

**BY ORDER OF THE COMMANDER AIR FORCE MATERIEL COMMAND INSTRUCTION  
TINKER AIR FORCE BASE 10-210**



**TINKER AIR FORCE BASE  
SUPPLEMENT**

**10 JANUARY 2012**

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**Operations**

**AIRCRAFT BATTLE DAMAGE  
REPAIR ENGINEERING**

**COMPLIANCE WITH THIS PUBLICATION IS MANADATORY**

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This instruction implements AFPD 10-2, *Readiness*, AFPD 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 instruction describes the Aircraft Battle Damage Repair (ABDR) program for Tinker AFB, specifically how the ABDR Engineers are organized, managed, trained, and equipped. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 37-123 (this number will convert to AFMAN 33-363), *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule located at <https://afirms.amc.af.mil/>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility using AF IMT 847, *Recommendation for Change of Publication*; route AF IMT 847s through the appropriate chain of command to OC-ALC/ENSP. This instruction is applicable to OC-ALC/GK, 76 MXW, OC-ALC/EN, 498 NSW/NWB, 848 SCMG, and all organizations with assigned ABDR engineers. **This is a new document and should be viewed in its entirety**

**1. Mission Description .** Tinker ABDR Engineers provide on-site engineering support to the unified Commanders in Chief and AF commanders for the B-1, B-2, B-52, and KC-135. Engineers can fill a variety of roles which can include being part of a Depot Field Team (DFT),

part of an Expeditionary Depot Maintenance (EDMX) deployment team, or as a representative of the System Program Office (SPO). Depending on the role assigned, the ABDR engineer can possess the authority and responsibility granted to a weapon system chief engineer. Specifically, the deployed ABDR engineer will perform damage assessments, design non-standard structural repairs, define and impose flight limitations, perform liaison duties between the local commander responsible for maintenance and the Weapon System Engineering Authority, and other duties assigned by the local commander.

**2. Organization.** ABDR engineering draws on active duty, and tenet organizations, mechanical and aeronautical engineers assigned to Tinker AFB. If there is an insufficient number of active duty engineers that meet ABDR requirements, IMA and then Air Force civilian engineers may be used with a waiver found in AFMCI 10-210 Chapter 5. The Tinker AFB ABDR Chief Engineer will reside in the Engineering Directorate (OC-ALC/EN). All other ABDR Engineers will be assigned to Tinker AFB units for their primary duty responsibilities and will be pulled from their primary duty for training, exercises, and deployments. All ABDR Engineers will be assigned to an ABDR UTC managed by the ABDR Unit Deployment Manager (UDM) also located in OC-ALC/EN.

**3. Responsibilities.** In addition to those outlined in AFMCI 10-210

3.1. Directorate of Engineering and Technical Management (OC-ALC/EN) will:

3.1.1. Manage placement of engineers in coordination with OC-ALC/GK Aerospace Sustainment Directorate, 76 MXW, 848 SCMG, and 498 NSW/NWB in positions will facilitate experience as Depot Liaison Engineer.

3.1.2. Appoint experienced journeyman engineers to assist and advise the Chief ABDR Engineer on training, engineering activities, and provide reach back capability for deployed engineers. This advisory position may be held by more than one person and be located outside the Directorate itself. The individuals will also be trained and available to act as Exercise Evaluation Team (EET) members during the pad exercises.

3.2. Chief ABDR Engineer, Tinker AFB (OC-ALC/ENSP) will:

3.2.1. Facilitate ABDR training for engineers not contained in the standard curriculum to include but not limited to: KC-135 Liaison Engineering Course, corrosion and fatigue courses, DLE training, graduate mechanical and material engineering courses.

3.2.2. Create training events and realistic scenarios to provide on aircraft experience that matches a deployment environment.

3.2.3. Identify qualified ABDR Engineers to fill positions for experience needed to be a Depot Liaison Engineer.

3.2.4. Assess individuals for desired professional qualities to fill ABDR Engineering Positions and provide recommendations to the EN Director for approval.

3.2.5. Manage Engineering Kits and other ABDR supply and Individual Equipment Issue (IEU).

3.2.6. Establish and maintain a recall roster to facilitate rapid response to recalls.

3.2.7. Manage ABDR budget.

3.2.8. Coordinate maintenance and issuance of weapons and ammunition for exercises, training, and deployments.

3.2.9. Maintain ABDR community of practice and base website to facilitate communication with ABDR engineers across functional areas.

3.3. Deputy Chief ABDR Engineer will:

3.3.1. Perform the duties of the Chief ABDR Engineer as required.

3.4. Unit Deployment Manager (OC-ALC/ENR) will:

3.4.1. Notify designated ABDR Engineers of training opportunities in direct support of engineering deployments to include but not limited to: Flight line driver's license, confined space, egress training, high risk of capture, and medium risk of isolation.

3.4.2. Provide funding for Personal Protection Equipment (PPE) the engineers need for deployment.

3.5. ABDR Engineers will:

3.5.1. Participate in training activities as scheduled by UDM and Chief ABDR Engineer. All training should be coordinated with the engineer's immediate supervisor. The engineer should attend ABDR related training events, refresher, or exercises to maintain ABDR status.

3.6. Expeditionary Depot Maintenance Flight, Tinker AFB (76 MXW/AMXS/EDMX)

3.6.1. Provide training to ABDR engineers through two main courses; the Technician course and the Assessor Course. Provide maintenance and deployment experience and expertise during exercises and other joint training events.

#### **4. Depot Liaison Engineering**

4.1. Overview. Depot Liaison Engineer (DLE) is a position created in 2004 to provide AOR operations support for deployed forces. DLE's provide on-site engineering support for aircraft issues such as structural, electrical, avionics, aircraft systems, and act as a liaison between field maintenance and the SPO. The accomplishments of DLE's work have been well documented as being a force multiplier. DLE's have shortened depot responses to technical assistance and provided many more opportunities for TO clarification and engineering assistance. DLE's handle AFMC Form 107 requests, long and short term engineering projects, and damage evaluation.

4.2. Requirements.

4.2.1. Must be at least a 1st Lt at time of arrival to AOR.

4.2.2. Fully qualified and current ABDR engineer IAW AFMCI 10-210.

4.2.3. Have 1 year experience within a System Program Office working AFMC Form 107/202 requests (for organizations that meet this requirement refer to section 4.5), the ability to communicate with senior leadership, handle new and complex problems, and be flexible and adaptable to new situations.

4.3. Training.

4.3.1. The minimum training required for DLE participation includes the ABDR Engineering course, ABDR Technician course, participation in 1 pad exercise, and mobility training classes.

Additional training may be required but is dependent on the location the DLE will be deployed to. Engineering training including KC-135 Boeing Liaison Engineering Course, as well as courses in corrosion and fatigue are also encouraged.

4.3.2. Weapon system specific familiarization includes visits to the other Air Logistics Centers and SPO of the major weapon systems that the individual will need to be familiar with.

4.3.3. Maintenance operations familiarization. Participation in TDY's to understand maintenance at a main operating base for a weapon system found at the forward location is also encouraged.

4.3.4. The DLE should prepare for deployment by working AFMC Form 107/202 engineering support requests for unfamiliar weapon systems that the DLE will be in theater with prior to the deployment. It is recommended that the engineer answer at least five engineering support requests from a variety of the OC-ALC weapon systems particularly those with assets deployed to regions the DLE will be assigned.

4.4. System Program Office (SPO) Positions. Not all SPO engineering positions meet DLE requirements. The following describes the office and job experience needed to be a qualified DLE candidate. For all positions the completion of 5 engineering support requests from each support element is required.

4.4.1. Engineers assigned to the B-1 SPO (OC-ALC/GKB) need to be placed in the Engineering Branches, Airframe and Mechanical Systems section. The engineer should have a workload of both long term engineering projects as well as a substantial workload of engineering support requests. If the engineer does not have a significant number of engineering requests to their assigned mechanical system, they will work structural engineering support requests as required.

4.4.2. Engineers assigned to the B-52 SPO (OC-ALC/GKD) need to be placed in the Engineering Branches, Airframe and Mechanical Systems Section. The engineer should have a workload of both long term engineering projects as well as a substantial workload of engineering support requests. If the engineer does not have a significant number of engineering support requests to their assigned mechanical system, they will work structural engineering support requests as required.

4.4.3. Engineers assigned to the KC-135 SPO (OC-ALC/GKC) may be placed in either the Logistics Support Branch (field support) or the Production Support Branch (PDM). The engineer should have a workload of both long term engineering projects as well as engineering support requests. The engineer should be assigned mechanical systems and structural requests from both branches to acquire a broad experience.

4.4.4. Engineers assigned to the B-2 SSM (OC-ALC/GKABA) need to be placed in the Engineering Branches, Low Observables, Airframe Structures and Mechanical Systems Section. Since the B-2 has unique Low Observables (LO) requirements, for Engineers to qualify and maintain ABDR/DLE status for the B-2 requires additional training. Minimum requirements are the completion of one deployment to a Main Operating Base or Forward Operating Location and two engineering projects.

4.4.5. Engineers assigned to the Propulsion Group (OC-ALC/GKG) can be located in the F100/TF33/F119/F117 Branch, F101/F108/F110/F118 Branch, or TF34/TF39/T56/J85 Specialty Engineer Branch. Engineers will be assigned engineering support requests as one of their

primary duties. Additional duties should also include long-term engineering projects as well as other field and depot related issues.

4.4.6. Engineers assigned to the Missile Sustainment Division (498 NSW/NWBA) need to be placed in the Engineering Branch. The engineer should have a workload of both long term engineering projects as well as a substantial workload of engineering support requests.

ROBERT D. LABRUTTA, Colonel USAF  
72 ABW/CC, Commander

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

AFMCI 10-210, AIRCRAFT BATTLE DAMAGE REPAIR ENGINEERING

AFMAN 37-123, MANAGEMENT OF RECORDS

***Abbreviations and Acronyms***

**ABDR**— Aircraft Battle Damage Repair

**ACSS**— Aircraft Combat Support Squadron

**AFGLSC**— Air Force Global Logistics Support Center

**AFMAN**— Air Force Manual

**AOR**— Area of Responsibility

**ASW**— Aircraft Sustainment Wing

**DFT**— Depot Field Team

**DLE**— Depot Liaison Engineer

**EDMX**— Expeditionary Depot Maintenance

**EN**— Engineering Directorate

**ENSP**— Engineering Directorate Systems Programs

**ETAR**— Engineering Technical Assistance Request (107/202)

**EAF**— Expeditionary Air Force

**FAM**— Functional Area Manager

**IEU**— Individual Equipment Issue

**MXW**— Maintenance Wing

**NSW/NWB**— Missile Sustainment Division

**OC**—ALC – Oklahoma City Air Logistics Center

**PDM**— Program Depot Maintenance

**SPO**— System Program Office

**SORTS**— Status of Resources and Training System

**TDY**— Temporary Duty Yonder

**UDM**— Unit Deployment Manager

**UMD**— Unit Manning Document

**UTC**—Unit Type Code

*Terms*

**Area of Responsibility (AOR)**— Region of world in which combat operations are being flown.