2021) Award Date:</b><br>July 2018   |   | <b>First System (2021) Completion Date:</b><br>November 2018 |  |                                 | <b>Interval Between Systems:</b><br>0 Months |                                   |  |
| <b>B61</b>  | <b>Production Leadtime</b><br><i>(Months)</i> | <b>Prior Years</b><br><i>(Each)</i>                          | <b>FY 2019</b><br><i>(Each)</i>                      | <b>FY 2020</b><br><i>(Each)</i> | <b>FY 2021</b><br><i>(Each)</i>              |                                   |  |
| Quantity  | 18  | 30   | 250  | 533                             | -  |                                   |  |
| <b>Cost Elements</b>  | <b>When Required</b><br><i>(Months)</i>       | <b>Prior Years</b><br><i>(\$ M)</i>                          | <b>FY 2019</b><br><i>(\$ M)</i>                      | <b>FY 2020</b><br><i>(\$ M)</i> | <b>FY 2021</b><br><i>(\$ M)</i>              |                                   |  |
| <b>CFE</b>  |   |  |  |                                 |  |                                   |  |
| Hardware End Item (TKA)   | 18  | 12.924   | 52.731   | 0.000                           | -  |                                   |  |
| <i>Total: CFE</i>   |   | 12.924   | 52.731   | 0.000                           | -  |                                   |  |
| <b>Total Advance Procurement/Obligation Authority</b>   |   | <b>12.924</b>  | <b>52.731</b>  | <b>0.000</b>                    | <b>0.000</b>                                 |                                   |  |

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**Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification):** PB 2021 Air Force **Date:** February 2020

|  |  |                                   |
|--|--|-----------------------------------|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 13 | <b>P-1 Line Item Number / Title:</b><br>354040 / B61 | <b>P-5 Number / Title:</b><br>B61 |
|--|--|-----------------------------------|

| Cost Elements   | QPA<br><i>(Each)</i> | FY 2021                                |                            |                        |                           |        | Total Cost Request<br><i>(\$ M)</i> |
|---|----------------------|--|----------------------------|------------------------|---------------------------|--------|-------------------------------------|
|   |                      | Production Leadtime<br><i>(Months)</i> | Unit Cost<br><i>(\$ M)</i> | Contract Forecast Date | 2021 Qty<br><i>(Each)</i> | For FY |                                     |
| <b>CFE</b>  |                      |  |                            |                        |                           |        |                                     |
| Hardware End Item (TKA)                               | -                    |  |                            |                        |                           |        | -                                   |
| <i>Total: CFE</i>                                     |                      |  |                            |                        |                           |        | -                                   |
| <b>Total Advance Procurement/Obligation Authority</b> |                      |  |                            |                        |                           |        | <b>0.000</b>                        |

**Description:**  
The B61-12 LEP TKA program requires advance procurement for long lead, non-end item components that will be assembled into AUR trainers, CMS end items, NSE, and Tailkit Assemblies.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 15: Other Items **P-1 Line Item Number / Title:** 355100 / Cad/Pad

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019       | FY 2020       | FY 2021 Base  | FY 2021 OCO  | FY 2021 Total | FY 2022       | FY 2023       | FY 2024       | FY 2025       | To Complete | Total          |
|---|-------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|-------------|----------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 51.277        | 47.069        | 47.830        | 0.000        | 47.830        | 48.756        | 49.621        | 50.511        | 51.438        | -           | 346.502        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 51.277        | 47.069        | 47.830        | 0.000        | 47.830        | 48.756        | 49.621        | 50.511        | 51.438        | -           | 346.502        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>51.277</b> | <b>47.069</b> | <b>47.830</b> | <b>0.000</b> | <b>47.830</b> | <b>48.756</b> | <b>49.621</b> | <b>50.511</b> | <b>51.438</b> | -           | <b>346.502</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

CAD/PAD (Cartridge Actuated Devices/Propellant Actuated Devices) are critical explosive items used to activate pilot/aircrew life-support/survival emergency-release and aircrew-escape/ejection systems, other aircrew flight and survival equipment, aerial refueling, and data destruction systems. CAD/PAD components are used in every USAF mission area, i.e. combat, training, force protection, search & rescue, and humanitarian relief. These explosive devices have a limited shelf/service life and are replaced based on time-change during scheduled aircraft maintenance. The CAD/PAD category includes items such as the Universal Water Activated Release System (UWARS), parachute-release cartridges, Shield Mild-Detonating Cord (SMDC), rocket motors, rocket catapults, time-delay cartridges, initiators, rocket catapults, gas generators, etc.

Funds may be used to address production Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply, and qualification activities to preserve future production capabilities and capacities.

CAD/PAD items are purchased for AF by the CAD/PAD Joint Program Office at Hill AFB, UT.

Funding for this exhibit contained in PE 0708070F.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 15: Other Items **P-1 Line Item Number / Title:** 355100 / Cad/Pad

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |                                       |             |       |                | Prior Years                              | FY 2019                                  | FY 2020                                  | FY 2021 Base                             | FY 2021 OCO                              | FY 2021 Total                            |
|-------------------|---------------------------------------|-------------|-------|----------------|--|--|--|--|--|--|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost<br>(Each) / (\$ M) |
| P-40a             | Cad/Pad                               |             |       |                | - / -                                    | - / 51.277                               | - / 47.069                               | - / 47.830                               | - / 0.000                                | - / 47.830                               |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | - / -                                    | - / 51.277                               | - / 47.069                               | - / 47.830                               | - / 0.000                                | - / 47.830                               |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY2021 funds will be used to maintain Aircraft operational availability and pilot safety. CAD/PAD assets expire due to established item shelf/service life, or mandatory "time-change" procedures for installed devices. In accordance with T.O.00-20-1, the aircraft becomes grounded until reliable assets are obtained and installed.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 15 **P-1 Line Item Number / Title:** 355100 / Cad/Pad **Aggregated Items Title:** Cad/Pad

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| BOMBER AIRCRAFT                | A     |                | -                | -          | -                 | -                | -          | 6.400             | -                | -          | 6.000             | -                | -          | 7.000             | -                | -          | -                 | -                | -          | 7.000             |
| CARGO AIRCRAFT                 | A     |                | -                | -          | -                 | -                | -          | 13.000            | -                | -          | 12.000            | -                | -          | 13.000            | -                | -          | -                 | -                | -          | 13.000            |
| FIGHTER AIRCRAFT               | A     |                | -                | -          | -                 | -                | -          | 8.677             | -                | -          | 8.869             | -                | -          | 10.000            | -                | -          | -                 | -                | -          | 10.000            |
| TRAINING AIRCRAFT              | A     |                | -                | -          | -                 | -                | -          | 14.000            | -                | -          | 13.000            | -                | -          | 11.000            | -                | -          | -                 | -                | -          | 11.000            |
| COMMON EGRESS ITEMS            | A     |                | -                | -          | -                 | -                | -          | 6.000             | -                | -          | 5.000             | -                | -          | 4.000             | -                | -          | -                 | -                | -          | 4.000             |
| COMMON LIFE SUPPORT ITEMS      | A     |                | -                | -          | -                 | -                | -          | 3.000             | -                | -          | 2.000             | -                | -          | 2.680             | -                | -          | -                 | -                | -          | 2.680             |
| COMMON MISC ITEMS              | A     |                | -                | -          | -                 | -                | -          | 0.200             | -                | -          | 0.200             | -                | -          | 0.150             | -                | -          | 0.000             | -                | -          | 0.150             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>51.277</b>     | -                | -          | <b>47.069</b>     | -                | -          | <b>47.830</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>47.830</b>     |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>51.277</b>     | -                | -          | <b>47.069</b>     | -                | -          | <b>47.830</b>     | -                | -          | <b>0.000</b>      | -                | -          | <b>47.830</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 15: Other Items **P-1 Line Item Number / Title:** 355450 / Explosive Ordnance Disposal (EOD)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019      | FY 2020      | FY 2021 Base | FY 2021 OCO  | FY 2021 Total | FY 2022      | FY 2023      | FY 2024      | FY 2025      | To Complete | Total         |
|---|-------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|-------------|---------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -             |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 6.038        | 6.133        | 6.232        | 0.000        | 6.232         | 6.354        | 6.465        | 6.580        | 6.701        | -           | 44.503        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -             |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 6.038        | 6.133        | 6.232        | 0.000        | 6.232         | 6.354        | 6.465        | 6.580        | 6.701        | -           | 44.503        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -             |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>6.038</b> | <b>6.133</b> | <b>6.232</b> | <b>0.000</b> | <b>6.232</b>  | <b>6.354</b> | <b>6.465</b> | <b>6.580</b> | <b>6.701</b> | -           | <b>44.503</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

Funding for this exhibit is contained in PE 0204424F.

Explosive Ordnance Disposal (EOD) materials support Civil Engineer, EOD, Security Forces Military Working Dogs, RED HORSE, Special Forces operations and training, and formal schools with demolition munitions. The materials are used in deployment packages, base response assets and range clearance resources in support of peacetime and contingency operations. These items are certified for use by the Air Force Non-Nuclear Munitions Safety Board (NNMSB) and the Department of Defense Explosives Safety Board (DDESB).

Funds may be used to address production Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply, and qualification activities to preserve future production capabilities and capacities.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) Munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Funding for this exhibit is contained in PE 0204424F.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 15: Other Items **P-1 Line Item Number / Title:**  
355450 / Explosive Ordnance Disposal (EOD)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |                                       |             |       |                | Prior Years                              | FY 2019                                  | FY 2020                                  | FY 2021 Base                             | FY 2021 OCO                              | FY 2021 Total                            |
|-------------------|---------------------------------------|-------------|-------|----------------|--|--|--|--|--|--|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost<br>(Each) / (\$ M) |
| P-40a             | Explosive Ordnance Disposal (EOD)     |             |       |                | - / -                                    | - / 6.038                                | - / 6.133                                | - / 6.232                                | - / 0.000                                | - / 6.232                                |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | - / -                                    | - / 6.038                                | - / 6.133                                | - / 6.232                                | - / 0.000                                | - / 6.232                                |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
FY2021 purchases Explosive Ordnance Disposal (EOD), Demolition Material, Civil Engineering Tools and Equipment including all explosives, explosive tools and related equipment to render unexploded ordnance safe. Assets provide support for Counter Improvised Explosive Devices (IED) operations, Special Operations teams, formal schools, and Military Working Dog training. EOD/Demolition Munitions items are used in deployment packages, base response assets, and range clearance resources in support of peacetime and contingency operations.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 15 **P-1 Line Item Number / Title:** 355450 / Explosive Ordnance Disposal (EOD) **Aggregated Items Title:** Explosive Ordnance Disposal (EOD)

| Item Number / Title [DODIC]               | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>                      |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (AA62) 12 GAUGE M274 ULTRA CARTRIDGE      | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (M023) - CHARGE, DEMOLITION C4-M112       | A     |                | -                | -          | -                 | 0.000            | 26,420     | 1.000             | 0.000            | 23,908     | 0.983             | 0.000            | 24,319     | 1.000             | -                | -          | 0.000             | 0.000            | 24,319     | 1.000             |
| (M031) CHG DEMO TNT 1/2LB                 | A     |                | -                | -          | -                 | 0.000            | 9,346      | 0.040             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (M097) INERT, NON-ELECTRIC CAP            | A     |                | -                | -          | -                 | 0.000            | 149        | 0.004             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (M130) - CAP BLASTING ELECTRIC M6         | A     |                | -                | -          | -                 | 0.000            | 13,387     | 0.568             | 0.000            | 8,276      | 0.300             | 0.000            | 8,276      | 0.300             | -                | -          | -                 | 0.000            | 8,276      | 0.300             |
| (M131) - CAP, BLASTING NON-ELECTRIC-M7    | A     |                | -                | -          | -                 | 0.000            | 16,129     | 0.500             | 0.000            | 20,713     | 0.500             | 0.000            | 20,713     | 0.500             | -                | -          | -                 | 0.000            | 20,713     | 0.500             |
| (M456) - CORD ASBLY DETONATING            | A     |                | -                | -          | -                 | 0.000            | 232,558    | 0.100             | 0.000            | 232,558    | 0.100             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (M591) - DYNAMITE MILITARY M1 1LB BLOCK   | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (M980) - DETA SHEET                       | A     |                | -                | -          | -                 | 0.000            | 6,105      | 0.200             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (M993) CHARGE, DEMO, C1.5 DETA SHEET .062 | A     |                | -                | -          | -                 | 0.000            | 1,114      | 0.400             | 0.000            | 861        | 0.309             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (ML47) - B CAP W/30 FT SHOCK TUBE         | A     |                | -                | -          | -                 | 0.000            | 138        | 0.010             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (MM24) DEMO ECT, MK 142, 300GPF           | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (MM30) CHARGE, 20 GRAM MK 140 MOD 0       | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (MM51) DEMO ECT, MK 143, 600GPF           | A     |                | -                | -          | -                 | -                | -          | 0.000             | 0.000            | 816        | 0.100             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (MM52) DEMO ECT, MK144, 1200GPF           | A     |                | -                | -          | -                 | 0.000            | 1,256      | 0.112             | 0.000            | 3,498      | 0.312             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| (MM53) - DEMO ECT, MK145, 2400GPF         | A     |                | -                | -          | -                 | 0.000            | 1,777      | 0.200             | 0.000            | 1,058      | 0.200             | 0.000            | 1,058      | 0.200             | -                | -          | -                 | 0.000            | 1,058      | 0.200             |
| (MM54) - EXPLOSIVE CUTTING TAPE           | A     |                | -                | -          | -                 | 0.000            | 5,505      | 0.600             | 0.000            | 5,389      | 0.500             | 0.000            | 2,156      | 0.200             | -                | -          | -                 | 0.000            | 2,156      | 0.200             |
| (M421) CHG DEMO SHPD M3A2 COMP B          | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.200             | -                | -          | -                 | -                | -          | 0.200             |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 15 **P-1 Line Item Number / Title:** 355450 / Explosive Ordnance Disposal (EOD) **Aggregated Items Title:** Explosive Ordnance Disposal (EOD)

| Item Number / Title [DODIC]                        | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| (MM56) DETONATOR, PERCUSSION 175MS DELAY           | A     |                | -                | -          | -                 | 0.000            | 600,000    | 0.400             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN07) - N/E 70FT DELAY SHOCK TUBE                 | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN06) M14 SET UP, N/E CAP WITH TIME FUZE          | A     |                | -                | -          | -                 | -                | -          | 0.000             | 0.000            | 15,638     | 0.152             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN08) - IGNITER TIME BLASTING                     | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN23) - DEMO ECT, MK152, 900GPF (LHFLSC)          | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN82) - SEMTEX A                                  | A     |                | -                | -          | -                 | -                | -          | 0.000             | 0.000            | 3,348      | 0.100             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN85) - DYNAMITE, 75% AMMON NITRATE               | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN86) CAP, BLAST NON-ELEC W/200 FT MINI-TUBE M19  | A     |                | -                | -          | -                 | -                | -          | 0.357             | -                | -          | -                 | -                | -          | 0.232             | -                | -          | -                 | -                | 0.232      |                   |
| (MN88) - SHOCK TUBE W/BLASTING CAP 500             | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MN90) - M-13 1,000 FT SHOCK TUBE W/ CAP M23       | A     |                | -                | -          | -                 | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (MP29) DETONATOR, NONELEC, DUEL 40 FT MK 164 MOD 0 | A     |                | -                | -          | -                 | -                | -          | 0.400             | -                | -          | -                 | -                | -          | 0.100             | -                | -          | -                 | -                | 0.100      |                   |
| (SS01) - CTG, 50 CAL ELEC BLANK MK209 MOD 1        | A     |                | -                | -          | -                 | 0.000            | 7,239      | 0.886             | 0.000            | 18,792     | 2.300             | 0.000            | 14,707     | 1.800             | -                | -          | -                 | 0.000            | 14,707     | 1.800             |
| (M039) CHG DEMO 40LB CRATERING W/ WELL             | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.100             | -                | -          | -                 | -                | -          | 0.100             |
| (M670) FUZE, BLASTING TIME                         | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 882        | 0.120             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| (M420) CHG DEMO SHPD M2A4 15LB COMP B              | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 1.400             | -                | -          | -                 | -                | -          | 1.400             |
| (M986) CHB, DEMOLITION C7 DETA SHEET 1.333         | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 306        | 0.100             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 15 **P-1 Line Item Number / Title:** 355450 / Explosive Ordnance Disposal (EOD) **Aggregated Items Title:** Explosive Ordnance Disposal (EOD)

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| (YY34) - SHOCK TUBE            | A     |                | -                | -          | -                 | 0.000            | 384,615    | 0.200             | -                | -          | -                 | -                | -          | 0.200             | -                | -          | -                 | -                | -          | 0.200             |
| PMA                            | A     |                | -                | -          | -                 | -                | -          | 0.061             | -                | -          | 0.057             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>6.038</b>      | -                | -          | <b>6.133</b>      | -                | -          | <b>6.232</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>6.232</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>6.038</b>      | -                | -          | <b>6.133</b>      | -                | -          | <b>6.232</b>      | -                | -          | <b>0.000</b>      | -                | -          | <b>6.232</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 15: Other Items **P-1 Line Item Number / Title:**  
355900 / Spares And Repair Parts

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019      | FY 2020      | FY 2021 Base | FY 2021 OCO  | FY 2021 Total | FY 2022      | FY 2023      | FY 2024      | FY 2025      | To Complete | Total        |
|---|-------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -            |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 0.000        | 0.533        | 0.542        | 0.000        | 0.542         | 0.553        | 0.563        | 0.573        | 0.583        | -           | 3.347        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -            |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 0.000        | 0.533        | 0.542        | 0.000        | 0.542         | 0.553        | 0.563        | 0.573        | 0.583        | -           | 3.347        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -            |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>0.000</b> | <b>0.533</b> | <b>0.542</b> | <b>0.000</b> | <b>0.542</b>  | <b>0.553</b> | <b>0.563</b> | <b>0.573</b> | <b>0.583</b> | -           | <b>3.347</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

This P-1 line funds spares and repair parts for Procurement of Ammunition, Air Force (PAAF) items. Initial spares consist of repairable components, assemblies and subassemblies, as well as consumable items required in support of newly fielded end items. Requirements are based on historical failure/demand data on similar items. Replenishment spares consist of repairable components, assemblies and subassemblies required for follow-on sustainment of end items. Munitions replenishment spare levels are based on item-specific failure/demand driven computations.

Provide Area Attack telemetry kit Weapon System Evaluation Program (WSEP) analysis for Wind Corrected Munitions Dispenser (WCMD). Contractor will perform engineering study, installation, delivery and testing for WCMD weapons with telemetry kits.

Funds may be used to address production Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply, and qualification activities to preserve future production capabilities and capacities.

PE associated with this P-1 Line is 0208030F.

**Justification:**

FY21 funds are used for spares and repair parts for Procurement of Ammunition, Air Force (PAAF) items. Initial spares consist of repairable components, assemblies and subassemblies, as well as consumable items required in support of newly fielded end items. Requirements are based on historical failure/demand data on similar items. Replenishment spares consist of repairable components, assemblies and subassemblies required for follow on sustainment of end items. Munitions replacement spare levels are based on item-specific failure/demand driven computations. Examples of spares include Flight Test Telemetry packages, telemetry kits, batteries, fuzes, cables, electronic components to support and maintain fielded end items, and test support equipment. Initial or Replenishment spares and repair parts are necessary for the following Air Force (PAAF) P-1 end items: Rockets, Cartridges, Practice Bombs, General Purpose Bombs, Cartridge Actuated Devices/Propellant Actuated Devices (CAD/PAD), Explosive Ordinance Disposal, Flares, and Fuzes.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) Munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 15: Other Items **P-1 Line Item Number / Title:** 355970 / Modifications

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019      | FY 2020      | FY 2021 Base | FY 2021 OCO  | FY 2021 Total | FY 2022      | FY 2023      | FY 2024      | FY 2025      | To Complete | Total        |
|---|-------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -            |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 0.847        | 1.291        | 1.310        | 0.000        | 1.310         | 1.335        | 1.359        | 1.384        | 1.409        | -           | 8.935        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -            |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 0.847        | 1.291        | 1.310        | 0.000        | 1.310         | 1.335        | 1.359        | 1.384        | 1.409        | -           | 8.935        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -            |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>0.847</b> | <b>1.291</b> | <b>1.310</b> | <b>0.000</b> | <b>1.310</b>  | <b>1.335</b> | <b>1.359</b> | <b>1.384</b> | <b>1.409</b> | -           | <b>8.935</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

This budget line encompasses both new and on-going modification efforts for guided bomb and munitions systems. Permanent modifications consist of configuration changes to in-service systems and equipment which correct material or other deficiencies and can be used to add or remove capability. Safety modifications correct deficiencies which may create personnel, system, or equipment hazards.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

Funds may be used to address production Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply, and qualification activities to preserve future production capabilities and capacities.

Funding for this exhibit contained in PE 0208030F.

**Justification:**

The FY2021 funding request is a low cost mod for guided bomb and munitions systems that reflects estimated costs based on historical funding requirements and projected future requirements.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:**  
3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 15: Other Items

**P-1 Line Item Number / Title:**  
355990 / Items Less Than \$5,000,000

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019      | FY 2020      | FY 2021 Base | FY 2021 OCO  | FY 2021 Total | FY 2022      | FY 2023      | FY 2024      | FY 2025      | To Complete | Total         |
|---|-------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|-------------|---------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -             |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 3.070        | 1.677        | 4.753        | 0.000        | 4.753         | 4.844        | 4.929        | 5.017        | 5.110        | -           | 29.400        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -             |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 3.070        | 1.677        | 4.753        | 0.000        | 4.753         | 4.844        | 4.929        | 5.017        | 5.110        | -           | 29.400        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -            | -            | -            | -            | -             | -            | -            | -            | -            | -           | -             |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>3.070</b> | <b>1.677</b> | <b>4.753</b> | <b>0.000</b> | <b>4.753</b>  | <b>4.844</b> | <b>4.929</b> | <b>5.017</b> | <b>5.110</b> | -           | <b>29.400</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

This category includes various munitions items to support air base ground defense, air rescue and aircrew/ground training.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materie (WRM) munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

All items have an annual procurement value of less than \$5 million and are code A.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

PEs associated with this P-1 Line are 0207580F and 0207599F.

**Justification:**

FY2021 purchases miscellaneous munitions such as hand grenades, grenades with colored smoke for signaling aircrews and air-rescue, and ground-burst simulators primarily used for air-base and ground support missions.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 16: Flares **P-1 Line Item Number / Title:** 356010 / Flares

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years | FY 2019        | FY 2020        | FY 2021 Base  | FY 2021 OCO   | FY 2021 Total | FY 2022       | FY 2023       | FY 2024       | FY 2025       | To Complete | Total          |
|---|-------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|----------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -              | -              | -             | -             | -             | -             | -             | -             | -             | -           | -              |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | 109.402        | 129.388        | 40.088        | 21.171        | 61.259        | 91.329        | 94.254        | 67.301        | 68.715        | -           | 621.648        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -              | -              | -             | -             | -             | -             | -             | -             | -             | -           | -              |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | 109.402        | 129.388        | 40.088        | 21.171        | 61.259        | 91.329        | 94.254        | 67.301        | 68.715        | -           | 621.648        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -              | -              | -             | -             | -             | -             | -             | -             | -             | -           | -              |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | <b>109.402</b> | <b>129.388</b> | <b>40.088</b> | <b>21.171</b> | <b>61.259</b> | <b>91.329</b> | <b>94.254</b> | <b>67.301</b> | <b>68.715</b> | -           | <b>621.648</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

FY2019 funding totals includes \$12.116M appropriated for Overseas Contingency Operations.

FY2020 funding totals includes \$93.272M appropriated for Overseas Contingency Operations.

The following Weapon System Cost Elements are represented in this P-1 line:

- (L410) M206 Flare is an infrared countermeasures flare used by A-10, F-16, C-17, C-130, and other aircraft against heat seeking missiles. This item is procured through the Single Manager for Conventional Ammunition (SMCA)/Army.
- (L461) MJU-10 flare, which has been used primarily by the F-15 aircraft against heat seeking missiles, was partially replaced in FY18 by the MJU-53/B and will be completely replaced in FY20. The MJU-53/B is procured by the USAF. The USAF will procure the MJU-10 for FMS.
- (L462) MJU-23 Infrared Countermeasure Flare used on the B-1B aircraft against heat seeking missiles. The MJU-23 flare includes a specially designed high ejection cartridge (BBU-46) that propels the burning flare pellet upward with sufficient velocity to clear the aircraft during high speed, low level flight.
- (L463) MJU-7 IR Flare is an infrared countermeasures flare applicable to the A-10, F-15, F-16, F-22 and other aircraft. It creates an infrared signature and acts as a decoy against heat seeking missiles. Will be replaced by MJU-53 in 2020. The Air Force transitioned in FY18 to MJU-53 for wartime and other operational uses; MJU-7 is currently used only for training. This item is procured through the Single Manager for Conventional Ammunition (SMCA)/Army.
- (LA36) MJU-62 Flare is a multi-spectral countermeasure designed to be used as part of a flare cocktail pattern to confuse advanced infrared threat missiles. Used primarily on the C-17 and C-5 aircraft which require a 1 inch by 2 inch by 8 inch flare size to accommodate desired cocktail flare mixes. MJU-62 is being evaluated for use on other types of aircraft such as F-16, A-10 and HH-60. This item is procured through USAF.
- (L225) Red/Red star M37A2 Signal.

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force   |   | <b>Date:</b> February 2020                              |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 16: Flares  |   | <b>P-1 Line Item Number / Title:</b><br>356010 / Flares |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A   | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A              |
| <b>Line Item MDAP/MAIS Code:</b> N/A   |   |   |
| <p>-(LA66) The MJU-61 is an infrared countermeasure flare used by F-35 aircraft against heat seeking missiles. The MJU-61 is currently being tested as a possible replacement for the M206. This item is procured through the Navy PMA-272.</p> <p>-(LA61) MJU-66 decoy Countermeasure Flare is an improved version of the MJU-64 providing increased decoy effectiveness and protection for the A-10, C-130 and F-35 aircraft and HH-53 and HH-60 helicopters and is being evaluated for other aircraft. It is a one-piece aluminum case containing a payload of advanced special material elements, loaded into a multiple jettison unit magazine installed on a countermeasure dispenser. When deployed into the air stream, the special material reacts to emit an infrared signal to decoy infrared seeking missiles. This item is procured through Navy PMA-272 and USAF.</p> <p>-(LA67) MJU-71 IR Flare is a magnesium based thrusted flare used in a cocktail mix of flares on aircraft to improve the effectiveness of the countermeasures against heat-seeking missile threats. The 1x1x8 inch size provides better protection of the aircraft and flight crew. Other versions of thrusted flares are larger and use more space in the flare dispensers, severely limiting the number of ejection events. Initially approved for use on the C-130, A-10 and F-16 aircraft with on-going tests for use on other platforms. This item is procured through the Navy, PMA-272 and USAF.</p> <p>-(LA68) MJU-68 Flare is a magnesium based countermeasure and was developed specifically for the F-35/JSF aircraft to provide protection from advanced infrared threat missiles. This item is procured through Navy PMA-272.</p> <p>-(LA21) MJU-53/B Flare is a magnesium base IR countermeasure. It consists of an aluminum case, crimped and sealed plastic end cap, rubber spacer, plastic piston, safe and ignition device, flare pellet and sealed cartridge cup. It is dispensed and ignited in flight by a BBU-36 impulse cartridge cup. Used on C-17, C-5, and being evaluated for future use on other aircraft such as A-10 and F-16. This item is procured through USAF.</p> <p>-(LY12) The ALA-17C is an infrared countermeasure used by B-52 aircraft against heat seeking missiles. This item is procured through the US Air Force Global Strike Command and is currently upgrading to the ALE-47 dispenser system which may eliminate the ALA-17 and provide the ability to use common flares.</p> <p>-(LA76) The MJU-73 is a spectral flare that is used in a cocktail mix of flares to increase protection against heat-seeking missile threats. This 1x1x8 inch sized flare is primarily used on the HH-60, and is expected to be qualified on several fixed-wing aircraft in the near future. This item is procured through the US Air Force.</p> <p>-(LA78) The XM219 is a bundled flare that is used in a cocktail mix of flares to increase protection against heat-seeking missile threats. This 1x1x8 inch sized flare provides a unique dispensing pattern and is primarily used on the HH-60. This item is procured by the US Army/SOCOM.</p> <p>-(LA85) MJU-75 Flare is a magnesium base IR countermeasure. It consists of an aluminum case, crimped and sealed plastic end cap, rubber spacer, plastic piston, safe and ignition device, flare pellet and sealed cartridge cup. It is dispensed and ignited in flight by a BBU-35 impulse cartridge. Used on C-17, C-5, and being evaluated for future use on other aircraft such as A-10 and F-16. This item is procured through USAF.</p> <p>-(LA88) MJU-76 Flare is a thrusted magnesium base IR countermeasure. It consists of a 1x1 aluminum case, crimped and sealed plastic end cap, compression pad, safe and ignition device with sealing O-ring, finned aluminum flight body containing the flare grain with a molded PEEK nozzle and a weighted nose. The case uses a sealed cartridge cup and the flare is dispensed and ignited in flight by a BBU-35 or CCU-145 impulse cartridge. Used on C-17, C-130, and being evaluated for future use on other aircraft such as A-10, F-16, and F-35. This item is procured through USAF.</p> <p>-(L580) MK-58 is a marine location marker consisting of an aluminum body containing two pyrotechnic candles of a red phosphorus composition. The ignition end of the marker has three holes, two for smoke and flame emission and one for water to enter the MK72 Mod 1 seawater-activated battery. Adhesive foil discs hermetically seal the two emission holes. A reinforced adhesive foil strip with a rectangular pull ring hermetically seals the battery. The adhesive foil seals are protected during handling and shipping by a replaceable polyethylene protective cover.</p> <p>-Items Less Than Five Million Dollars: All items have an annual procurement of less than \$5,000,000 and are Code A.</p> <p>These funds may also procure inventoried items which may not be procured on an annual basis and could be required on an emerging basis. Variations to cover critical shortfalls to inventory objectives as well as actual and planned expenditures will be addressed during execution year.</p> |   |   |

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force  |   | <b>Date:</b> February 2020                              |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 16: Flares |   | <b>P-1 Line Item Number / Title:</b><br>356010 / Flares |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A  | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A              |
| <b>Line Item MDAP/MAIS Code:</b> N/A  |   |   |

Funds may be used to address production DMS/MS/Obsolescence issues through studies, bridge buys, life of type buys, supplier/parts replacement, to include electronic components used commercially and in short supply; and, qualification activities to preserve future production capabilities and capacities.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Funding for this exhibit contained in PEs: 0208030F and 0207599F.

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force  |   | <b>Date:</b> February 2020                              |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 16: Flares |   | <b>P-1 Line Item Number / Title:</b><br>356010 / Flares |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A  | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A              |

| Exhibits Schedule |                                       |             |       |                | Prior Years                           | FY 2019                               | FY 2020                               | FY 2021 Base                          | FY 2021 OCO                           | FY 2021 Total                         |
|-------------------|---------------------------------------|-------------|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) |
| P-40a             | (L410) M206 FLARE                     |             |       |                | - / -                                 | - / 31.017                            | - / 20.156                            | - / 4.250                             | - / -                                 | - / 4.250                             |
| P-40a             | (L463) MJU-7A/B, IR FLARE             |             |       |                | - / -                                 | - / -                                 | - / 8.000                             | - / -                                 | - / -                                 | - / -                                 |
| P-40a             | (LA21) MJU-53/B IR CM FLARE           |             |       |                | - / -                                 | - / 23.010                            | - / 45.000                            | - / 0.599                             | - / 9.171                             | - / 9.770                             |
| P-40a             | (LA36) MJU-62/B IR CM FLARE           |             |       |                | - / -                                 | - / 4.991                             | - / 4.000                             | - / 1.750                             | - / -                                 | - / 1.750                             |
| P-40a             | (LA61) MJU-66 CM ACFT FLARE           |             |       |                | - / -                                 | - / 9.080                             | - / 8.000                             | - / 2.880                             | - / -                                 | - / 2.880                             |
| P-40a             | (LA66) MJU-61 IR CM FLARE             |             |       |                | - / -                                 | - / -                                 | - / 8.000                             | - / 7.500                             | - / -                                 | - / 7.500                             |
| P-40a             | (LA67) FLARE, IR, CM (MJU-71/B)       |             |       |                | - / -                                 | - / 2.334                             | - / 16.232                            | - / -                                 | - / -                                 | - / -                                 |
| P-40a             | (LA68) MJU-68/B IR CM FLARE           |             |       |                | - / -                                 | - / 22.998                            | - / 12.000                            | - / 6.000                             | - / -                                 | - / 6.000                             |
| P-40a             | (LA76) MJU-73 CM FLARE                |             |       |                | - / -                                 | - / 3.000                             | - / -                                 | - / -                                 | - / -                                 | - / -                                 |
| P-40a             | (LA76) MJU-73 MTRV FLARE              |             |       |                | - / -                                 | - / 2.999                             | - / 3.000                             | - / 1.275                             | - / -                                 | - / 1.275                             |
| P-40a             | (LA84) MJU-52 BOL/IR FLARE            |             |       |                | - / -                                 | - / 4.973                             | - / 5.000                             | - / 2.000                             | - / -                                 | - / 2.000                             |
| P-40a             | (LY12) ALA-17 FLARE CARTRIDGE         |             |       |                | - / -                                 | - / -                                 | - / -                                 | - / 13.834                            | - / -                                 | - / 13.834                            |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | - / -                                 | - / 109.402                           | - / 129.388                           | - / 40.088                            | - / 21.171                            | - / 61.259                            |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.  
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY2021 funds purchase countermeasures and flares used by A-10, AC-130, F-15, F-16, C-5, C-17 and F-35/JSF aircraft, HH-53 and HH-60 helicopters and other aircraft to protect the warfighter against advanced air-to-air and ground-to-air infrared and heat seeking attack weapon systems and missiles. In FY2021, this funding includes \$21.171M for OCO.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) Munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

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| <b>Exhibit P-40a, Budget Item Justification For Aggregated Items:</b> PB 2021 Air Force |  |  |  |  |  |  |   |  |  |  |  |  |  |  | <b>Date:</b> February 2020                          |  |  |  |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 16        |  |  |  |  |  |  | <b>P-1 Line Item Number / Title:</b><br>356010 / Flares |  |  |  |  |  |  |  | <b>Aggregated Items Title:</b><br>(L410) M206 FLARE |  |  |  |  |

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| M206 FLARE - L410              | A     |                | -                | -          | -                 | 0.000            | 352,592    | 13.388            | 0.000            | 505,502    | 19.568            | 0.000            | 105,016    | 4.250             | -                | -          | -                 | 0.000            | 105,016    | 4.250             |
| PRODUCTION ENGINEERING         | A     |                | -                | -          | -                 | -                | -          | 17.621            | -                | -          | 0.585             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| QUALITY ASSURANCE              | A     |                | -                | -          | -                 | -                | -          | 0.008             | -                | -          | 0.003             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>31.017</b>     | -                | -          | <b>20.156</b>     | -                | -          | <b>4.250</b>      | -                | -          | -                 | -                | -          | <b>4.250</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>31.017</b>     | -                | -          | <b>20.156</b>     | -                | -          | <b>4.250</b>      | -                | -          | -                 | -                | -          | <b>4.250</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

The Single Manager for Conventional Ammunition (SMCA), Department of Army provides this cost analysis with estimates obtained from industry based on quantity range matrices and forecasted cost of materials.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (L463) MJU-7A/B, IR FLARE

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| MJU-7A/B IR FLARE - L463       | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 139,800    | 7.991             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| QUALITY ASSURANCE              | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.009             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | -                 | -                | -          | <b>8.000</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | -                 | -                | -          | <b>8.000</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**  
The Single Manager for Conventional Ammunition (SMCA), Department of Army provides this cost analysis with estimates obtained from industry based on quantity range matrices and forecasted cost of materials.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA21) MJU-53/B IR CM FLARE

| Item Number / Title [DODIC]                   | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>UNCATEGORIZED</b>                          |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA21) MJU-53/B INFRARED COUNTERMEASURE FLARE | A     |                | -                | -          | -                 | 0.000            | 306,798    | 23.010            | 0.000            | 600,000    | 45.000            | 0.000            | 6,967      | 0.599             | 0.000            | 106,664    | 9.171             | 0.000            | 113,631    | 9.770             |
| <b>Subtotal: UNCATEGORIZED</b>                |       |                | -                | -          | -                 | -                | -          | <b>23.010</b>     | -                | -          | <b>45.000</b>     | -                | -          | <b>0.599</b>      | -                | -          | <b>9.171</b>      | -                | -          | <b>9.770</b>      |
| <b>Total</b>                                  |       |                | -                | -          | -                 | -                | -          | <b>23.010</b>     | -                | -          | <b>45.000</b>     | -                | -          | <b>0.599</b>      | -                | -          | <b>9.171</b>      | -                | -          | <b>9.770</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**  
The MJU-53 Infrared Countermeasure Flare is purchased by the Munitions Division, AFMC. Unit prices are estimates from industry.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA36) MJU-62/B IR CM FLARE

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA36) MJU-62 IR CM FLARE      | A     |                | -                | -          | -                 | 0.000            | 17,211     | 4.991             | 0.000            | 13,792     | 4.000             | 0.000            | 3,687      | 1.750             | -                | -          | -                 | 0.000            | 3,687      | 1.750             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>4.991</b>      | -                | -          | <b>4.000</b>      | -                | -          | <b>1.750</b>      | -                | -          | -                 | -                | -          | <b>1.750</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>4.991</b>      | -                | -          | <b>4.000</b>      | -                | -          | <b>1.750</b>      | -                | -          | -                 | -                | -          | <b>1.750</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**  
The MJU-62 Infrared Countermeasure Flare is purchased by the Munitions Division, AFMC. Unit prices are estimates from industry.

**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA61) MJU-66 CM ACFT FLARE

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA61) MJU-66 Decoy ACFT Flare | A     |                | -                | -          | -                 | 0.000            | 67,261     | 9.080             | 0.000            | 66,667     | 8.000             | 0.000            | 26,903     | 2.880             | -                | -          | -                 | 0.000            | 26,903     | 2.880             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>9.080</b>      | -                | -          | <b>8.000</b>      | -                | -          | <b>2.880</b>      | -                | -          | -                 | -                | -          | <b>2.880</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>9.080</b>      | -                | -          | <b>8.000</b>      | -                | -          | <b>2.880</b>      | -                | -          | -                 | -                | -          | <b>2.880</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

The MJU-66 Decoy is purchased through Navy PMA-272 and USAF. The cost analysis is provided to the Navy and USAF with estimates obtained from industry based on quantity range matrices and forecasted cost of materials. FY2017 prices have been amended to reflect more closely the proposed costs based in materiel cost increases.

**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA66) MJU-61 IR CM FLARE

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA66) MJU-61 IR CM Flare      | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 106,666    | 8.000             | 0.000            | 96,006     | 7.500             | -                | -          | -                 | 0.000            | 96,006     | 7.500             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 8.000             | -                | -          | 7.500             | -                | -          | -                 | -                | -          | 7.500             |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 8.000             | -                | -          | 7.500             | -                | -          | -                 | -                | -          | 7.500             |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA67) FLARE, IR, CM (MJU-71/B)

| Item Number / Title [DODIC]     | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                 |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>            |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA67) FLARE, IR, CM (MJU-71/B) | A     |                | -                | -          | -                 | 0.001            | 4,667      | 2.334             | 0.001            | 32,464     | 16.232            | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| <b>Subtotal: Uncategorized</b>  |       |                | -                | -          | -                 | -                | -          | 2.334             | -                | -          | 16.232            | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| <b>Total</b>                    |       |                | -                | -          | -                 | -                | -          | 2.334             | -                | -          | 16.232            | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

The MJU-71 Infrared Countermeasure Flare is purchased by USAF and the Navy. Unit prices are estimates from industry.

**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA68) MJU-68/B IR CM FLARE

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA68) MJU-68 IR CM FLARE      | A     |                | -                | -          | -                 | 0.003            | 7,666      | 22,998            | 0.003            | 4,000      | 12,000            | 0.002            | 2,474      | 6,000             | -                | -          | -                 | 0.002            | 2,474      | 6,000             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>22,998</b>     | -                | -          | <b>12,000</b>     | -                | -          | <b>6,000</b>      | -                | -          | -                 | -                | -          | <b>6,000</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>22,998</b>     | -                | -          | <b>12,000</b>     | -                | -          | <b>6,000</b>      | -                | -          | -                 | -                | -          | <b>6,000</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

The MJU-68 Infrared Countermeasure Flare is purchased by the Navy. Unit prices are estimates from industry.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

|  |   |  |
|--|---|--|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 16 | <b>P-1 Line Item Number / Title:</b><br>356010 / Flares | <b>Aggregated Items Title:</b><br>(LA76) MJU-73 CM FLARE |
|--|---|--|

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA76) MJU-73 MTVR FLARE       | A     |                | -                | -          | -                 | -                | -          | 3.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>3.000</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>3.000</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA76) MJU-73 MTVR FLARE

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LA76) MJU-73 MTVR FLARE       | A     |                | -                | -          | -                 | 0.001            | 4,444      | 2,999             | 0.001            | 4,444      | 3,000             | 0.001            | 1,903      | 1,275             | -                | -          | -                 | 0.001            | 1,903      | 1,275             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>2,999</b>      | -                | -          | <b>3,000</b>      | -                | -          | <b>1,275</b>      | -                | -          | -                 | -                | -          | <b>1,275</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>2,999</b>      | -                | -          | <b>3,000</b>      | -                | -          | <b>1,275</b>      | -                | -          | -                 | -                | -          | <b>1,275</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 01 / 16 **P-1 Line Item Number / Title:** 356010 / Flares **Aggregated Items Title:** (LA84) MJU-52 BOL/IR FLARE

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| MJU-52 BOL/IR FLARE            | A     |                | -                | -          | -                 | 0.001            | 5,675      | 4,973             | 0.001            | 5,681      | 5,000             | 0.001            | 2,961      | 2,000             | -                | -          | -                 | 0.001            | 2,961      | 2,000             |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>4,973</b>      | -                | -          | <b>5,000</b>      | -                | -          | <b>2,000</b>      | -                | -          | -                 | -                | -          | <b>2,000</b>      |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>4,973</b>      | -                | -          | <b>5,000</b>      | -                | -          | <b>2,000</b>      | -                | -          | -                 | -                | -          | <b>2,000</b>      |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

|  |   |   |
|--|---|---|
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 16 | <b>P-1 Line Item Number / Title:</b><br>356010 / Flares | <b>Aggregated Items Title:</b><br>(LY12) ALA-17 FLARE CARTRIDGE |
|--|---|---|

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| (LY17) ALA-17 Flare Cartridge  | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | 0.000            | 1,383,400  | 13.834            | -                | -          | -                 | 0.000            | 1,383,400  | 13.834            |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 13.834            | -                | -          | -                 | -                | -          | 13.834            |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 13.834            | -                | -          | -                 | -                | -          | 13.834            |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 18: Fuzes **P-1 Line Item Number / Title:** 356120 / FUZES

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| <b>Resource Summary</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>To Complete</b> | <b>Total</b>     |
|---|--------------------|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|--------------------|------------------|
| Procurement Quantity ( <i>Units in Each</i> )   | -                  | -              | -              | -                   | -                  | -                    | -              | -              | -              | -              | -                  | -                |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )  | -                  | 180.272        | 154.214        | 40.983              | 107.855            | 148.838              | 223.309        | 188.781        | 105.411        | 142.917        | -                  | 1,143.742        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )   | -                  | -              | -              | -                   | -                  | -                    | -              | -              | -              | -              | -                  | -                |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )   | -                  | 180.272        | 154.214        | 40.983              | 107.855            | 148.838              | 223.309        | 188.781        | 105.411        | 142.917        | -                  | 1,143.742        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )   | -                  | -              | -              | -                   | -                  | -                    | -              | -              | -              | -              | -                  | -                |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )   | -                  | <b>180.272</b> | <b>154.214</b> | <b>40.983</b>       | <b>107.855</b>     | <b>148.838</b>       | <b>223.309</b> | <b>188.781</b> | <b>105.411</b> | <b>142.917</b> | -                  | <b>1,143.742</b> |
| <i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i> |                    |                |                |                     |                    |                      |                |                |                |                |                    |                  |
| Initial Spares ( <i>\$ in Millions</i> )  | -                  | -              | -              | -                   | -                  | -                    | -              | -              | -              | -              | -                  | -                |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )   | -                  | -              | -              | -                   | -                  | -                    | -              | -              | -              | -              | -                  | -                |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )   | -                  | -              | -              | -                   | -                  | -                    | -              | -              | -              | -              | -                  | -                |

**Description:**

FY 2019 funding includes \$81.000M received for Overseas Contingency Operations.  
 FY 2020 funding includes \$152.480M received for Overseas Contingency Operations.

The following Weapon System Cost Elements are represented in this P-1 line:

Procure advanced fuze/sensor systems and modernization capabilities required by US and Allied warfighters to support the commander's intent. These fuze/sensor systems provide the DoD with reliable and effective weapon safing, arming, sensing, and attack capabilities. Characterize how fuzing impacts the survivability, producibility, and lethality of various weapon systems; including internal pressures, warhead effects, and ignition characteristics.

- FMU-152A/B Joint Programmable Fuze (JPF) (EC11) is a multi-function unitary fuze developed and procured for the Joint Direct Attack Munition and other conventional inventory weapons. The FMU-152A/B provides a highly reliable bomb fuze with multiple arm times, instantaneous and multiple short and long delay detonation times, hard target survivability, cockpit programmability, and increased service/shelf life. The JPF is compatible with MK-80 series guided and unguided bombs. It has replaced and/or supplemented the FMU-139A/B and FMU-139C/B, FMU-143, and M904/M905 fuzes, and provides fuzing capability for hard target, general purpose, and guided bombs. The Air Force is the lead service for procurement/sustainment.

- The FMU-139D/B is a Navy-led general purpose fuze Engineering Change Proposal (ECP) program to replace the FMU-139C/B and FMU-152A/B in the Navy and Air Force inventories. The USAF is currently evaluating its penetration characteristics through the end of FY19. This effort is a low cost option that meets both service requirements for a better buying power business case. The AF production buy decision is planned for no later than 2QFY20 with production deliveries beginning no later than 2QFY21. The contract for this effort was competitively awarded by the Navy on 17 September 2015 and provides the capability to order through FY23.

- DSU-33D/B Proximity Sensor (KY70) is a battery operated, RF, Doppler radar proximity sensor. It is used to provide low altitude proximity function to the bomb fuze. The sensor interfaces with FMU-139 and FMU-152 fuzes. This line item includes existing sensor production, Engineering Change Proposals (ECPs), and product improvement efforts, for example, modifications to eliminate obsolescence. DSU-33D/B will be replaced by Cockpit Selectable Height-of-Burst Sensor (C-HOBS; DSU-43) because of obsolescence issues. The contract was awarded to L3 Technologies in March 2019.

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| <b>Exhibit P-40, Budget Line Item Justification:</b> PB 2021 Air Force  |   | <b>Date:</b> February 2020                             |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 18: Fuzes  |   | <b>P-1 Line Item Number / Title:</b><br>356120 / FUZES |
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A  | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A             |
| <b>Line Item MDAP/MAIS Code:</b> N/A  |   |  |
| <p>- Hard Target Void Sensing Fuze (HTVSF) (EE27), FMU-167 is an advanced system designed to provide fuzing and void sensing functions, enabling a weapon to penetrate and destroy hardened, deeply buried targets protected by multiple layers of soil and/or reinforced concrete. The HTVSF provides for in-flight cockpit programmability, safing and arming, multi-function (time delay and void sensing) and multi-delay arming capabilities. The United States Air Force (USAF) and Department of the Navy (DON) will employ HTVSF in penetrator warheads, contributing to the ability to strike and functionally defeat high value/ high payoff targets in order to achieve strategic and operational objectives. HTVSF completed MS-C in May FY 2015 &amp; Low-Rate Initial Production (LRIP) was awarded in July 2015. LRIP II was awarded in September 2016 and Full Rate Production was awarded in September 2017.</p> <p>- Cockpit Selectable Height-of-Burst Sensor (C-HOBS) DSU-43/B is a sensor that replaces the current DSU-33D/B proximity sensor. C-HOBS eliminates two obsolescence issues the DSU-33D/B is currently experiencing and will replace the single factory height-of-burst setting with the addition of multiple height-of-burst options selectable via both manual switches and a cockpit interface. These selection options allow flexibility during flight to address a wide array of targets. The C-HOBS is intended to interface with and provide a cockpit-selectable proximity function to general and special purpose weapons, to include Next Generation Attack Weapons (NGAAWs).</p> <p>- Items Less Than Five Million Dollars: Various fuzes, to include inert training items, that have an annual procurement value of less than \$5,000,000 and are code A.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), these items are necessary for use by the active components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>Funding may be used to address Diminishing Manufacturing Sources/Material Shortages/Obsolescence issues.</p> <p>Funding for this exhibit contained in PEs: 0208030F and 0207599F.</p> |   |  |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 01: Ammunition / BSA 18: Fuzes **P-1 Line Item Number / Title:** 356120 / FUZES

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |                                       |             |       |                | Prior Years                           | FY 2019                               | FY 2020                               | FY 2021 Base                          | FY 2021 OCO                           | FY 2021 Total                         |
|-------------------|---------------------------------------|-------------|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) | Quantity / Total Cost (Each) / (\$ M) |
| P-40a             | (ED51) FMU-152 FUZE SYSTEM, UNIVERSAL |             |       |                | - / -                                 | - / 0.250                             | - / 0.000                             | - / -                                 | - / -                                 | - / -                                 |
| P-5               | C-HOBS                                |             | A     |                | - / -                                 | - / -                                 | - / -                                 | 4,500 / 27.000                        | - / -                                 | 4,500 / 27.000                        |
| P-5               | FMU-139D/B                            |             | A     |                | - / -                                 | 23,491 / 132.952                      | 25,525 / 152.612                      | - / 13.983                            | - / 107.855                           | - / 121.838                           |
| P-5               | (EE27) FMU-167 HTVSF                  |             | A     |                | - / -                                 | - / 47.320                            | - / 1.602                             | - / -                                 | - / -                                 | - / -                                 |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | - / -                                 | - / 180.272                           | - / 154.214                           | - / 40.983                            | - / 107.855                           | - / 148.838                           |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**

This program, C-HOBS P-5, is a new start.

FY2021 funding purchases fuzes and associated items. In FY2021, this funding includes \$107.855 for OCO.

The Air Force procures munitions to maintain appropriate quantities in the War Reserve Materiel (WRM) Munitions and test and training stockpiles. Active, Guard and Reserve components draw from the WRM stockpiles as required and receive test and training allocations annually based on current-year requirements.

FMU-139D/B's actual unit cost is \$2,268 per fuze. Max quantity per year is 40,650.

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| <b>Exhibit P-40a, Budget Item Justification For Aggregated Items:</b> PB 2021 Air Force |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>Date:</b> February 2020   |  |  |  |  |  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 18        |  |  |  |  |  |  | <b>P-1 Line Item Number / Title:</b><br>356120 / FUZES |  |  |  |  |  |  | <b>Aggregated Items Title:</b><br>(ED51) FMU-152 FUZE SYSTEM,<br>UNIVERSAL |  |  |  |  |  |

| Item Number / Title [DODIC]    | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--------------------------------|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|                                |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| FMU-152 FUZE SYSTEM UNIVERSAL  | A     |                | -                | -          | -                 | -                | -          | 0.250             | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Subtotal: Uncategorized</b> |       |                | -                | -          | -                 | -                | -          | <b>0.250</b>      | -                | -          | <b>0.000</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| <b>Total</b>                   |       |                | -                | -          | -                 | -                | -          | <b>0.250</b>      | -                | -          | <b>0.000</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

- FMU-152A/B Joint Programmable Fuze (JPF) (EC11) is a multi-function unitary fuze developed and procured for the Joint Direct Attack Munition and other conventional inventory weapons. The FMU-152A/B provides a highly reliable bomb fuze with multiple arm times, instantaneous and multiple short and long delay detonation times, hard target survivability, cockpit programmability, and increased service/shelf life. The JPF is compatible with MK-80 series guided and unguided bombs. It has replaced and/or supplemented the FMU-139A/B and FMU-139C/B, FMU-143, and M904/M905 fuzes, and provides fuzing capability for hard target, general purpose, and guided bombs. The Air Force is the lead service for procurement.

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020                    |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 18 | <b>P-1 Line Item Number / Title:</b><br>356120 / FUZES | <b>Item Number / Title [DODIC]:</b><br>C-HOBS |

|   |                        |
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| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A | <b>MDAP/MAIS Code:</b> |
|---|------------------------|

| Resource Summary  | Prior Years | FY 2019 | FY 2020 | FY 2021 Base  | FY 2021 OCO | FY 2021 Total |
|---|-------------|---------|---------|---------------|-------------|---------------|
| Procurement Quantity ( <i>Units in Each</i> )               | -           | -       | -       | 4,500         | -           | 4,500         |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )          | -           | -       | -       | 27.000        | -           | 27.000        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -       | -       | -             | -           | -             |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )             | -           | -       | -       | 27.000        | -           | 27.000        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )       | -           | -       | -       | -             | -           | -             |
| <b>Total Obligation Authority</b> ( <i>\$ in Millions</i> ) | -           | -       | -       | <b>27.000</b> | -           | <b>27.000</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |       |   |       |
|---|---|---|---|-------|---|-------|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | -     | - | -     |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | 0.006 | - | 0.006 |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements   | Prior Years         |               |                      | FY 2019             |               |                      | FY 2020             |               |                      | FY 2021 Base        |               |                      | FY 2021 OCO         |               |                      | FY 2021 Total       |               |                      |
|---|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|
|   | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) |
| Hardware - Hardware End Item Cost Cost                  |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |
| Recurring Cost  |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |
| C-HOBS  | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    | 0.006               | 4,500         | 27.000               | -                   | -             | -                    | 0.006               | 4,500         | 27.000               |
| <i>Subtotal: Recurring Cost</i>                         | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | 27.000               | -                   | -             | -                    | -                   | -             | 27.000               |
| <i>Subtotal: Hardware - Hardware End Item Cost Cost</i> | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | 27.000               | -                   | -             | -                    | -                   | -             | 27.000               |
| <b>Gross/Weapon System Cost</b>                         | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    | 0.006               | 4,500         | 27.000               | -                   | -             | -                    | 0.006               | 4,500         | 27.000               |

**Remarks:**

C-HOBS is a New Start for FY2021.

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020                        |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 18 | <b>P-1 Line Item Number / Title:</b><br>356120 / FUZES | <b>Item Number / Title [DODIC]:</b><br>FMU-139D/B |

|   |                        |
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| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A | <b>MDAP/MAIS Code:</b> |
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| Resource Summary                                   | Prior Years | FY 2019        | FY 2020        | FY 2021 Base  | FY 2021 OCO    | FY 2021 Total  |
|--|-------------|----------------|----------------|---------------|----------------|----------------|
| Procurement Quantity (Units in Each)               | -           | 23,491         | 25,525         | -             | -              | -              |
| Gross/Weapon System Cost (\$ in Millions)          | -           | 132.952        | 152.612        | 13.983        | 107.855        | 121.838        |
| Less PY Advance Procurement (\$ in Millions)       | -           | -              | -              | -             | -              | -              |
| Net Procurement (P-1) (\$ in Millions)             | -           | 132.952        | 152.612        | 13.983        | 107.855        | 121.838        |
| Plus CY Advance Procurement (\$ in Millions)       | -           | -              | -              | -             | -              | -              |
| <b>Total Obligation Authority (\$ in Millions)</b> | -           | <b>132.952</b> | <b>152.612</b> | <b>13.983</b> | <b>107.855</b> | <b>121.838</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|  |   |       |       |   |   |   |
|--|---|-------|-------|---|---|---|
| Initial Spares (\$ in Millions)                | - | -     | -     | - | - | - |
| Gross/Weapon System Unit Cost (\$ in Millions) | - | 0.006 | 0.006 | - | - | - |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements  | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|--|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|  | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Hardware - Hardware End Item Cost Cost</b>                  |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Recurring Cost   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| FMU-139 D/B Fuzes  | -                | -          | -                 | 0.004            | 31,098     | 124.238           | 0.004            | 40,650     | 145.373           | 0.005            | 3,000      | 13.983            | 0.003            | 37,650     | 101.131           | 0.003            | 40,650     | 115.114           |
| <i>Subtotal: Recurring Cost</i>                                | -                | -          | -                 | -                | -          | 124.238           | -                | -          | 145.373           | -                | -          | 13.983            | -                | -          | 101.131           | -                | -          | 115.114           |
| <i>Subtotal: Hardware - Hardware End Item Cost Cost</i>        | -                | -          | -                 | -                | -          | 124.238           | -                | -          | 145.373           | -                | -          | 13.983            | -                | -          | 101.131           | -                | -          | 115.114           |
| <b>Support - FMU-139D/B, PGM SPT, Qual Test Cost</b>           |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Program Management Administration                              | -                | -          | -                 | -                | -          | 3.019             | -                | -          | 7.239             | -                | -          | 0.000             | -                | -          | 6.724             | -                | -          | 6.724             |
| Technical Support  | -                | -          | -                 | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | -                 | -                | -          | 0.000             |
| Testing  | -                | -          | -                 | -                | -          | 5.695             | -                | -          | 0.000             | -                | -          | 0.000             | -                | -          | -                 | -                | -          | 0.000             |
| <i>Subtotal: Support - FMU-139D/B, PGM SPT, Qual Test Cost</i> | -                | -          | -                 | -                | -          | 8.714             | -                | -          | 7.239             | -                | -          | 0.000             | -                | -          | 6.724             | -                | -          | 6.724             |
| <b>Gross/Weapon System Cost</b>                                | -                | -          | -                 | 0.006            | 23,491     | 132.952           | 0.006            | 25,525     | 152.612           | -                | -          | 13.983            | -                | -          | 107.855           | -                | -          | 121.838           |

**Remarks:**

FMU-139D/B's actual unit cost is \$2,268 per fuze. Max quantity per year is 40,650

FY19 lot quantity was 30,021

FY20 lot quantity is 40,600

FY21 lot quantity is 40,500

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| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                             |  | <b>Date:</b> February 2020                                  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 01 / 18 | <b>P-1 Line Item Number / Title:</b><br>356120 / FUZES | <b>Item Number / Title [DODIC]:</b><br>(EE27) FMU-167 HTVSF |

| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A   |  |             |               | <b>MDAP/MAIS Code:</b> |              |             |               |
|---|--|-------------|---------------|------------------------|--------------|-------------|---------------|
| Resource Summary  |  | Prior Years | FY 2019       | FY 2020                | FY 2021 Base | FY 2021 OCO | FY 2021 Total |
| Procurement Quantity <i>(Units in Each)</i>   |  | -           | -             | -                      | -            | -           | -             |
| Gross/Weapon System Cost <i>(\$ in Millions)</i>  |  | -           | 47.320        | 1.602                  | -            | -           | -             |
| Less PY Advance Procurement <i>(\$ in Millions)</i>   |  | -           | -             | -                      | -            | -           | -             |
| Net Procurement (P-1) <i>(\$ in Millions)</i>   |  | -           | 47.320        | 1.602                  | -            | -           | -             |
| Plus CY Advance Procurement <i>(\$ in Millions)</i>   |  | -           | -             | -                      | -            | -           | -             |
| <b>Total Obligation Authority</b> <i>(\$ in Millions)</i>   |  | -           | <b>47.320</b> | <b>1.602</b>           | -            | -           | -             |
| <i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i> |  |             |               |                        |              |             |               |
| Initial Spares <i>(\$ in Millions)</i>  |  | -           | 0.000         | -                      | -            | -           | -             |
| Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>   |  | -           | -             | -                      | -            | -           | -             |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements                                      | Prior Years         |               |                      | FY 2019             |               |                      | FY 2020             |               |                      | FY 2021 Base        |               |                      | FY 2021 OCO         |               |                      | FY 2021 Total       |               |                      |
|--|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|
|  | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) |
| Hardware - Hardware End Item Cost                  |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |
| Recurring Cost                                     |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |
| Hard Target Void Sensing Fuze CLIN 1001            | -                   | -             | -                    | 0.010               | 4,425         | 43.611               | -                   | -             | 0.000                | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| <i>Subtotal: Recurring Cost</i>                    | -                   | -             | -                    | -                   | -             | 43.611               | -                   | -             | 0.000                | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| <i>Subtotal: Hardware - Hardware End Item Cost</i> | -                   | -             | -                    | -                   | -             | 43.611               | -                   | -             | 0.000                | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| Support - Support End Item Cost                    |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |
| Program Management Administration                  | -                   | -             | -                    | -                   | -             | 3.709                | -                   | -             | 1.602                | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| <i>Subtotal: Support - Support End Item Cost</i>   | -                   | -             | -                    | -                   | -             | 3.709                | -                   | -             | 1.602                | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| <b>Gross/Weapon System Cost</b>                    | -                   | -             | -                    | -                   | -             | 47.320               | -                   | -             | 1.602                | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

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| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F: Procurement of Ammunition, Air Force / BA 02: Weapons / BSA 1: Small Arms | <b>P-1 Line Item Number / Title:</b><br>357010 / Small Arms |
|---|---|

|  |   |  |
|--|---|--|
| <b>ID Code</b> (A=Service Ready, B=Not Service Ready): A | <b>Program Elements for Code B Items:</b> N/A | <b>Other Related Program Elements:</b> N/A |
|--|---|--|

**Line Item MDAP/MAIS Code:** N/A

| Resource Summary  | Prior Years   | FY 2019       | FY 2020       | FY 2021 Base  | FY 2021 OCO  | FY 2021 Total | FY 2022       | FY 2023       | FY 2024       | FY 2025       | To Complete | Total          |
|---|---------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|-------------|----------------|
| Procurement Quantity ( <i>Units in Each</i> )             | -             | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| Gross/Weapon System Cost ( <i>\$ in Millions</i> )        | 10.102        | 73.002        | 43.591        | 13.925        | 6.217        | 20.142        | 25.144        | 33.420        | 33.407        | 34.018        | -           | 272.826        |
| Less PY Advance Procurement ( <i>\$ in Millions</i> )     | -             | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| Net Procurement (P-1) ( <i>\$ in Millions</i> )           | 10.102        | 73.002        | 43.591        | 13.925        | 6.217        | 20.142        | 25.144        | 33.420        | 33.407        | 34.018        | -           | 272.826        |
| Plus CY Advance Procurement ( <i>\$ in Millions</i> )     | -             | -             | -             | -             | -            | -             | -             | -             | -             | -             | -           | -              |
| <b>Total Obligation Authority (<i>\$ in Millions</i>)</b> | <b>10.102</b> | <b>73.002</b> | <b>43.591</b> | <b>13.925</b> | <b>6.217</b> | <b>20.142</b> | <b>25.144</b> | <b>33.420</b> | <b>33.407</b> | <b>34.018</b> | <b>-</b>    | <b>272.826</b> |

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

|   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Spares ( <i>\$ in Millions</i> )                | - | - | - | - | - | - | - | - | - | - | - | - |
| Flyaway Unit Cost ( <i>\$ in Millions</i> )             | - | - | - | - | - | - | - | - | - | - | - | - |
| Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> ) | - | - | - | - | - | - | - | - | - | - | - | - |

**Description:**

FY2020 funding totals include \$0.0M for Base and \$43.591M for Overseas Contingency Operations (OCO); of which \$37.496M is realigned as part of the OCO for Base Requirements. FY2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

Small Arms encompasses small caliber, hand fired weapons (pistols and rifles) used to support air base ground defense, aircrew protection, Office of Special Investigations, security functions, and other activities requiring small, portable firearms. This line also procures various accessories needed to improve or maintain existing weapons.

The M4 Carbine is a 5.56mm, gas-operated, air-cooled, magazine-fed, selective-rate, shoulder-fired weapon. It is fed by a 30-round magazine and has continued to replace select M16 series rifles. It provides the individual Airman operating in close quarters the capability to engage targets at extended ranges with accurate lethal fire. More compact than the M16 series rifle and featuring a collapsible stock, it achieves over 85% commonality with the M16A2 Rifle. The M4 carbine also includes a Combat Optic and the Modular Weapon System (MWS) which provides two additional magazines, the M4 Rail Assembly System and the Back-up Iron Sight.

The M4A1 Carbine is a 5.56mm, gas-operated, air-cooled, magazine-fed, selective-rate, shoulder-fired weapon. It is fed by a 30-round magazine and has continued to replace select M16 series rifles. It provides the individual Airman operating in close quarters the capability to engage targets at extended ranges with accurate lethal fire. More compact than the M16 series rifle and featuring a collapsible stock, it achieves over 85% commonality with the M16A2 Rifle. The M4 carbine also provides automatic fire.

The Modular Handgun System(MHS)is a DoD, non-developmental, COTS, full & open competition for a new DoD handgun to replace all M9s, M11s and Glock-19s in the inventory. The M17 and M18 are 9mm, lightweight, striker-fired semi-automatic pistols. USAF A4 has decided that the M18 will be the only version used. The USAF has determined the configuration for the new General Officer Personal Defense Weapon will also be the M18 General Officer Pistol.

PEs associated with this P-1 line are 0207227F, 0207580F, 0408011F and 0804731F.

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**Exhibit P-40, Budget Line Item Justification:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F: Procurement of Ammunition, Air Force / BA 02: Weapons / BSA 1: Small Arms **P-1 Line Item Number / Title:** 357010 / Small Arms

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

| Exhibits Schedule |                                       |             |       |                | Prior Years                              | FY 2019                                  | FY 2020                                  | FY 2021 Base                             | FY 2021 OCO                              | FY 2021 Total                            |
|-------------------|---------------------------------------|-------------|-------|----------------|--|--|--|--|--|--|
| Exhibit Type      | Title*                                | Subexhibits | ID CD | MDAP/MAIS Code | Quantity / Total Cost<br>(Each) / (\$ M) |
| P-40a             | M320A1 (40MM GRENADE LAUNCHER)        |             |       |                | - / -                                    | - / 33.606                               | - / -                                    | - / -                                    | - / -                                    | - / -                                    |
| P-5               | M4 Carbine (5.56mm)                   |             | A     |                | - / 10.102                               | - / 25.600                               | - / 39.120                               | - / -                                    | - / -                                    | - / -                                    |
| P-40a             | Modular Handgun System (MHS)          |             |       |                | - / -                                    | - / 9.000                                | - / 0.028                                | - / -                                    | - / -                                    | - / -                                    |
| P-40a             | SMALL ARMS Items Less Than \$5M       |             |       |                | - / -                                    | - / 4.796                                | - / 4.443                                | - / 13.925                               | - / 6.217                                | - / 20.142                               |
| <b>P-40</b>       | <b>Total Gross/Weapon System Cost</b> |             |       |                | <b>- / 10.102</b>                        | <b>- / 73.002</b>                        | <b>- / 43.591</b>                        | <b>- / 13.925</b>                        | <b>- / 6.217</b>                         | <b>- / 20.142</b>                        |

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY2021 funding in the amount of \$13.925M procures Optics, M18 and GOs. IMR Blue initiatives include possible upgrades to the M4A1.  
  
 FY2021 OCO funding of \$6.217M procures additional Optics.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 02 / 1 **P-1 Line Item Number / Title:** 357010 / Small Arms **Aggregated Items Title:** M320A1 (40MM GRENADE LAUNCHER)

| Item Number / Title [DODIC]                   | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Uncategorized</b>                          |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| M320A1 (40MM GRENADE LAUNCHER) <sup>(1)</sup> | A     |                | -                | -          | -                 | 0.006            | 6,001      | 33.606            | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| <b>Subtotal: Uncategorized</b>                |       |                | -                | -          | -                 | -                | -          | 33.606            | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| <b>Total</b>                                  |       |                | -                | -          | -                 | -                | -          | 33.606            | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**

Unit costs for FY20 are estimates and are subject to change.

**Footnotes:**

<sup>(1)</sup> FY16 dollars are for Government Furnished Material (GFM).

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|   |   |  |
|---|---|--|
| <b>Exhibit P-5, Cost Analysis: PB 2021 Air Force</b>                            |   | <b>Date:</b> February 2020                                 |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 02 / 1 | <b>P-1 Line Item Number / Title:</b><br>357010 / Small Arms | <b>Item Number / Title [DODIC]:</b><br>M4 Carbine (5.56mm) |

| <b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A   |  |               |               | <b>MDAP/MAIS Code:</b> |              |             |               |
|---|--|---------------|---------------|------------------------|--------------|-------------|---------------|
| Resource Summary  |  | Prior Years   | FY 2019       | FY 2020                | FY 2021 Base | FY 2021 OCO | FY 2021 Total |
| Procurement Quantity <i>(Units in Each)</i>   |  | -             | -             | -                      | -            | -           | -             |
| Gross/Weapon System Cost <i>(\$ in Millions)</i>  |  | 10.102        | 25.600        | 39.120                 | -            | -           | -             |
| Less PY Advance Procurement <i>(\$ in Millions)</i>   |  | -             | -             | -                      | -            | -           | -             |
| Net Procurement (P-1) <i>(\$ in Millions)</i>   |  | 10.102        | 25.600        | 39.120                 | -            | -           | -             |
| Plus CY Advance Procurement <i>(\$ in Millions)</i>   |  | -             | -             | -                      | -            | -           | -             |
| <b>Total Obligation Authority</b> <i>(\$ in Millions)</i>   |  | <b>10.102</b> | <b>25.600</b> | <b>39.120</b>          | -            | -           | -             |
| <i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i> |  |               |               |                        |              |             |               |
| Initial Spares <i>(\$ in Millions)</i>  |  | -             | -             | -                      | -            | -           | -             |
| Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>   |  | -             | -             | -                      | -            | -           | -             |

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

| Cost Elements                                    | Prior Years         |               |                      | FY 2019             |               |                      | FY 2020             |               |                      | FY 2021 Base        |               |                      | FY 2021 OCO         |               |                      | FY 2021 Total       |               |                      |
|--|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|---------------------|---------------|----------------------|
|  | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) | Unit Cost<br>(\$ M) | Qty<br>(Each) | Total Cost<br>(\$ M) |
| Support - Support End Item Cost                  |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |                     |               |                      |
| M4A1 CARBINE<br>(5.56mm)                         | 0.001               | 14,200        | 10.102               | 0.001               | 36,572        | 25.600               | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| M4 Carbine (5.56mm)                              | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | 22.000               | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| IMR Blue Requirements                            | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | 17.120               | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| <i>Subtotal: Support - Support End Item Cost</i> | -                   | -             | <b>10.102</b>        | -                   | -             | <b>25.600</b>        | -                   | -             | <b>39.120</b>        | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |
| <b>Gross/Weapon System Cost</b>                  | -                   | -             | <b>10.102</b>        | -                   | -             | <b>25.600</b>        | -                   | -             | <b>39.120</b>        | -                   | -             | -                    | -                   | -             | -                    | -                   | -             | -                    |

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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2021 Air Force **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 02 / 1 **P-1 Line Item Number / Title:** 357010 / Small Arms **Aggregated Items Title:** Modular Handgun System (MHS)

| Item Number / Title [DODIC]             | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>Modular Handgun System</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| M17                                     | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| M18                                     | A     |                | -                | -          | -                 | 0.000            | 45,000     | 9.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| General Officer's Handgun               | A     |                | -                | -          | -                 | -                | -          | -                 | 0.000            | 100        | 0.028             | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| <b>Subtotal: Modular Handgun System</b> |       |                | -                | -          | -                 | -                | -          | <b>9.000</b>      | -                | -          | <b>0.028</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |
| <b>Total</b>                            |       |                | -                | -          | -                 | -                | -          | <b>9.000</b>      | -                | -          | <b>0.028</b>      | -                | -          | -                 | -                | -          | -                 | -                | -          |                   |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**  
The MHS is a DoD, non-developmental, COTS, full & open competition for a new DoD handgun to replace all M9s, M11s and Glock-19s in the inventory.

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**Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Air Force** **Date:** February 2020

**Appropriation / Budget Activity / Budget Sub Activity:** 3011F / 02 / 1 **P-1 Line Item Number / Title:** 357010 / Small Arms **Aggregated Items Title:** SMALL ARMS Items Less Than \$5M

| Item Number / Title [DODIC]                             | ID CD | MDAP/MAIS Code | Prior Years      |            |                   | FY 2019          |            |                   | FY 2020          |            |                   | FY 2021 Base     |            |                   | FY 2021 OCO      |            |                   | FY 2021 Total    |            |                   |
|---|-------|----------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|------------------|------------|-------------------|
|   |       |                | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) | Unit Cost (\$ M) | Qty (Each) | Total Cost (\$ M) |
| <b>SMALL ARMS ITEMS LESS THAN \$5 MILLION</b>           |       |                |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |                  |            |                   |
| Optics  | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 10.567            | -                | -          | 6.217             | -                | -          | 16.784            |
| M18 GO  | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.028             | -                | -          | -                 | -                | -          | 0.028             |
| AN/PEQ-15 Laser Designator                              | A     |                | -                | -          | -                 | 0.001            | 100        | 0.090             | -                | -          | 0.090             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| M2A1 (.50 Cal Machine Gun)                              | A     |                | -                | -          | -                 | 0.014            | 10         | 0.140             | -                | -          | 0.143             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| M240B Machinegun (7.62mm)                               | A     |                | -                | -          | -                 | 0.005            | 15         | 0.073             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| Ballistic Sighting Module                               | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| M249 Automatic Rifle (5.56mm)                           | A     |                | -                | -          | -                 | 0.004            | 25         | 0.095             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| M4A1 Carbine (5.56mm - Auto)                            | A     |                | -                | -          | -                 | 0.001            | 25         | 0.017             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| Modular Combat Shotgun (12 Ga)                          | A     |                | -                | -          | -                 | 0.001            | 25         | 0.021             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| M9 Pistol (9mm)   | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| Glock 19  | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| M134 Mini Gun   | A     |                | -                | -          | 0.000             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| MOD PROJECTS PARTS PROCUREMENT                          | A     |                | -                | -          | -                 | -                | -          | 0.250             | -                | -          | 0.250             | -                | -          | 0.230             | -                | -          | -                 | -                | -          | 0.230             |
| FIRST DESTINATION TRANSPORTATION                        | A     |                | -                | -          | -                 | -                | -          | 2.000             | -                | -          | 2.000             | -                | -          | 1.000             | -                | -          | -                 | -                | -          | 1.000             |
| PMA- OTHER GOVERNMENT COST                              | A     |                | -                | -          | -                 | -                | -          | -                 | -                | -          | 0.250             | -                | -          | -                 | -                | -          | -                 | -                | -          | -                 |
| PMA- CONTRACTOR SERVICES                                | A     |                | -                | -          | -                 | -                | -          | 1.200             | -                | -          | 1.400             | -                | -          | 1.400             | -                | -          | -                 | -                | -          | 1.400             |
| PMA-GPC   | A     |                | -                | -          | -                 | -                | -          | 0.080             | -                | -          | 0.080             | -                | -          | 0.100             | -                | -          | -                 | -                | -          | 0.100             |
| PMA-TRAVEL  | A     |                | -                | -          | -                 | -                | -          | 0.080             | -                | -          | 0.080             | -                | -          | 0.100             | -                | -          | -                 | -                | -          | 0.100             |
| PMA-RMIS CORPORATE TAX                                  | A     |                | -                | -          | -                 | -                | -          | 0.150             | -                | -          | 0.150             | -                | -          | 0.250             | -                | -          | -                 | -                | -          | 0.250             |
| Hold for Price Adjustments                              | A     |                | -                | -          | -                 | -                | -          | 0.600             | -                | -          | -                 | -                | -          | 0.250             | -                | -          | -                 | -                | -          | 0.250             |
| <b>Subtotal: SMALL ARMS ITEMS LESS THAN \$5 MILLION</b> |       |                | -                | -          | -                 | -                | -          | <b>4.796</b>      | -                | -          | <b>4.443</b>      | -                | -          | <b>13.925</b>     | -                | -          | <b>6.217</b>      | -                | -          | <b>20.142</b>     |
| <b>Total</b>  |       |                | -                | -          | -                 | -                | -          | <b>4.796</b>      | -                | -          | <b>4.443</b>      | -                | -          | <b>13.925</b>     | -                | -          | <b>6.217</b>      | -                | -          | <b>20.142</b>     |

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

**Remarks:**  
Unit costs for FY20 are estimates and subject to change.

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|   |   |   |
|---|---|---|
| <b>Exhibit P-40a, Budget Item Justification For Aggregated Items:</b> PB 2021 Air Force |   | <b>Date:</b> February 2020  |
| <b>Appropriation / Budget Activity / Budget Sub Activity:</b><br>3011F / 02 / 1         | <b>P-1 Line Item Number / Title:</b><br>357010 / Small Arms | <b>Aggregated Items Title:</b><br>SMALL ARMS Items Less Than \$5M |

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