

**BY ORDER OF THE COMMANDER  
AIR FORCE MATERIEL COMMAND**

**AFMC INSTRUCTION 10-210**

**13 JANUARY 2003**



**Operations**

**AIRCRAFT BATTLE DAMAGE  
REPAIR ENGINEERING**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements AFPD 10-2, Readiness, AFD 21-1, *Managing Aerospace Equipment Maintenance*, and AFI 21-101, *Aerospace Equipment Maintenance Management*, and establishes policy and assigns responsibilities for AFMC'S Aircraft Battle Damage Repair (ABDR) engineers as they prepare to achieve and maintain the required level of readiness necessary to meet their assigned tasking. Waiver authority is HQ AFMC/ENR. This instruction does not apply to Air National Guard units or members. This document is the initial publication and must be completely reviewed. It establishes policy and assigns responsibility for AFMC'S ABDR Engineering UTCS. Policy for the ABDR Engineering UTCS was formerly contained in AFMCI 10-202, *Combat Logistics Support*. This document allows an expansion of that policy and assigns responsibility for the UTCS to the Engineering Directorates (EN) located at the centers. Program responsibility formerly resided with the Air Logistics Center (ALC) Commanders.

## Chapter 1

### GENERAL INFORMATION

#### 1.1. General Policy:

1.1.1. ABDR engineering unit type codes (UTCS) are single-person UTCS providing a high degree of structural engineering capability. ABDR engineering UTCS can deploy independently or in conjunction with Combat Logistics Support Squadron (CLSS) ABDR maintenance teams.

1.1.2. Centers will fill ABDR engineering UTCS first by active duty military resources, then by Individual Mobilization Augmenters (IMAs) and then by Air Force federal civilian resources (not contractors). All ABDR engineers must be qualified for worldwide deployment.

1.1.3. UTC taskings are assigned to AFMC centers by the ABDR Engineering Functional Manager located in HQ AFMC/ENRM. All UTCS assigned to a specific AFMC center will be filled only by aeronautical and/or mechanical engineers located at that center.

1.1.3.1. Military individuals assigned to fill ABDR engineering UTCS must possess an Air Force Specialty Code (AFSC) of 62EXA (aeronautical engineer), 62EXH (mechanical engineer) or 62EXG (project engineer with a degree in aeronautical or mechanical engineering). **Chapter 5**, ABDR Engineer Waivers, describes the waiver process for those engineers not possessing an aeronautical or mechanical engineering degree.

1.1.3.2. Each center will maintain a sufficient number of authorized aeronautical and/or mechanical engineering positions to meet ABDR engineer UTC taskings.

1.1.3.3. Each center will ensure that conversion of military aeronautical and/or mechanical engineering billets to civilian engineering billets will not negatively affect center ABDR engineering UTC taskings.

1.1.3.4. Each center will ensure that AFSCS of a position are not changed without considering negative impacts upon the ABDR engineering UTCS.

1.1.4. The center decides whether or not to assign civilians to ABDR engineering UTCS; however, civilians will be accepted into the ABDR engineering Program only after all military resources not specifically exempted from ABDR duty by the center's Director of EN have been exhausted. Actions involving civilian volunteers will be coordinated as appropriate with Civilian Personnel counterpart. API 36-507, *Mobilization of the Civilian Work Force* and AF Pamphlet 10-231, *Federal Civilian Deployment Guide* contain specific guidance for civilians.

1.1.4.1. Civilians may volunteer as ABDR engineers. If a civilian volunteers, he/she must sign DD Form 2365, **DoD Civilian Employee Overseas Emergency-Essential (E-E) Position Agreement**. Possible deployment then becomes a condition of employment.

1.1.4.2. Civilians accepted into the program will receive all training required of the military ABDR engineers.

1.1.4.3. Civilian engineers must have an aeronautical or mechanical engineering degree and occupy an 861 (aeronautical engineer), an 830 (mechanical engineer) or an 801 (general engineer) position. Project engineers must also have an aeronautical or mechanical engineering degree. The waiver process described in **Chapter 5** also applies to civilian engineers.

**1.2. Objective:**

1.2.1. ABDR engineers provide on-site engineering support to unified combatant commanders (formerly CINCS) and AF commanders for all phases of maintenance, modification, and aircraft damage assessment and repair during contingency or wartime operations. Engineers can design non-standard repairs, define and impose flight restrictions, authorize deviations to technical order (TO) instructions and act as a liaison between the System Support Manager (SSM) and the local commander responsible for maintenance.

**1.3. Organizational Structure:**

1.3.1. The Command Functional Area Manager (FAM) for ABDR engineering UTCS is located in HQ AFMC/ENRM. At AFMC centers the ABDR engineering UTCS are functionally aligned under the Engineering Directorate (EN). The Director of Engineering will appoint a Chief ABDR Engineer to manage the ABDR engineering function for the center. Once the UTCS have deployed, they are under the command of the theater commander. The AF Chief ABDR Engineer is assigned to the ABDR Program Office.

## Chapter 2

### RESPONSIBILITIES

#### 2.1. HQ AFMC/ENR:

2.1.1. Assigned as office of primary responsibility (OPR) for the ABDR Engineering functional area. Establishes Command ABDR Engineering Functional Manager position. Responsible for policy, guidance, procedures, standards, and over-sight of all ABDR engineer operations. Approves all ABDR engineer waiver requests.

#### 2.2. Command ABDR Engineering Functional Area Manager (FAM):

2.2.1. Manages the Command ABDR engineering UTCS. Performs functional manager responsibilities outlined in AFMAN 10-401, V1, *Operation Plan and Concept Plan Development and Implementation*, AFI 10-403, *Deployment Planning and Execution*; Air Force War Mobilization Plan-1 (AF WMP-1); and AFMC WMP-3. FAM is located in HQ AFMC/ENRM.

2.2.2. Establishes policy for the ABDR engineering UTCS. Responsible for developing, managing, planning, and execution of requirements to support the ABDR engineer mission per Air Force WIMP-1 and AFMC WMP- 1 and -3.

2.2.3. Establishes policy for use of Individual Mobilization Augmentees (IMAs) and civilians as ABDR engineers.

2.2.4. Responsible for monitoring Status of Resources and Training Systems (SORTS) reports, Air and Space Expeditionary Forces Tool (ART) reports and combat readiness status of ABDR engineers. Performs functional manager responsibilities outlined in AFI 10-201/AFMCS1, *Status of Resources and Training System*. Issues Designed Operational Capability (DOC) statements to each center tasked with ABDR engineering UTCS.

2.2.5. Ensures the development of IG checklists to be used during inspections or evaluations.

2.2.6. Responsible for consolidating and validating ABDR engineer forecasted munitions requirements per AFI 21-201, *Management and Maintenance of Non-Nuclear Munitions*.

#### 2.3. Air Force Chief ABDR Engineer:

2.3.1. Manages ABDR engineer training qualification program and is located in the ABDR Program Office (HQ AFMC/LGXC-PO).

2.3.1.1. Conducts, schedules, and coordinates formal ABDR engineer training.

2.3.2. Develops, publishes, and maintains formal ABDR engineer training course standards, requirements, and curriculum.

2.3.3. Manages the development, publication, and maintenance of the Engineering Handbook for ABDR engineers.

2.3.4. Manages ABDR engineering kit requirements ([Attachment 2](#)).

2.3.5. Supports AFMC laboratories and System Program Offices (SPO) in determining technical requirements, repair techniques, and repair materials in research and development efforts.

- 2.3.6. Provides engineering support for ABDR activities associated with Joint Live Fire (JLF) testing.
- 2.3.7. Responsible for the technical content of TO 1-1H-39, *General Aircraft Battle Damage Repair Technical Manual*.
- 2.3.8. Conducts annual ABDR engineer meetings as required.

#### **2.4. Center Engineering Directorate (EN):**

- 2.4.1. Responsible for management and funding of the center ABDR engineering UTCS.
  - 2.4.1.1. Ensures funding is provided to meet all ABDR engineer training requirements. Funding support includes, but is not limited to, maintaining engineer kits and travel/per diem costs associated with the Air Force Chief ABDR Engineer conducting the Introduction to ABDR Engineering Course as required to meet Unit Type Code (UTC) requirements.
- 2.4.2. Appoints an engineer to serve as the center Chief ABDR Engineer and to act as the single point of contact for ABDR engineer issues. The Command ABDR Engineer FAM will be notified as soon as possible after this appointment has been made.
- 2.4.3. Ensures engineers are organized, trained, equipped, and maintained in a high state of mission readiness to meet all UTC taskings.
- 2.4.4. Performs SORTS measured unit commander duties IAW AFI 10-201, *Status of Resources and Training System*, and the AFMC supplement. These duties include reviewing and validating SORTS reports, appointing at least two SORTS monitors, and appointing at least one alternate validation official.
- 2.4.5. Ensures SORTS monitors meet initial and recurring training requirements IAW AFI 10-201 and the AFMC supplement.
- 2.4.6. Ensures Base Supply is advised how many 9mm pistols are needed for the ABDR engineers. A minimum of one weapon will be available for each mobility position requiring oversea deployment per AFPD 16-8, *Arming of Aircrew, Mobility, and Oversea Personnel*. Weapons are centrally procured and stored by Base Supply.
- 2.4.7. Ensures engineer kits, mobility bags and flak vests are available for each engineer.
- 2.4.8. Assigns aeronautical or mechanical engineers to meet ABDR requirements listed in AFMC WMP-3. Civilian aeronautical and/or mechanical engineer volunteers can be assigned to satisfy ABDR engineering UTC requirements after all qualified active duty and Individual Mobilization Augmentee (IMA) aeronautical and/or mechanical engineers at the center have been exhausted.
- 2.4.9. Facilitates training, the acquiring of equipment, facilities, tools and supplies to upgrade and enhance the skills of ABDR engineers in support of their mission.

#### **2.5. Center Chief ABDR Engineer:**

- 2.5.1. Acts as the Functional Area Manager (FAM) for center ABDR engineers IAW with AFI 10-401 V1, *Operation Plan and Concept Plan Development and Implementation*.
  - 2.5.1.1. Ensures all tasked ABDR engineers, as a minimum, obtain training per **Table 4.1**. and that they participate annually in a readiness or deployment exercise with their assigned Combat Logistics Support Squadron (CLSS).

- 2.5.1.2. Ensures personnel and training status are reported to the applicable SORTS and ART reporting focal points.
- 2.5.1.3. Ensures munitions forecasts are submitted as required by HQ AFMC/ENR and AFI 21-201.
- 2.5.1.4. Ensures all ABDR engineers are aware of their Air and Space Expeditionary Force (AEF) responsibilities.
- 2.5.2. Ensures deployment procedures are in accordance with AFI 10-403 and installation deployment guidance.
- 2.5.3. At a minimum, establishes and conducts quarterly ABDR engineer meetings.
- 2.5.4. Maintains liaison between center ABDR engineers, supported System Program Offices (SPOS), Single System Managers (SSM), and associated CLSS.
- 2.5.5. Assesses deployment and employment effectiveness and efficiency of each ABDR engineer. Ensures assessment includes applicable Air Force common inspection items from AFI 90-201, *Inspector General Activities*, and AFMCI 90-202, *Command Level Inspector General Activities*.
- 2.5.6. Responsible for the overall technical competency of the center's ABDR engineers, This includes evaluating and reporting engineering performance during field employment exercises.
- 2.5.7. Ensures all ABDR engineering positions are designated as wartime deployable on the appropriate unit manning document (UMD) when this capability becomes available in the Manpower Data System (MDS).
- 2.5.8. Center Chief ABDR Engineer will maintain a listing of all Weapon System Chief Engineers for their assigned UTCS and will relay this information to the center ABDR engineers.
- 2.5.9. Center Chief ABDR Engineer is the final authority to certify engineers for deployment.

## **2.6. ABDR Engineers:**

- 2.6.1. Responsible for attending initial and recurring qualification training and all mobility training.
- 2.6.2. Will attend engineer meetings established by the center Chief ABDR Engineer.
- 2.6.3. Will ensure all required deployment documents and immunizations are up-to-date.
- 2.6.4. Will inform the center Chief ABDR engineer of medical profiles or reasons why he/she cannot deploy.
- 2.6.5. Will participate annually in a readiness or deployment exercise.
- 2.6.6. Responsible to know which Air and Space Expeditionary Force (AEF) he/she is assigned to support.
- 2.6.7. Will establish and maintain contact with supported Weapon System Program Offices and Weapon System Chief Engineer,
- 2.6.8. Must maintain all required clothing and personal items to satisfy deployment requirements (AFI 10-403).

**2.7. Weapon System Chief Engineers:**

2.7.1. Ensure significant weapon system specifics such as the Aircraft Structural Integrity Program (ASIP), service life extensions, major modifications and major Time Compliance Technical Orders (TCTOS) are available to ABDR engineers.

## Chapter 3

### ABDR ENGINEER CAPABILITIES AND MISSION REQUIREMENTS

#### 3.1. Contingency And Wartime Capabilities:

3.1.1. During contingencies (including AEF taskings) and wartime, ABDR engineers deploy as single person UTCS and usually integrate with associated ABDR team. ABDR engineer UTCS can also be deployed separately. Each engineer is primarily trained to support a single weapon system, but can provide limited assistance on other aircraft. Deployed engineers are dependent on available facilities and require Base Operating Support (BOS). Deployed engineers can also be redeployed to other locations to meet new mission requirements.

#### 3.2. Peacetime Organization:

3.2.1. In peacetime, center ABDR engineers usually support a single aircraft directorate and provide engineer support to the various directorates. They can also provide engineering assistance on specified maintenance and modification tasks on aircraft and aerospace systems/equipment.

3.2.2. At the ALCS, ABDR engineers work for the various product directorates in support of center workloads. The use of these engineers in an ABDR capacity provides valuable experience which contributes to their increased expertise as an aircraft engineer.

#### 3.3. Mission Requirements:

3.3.1. ABDR engineer mission requirements are unique and fall into the category of war or contingency tasks.

3.3.2. All personnel who are subject to deployment must:

3.3.2.1. Be medically qualified for worldwide deployment.

3.3.2.2. Be capable of accomplishing heavy physical labor and live under field conditions.

3.3.2.3. Be qualified to bear arms according to AFI 31-207, *Arming and Use of Force by Air Force Personnel*.

3.3.2.4. Possess appropriate security clearance.

3.3.2.5. Possess an Air Force Entry Control Card, AF Form 1199, **Line Badge**.

3.3.2.6. Obtain a government passport if required.

3.3.2.7. Be fully trained on survival techniques and chemical defense procedures outlined in Air Force Handbook 32-4014V4, Volume 4, 1 March 1998, *USAF Ability to Survive and Operate Procedures in a Nuclear, Biological and Chemical (NBC) Environment*.

#### 3.4. Deployment Requirements/Individual Equipment/Engineer Kits:

3.4.1. ABDR engineers deploy with individual equipment, weapons, and other necessary equipment and material as specified in AFI 10-403.

3.4.2. Individual Equipment:

3.4.2.1. ABDR engineer forces must have standard A, B, and C mobility bags. Nonstandard equipment items may be added at the commander's option. Equipment does not have to be physically possessed by the engineer as long as assets are available through the local mobility function.

3.4.2.2. Flak vests are required for all UTC tasked personnel, but will not be SORTS reportable. Voice emitters and camelbacks are desired equipment, but will not be SORTS reportable.

3.4.2.3. ABDR engineer forces must have clothing and personal items to satisfy AFI 10-403 requirements.

3.4.2.4. Each ABDR engineer will deploy with an engineer kit.

3.4.2.4.1. Engineer kits will match, as a minimum, requirements approved by the Air Force Chief ABDR Engineer. Submit recommended changes to the Air Force Chief ABDR Engineer for approval. Engineer kit contents are listed in [Attachment 2](#).

3.4.2.4.2. Engineer kits will be marked per AFMCI 21-107, *Tool Control and Accountability Program*.

### **3.5. Weapons and Ammunition Requirements:**

3.5.1. One weapon will be available for each ABDR engineer. The supported combatant commanders (formerly CINCS) make the decision to deploy with or without weapons and this information will be passed to each unit via deployment order or deployment equipment guidance.

3.5.2. When required, engineers will be issued a 9mm pistol and will deploy with the ammunition loads specified in AFCAT 21-209, *Ground Munitions*.

## Chapter 4

### ABDR ENGINEER TRAINING

#### 4.1. General:

4.1.1. ABDR engineers will train to meet mission objectives tasked for both war and contingency environments. A successful training program is critical to a well-tuned process. Focus will be on deployment, employment, wartime/contingency operations, and integration with supported command.

#### 4.2. Mandatory Training Requirements:

4.2.1. Training requirements listed in **Table 4.1.** are mandatory for ABDR engineer personnel subject to deployment. However, only SORTS report on those items specifically listed in the appropriate Designed Operational Capability (DOC) statement. In addition to training listed in **Table 4.1.**, civilians will receive training for E-E employees listed in AFI 36-507, *Mobilization of the Civilian Work Force*.

#### 4.3. ABDR Engineer Training Program:

4.3.1. Engineers who fail the Introduction to ABDR Engineering course will be informed of their deficiencies. They will retake the exam (midterm or final) that was unsatisfactory. If they fail the retest, they will be required to attend the course again. If they are unable to satisfactorily complete the course a second time, they will be removed from the ABDR engineering program.

4.3.2. Engineers attending the Introduction to Engineering course as recurring training must successfully complete the course as a condition of continuing participation in the ABDR engineering program. Those who fail the course will follow the retest procedures of **4.3.1.**

4.3.3. The center Chief ABDR Engineer may disqualify or bar the deployment of any engineer, active duty, reservist, or civilian lacking proficiency.

4.3.4. Engineers are encouraged to complete a second weapon system assessor course. Completion of this course is not SORTS reportable.

4.3.5. Instructors for the Introduction to ABDR Engineering course must complete a formal Instructional System Development (ISD) and Principles of Instruction (POI) course. Academic Instructor School (MAIS001) meets the requirements of an ISD and POI course.

**Table 4.1. ABDR Engineer Training Requirements**

|   | <b>COURSE TITLE/<br/>TRAINING<br/>REQUIREMENT</b> | <b>APPLICABLE<br/>PERSONNEL</b> | <b>REQUIRED<br/>FREQUENCY</b> | <b>REMARKS</b>                                     |
|---|---|---------------------------------|-------------------------------|--|
| 1 | Self AFD/Buddy Care                               | All Engineers                   | Biennial                      | Per AFI 36-2238, AFI 10-403 (Use AETC SABC Course) |
| 2 | Disaster Preparedness                             | All Engineers                   |                               | Per AFI 33-4001 and AFI 10-403                     |
|   | a. Initial  |                                 | One Time                      |  |

| <b>COURSE TITLE/<br/>TRAINING<br/>REQUIREMENT</b> | <b>APPLICABLE<br/>PERSONNEL</b> | <b>REQUIRED<br/>FREQUENCY</b> | <b>REMARKS</b>                             |
|---|---------------------------------|-------------------------------|--|
| b. Refresher (Annual Show of competency)          |                                 | Biennial                      |  |
| 3 Cardio-Pulmonary Resuscitation                  | All Engineers                   |                               | Per AFOSH STD 91-100                       |
| a. Initial  |                                 | One Time                      |  |
| b. Refresher                                      |                                 | Annual                        |  |
| 4 Aircraft Battle Damage Repair                   |                                 |                               |  |
| a. General Technical Initial                      | All Engineers                   | One Time                      | Formal ABDR Course                         |
| b. General Assessor Initial                       | All Engineers                   | One Time                      | Formal ABDR Course                         |
| c. Weapon Specific Assessor                       | All Engineers                   | One Time                      | Formal ABDR Course                         |
| d. Introduction to ABDR Engineering               | All Engineers                   | Every Six Years               | Formal Engineer Course                     |
| 5 Weapon Qualification/Use of Force               | All Engineers                   | Annual                        | Per AFI 31-207, AFI 36-2226 and AFI 10-403 |
| 6 Law of Armed Conflict                           | All Engineers                   | Annual                        | Per AFI 51-401, AFI 10-403                 |
| 7 Government Motor Vehicle                        | All Engineers                   | As Required                   | Per AFMAN 24-306                           |
| 8 SORTS   | ABDR Engineer Monitors          | One Time                      | Notify Base SORTS Monitor                  |
| 9 Force Protection Familiarization                | All Engineers                   | As Required                   | Per AFI 31-210, AFI 10-403                 |
| 10 Explosive Ordnance Recognition                 | All Engineers                   | One Time                      | Per AFI 32-4001, AFI 10-403                |

## Chapter 5

### ABDR ENGINEER WAIVERS

#### 5.1. General:

5.1.1. HQ AFMC/ENR has the authority to issue waivers for engineers who do not meet the following nominal criteria to fill an ABDR engineer UTC tasking:

5.1.1.1. Possesses a degree in either aeronautical or mechanical engineering.

5.1.1.2. Possesses an AFSC of 62EXA (aeronautical engineer), 62EXH (mechanical engineer), or 62EXG (project engineer with an aeronautical or mechanical engineering degree). Civilian engineers must possess an occupational series of 861 (aeronautical engineer), 830 (mechanical engineer) or 801 (general engineer with an aeronautical or mechanical engineering degree).

5.1.2. Once an engineer has obtained a waiver, it will be effective for the remainder of his/her career.

#### 5.2. Eligibility Conditions:

5.2.1. An engineer who does not meet the criteria listed in **5.1.1.** may be eligible to receive a waiver under the following conditions:

5.2.1.1. All reasonable efforts have been made by the center to locate and train military aeronautical and mechanical engineers with 62EXA or 62EXH AFSCS. Engineers with a 62EXG AFSC qualify only if they also have an aeronautical or mechanical engineering degree.

5.2.1.2. All reasonable efforts have been made to acquire a secondary AFSC of 62EXA or 62EXH for the particular engineer.

5.2.1.3. The center cannot meet its ABDR engineer tasking as stipulated in the WMP-3 without a waiver.

5.2.1.4. The individual for whom the waiver is requested has documented education in mechanics of materials (engineering mechanics) and has a general familiarity with aircraft.

#### 5.3. Waiver Process:

5.3.1. The process to acquire a waiver has two parts:

5.3.1.1. Part I. Identification and Training of Candidate:

5.3.1.1.1. Center Chief ABDR Engineer identifies the candidate and ensures eligibility according to paragraph **5.2.** of this document.

5.3.1.1.2. Center Chief ABDR Engineer submits candidate's name and qualifications to the ABDR Engineering Functional Manager and to the Air Force Chief ABDR Engineer for approval to start the ABDR engineer training process. Verbal approval is sufficient.

5.3.1.1.3. Candidate completes all ABDR engineer training as stipulated in **Table 4.1.** of this document, including a hardstand/field exercise with the CLSS.

5.3.1.2. Part II. Waiver Request Submittal:

5.3.1.2.1. When all elements of Part I are successfully completed, the Center Chief ABDR engineer prepares a package for a waiver request. This package will include a Staff Summary Sheet (SSS) which will include the candidate's educational history and an Introduction to ABDR Engineering Course completion certificate. The SSS will be coordinated through the Air Force Chief ABDR Engineer and forwarded to HQ AFMC/ENRM. An information copy will be sent to the SPD or SSM for the weapon system.

5.3.1.2.2. HQ AFMC/ENR will approve/disapprove and return the package to the Center Chief ABDR Engineer.

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**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

*AFPD 10-2, Readiness*

*AFPD 10-4, Operations Planning*

*AFPD 10-11, Operations Security*

*AFI 10-201, Status of Resources and Training System*

*AFI 10-204, Readiness Exercises and After-Action Reporting Program*

*AFI- 10-208, Continuity of Operations (COOP) Program*

*AFI 10-215, Personnel Support for Contingency Operations (PERSCO)*

*AFI 10-401, V1, Operation Plan and Concept Plan Development and Implementation*

*AFI 10-402, Mobilization Planning*

*AFI 10-403, Deployment Planning and Execution*

*AFI 10-1101, Operations Security (OPSEC)*

*AFP 10-231, Federal Civilian Deployment Guide*

*AFI 11-218, Aircraft Operations and Movement on the Ground*

*AFPD 16-8, Arming of Aircrew, Mobility, and Overseas Personnel*

*AFPD 21-1, Managing Aerospace Equipment Maintenance*

*AFPD 21-3, Technical Orders*

*AFPD 21-4, Engineering Data*

*AFI 21-101, Aerospace Equipment Maintenance Management*

*AFI 21-102, Depot Maintenance Management*

*AFI 21-105, Aerospace Equipment Structural Maintenance*

*AFI 21-112, Aircrew Egress Systems Maintenance*

*AFI21 -201, Management and Maintenance of Non-Nuclear Munitions*

*AFCAT 21-209, Ground Munitions*

*AFPD 31-1, Physical Security*

*AFPD 31-4, Information Security*

*AFPD 31-5, Personnel Security Program Policy*

*AFI 31-207, Arming and Use of Force by Air Force Personnel*

*AFI 31-501, Personnel Security Program Management*

*AFPD 36-21, Utilization and Classification of Air Force Military Personnel*

AFPD 36-22, *Military Training*  
AFPD 36-23, *Military Education*  
AFI 36-507, *Mobilization of the Civilian Work Force*  
AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted)*  
AFPD 37-1, *Air Force Information Management*  
AFPD 38-1, *Organization*  
AFPD 51-4, *Compliance with the Law of Armed Conflict*  
AFPD 90-2, *Inspector General - The Inspection System*  
AFPD 90-3, *Inspection General - The Complaints Program*  
AFI 36-2201, *Developing, Managing, and Conducting Training*  
AFI 36-2232, *Maintenance Training*  
AFI 36-2238, *Self-Aid and Buddy Care Training*  
AFI 36-2619, *Military Personnel Appropriation (MPA) Man-Day Program*  
AFI 38-101, *Air Force Organization*  
AFI 51-401, *Training and Reporting to Ensure Compliance with the Law of Armed Conflict*  
AFI 65-103, *Temporary Duty Orders*  
AFI 65-201, *Management Control*  
AFI 90-201, *Inspector General Activities*  
AFI 90-301, *Inspector General Complaints*  
AFCAT 21 -209, *Ground Munitions*  
AF HANDBOOK 32-4014, V4, *USAF Ability to Survive and Operate Procedures in a Nuclear, Biological and Chemical (NBC) Environment*  
AFMAN 36-8001, *Reserve Personnel Participation and Training Procedures*  
AF WMP-3, *Combat and Support Force Apportionment*  
AFMC WIMP-1, *Planning Guidance*  
AFMC WMP-3, *Combat and Support Forces*  
JTR, *Joint Travel Regulation*  
JFTR, *Joint Federal Travel Regulation*  
DOD 7000. 14-R, *Department of Defense Financial Management Regulation*

### ***Abbreviations and Acronyms***

**ABDR**—Aircraft Battle Damage Repair

**AEF**—Air and Space Expeditionary Force

**AFC**—Air Force Catalog  
**AFPD**—Air Force Policy Directive  
**AFI**—Air Force Instruction  
**AFMAN**—Air Force Manual  
**AFMCI**—Air Force Materiel Command Instruction  
**AFSC**—Air Force Specialty Code  
**ALC**—Air Logistics Center  
**ASIP**—Aircraft Structural Integrity Program  
**CLSS**—Combat Logistic Support Squadron  
**DOC**—Designed Operational Capability  
**ISD**—Instructional System Development  
**JLF**—Joint Live Fire  
**OSS&E**—Operational Safety, Suitability & Effectiveness  
**SORTS**—Status of Resources and Training System  
**TO**—Technical Order  
**TCTO**—Time Compliance Technical Order  
**UMD**—Unit Manning Document  
**UTC**—Unit Type Code  
**WMP**—War and Mobilization Plan

### *Terms*

**Air and Space Expeditionary Force (AEF)**—An organization of aerospace capabilities that provides tailored forces to meet theater combatant commanders needs.

**Aircraft Battle Damage Repair (ABDR)**—The capability to quickly assess and restore a damaged aircraft to a useful level of combat capability within a tactically reasonable time period with the resources reasonably available in theater. These repairs may be temporary or permanent; they may restore full capability or partial capability compared to the undamaged state. Additionally, to accomplish necessary maintenance actions to allow extensively damaged aircraft to make a one time flight to its home station, rear base, or major repair facility.

**Combat Logistic Support Forces**—The AFMC active duty and AFMC gained reserve forces of specially trained military personnel who provide peacetime or wartime technical assessment and repair of damaged aircraft and provide supply and packaging support operations. Consists of personnel from the Combat Logistics Support Squadrons.

**Emergency-Essential Position**—An EE position is a civilian position located overseas or one that would be transferred overseas during a crisis situation, or which requires the incumbent to perform temporary duty assignments overseas during a crisis in support of a military operation. All employees who occupy an EE position must sign a DD Form 2365, **DoD Civilian Employee Overseas EE Position Agreement**.

**Exercise**—A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training and evaluation. It may be a combined, joint, or single service exercise, depending on participating organizations.

**Functional Area Manager (FAM)**—The office of primary responsibility for a particular Air Force unit, function, or specialty.

**Readiness**—The ability of forces, units, weapons, or equipment to deliver the output for which they were designated. This includes the ability to deploy without unacceptable delays. The totality of proficiency and sufficiency in forces, units, air bases, weapons systems, and equipment. Prepared or available for service or action.

**Status of Resources and Training System (SORTS)**—The system used to report the status of a unit's resources and training measured against that required to undertake the mission for which the unit was organized or designed.

**Unit Type Code (UTC)**—The five character alphanumeric code that uniquely identifies each force package.

**War and Mobilization Plan (WMP)**—Provides the Air Staff and Air Force commanders with the current policies and planning factors for conducting and supporting wartime operations. It establishes requirements for developing mobilization and planning programs to support sustained contingency operations of the programmed forces,

**Weapon Familiarization Training**—Training in addition to weapons qualification training provided by Combat Arms Training and Maintenance and is conducted by personnel within the unit. As a minimum, this familiarization will consist of weapon safety, loading and clearing procedures, clearing barrel procedures, disassembly and assembly, function check, care and cleaning, and visual inspection. The objective is to ensure all weapons qualified personnel can handle weapons responsibly at home station and in a deployed environment.

## Attachment 2

## ENGINEER KIT CONTENTS

Table A2.1.

| ITEM  | QUANTITY |
|---|----------|
| Calculator, Scientific with Solar Cells                   | 1 EA     |
| Mechanical Pencil*  | 3 EA     |
| Pen*  | 3 EA     |
| Ruler, Steel Machinists                                   | 1 EA     |
| Protractor, Semicircular                                  | 1 EA     |
| Circle Template   | 1 EA     |
| Tape Measure, 12' or 25'                                  | 1 EA     |
| Inspection Mirror   | 1 EA     |
| Calipers  | 1 EA     |
| Flashlight, Explosion Proof                               | 1 EA     |
| Lead*, Black  | 2 TU     |
| Eraser*   | 3 EA     |
| Grease Pencil*  | 3 EA     |
| Marker*, Sharpie, 30,000 Series Approved Composite Marker | 3 EA     |
| Compass, Drafting Pivot                                   | 1 EA     |
| Clipboard   | 1 EA     |
| Engineering Paper*  | 3 PD     |
| Folder*, with Pockets                                     | 2 EA     |
| Safety Goggles  | 1 PR     |
| Hearing Protection  | 1 EA     |
| Carrying Case, Local Purchase                             | 1 EA     |

**NOTES:**

1. This is the minimum required list. Additional items may be added locally provided they are added to the minimum listing, marked as required and meet deployment requirements.
2. Asterisked (\*) items are not required to be marked.