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AIRCRAFT METALS TECHNOLOGY

CAREER FIELD EDUCATION AND TRAINING PLAN

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CAREER FIELD EDUCATION AND TRAINING PLAN
AIRCRAFT METALS TECHNOLOGY SPECIALTY
AFSC 2A7X1
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AIRCRAFT METALS TECHNOLOGY
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PART I

Preface

1. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements, training support resources, and minimum core tasks for the 2A7X1, Aircraft Metals Technology specialty. The CFETP will provide personnel a clear career path to success and instill rigor in all aspects of career field training. This CFETP was developed in accordance with the requirements in DAFI 36-2670, *Total Force Development*. This CFETP supersedes the 2A7X1 (1 Jul 2017) CFETP. The official CFETP can be found at the Air Force E-Publishing website. This CFETP does not apply to the United States Space Force.

NOTE: Civilians occupying associated positions will use Part II to support duty position qualification training.

2. The CFETP consists of two parts; supervisors will use both parts to plan, manage, and control training within the career field.

2.1. Part I provides information necessary for overall management of the specialty. Section A explains how everyone will use the plan. Section B identifies career field progression information, duties and responsibilities, training strategies, and career field path. Section C associates each level with specialty qualifications (knowledge, education, training, and other). Section D associates resource constraints to accomplishing this plan, such as funds, manpower, equipment, and facilities. Section E identifies transition training guide requirements to support career field restructures.

2.2. Part II includes the following: Section A contains the course objective list and training standards supervisors will use to determine if Airmen have satisfied training requirements. Section B identifies available support materials, such as Qualification Training Package (QTP) which may be developed to support proficiency training. Section C identifies a training course index supervisors can use to determine if resources are available to support training. Included here are both mandatory and optional courses. Section D identifies major command (MAJCOM) unique training requirements supervisors can use to determine additional training required for the associated qualification needs. Section E identifies the Specialty Training Standard (STS) and includes duties, tasks, technical references to support training, Air Education and Training Command (AETC) conducted training, wartime course/core task and correspondence course requirements. At unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this plan.

3. Using guidance provided in the CFETP will ensure individuals in this specialty receive effective and efficient training at the appropriate point in their career. This plan will enable us to train today's work force for tomorrow's jobs.

ABBREVIATIONS/TERMS EXPLAINED

Advanced Training (AT). A formal course which provides individuals who are qualified in one or more positions of their Air Force Specialty (AFS) with additional skills/knowledge to enhance their expertise in the career field. Training is for selected career airmen at the advanced level of the AFS.

Air Force Career Field Manager (AFCFM). An individual on the Air Staff charged with the responsibility for overseeing all training and career field management aspects of an Air Force specialty or group of specialties.

Air Force Enlisted Classification Directory (AFECD). The Official directory for all military enlisted classification descriptions, codes, and identifiers. The specialty descriptions and codes will be used to identify each Air Force job (valid requirements) and describes the minimum mandatory qualifications of personnel to fill these jobs. The updated AFECD is available at AF Personnel Center's web site located at myPers under the military classification menu.

Air Force Job Qualification Standard (AFJQS). A comprehensive task list that describes a particular job type or duty position. They are used by supervisors to document task qualifications.
The tasks on an AFJQS are common to all persons serving in the described duty position.

Career Field Education and Training Plan (CFETP). A CFETP is a comprehensive, multipurpose document covering the entire spectrum of education and training for a career field.It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

Certification. A formal indication of an individual's ability to perform a task to required standards.

Certification Official. A person the commander assigns to determine an individual's ability to perform a task to required standards.

Continuation Training. Additional training that exceeds requirements with emphasis on present or future duty assignments.

Contract Training. Type 1 or 2 training that receives the same priority funding as Air Force directed training. It supports initial groups of instructors, operators, etc., that the Air Force requires for new or modified weapon systems.

Core Task. Tasks that the Air Force Career Field Manager (AFCFM) identifies as minimum qualification requirements within an Air Force Specialty.

Course Objective List (COL). A publication identifying the tasks and knowledge requirements and respective standards provided to achieve a 3-7-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with DAFI 36-2670.

Course Training Standard (CTS). Training standard that identifies the training members will receive a specific course not covered in the CFETP.

Enlisted Specialty Training (EST). A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in each skill level of a specialty.

Education and Training Course Announcements (ETCA). This database lists course announcements for new, deleted, updated, and replaced formal courses.

Exportable Training. Additional training via computer assisted, paper text, interactive video, or other necessary means to supplement training.

Field Technical Training (Type 4/7). Special or regular on-site training conducted by a Field Training Detachment (FTD) (Type 4) or by a mobile training team (MTT) (Type 7)

Initial Skills Training (IST). A formal school course that results in the award of a 3-skill level AFSC.

Just-in-Time (JIT) Training. Training required just prior to a selected deployment or tasking that delivers training necessary for mission accomplishment. It is typically predicated on hard-to-obtain contingency skills.

Instructional System Development (ISD). A deliberate and orderly process for developing, validating, and reviewing instructional programs that ensures personnel are taught the knowledge and skills essential for successful job performance.

MAJCOM Mandatory Course Listing (MMCL). Identifies mandatory maintenance training requirements for initial technical school graduates, retrainees, and personnel with no experience on assigned mission design series (MDS) aircraft. It also ensures maintenance personnel receive training commensurate to their current duty position.

Maintenance Information System (MIS). The objective of MIS is to give maintenance technicians a very small size portable computer/display that will interface with on-aircraft systems and other computer systems to provide a single, integrated source of the information needed to perform maintenance on the line and in the shop.

Mission Design Series (MDS). The official designation for aerospace vehicles used to represent a specific category of aerospace vehicles for operations, support, and documentation (i.e., B-2, F-22, F-35).

Occupational Analysis Report (OAR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFS.

On-the-Job Training (OJT). Hands-on, over-the-shoulder training at the duty location used to certify personnel for both skill level upgrade and duty position qualification.

Plan of Instruction (POI): An AETC course document used for course planning, organization, operation, and validation. It provides course objectives, level of training provided, planned times, sequence of instruction, required resources, and specifies how course objectives are measured.

Qualification Training (QT). Actual hands-on task performance training designed to qualify an Airman in a specific duty position. This training occurs both during and after upgrade training. It is designed to provide the performance skills/knowledge required to do the job.

Qualification Training Package (QTP). A required instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. AFQTPs identify the Air Forces standardized method for performing the task. The AFQTP may be printed (paper-based), computer-based, in other audiovisual media formats, or all three. If determined by the AFCFM, a paper-based AFQTP, along with a computer-based product may be needed to satisfy a particular training requirement.

Resource Constraints. Resource deficiencies, such as funding, facilities, time, manpower, and equipment, that preclude desired training from being delivered.

Specialty Training Requirements Team (STRT). Prior to a Utilization and Training Workshop (U&TW), the AFCFM along with a team of Subject Matter Experts and Functional Managers from each MAJCOM meet to determine education and training requirements (formal and on-the-job training) for an Air Force Specialty. The STRT is used, to create or revise training standards for all the types of training. The team finalizes the CFETP, specialty description and develops a standard for all courses. Attendees include the AFCFM, AETC Training Pipeline Manager (TPM), AETC Training Managers (TM), MFMs, Subject Matter Experts (SME), and AETC Occupational Analysis Division. The AFCFM chairs the STRT. The AETC TPM and TMs attend as advisors.

Specialty Training Standard (STS). An Air Force publication that describes an Air Force Specialty in terms of tasks and knowledge an airman may be expected to perform or to know on the job. It serves as a contract between Air Education and Training Command and the functional user to identify the overall training requirements for an Air Force Specialty taught in formal schools, career development courses, and exportable courses.

Supplemental Training: Formal, standardized training within an Air Force Specialty (AFS) that is in addition to required initial skills training and skill level upgrade training. It may support new and/or newly assigned equipment, methods, and/or technology.

Task Qualification Training (TQT). Training conducted after Chemical, Biological, Radiological, and Nuclear defense classroom training in which individuals perform wartime mission essential tasks in a simulated wartime environment while wearing full ground crew individual protective equipment or aircrew individual protective equipment.

Training Setting. The type of forum in which training is provided (formal resident school, on- the-job, field training, mobile training team, self-study, etc.).

Upgrade Training (UGT). A mixture of mandatory courses, task qualification, and CDCs required for award of the 3-, 5-, 7-, or 9-skill level.

Utilization and Training Workshop (U&TW). An executive decision meeting chaired by the AFCFM and Training Pipeline Manager to vote on funding (Course Resource Estimates) for instructor authorizations, equipment and facilities needed to support any new or revised training coming from the STRT. Voting members are MAJCOM Functional Managers or designated representatives. They will also determine which organizations will furnish resources, establish commitment and delivery dates in writing, document equipment availability dates and any problems, and establish training delivery dates.

Vectored Positions. Key SNCO positions in your career field. To learn more about vectored positions go to MyVECTOR.

SECTION A - GENERAL INFORMATION

1. Purpose. This CFETP provides the information necessary for the AFCFM, MAJCOM Functional Managers (MFM), commanders, training managers, supervisors, and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the training that individuals in this Air Force Specialty (AFS) should receive in order to develop and progress throughout their career. This plan identifies initial skills, upgrade, qualification, advanced, and proficiency training. The CFETP also:

1.1. List training courses that are available in the specialty and identifies sources of training and the training delivery method.

1.2. Identifies major resource constraints that impact full implementation of the desired career field training process.

2. Uses of the CFETP. This plan will be used by MFMs and supervisors at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

2.1. AETC training personnel will develop/revise formal resident, non-resident, Training Detachment (TD), and exportable training based on requirements established by the users and documented in Part II of the CFETP. They will also work with the AFCFM to develop acquisition strategies for obtaining resources needed to provide the identified training.

2.2. MFMs will ensure their training programs complement the CFETP mandatory initial, upgrade, and proficiency requirements. Identified requirements can be satisfied by OJT, resident training, contract training, or exportable courses. MAJCOM-developed mandatory training to support this AFS must be identified for inclusion into the plan and must not duplicate other available training resources.

2.3. Each individual will complete the mandatory training requirements specified in this plan.The lists of courses in Part II will be used as a reference to support training.

3. Coordination and Approval. The AFCFM is the approval authority for the CFETP.

3.1. The AFCFM will initiate an annual review of this document to ensure currency and accuracy. Typically, this review is accomplished via correspondence and is accomplished by the AFCFM and using MFMs. Comprehensive reviews of this document are also completed in conjunction with STRTs. The AFCFM can implement out-of-cycle changes whenever necessary to address the addition of new platforms, systems, changes to test equipment, etc. Career field members can provide inputs on content or change request to the AFCFM at any time via their MFM. The AFCFM will evaluate the information and (1) provide feedback on why the suggestion will not be incorporated, (2) initiate an out of cycle change, or (3) incorporate the suggestion during the next scheduled review, whichever is appropriate.

SECTION B – CAREER PROGRESSION AND INFORMATION

4. Specialty Description.

4.1. Specialty Summary and Duties and Responsibilities. Refer to the Air Force Enlisted Classification Directory (AFECD), accessible via myPers at https://mypers.af.mil/app/home, search for "AFECD".

4.1.1. Craftsman, Journeyman, Apprentice, and Helper. Refer to "AFSC 2A771, Craftsman/AFSC 2A751, Journeyman/AFSC 2A731, Apprentice/AFSC 2A711, Helper," titled "AIRCRAFT METALS TECHNOLOGY," in AFECD Section II, for specialty summary, duties and responsibilities.

4.1.2. Chief Enlisted Manager (CEM) and Superintendent. Refer to "CEM Code 2A600/AFSC 2A790, Superintendent," titled "AIRCRAFT FABRICATION," in AFECD Section II, for specialty summary and duties and responsibilities for 9-skill level and CEM personnel.

5. Skill/Career Progression. Adequate training and timely progression from the apprentice to the superintendent skill level play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training do their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives necessary training at appropriate points in their career.

5.1. Apprentice (3-skill level): Following Basic Military Training, initial skills training will be provided in a resident course at 361 Training Squadron, Sheppard AFB, Texas. The course will lay the foundation for additional training at the graduate's first duty assignment. Upon completion of initial skills training, a trainee will work with a trainer to enhance their knowledge and skills. They will utilize the CDC, QTP, and available exportable courses for continued advancement. Once task qualified, a trainee may perform the task unsupervised. Apprentices can be considered for appointment as unit trainers after completion of the Air Force Training Course (AFTC).

5.2. Journeyman (5-skill level): Upon arrival at their first duty location, individuals must complete formal 5-level OJT training requirements as defined in this CFETP, DAFI 36-2670, and the AFECD. This training involves completion of all identified tasks. Once upgraded to the 5-skill level, the journeyman will enter qualification training to broaden their experience base by increasing their knowledge and skill and solving more complex problems. This includes qualification on duty specific tasks identified by the work center supervisor. Available proficiency and/or supplementary training should be completed as early as duty permits. Journeymen may be appointed as unit trainers and considered for job positions such as Quality Assurance (QA) inspector. Air Force Enlisted Professional Military Education (EPME) is a rank-based model that ensures targeted delivery of institutional competencies across an enlisted Airman's career. Resident Airman Leadership School (ALS) meets Basic and Comprehensive Phase1 requirements and is required to assume the rank of Staff Sergeant. In addition to completing EPME requirements, individuals should also consider continuing their education toward a Community College of the Air Force (CCAF) degree.

5.3. Craftsman (7-skill level): Once selected for promotion to Staff Sergeant, individuals begin formal 7-skill level OJT training requirements as defined in this CFETP, DAFI 36-2670, and the AFECD. This training involves completion of all identified tasks. Once upgraded to the7-skill level, the craftsman will also train on any qualification or duty specific tasks identified by the work center supervisor. Available proficiency and/or supplementary training should be completed as early as duty permits. A craftsman can expect to fill various

supervisory and management positions such as task certifier, element Noncommissioned Officer in Charge (NCOIC), section chief, flightline expediter, production superintendent, and can also be assigned to work in staff positions. Resident Noncommissioned Officer Academy meets Basic and Comprehensive Phase 2 requirements. In addition to completing EPME requirements, craftsmen should take courses to obtain added knowledge on management of resources and personnel whenever available and continued academic education through CCAF and higher degree programs.

5.4. Superintendent (9-skill level): Formal 9-skill level OJT training requirements are defined in DAFI 36-2670 and the AFECD. A 9-skill level can be expected to fill positions such as flight chief, production supervisor, and various staff positions. Airframe qualifications are identified by Special Equipment Identifier (SEI) codes. SEI codes are provided in the AFECD. In addition to EPME requirements, superintendents are expected to take advantage of additional training in the areas of budget, manpower, resources, and personnel management and higher education, including advanced certification, is encouraged for professional development.

6. Training Decisions. The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the Aircraft Metals Technology career field. The spectrum includes a strategy for when, where, and how to meet these training requirements. The strategy must ensure we develop affordable training, eliminate duplication, and prevent a fragmented approach to training.

6.1. Initial Skills: The STRT was tasked with reviewing the entire 2A7X1 STS. Each STS line item was evaluated based on capability and method of training, redundancy of documentation, and applicability. Occupational Analysis Report (OAR) data was used to scrub requirements to determine whether items were suited for formal training.

6.2. Five-Skill Level Upgrade Training: Upgrade requirements include completion of tasks and identified work center requirements for their assigned weapons system and completion of MAJCOM Mandatory Course List (MMCL) requirements as necessary based on assignment. Task qualification and CDC completion is all that is required for upgrade; there is no career field standard for proficiency.

6.3. Seven-Skill Level Upgrade Training: Upgrade requirements include completion of tasks and identified work center requirements for their assigned weapons system and completion of MAJCOM Mandatory Course List (MMCL) requirements as necessary based on assignment. Task qualification is all that is required for upgrade; there is no career field standard for proficiency. In-residence school is not required for upgrade and there is no Advanced Distributed Learning (ADL)/Distributed Learning (DL) in development.

6.4 Supplemental Training: The Heat Treating and Computer Numeric Control (CNC) Manufacturing, J3AZP2A751 0M1B will be reducing the length of time spent on heat treating and moving that time into the CNC area. The course length will remain at 19 days.

7. Higher Education and Advanced Certification Opportunities. Advanced certifications and other additional off-duty education is a personal choice encouraged for the professional development of the entire enlisted force.

7.1. Community College of the Air Force (CCAF) Degree Program: Enrollment in CCAF occurs automatically upon completion of Basic Military Training (BMT). Degree completion, technical education, leadership, management and military studies, physical education, general education, and program elective requirements are identified in the CCAF Catalog which can be found on the Air University (AU) site.

7.2. CCAF Academic Programs. In addition to its associate degree program, CCAF offers other credentialing programs (licensure and certification). Licensure is normally issued by federal, state, or local

governmental agencies and is issued to individuals to practice in specific occupation. Certification is normally issued by non-governmental agencies, associations, schools, or industry-supported companies and are typically an optional credential. Air Force Credentialing Opportunities On-Line (AF- COOL) supports programs like Air Force Airframe and Power plant (A&P) Certification, CCAF Instructor Certification, CCAF Instructional Systems Development (ISD) Certification, Joint Service Aviation Maintenance Technician Certification Council (JSAMTCC), and Professional Manager Certification (PMC). Information on current programs is available via the Air Force Portal CCAF site and the Air Force Virtual Education Center (AFVEC) site.

7.3. AETC Instructor Requirements. AETC Instructors must possess, at a minimum, an associate degree or should be actively pursuing an associate degree. Special Duty Assignment (SDA) requires an AETC instructor candidate to have a CCAF degree or be within one year of completion (45 semester hours). A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

8. Enlisted Career Path. Reference DAFI 36-2670, *Total Force Development*, Table 4.3 *Enlisted Career Path,* and Table 4.4 *Promotion Grade Requirements* to identify career milestones for the 2A7X1 Air Force Specialty.

SECTION C – SKILL LEVEL TRAINING REQUIREMENTS

9. Purpose. Skill level training requirements in this career field are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for each skill level in broad, general terms and establishes the mandatory requirements for entry, award, and retention of each skill level. The specific tasks and knowledge training requirements are identified in Part II, Section E, of the STS.

9.1. USAF policy has changed to allow Air Force Career Field Managers to set time in training requirements. Aggregate data for the 2AXXX AFSCs shows the average of all upgrade core tasks completion at 8 months for 5-level and 3 months for 7-level. Therefore, Time in Training requirements (upgrade and retraining) are as below:

5 level - RegAF: no minimum/15 month maximum. ARC: no minimum/no maximum
7 level - RegAF: no minimum/8 month maximum. ARC: no minimum/no maximum

RegAF maximum time in training for 5-level is 15 months and 7-level is 8 months. When training exceeds the maximum time, commanders, UTMs, supervisors, will conduct a training progress review with the trainee to determine the root cause. This training progress review is in addition to the review required IAW DAFI 36-2670 at 24 months. In the 2A7X1 AFSC, it is imperative training progress is evaluated early on as it leads to key decisions impacting people and mission. UTMs with commander's approval will place members in Training Status Code T (failure to progress) for a period of 90 days, then accomplish a re-evaluation. If members are not complete with training required after 90 days, commanders will determine whether to: 1. Waive maximum time in training and return the member to duty, 2. Retrain member into another AFSC, or 3. Separate the member for failure to progress. UTMs guide commanders with the appropriate use of training status codes when there are any training progression concerns.

9.1.1. The maintenance badge will be awarded in conjunction with skill-level upgrade. Maintainers currently wearing the badge that do not meet this new criterion may continue to wear the badge, essentially grandfathered-in, but all future award or upgrade of the badge will be at the prescribed skill-level:

Basic: Wear the basic badge after award of the 5-skill-level
Senior: Wear the senior badge after award of the 7-skill-level
Master: Wear the master badge after award of the 9-skill-level.

See DAFI 36-2903, *Dress and Personal Appearance of United States Air Force and United States Space Force Personnel* for guidance on the wearing of occupational badges.

9.2. Specialty Qualification Requirements. The various skill levels in this career field are defined in terms of tasks and knowledge proficiency requirements for each skill level. They are stated in broad general terms and establish the standards of performance. Unit work centers must develop a structured training program to ensure the following requirements are met.

9.3. Apprentice Level Training.

9.3.1. Specialty Qualification. This information is located in the AFECD.

9.3.1.1. Knowledge. Knowledge is mandatory of: metal repair and fabrication processes, composition of metals and machinable materials, weld specifications, metal tempering, forging, mechanical drawings, use of precision measuring devices and tools, metal fabricating by oxyacetylene, metallic arc, and inert gas shielded arc, operation and capacity of metal working and welding equipment, use and fabrication of layout and fixture devices, safety codes and practices regarding equipment and supplies, hazards of explosive gasses, hazardous dust, rays, and fumes, and proper handling, use, and disposal of hazardous materials.

9.3.1.2. Education. Entry into this specialty is outlined in the AFECD.

9.3.1.3. Training. For award of AFSC 2A731, completion of aircraft metals technology apprentice course is mandatory.

9.3.1.4. Experience. There is no experience necessary for entry into AFSC 2A731.

9.3.2. Training Sources and Resources. The initial skills course, Aircraft Metals Technology Apprentice, will provide the required knowledge and qualifications.

9.3.3. Implementation. Upon graduation from Basic Military Training, completion of the Aircraft Metals Technology Apprentice course is mandatory. This course satisfies the knowledge and training resource requirements for award of the 3-skill level.

9.4. Journeyman Level Training.

9.4.1. Specialty Qualification. Refer to the most current AFECD.

9.4.1.1. Knowledge. A 5-skill level must possess knowledge of: metal repair and fabrication processes, composition of metals and machinable materials, weld specifications, metal heat treatment, blueprints, technical orders and drawings, initiation of engineering disposition for aircraft and support equipment repairs, use of precision measuring devices and tools, fabrication using oxyacetylene, metallic arc, and inert gas shielded arc, operation and capacity of metal working and welding equipment, use and fabrication of layout tools and fixture devices, safety codes, and practices regarding equipment and supplies, hazards of explosive and compressed gasses, hazardous rays, dust and fumes, and proper handling, use, and disposal of hazardous waste and materials.

9.4.1.2. Education. There are no formal education requirements for upgrade to 2A751.

9.4.1.3. Training. For award of AFSC 2A751, the 5-level CDC provides the career knowledge training required. Qualification training and OJT will provide training and qualification on the core tasks identified in the STS. The CDC is created to build from the trainee's current knowledge base, and provides more in-depth knowledge to support OJT requirements.

9.4.1.4. Experience. Qualification in and possession of AFSC 2A731. Also, experience in functions such as gas and electric welding, boring, milling, shaping, grinding metal, or using precision measuring devices. Completion of all 5-level core tasks identified in the STS is mandatory.

9.4.2. Training Sources and Resources. Completion of the 2A751 CDC and completion of the 5-level core tasks represent the resources needed for award of the 5-skill level.

9.4.3. **Welding Certification.** Airman will be certified in MIG NLT 6 months of date arrived on station (12 months ARC). TIG certification will be completed NLT 12 months (24 months ARC) following award of 5-skill level IAW T.O. 00-25-252.

9.5. Craftsman Level Training.

9.5.1. Specialty Qualification. Refer to most current AFECD.

9.5.1.1. Knowledge. A 7-level must possess knowledge of: metal repair and fabrication processes, composition of metals and machinable materials, weld specifications, metal heat treatment, blueprints, technical orders and drawing, validation of engineering disposition for aircraft and support equipment repairs, use of precision measuring devices and tools, fabrication using oxyacetylene, metallic arc, and inert gas shielded arc, operation and capacity of metal working, computer aided drafting/machining, and welding equipment, use of layout tools and fixtures, safety codes, and practices regarding equipment and supplies, to include hazards of rays, dust, fumes, and compressed gases, and proper handling, use, and disposal of hazardous waste and materials.

9.5.1.2. Education. There are no additional education requirements beyond those defined for the apprentice level.

9.5.1.3. Training. Completion of all required 7-level core tasks as identified in the STS on one MDS aircraft is mandatory for upgrade to AFSC 2A771.

9.5.1.4. Experience. Possession of AFSC 2A751. Also, experience supervising functions dealing with corrosion identification, prevention, and repair, applying protective coatings and markings, and fabricating, assembling, and repairing metal, fiberglass, composites, honeycomb, and plastic components.

9.5.2. Training Sources and Resources. Qualification training and OJT will provide training and qualification on the 7-level core tasks identified in the STS.

9.6. Superintendent Level Training (9-Level).

9.6.1. Specialty Qualification. Refer to the most current AFECD.

9.6.1.1. Knowledge. To perform duties at the 9-skill level, an individual must possess basic knowledge of

the following: aircraft structural maintenance, low observable aircraft structural maintenance, metals technology, corrosion control and non-destructive inspection methods, characteristics of metals identification, concepts and application of maintenance directives, maintenance data reporting, and proper use, handling, and disposal of hazardous waste and materials in accordance with federal, state and local directives.

9.6.1.2. Education. An associate degree or higher is mandatory for promotion to Senior Master Sergeant.

9.6.1.3. Training. For award of AFSC 2A790, promotion to SMSgt is mandatory.

9.6.1.4. Experience. Qualification in and possession of AFSC 2A771, 2A772, 2A773 or 2A775 is mandatory. Also, experience in managing or directing repair activities for aircraft structural maintenance, metals technology, low observable aircraft structural maintenance, or nondestructive inspection specialties and functions.

9.6.2. Training Sources and Resources. The Senior NCO Academy Course and OJT will be used for training.

9.6.3. Implementation. The 9-level will be awarded after promotion to SMSgt.

SECTION D – RESOURCE CONSTRAINTS

10. Purpose: This section of the CFETP identifies known resource constraints which preclude optimum and desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, office of primary responsibility, and target completion dates. Resource constraints will be, as a minimum, reviewed and updated annually.

11. Apprentice Level Training. No Resource constraints identified.

12. Journeyman Level Training. New CDCs are in development by AFCDA. This Air Force Specialty will continue to use the current CDCs for 5 level upgrade training until the revised version is released.

13. Craftsman Level Training. No Resource constraints identified.

14. Supplemental Training. No resource constraints were identified by the STRT/U&TW.

SECTION E – TRANSITIONAL TRAINING GUIDE

15. There is currently no transitional training requirements. This area is reserved.

PART II

SECTION A – COURSE OBJECTIVE LIST

1. Measurement. Each proficiency coded STS task or knowledge item taught at the technical school is measured through the use of an objective. An objective is a written instruction so the student knows what is expected of them to successfully complete training on each task. Each objective is comprised of a condition, behavior, and standard which states what is expected of the student for each task. The condition is the setting in which the training takes place. The behavior is the action a student must demonstrate to accomplish a task (i.e., remove and install wheel and tire assembly). The standard is the level of performance that is measured to ensure theSTS proficiency code level is attained. Each objective uses letter code(s) to identify how it is measured. All objectives use the **PC** code which indicates a progress check is used to measure subject or task knowledge. Progress checks are also used to measure student accomplishment of performance objectives. **W** indicates a comprehensive written test and is used to measure the subject and/or task knowledge at the end of a block of instruction. **PC/W** indicates separate measurement of both knowledge and performance elements using a written test and a performance progress check.

2. Standard. The minimum standard is 70% on written examinations. Standards for performance measurement are indicated in the objective and delineated on the individual progress checklist. The checklist is used by the instructor to document each student's progress on each task. Instructor assistance is provided as needed during the progress check, and students may be required to repeat all or part of the behavior until satisfactory performance is attained. Students must satisfactorily complete all PCs prior to taking the written test.

3. Proficiency Level. Initial skills training is not designed to result in a mission ready technician. When evaluating course graduates, supervisors should use column 4A of the STS as a guide. Review column 4A to determine the proficiency level of a particular task or knowledge item. Review attachment 1 of this CFETP for an explanation of the proficiency codes. Then compare the proficiency of the trainee to the proficiency expected upon completion of the course. NOTE: Most task performance is taught to the "2b" proficiency level which means the students can do most parts of the task but does need assistance on the hardest parts of the task (partially proficient). The student can also determine step-by-step procedures for doing the task.

4. Recommendations. If you require detailed course descriptions and objectives, please provide a written request to the AETC Training Manager, 361 TRS/TRR, 501 Missile Road Sheppard AFB TX 76311-2264 or email to UDG_361TRS_TRAININGMANAGERS@us.af.mil.

SECTION B – SUPPORT MATERIAL

5. Support material is any training package designed to enhance the learning process at any level of training. Refer to the Air Force Education and Training Course Announcements (ETCA) for information on AETC formal courses. Interactive Courseware (ICW) courses are available from (or under development by) 367 TRS/TRSS, Hill AFB, Utah. Questions should be referred to the customer service number at DSN 586-4014.

SECTION C – TRAINING COURSE INDEX

6. Purpose. This section of the CFETP identifies training courses available for the Aircraft Structural Maintenance specialty. For further information contact the OPR listed in the table or refer to ETCA at: https://usaf.dps.mil/teams/app10-etca/SitePages/Home.aspx

COURSE NUMBER	COURSE TITLE	OPR
J3ABR2A731 048B	Aircraft Metals Technology Apprentice	361 TRS
J3AZR2A751 0M1B	Heat Treating and Computer Numeric Control (CNC) Manufacturing	361 TRS
CDC 2A751	Aircraft Metals Technology Journeyman	AFCDA

SECTION D - MAJCOM UNIQUE REQUIREMENTS

7. The MMCLs identify mandatory maintenance training requirements for initial skills (technical school) graduates, retrainees, and personnel with no experience on assigned MDS or EW systems. They also ensure maintenance personnel receive training commensurate to their current duty position. The AFRC and ANG do not publish MMCLs and their personnel are not subject to their requirements. All other commands publish an MMCL as appropriate and have decision authority with regard to which MAJCOM personnel the MMCL applies to, e.g., whether AMC personnel assigned to a Total Force Squadron in New Hampshire are subject to AMC's MMCL is up to AMC. All MMCL courses will be identified as a priority on the AF Form 898. Contact your UTM for the most current version of your MAJCOM's MMCL.

SECTION E – SPECIALTY TRAINING STANDARD

8. Implementation. This STS will be used for technical training provided by Air Education and Training Command (AETC) for classes beginning FY23. The STS is organized in attachments to this document for "General" training requirements (applicable to all systems) and Mission Design Series (MDS) requirements.

8.1. Documentation. As prescribed in DAFI 36-2670, *Total Force Development* (refer to applicable attachments):

8.2. Column 1 (*Tasks, Knowledge, and Technical References*). Lists most common tasks, knowledge, and technical references (TR) necessary for airmen to perform duties in the 3-, 5-, and 7-skill level. All task elements with a proficiency code are trained during wartime.

8.3. Column 2 (*Tasks*). Identifies Core Tasks by a 5 or 7, specialty-wide training requirements. As a minimum, certification on all AFCFM directed core tasks applicable to the specialty must be completed for skill level upgrade. Exemptions:

8.3.1. Core tasks which are not applicable to base assigned aircraft or equipment are not required for upgrade (units are not required to send personnel TDY for core task training).

8.3.2. For units with more than one MDS aircraft, upgrade trainees need only complete core tasks on a single MDS aircraft. If some of these core tasks involve training in another unit on base, trainees must still complete all core tasks relevant to at least one MDS aircraft. Flightline-assigned personnel must complete

backshop core tasks and vice versa. All units are bound by the requirements in this CFETP and will accommodate core task trainees from other units.

8.3.3. Task Qualification Tasks (TQT). In accordance with AFI 10-2501, *Emergency Management Program,* TQT requirements identified by (~) in the STS are mandatory wartime skills that Airmen will complete task qualification while wearing Full Mission Oriented Protective Posture (MOPP 4) Gear.

8.4. Column 3 (*Certification for OJT)*. Column 3 is used to record completion of tasks and knowledge training requirements. Use automated training management systems to document technician qualifications, if available. Task certification must show a certification or completed date.

8.5. Column 4 (*Proficiency Codes Used to Indicate Training/Information Provided*). Shows formal training and correspondence course requirements as well as the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge and the career knowledge provided by the correspondence course. When two codes are used in columns 4A and 4C (e.g., 2b/b), the first code is the established requirement for resident training on the task/knowledge, and the second code indicates the level of training provided in the course due to equipment shortages or other resource constraints.

8.6. This is a guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests (SKTs) are developed at the USAF Airmen Advancement Division by SNCOs with extensive practical experience in their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the WAPS catalog. Individual responsibilities are outlined in DAFI 36-2502, *Airman Promotion/Demotion Programs*. WAPS is not applicable to the Air National Guard or Air Force Reserves.

9. Qualitative Requirements. Attachment 1 contains the proficiency code key used to indicate the level of training and knowledge provided by resident training and CDCs if applicable.

10. Job Qualification Standard. The STS becomes a job qualification standard (JQS) for on-the-job training when placed in automated training management systems and used according to DAFI 36-2670. For OJT, the tasks in column 1 are trained and qualified to the go/no go level. "Go" means the individual can perform the task without assistance and meets local requirements for accuracy, timeliness, and correct procedures. When used as a JQS, the following requirements apply:

10.1 Documentation. Document and certify completion of training IAW DAFI 36-2670. Use of Part II and attachments one and two in conjunction with attachments 4 through 16 (as applicable to assigned MDS) of this CFETP are mandatory in individual training records. Identify duty position requirements by entering into automated training management systems. As a minimum, complete the following columns in Part 2 of the CFETP: date training started, date training completed, trainee initials, and trainer initials. It is the work center supervisor's responsibility to identify work center requirements and build a Master Training Plan (MTP) to train assigned trainees to the requirements. Individual JQS' should be tailored to the trainees' skill level and duty position.

10.1.1. Transcribing From Old CFETP to New CFETP. All AFJQSs and previous CFETPs are replaced by this CFETP; therefore, conversion of all training records to this CFETP STS is mandatory. Use this CFETP STS (or automated STS) to identify and certify all past and current qualifications. Document and certify all previous and current training IAW DAFI 36-2670.

10.2. AF Form 797. When additional items not listed in the CFETP Part II are necessary in the current duty assignment, enter them on the AF Form 797.

11. Report unsatisfactory performance of individual course graduates to the AETC training manager at 361 TRS/TRR, 501 Missile Road, Sheppard AFB TX, 76311-2264, DSN 736-3684, email address is: UDG_361TRS_TRAININGMANAGERS@us.af.mil. Reference specific STS paragraphs. A customer service information line has been installed for the supervisor's convenience to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For a quick response to problems, call our customer service information line, DSN 736-5236, any time, day or night.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

TOM D. MILLER
Lieutenant General, USAF
DCS/Logistics, Engineering, & Force Protection

3 Attachments:
1. Proficiency Code Key
2. Specialty Training Standard (STS) (See Excel spreadsheet in left menu)
3. Qualification Requirements

Attachment 1

PROFICIENCY CODE KEY		
This Block Is For Identification Purposes Only		
Name Of Trainee		
Printed Name (*Last, First, Middle Initial*)	Initials (Written*)*	SSAN
Printed Name Of Certifying Official And Written Initials		
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	

QUALITATIVE REQUIREMENTS

Proficiency Code Key		
	Scale Value	**Definition: The individual**
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely Limited)
	2	Can do most parts of the task. Needs only help on hardest parts. (Partially Proficient)
	3	Can do all parts of the task. Needs only a spot check of completed work. (Competent)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (Highly Proficient)
*Task Knowledge Levels	a	Can name parts, tools, and simple facts about the task. (Nomenclature)
	b	Can determine step by step procedures for doing the task. (Procedures)
	c	Can identify why and when the task must be done and why each step is needed.(Operating Principles)
	d	Can predict, isolate, and resolve problems about the task. (Advanced Theory)
**Subject Knowledge Levels	A	Can identify basic facts and terms about the subject. (Facts)
	B	Can identify relationship of basic facts and state general principles about the subject. (Principles)
	C	Can analyze facts and principles and draw conclusions about the subject. (Analysis)
	D	Can evaluate conditions and make proper decisions about the subject. (Evaluation)

Explanations

* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Example: b and 1b)

** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.

- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.

X This mark is used alone in the course columns to show that training is required but not given due to limitations in resources.

NOTE*:* All tasks and knowledge items shown with a proficiency code are trained during war time.

Attachment 3

QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION: The individual
TASK PERFORMANCE LEVELS	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (EXTREMELY LIMITED)
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PROFICIENT)
*** TASK KNOWLEDGE LEVELS**	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (COMPLETE THEORY)
**** SUBJECT KNOWLEDGE LEVELS**	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

EXPLANATIONS

* *A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)*

** *A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task or for a subject common to several tasks.*

\- *This mark is used alone instead of a scale value to show that no proficiency training is provided in the course.*

X *This mark is used alone in course columns to show that training is required but not given due to limitations in resources.*

Task, Knowledge, and Proficiency Level

1. SHOP SAFETY	B
2. IDENTIFICATION OF METALS	
2.1. Numbering system of metals	B
2.2. Mechanical tests	B
3. EFFECTS OF ALLOYING ELEMENTS ON FERROUS METALS	C
4. EFFECTS OF ALLOYING ELEMENTS ON NON-FERROUS METALS	C
5. STRUCTURES OF METALS	
5.1. Relationship of crystalline structures	B
5.2. Relationship of grain structures	B
5.3. Relationship of solid solutions	B
6. HEAT TREATING PRINCIPLES OF FERROUS METALS	
6.1. Relationship between carbon content, temperature, and structure	B
6.2. Relationship of alloying elements of critical temperature	B
6.3. Relationship between time and temperature to the transformation curve	B
7. HEAT TREATING APPLICATIONS, TECHNIQUES, AND COMMON PRACTICES	B
8. HEAT TREAT ALUMINUM ALLOY	
8.1 2024	
8.1.1 Anneal	2b
8.1.2 Solution Treat	2b
8.1.3 Age	2b
8.2 6061	
8.2.1 Anneal	b
8.2.2 Solution Treat	b
8.2.3 Age	b
8.3 7075	
8.3.1 Anneal	b
8.3.2 Solution Treat	b

8.3.3 Age	b
9. HEAT AND CORROSION RESISTANT FERROUS ALLOYS	B
10. HEAT AND CORROSION RESISTANT NON-FERROUS ALLOYS	B
11. ROCKWELL HARDNESS TESTER	2b
12. COMPUTER AIDED MANUFACTURING	
12.1. Create CAD/CAM Programs	2b
12.2. Create Tool and Part Geometry	2b
12.3. Create XYZ Surfaces	2b
12.4. Create Tool Paths	2b
13. CNC MACHINE	
13.1 Machine setup	2b
13.2 Load programs	2b
13.3 Load tooling	2b
13.4 Probing	**2b**
13.4.1 XYZ	2b
13.4.2 Boss	2b
13.4.3 Pocket	2b
13.5 Operate	2b