

2T2X1 TASK TRAINING GUIDE (TTG)

Air Transportation

Table of Contents

Line Item 1.1 *Career Field Progression*

TRAINER GUIDANCE.....4

TASK STEPS.....5

Line Item 1.2 *Organizational Structure*

TRAINER GUIDANCE.....14

TASK STEPS.....15

Line Item 1.3 *Types and descriptions of transport aircraft*

TRAINER GUIDANCE.....21

TASK STEPS.....22

Line Item 1.4 *Locate and reference transportation forms, publications, and technical orders*

TRAINER GUIDANCE.....41

TASK STEPS.....42

Line Item 1.5 *Inspect, inventory, and store 463L pallets, nets, and tie down equipment*

TRAINER GUIDANCE.....48

TASK STEPS.....49

Line Item 1.6 *Build-up single pallet*

TRAINER GUIDANCE.....51

TASK STEPS.....52

Line Item 1.7 *Identify types of shoring*

TRAINER GUIDANCE.....56

TASK STEPS.....57

Line Item 1.8 *Perform spotter/chocker duties*

TRAINER GUIDANCE.....62

TASK STEPS.....63

TASK EVALUATION CHECKLIST.....74

Line Item 1.9 *Vehicle inspections*

TRAINER GUIDANCE.....75

TASK STEPS.....76

Line Item 1.10 *Perform engine running off-load or on-load (ERO) operations*

TRAINER GUIDANCE.....	80
TASK STEPS.....	81
TASK EVALUATION CHECKLIST.....	87

Line Item 1.11 *Air Transportation Information Systems*

TRAINER GUIDANCE.....	90
TASK STEPS.....	91

Line Item 1.12 *Compliance/evaluation fundamentals*

TRAINER GUIDANCE.....	95
TASK STEPS.....	96

TRAINER GUIDANCE

Line Item 1.1 *Career Field Progression*

Prerequisites:	A. Trainee has no prerequisites. B. Trainer will establish a timeline for completing the required training with the trainee.
Training References:	A. AFI 24-605, Vol 2, Air Transportation Operations B. AFI 24-605, Vol 3, Air Transportation Function and Unilateral Aircrew Training C. AFMAN 36-2100, Military Utilization and Classification D. AFI 36-2670, Total Force Development E. AFH 36-2618, The Enlisted Force Structure F. DODI 4515.13, Passenger Eligibility G. CFETP 2T2X1, Air Transportation Specialty
Additional Supporting References:	N/A
Training Support Material:	N/A
Specific Techniques:	N/A
Criterion Objective:	<p>A. Upon completion of training, the trainee will:</p> <ul style="list-style-type: none"> A. Know the primary work centers of the 2T2X1 career field. B. Know the training requirements for each skill level. C. Know the qualification requirements for each skill level. D. Know the transportation career field progression <p>B. Trainee will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. <p>C. Trainer will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. 3. Conduct the training using the attached lesson plan. 4. Perform remedial training if necessary. 5. Comply with the duties outlined in AFI 24-605. 6. Complete the AMC TTG (EOS CRS Feedback). https://www.usafeesurvey.com/se/251137455E5A907801
NOTES to Trainer:	N/A

TASK STEPS

Line Item 1.1 *Career Field Progression*

Learning Objective 1 Primary Work Centers for the 2T2XX Career Field:

- A. Air Terminal Operation Center (ATOC).
 - 1. Serves as the Aerial Port Squadron (APS) and Air Mobility Command (AMC) informational focal point for air transportation operations and dispatches data to appropriate work centers.
 - 2. ATOC prioritizes workload and provides tactical mission oversight to work centers.
 - 3. ATOCs are only located in APS and AMS
 - 4. Logistics Readiness Squadrons Air Transportation Function (ATF) and/or Unilateral Aircrew Training (UAT) do not earn nor need to maintain an ATOC; the local command post serves as the base informational focal point and will relay pertinent information.
 - 5. ATOC will serve as the primary base POC for air transportation issues with 618 Air Operations Center (AOC)/Aerial Port Control Center (APCC). The APCC is available 24/7 to provide guidance and support to ATOC at DSN: 312-779-0350/0355 or commercial: 618-229-0350/0355
- B. ATOC Flight Chief.
 - 1. Supervises all ATOC resources and ensure qualified personnel are selected to perform ATOC duties.
 - 2. Oversees duty officer (DO), senior controllers, information controllers, ramp coordinators, load planning and data records sections in conjunction with operations officers and Air Terminal Managers (ATM).
 - 3. In the event an ATOC function is collocated with a base or wing command posts, ATOC flight chief will develop local operating instruction (OI) to outline duties and responsibilities not covered in AFI 24-605, Vol 2.
- C. Duty Officer/Senior Controller.
 - 1. DOs supervise day-to-day aerial port squadron and air mobility squadron tactical operations by monitoring flight line activities.
 - 2. The Senior Controller will assume DO roles and responsibilities when DOs are not assigned/available.
 - 3. The DO and/or Senior Controller will:
 - a. Monitor and provide all required coordination for airlift mission to include unique work requirements.
 - b. Supervise information control and ramp coordinator functions.
 - c. Monitor current operating conditions to include other air transportation work centers, SOEs, weather forecast, aircraft maintenance status, ramp saturation, aircraft parking plans, etc.
 - d. Research/provide transportation delays to command and control (C2) agency.
- D. Information Control.

1. Information control collects, processes, and disseminates all information pertaining to air transportation operations.
 2. They ensure that each terminal work center is given the necessary information to effectively accomplish the assigned mission by working closely with the C2 agency, base operations, maintenance control, other base agencies, and previous/downline station's ATOC.
- E. Ramp Control.
1. The ramp coordinator (RAMPCO) is the eyes and ears of information control and will monitor all aerial port ground handling operations to include maintaining constant communication with information control, load teams, and work centers.
 2. RAMPCO will brief all aircrew on pertinent payload information to include seat release, hazardous materials, special cargo shipments, special category passengers, couriers, number of pallets, load characteristics, total tonnage, etc.
 3. Ramp control will meet all inbound aircraft to collect cargo and/or passenger mission documentation ensure sufficient copies of manifest remain for transfer accountability.
 4. RAMPCO will make recommendations to ATOC to divert equipment and personnel in order to prevent delays.
- F. Capability Forecasting.
1. Cape coordinates mission requirements with users, air work centers, and designated MAJCOM Command and Control (C2) agencies to ensure mission execution. Cape monitors the cargo backlog and communicates with respective MAJCOM/AOCs to balance cargo requirements.
 2. Cape forecasting is responsible for daily mission forecast schedules and will extract data from appropriate automated C2 systems or published schedules/amendments to prepare the forecasted mission schedule. Forecast will consist of missions at least 72 hours out and will contain cargo/passenger requirements/special coordination (e.g., space blocks, explosives, diplomatic clearances, military working dog, and couriers).
 3. Overflight/port-to-port explosive clearances will be coordinated by cape forecasting for all inbound, outbound, and in-transit shipments and will monitor the location capabilities. Coordinate port-to-port explosive clearance with procedures located on the AMC/A4T SharePoint.
 4. For diplomatic clearance procedures, refer to AFI24-605v2, attachment 10. Additional guidance may be applicable based on the MAJCOM AOC with operation control of the aircraft; consult 618 AOC or applicability.
- G. Load Planning.
1. Load planning is responsible for planning, selecting, sequencing, and manifesting cargo and/or mail on airlift missions while maximizing aircraft utilization and safety of flight
 2. Load plans must be completed NLT six hours prior to aircraft departure for organic aircraft and by contractual agreement times for Civil Reserve Air Fleet (CRAF) carriers.

3. A load plan is required for any mission carrying cargo and/or mail unless total net weight is under 300 pounds and loose loaded.
4. AircREW may deviate from the load plans to facilitate ease of loading, accommodate additional passengers, and to alleviate unnecessary aircraft reconfiguration downrange. When deviations are made, ensure aircrew annotate changes and sign the load plan for station file and inclusion in Mission Load Report (MLR).
5. Unilateral aircrew training (UAT) loads do not require a load plan. However, UAT personnel must provide actual and valid weights to aircrew. All aircrew support training loads will have local identifier, accurate weights and dimensions that are clearly visible and marked on each piece.
6. Load Planners must physically inspect outbound cargo and mail loads to ensure airworthiness and compliance with aircraft limitations.

H. Fleet Service Section.

1. Fleet service includes, but is not limited to, loading and unloading fleet service equipment and supplies, Air Transportable Galley/Lavatory (ATGL), meals, servicing water tanks, and cleaning passenger areas.

I. Data Records Section.

1. Collects all mission documentation for accuracy, updates information in GATES, and performs final quality controls checks to various work center files and compiles overall workload totals.
2. Ensures transportation documentation is forwarded to AMC Accounting and Finance, enabling the proper accounting of millions of dollars annually for (Transportation Working Capital Fund) TWCF.

J. Ramp Services Section.



1. Ramp services is responsible for ensuring that all manifested cargo and mail are loaded during ramp operations.
2. The special handling section is responsible for loading actions involving loose shipments or special handling cargo requiring signature.
3. Load team composition consist of four load team members, as a minimum. Load team chief (LTC), chocker, spotter, and driver. Type of aircraft and cargo load composition may influence actual team size.
4. LTC is the last step in the quality control process and should cross check details on the load pull sheet/manifest/load plan against the cargo to prevent loading issues.
5. LTC will use AFI 24-605, Vol 2, Attachment 8. This must be present during aircraft loading. Local management may add to the checklist.
 - a). Load teams and special handling personnel will use the load plan/load pull sheet to pull the pallets and/or loose shipments from the storage areas and assemble the load.

- b). Load teams will ensure the pallet identifier, destination and weight on the DD Form 2775 (Pallet Placard) match the data on the load pull sheet.
 - c). For loose shipments, match the TCN and the label (DD Form 1387) to the shipments on the load pulling document.
 - d). Sequence the load in accordance with the load pull sheet.
 - e). Assemble and inspect all planned loads prior to aircraft arrival.
6. Load teams ensure all dirt, snow, ice, and standing water is removed from pallets prior to loading on an aircraft.
 7. LTC ensures all necessary equipment is available for loading and meets aircraft SOEs as expeditiously as possible.
 8. LTC will brief load teams about unique load characteristics and loading prior to actual operation start (e.g., explosives, hazardous materials, vehicles, and outsized cargo).
 9. If any discrepancy is noted and corrective actions are not immediately possible, notify dispatch, ATOC and load planning so pallet/piece can be bumped and supplemented with other cargo.
 10. Loading operations are a coordinated effort between the LTC and the loadmaster, boom operator, contract/carrier representative and /or Aerial Port Expeditor Load Director.
 11. The special handling representative will ensure the accountability of all special cargo and transfer custody.

K. Cargo Processing Section.

1. Air terminals receive cargo/mail from a wide variety of sources with differing documentation, e.g., commercial/government bills of lading (CBL/GBL), DD Form 1384, Transportation Control and Movement Document's (TCMD) and truck/aircraft manifests.
2. After in-checking is complete, cargo is delivered to the Cargo Processing Section.
 - a). Cargo requiring special handling is delivered to the Special Handling Section.
 - b). Precedence of cargo/mail to be processed by the Cargo Processing Section is determined by the destination, transportation priority, and System Entry Time (SET).
 - (1) SET is established when a shipment enters the Defense Transportation System (DTS) airlift system (receipt time).
3. The shipment is controlled by SET throughout the DTS.
4. Cargo Processing will segregate cargo/mail (originating or in-transit) to be shipped by military air and place it in the appropriate terminal bay or pallet location.
 - a). All cargo/mail for shipment via AMC contract carrier or military air transportation will be processed as soon as possible not to exceed 18 hours of receipt time.
 - b). All TP-1 cargo/mail with expedite handling indicators will be processed as soon as possible not to exceed 12 hours of receipt time.

L. Special Handling Section.

1. Responsible for any cargo requiring special handling acceptance, air movement, environmental control, handling, packaging, security or any combination of these factors.

This section is responsible for movement of all special cargo unless directed otherwise by local management.

2. Conducts inventories of security cages/rooms, reefers, and hazardous/explosives cargo areas, and establishes internal procedures to maintain accountability for security shipments pending load selection and manifesting.
3. Will oversee all movement of hazardous materials with the air terminal. Special Handling personnel will be, at a minimum, “Inspector” qualified to inspect hazardous cargo in accordance with AFMAN 24-604.
 - a). Inspectors will perform exterior inspection on 100 percent of originating hazardous shipments.
 - b). Inspectors will perform a random interior inspection (not less than 10 percent) of combination packages. Special Handling personnel can increase inspection frequency based on past shipment problems.

M. Passenger Services Section.

1. The Passenger Service Section is responsible for the processing of all DOD Space-Required (Space-R) and/or Space-available (Space-A) passengers transitioning AMC controlled locations.
 - a). Passenger service agents determine passenger eligibility IAW DODI 4515.13, Air Transportation Eligibility and the Foreign Clearance Guide.
 - b). Passenger service agents maintain the Space-required and Space-available passenger registers and determine the order of movement for both Space-R and Space-A passengers.
 - c). Passenger service agents are responsible for providing DOD passengers with prompt, courteous, and professional service on an equitable basis.
 - d). Passenger service agents provide a complete range of services to accommodate arriving/departing passengers and baggage.

Learning Objective 2 Training requirements for skill levels:

- A. The Career Field Education and Training Plan (CFETP).
 1. Provides information necessary for the Air Force Career Field Manager (AFCFM), MAJCOM Functional Managers (MFM), commanders, training managers, supervisors, and trainers to plan, develop, manage, and conduct an effective career field training program.
 2. Outlines the training that individuals in this Air Force Specialty (AFS) should receive in order to develop and progress throughout their career.
 3. Identifies initial skills, upgrade, qualification, advanced, and proficiency training. Initial skills training is the AFS specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC or AFRC at one of the technical training centers.

4. Identifies task and subject knowledge training requirements of each skill level in the specialty and recommends education/training throughout each phase of an individual's career.
 5. List training courses available in the specialty, identifies sources of training, and training delivery method.
 6. Skill level training requirements in this career field are defined in terms of tasks and knowledge requirements. The specific task and knowledge training requirements are identified in Part II of the 2T2X1 CFETP.
 7. The CFM is the approving official and waiver authority for any changes to, and deviations from, this CFETP. An annual review of this document is conducted by the CFM to ensure currency and accuracy.
 - a). For members of the Guard and Reserve, AFI 36-2670, Total Force Development, delegates waiver authority for mandatory training requirements to the respective ARC MFM.
- B. Specialty training.
1. Several programs blend specialty training with academic pursuits to enable or enhance career progression. These include:
 - a). Advanced specialty training
 - b). Supplemental training
 - c). On-the-Job training (OJT)
 - d). Accredited education
- C. Responsibilities.
1. The success and quality of trainee training greatly depends on the relationship between the supervisor, trainer, and trainee.
 - a). Supervisor Responsibilities.
 - (1) Must share their experiences and expertise to meet mission requirements and provide a quality training program to the trainee.
 - (2) Must plan, conduct, and evaluate training.
 2. Trainee Responsibilities.
 - a). The trainee is the focal point of the AF training program.
 - b). Trainees must make every effort to become qualified to perform in their Air Force Specialty (AFS).
 - (1) Trainees must:
 - (a) Actively participate in all opportunities for upgrade and qualification training.
 - (b) Comprehend the applicable CFETP requirements and career path.
 - (c) Obtain and maintain knowledge, qualifications, certifications, and appropriate skill level within the assigned specialty.
 - (d) Budget on- and off-duty time to complete assigned training tasks and self-study training requirements, within established time limits.

- (e) Request assistance from the supervisor, trainer, and Unit Training Manager (UTM) when having difficulty with any part of training.
- (f) Acknowledge and document task qualification upon completion of training. Documenting task qualification serves as an official certification of proficiency, certifying the individual is accountable for task performance IAW the governing instructions.
- (g) Understand their deployment/UTC, and home station requirements.

Learning Objective 3 Qualification Requirements for Skill Level

A. 3-Level Requirements

- 1. To be awarded the 2T231 AFSC, completion of the Air Transportation Apprentice course is mandatory.
 - a). Prior service personnel assigned to the ARC may attend the Transportation Proficiency Center (TPC) Air Transportation Basic Course in lieu of the Air Transportation Apprentice Course.
 - (1) In addition, these personnel must complete knowledge training on all tasks taught in the initial skills course combined with additional mandatory requirements identified by the ARC MFM and approved by the 2T2 CFM.
 - (2) Only after completing mandated OJT are prior service personnel awarded a 3-skill level.
 - b). Active duty prior service not authorized by AFPC to attend the Air Transportation Apprentice Course may coordinate with TPC Superintendent to send members to TPC Air Transportation Basic Course, based on availability and approval. The course will be unit funded.

B. 5-Level Upgrade Requirements

- 1. 2T251 AFSC is awarded following successful completion of 12 months OJT and all 5-level core task items identified in the 2T2X1 STS.
- 2. Once upgraded to the 5-level, a journeyman will enter into continuation training to broaden their experience base.
- 3. 5-levels may be assigned job positions such as information control, passenger service duties, fleet service duties, cargo and load team member, aerial delivery, and various staff positions.
- 4. Members are strongly encouraged to continue their education toward a CCAF degree.

C. 7-Level Upgrade Requirements

- 1. 2T271 AFSC is awarded following successful completion of 12 months OJT, all 5- and 7-level core task items identified in the 2T2X1 STS, and attainment of the grade of SSgt.
- 2. A 7-level can expect to fill various supervisory and management positions such as shift supervisor, section chief, and senior controller.

3. 7-levels should take courses or obtain added knowledge on management of resources and personnel. Attendance in the Principles of Air Transportation Management (PATM) course is highly encouraged.
 4. Members are strongly encouraged to complete academic education through CCAF or higher degree programs.
- D. 9-Level Upgrade Requirements
1. 2T291 AFSC is awarded following required training/qualification to the task/subject knowledge level in Column 4.D. of CFETP 2T2X1 Attachment 2; completion of all 3-, 5- and 7-level core tasks; and attainment of the grade of SMSgt.
 2. A 9-level can expect to fill positions such as flight chief, NCOIC, superintendent, and other various staff jobs.
 3. Qualification in and possession of 2T271, experience and general knowledge of air transportation systems and mobility operations to include hub and spoke dynamics, air transportation organizational constructs and passenger and cargo movement procedures through the defense transportation system.
 - a). Air Reserve Component (ARC) personnel must have a minimum of two years as a 2T271, proficient in all 7-level tasks, as outlined in CFETP 2T2X1, and capable of performing shift supervision roles conductive to assigned rank before award of the 9-skill level.
 - b). Logistics Readiness SNCO Course will provide increased knowledge on the entire Logistics Readiness enterprise so that Air Transportation SNCOs are better prepared to serve in LRS leadership, staff, and/or key leadership positions.
- E. Proficiency Training
1. Additional training, (in-residence, exportable or OJT training) used to increase skills and knowledge beyond minimum upgrade requirements. MAJCOMs are directed to use QTPs whenever possible to train their personnel to the highest level based on available equipment or the Master Task Listing (MTL) for specific duty positions.

Learning Objective 4 Career Path Progression:

- A. AFH 36-2618, Enlisted Force Structure is comprised of three distinct and separate tiers, each correlating to increased levels of education, training, and experience which build increasing levels of proficiency in the institutional competencies.
- B. The three tiers also correlate to increased leadership and managerial responsibilities.
- C. These tiers are:
 1. Junior Enlisted Airman.
 - a). Consists of Airman Basic, Airman, Airman First Class, and Senior Airman.
 - b). Junior enlisted Airmen initially focus on adapting to military requirements, being part of the profession of arms, achieving occupational proficiency, and learning how to be highly productive members of the Air Force.

- c). In this tier, Airmen prepare for increased responsibilities and must ensure they are trained, qualified, and ready to operate, both at home station and in an expeditionary environment.
 - d). Junior enlisted Airmen are introduced to the institutional competencies and continue to broaden their technical skills.
2. Noncommissioned Officer (NCO).
 - a). Consists of Staff Sergeant and Technical Sergeant.
 - b). NCOs continue occupational growth and become expert technicians while developing as leaders, supervisors, managers, and mentors in the profession of arms.
 - c). NCOs must ensure they keep themselves and subordinate personnel trained, qualified, and ready to deploy and operate at home station and in an expeditionary environment.
 - d). NCOs understand and internalize institutional competencies in preparation for increased responsibilities, while pursuing professional development through a variety of means, including Enlisted Professional Military Education.
 3. Senior Noncommissioned Officer (SNCO).
 - a). This tier consists of Master Sergeant, Senior Master Sergeant, and Chief Master Sergeant.
 - b). SNCOs serve as leaders in the profession of arms. They advise, supervise, and mentors others to further grow and develop junior enlisted Airmen and NCOs under their charge to maximize their leadership abilities.
 - c). They have a great deal of leadership experience they use to leverage resources and personnel against a variety of mission requirements. SNCOs participate in decision-making processes on a variety of technical, operational and organizational issues.

TRAINER GUIDANCE

Line Item 1.2 Organizational Structure

Prerequisites:	A. Trainee has no prerequisites. B. Trainer will establish a timeline for completing the required training with the trainee.
Training References:	A. AFI 24-605, Vol 1, Air Transportation Organization and Structure B. CFETP 2T2X1, Air Transportation Specialty
Additional Supporting References:	N/A
Training Support Material:	N/A
Specific Techniques:	N/A
Criterion Objective:	<p>A. Upon completion of training, the trainee will:</p> <ol style="list-style-type: none"> 1. Know what Air Force air transportation units are organized to provide. 2. Know the various organizational structures found in the Air Transportation career field. 3. Know basic facts, terms, and principles about manpower as it relates to the Air Transportation career field. <p>A. Trainee will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. <p>A. Trainer will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. 3. Conduct the training using the attached lesson plan. 4. Perform remedial training if necessary. 5. Comply with the duties outlined in AFI 24-605, Vol 2, Air Transportation Operations 6. Complete the AMC TTG (EOS CRS Feedback) https://www.usafecsurvey.com/se/251137455E5A907801
NOTES to Trainer:	This training guide is knowledge based.

TASK STEPS

Line Item 1.2 Organizational Structure

Learning Objective 1: Organizational structures found in the Air Transportation Career Field:

- A. An Aerial Port Squadron (APS) is typically located in the Continental United States (CONUS) and consists mostly of air transportation and traffic management personnel.

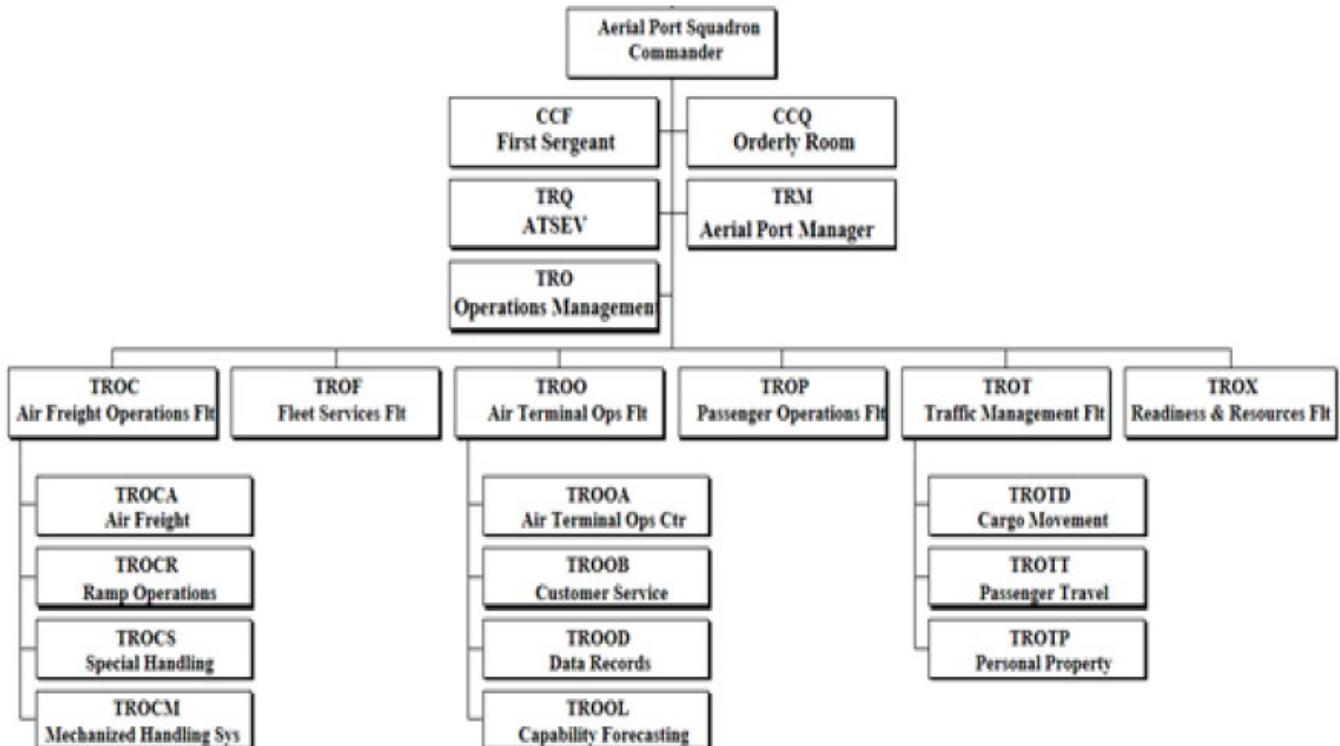


Figure 1: Visual representation of typical APS organizational structure

B. An Air Mobility Squadron (AMS) is typically located outside the CONUS in various locations across the globe. An Air Mobility Squadron is typically composed of air transportation and aircraft maintenance personnel and serves as an en route station, or in transit hub for cargo and passenger movement between specified regions.

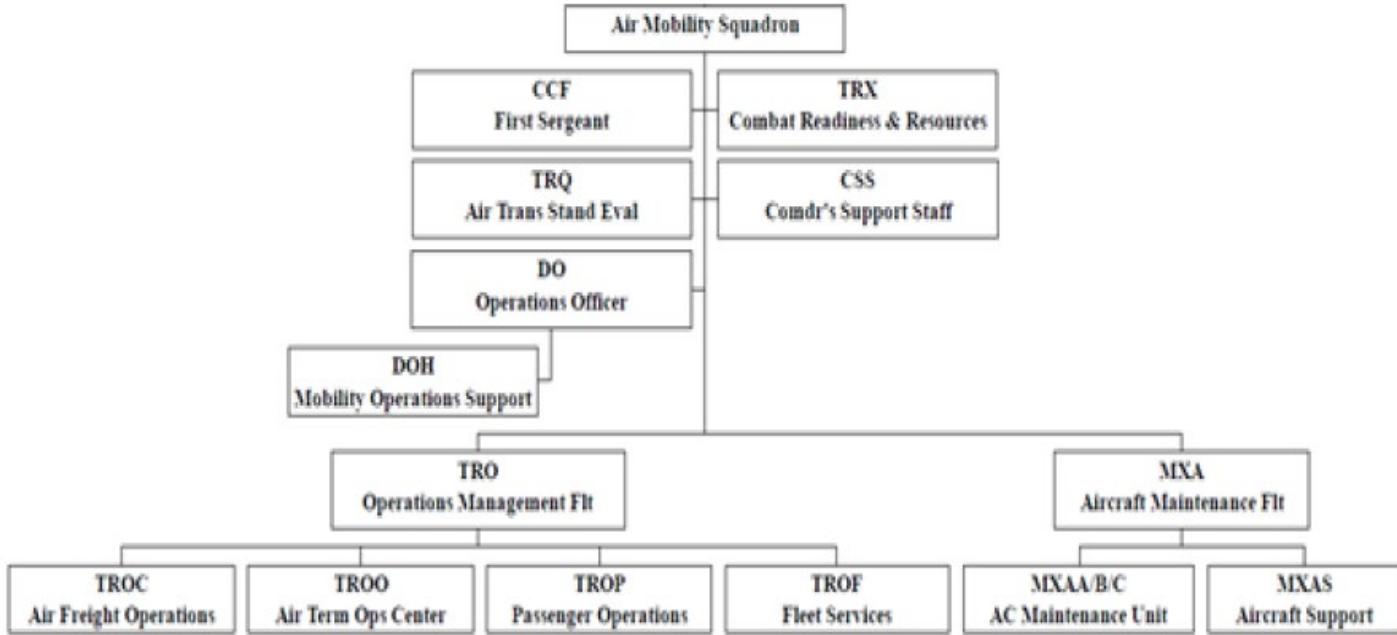


Figure 2: Visual representation of typical AMS organizational structure

C. Contingency Response Units typically consist of air transportation, maintenance, command and control, security forces, and other personnel. The mission of these units is to deploy its personnel within 12 hours to open air bases or augment existing air bases worldwide. Air transportation personnel assigned to these units typically perform functions based on specific unit type codes (UTCs). Due to the unique and diverse nature of Contingency Response Units there is no “typical” or “best fit” organizational structure chart for visual representation.

D. A Logistics Readiness Squadron (LRS) typically consists of fuels, logistics plans, material management, traffic management, ground transportation, air transportation, vehicle management, and other personnel. Air transportation personnel within an LRS are typically assigned to a Deployment and Distribution Flight.

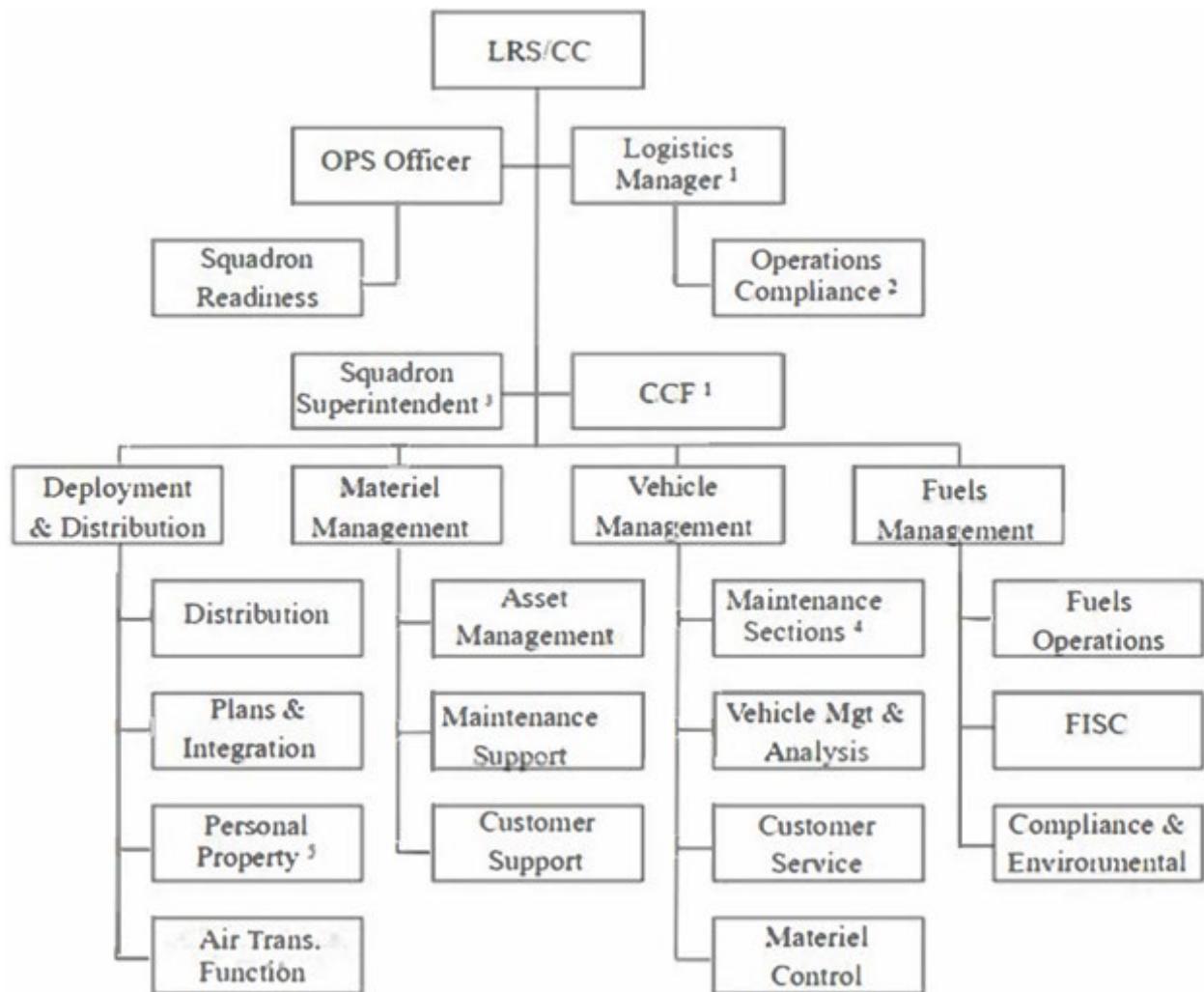


Figure 3: Visual representation of typical LRS organizational structure

E. The Air Force Reserve Command organizes aerial port squadrons at a functional level as small, medium, and large. Structures facilitate the training and deployment of air transportation specialists and associated Air Force Specialty Codes in support of combatant commanders.

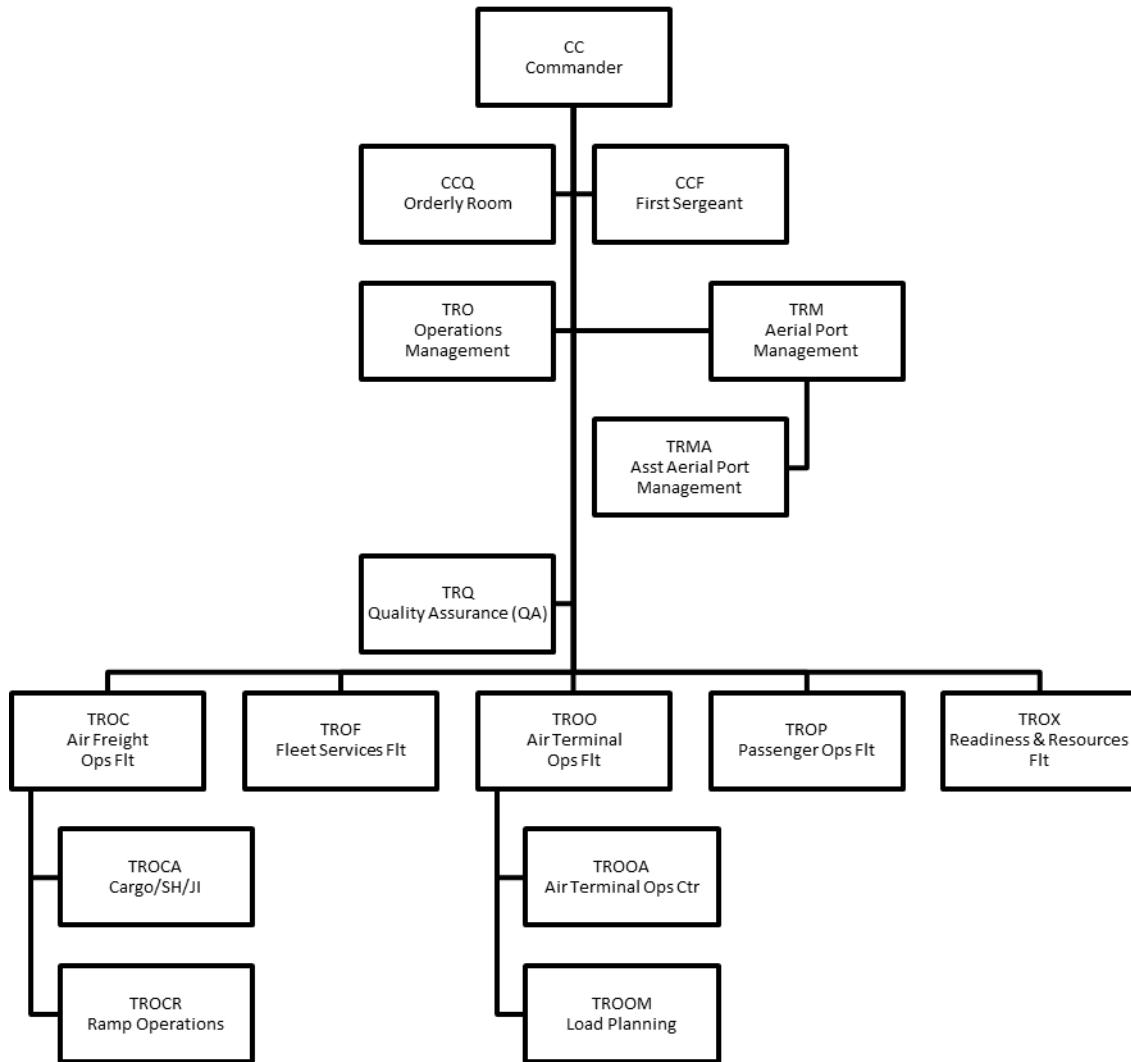


Figure 4: Visual representation of typical AFR Aerial Port Squadron organizational structure

Learning Objective 3: Air Transportation mission and manpower:

A. The organization's mission is critical to determine the structure and manpower needed to accomplish a specific function, workload, or program. Manpower for non-contingency Active Duty locations are generally determined by an AFMS (Air Force Manpower Standard) or other management decision. The air transportation AFMS listed below provides insight into the specific functions performed and the manpower resources authorized. Note: Organizations should only perform functions necessary to accomplish the unit's assigned mission and supported by an appropriate AFMS. For example, an APS/AMS could earn manpower for Data Records section functions under the 42P3 AFMS listed below, however, an LRS does not perform this function and therefore, does not earn the associated manpower. Current manpower standards are listed below in Figure 6, as well as Attachment 3 of AFI 24-605, Vol 1, and available at the following link:

<https://cs2.eis.af.mil/sites/11190/AFMDandAFMS/default.aspx>

1. Air Force Manpower Determinant (AFMD) 42P1-42P7 quantifies manpower required to accomplish tasks to support air transportation operations within the APS and AMS (RegAF). Air transportation authorizations in this AFMD are earned to perform functions in one of the following sections:
 - a). Readiness and Resources
 - b). Passenger Operations
 - c). Air Terminal Operations Center (ATOC)
 - d). Air Freight
 - e). Air Transportation Standardization Evaluation
 - f). Operations Management
 - g). Fleet Services
2. AFMS 42P9 quantifies varying levels of manpower required to accomplish tasks of an air transportation function (ATF)—previously small air terminal—with the LRS based on location or installation population/workload:
 - a). Limited and/or non-standard airfield operation—installations specified within AFMS 42P9 receive constant air transportation manpower authorizations to perform infrequent functions and support wing deployment operations.
 - b). Collocated with an AMC APS/AMS—installations specified within AFMS 42P9 receive constant air transportation manpower authorizations to support installation deployment operations. An LRS does not earn air transportation manpower authorizations to perform aerial port functions at these installations.
 - c). Manpower authorizations earned for Core ATF Capability, Aircraft Passenger Operations, Aircraft Cargo Operations, and Aircraft Flights Supported are determined based on population and workload factors specified within AFMS 42P9 to support MAJCOM or service-specific authorized airlift requirements.
3. Workload data is used to validate and support manpower and equipment requirements. Aerial ports and air terminals capture monthly data in accordance with AFI 24-605, Vol

- 2, Air Transportation Operations, (e.g., Workload Reporting System, Workload Data Tool).
4. Current Air Force Manpower Standards are utilized to determine earned authorizations. Improvements in air transportation processes/functions lead to revised AFMS that more accurately reflect the associated manpower requirements. The Air Force Reserve and Air National Guard use applicable Manpower Standards.

Series Number	Title
42P0	Air Transportation (Applicable to AFR)
42P1	Readiness
42P2	Passenger Service
42P3	Air Terminal Operations Center (ATOC)
42P4	Air Freight
42P5	ATSEP/Quality Assurance
42P6	Operations Management
42P7	Fleet Services
42P8	Unilateral Aircrew Training (UAT)
42P9	Air Transportation Function (ATF)

- B. Manpower for non-contingency AFRC home station locations are driven through two factors: An AFRC Manpower Determinate (AFRCMD) for full-time personnel/requirements (Civilian/ART/AGR) and UTC posture requirements for Traditional Reservists. UTC posture requirements are determined by the AFRC MFM and AFRC FAM, utilizing historical Force Provider requirements, command mission priorities, funding constraints, and unit health/recruiting information. Current AFRC manpower determinates can be viewed here: <https://afrc.eim.us.af.mil/sites/A1/A1M/A1MM/Documents/Manpower%20Determinants%20and%20Guides>
- C. Manpower requirements for contingency locations are determined by the respective Combatant Commands and requested through Force Providers (e.g. AMC), driving UTC taskings for Total Force personnel.

Figure 4: Air Transportation Manpower Standard List

TRAINER GUIDANCE

Line Item 1.3 *Types and descriptions of transport aircraft*

Prerequisites:	Trainee will complete the Air Freight (DL) Course// Airframe Capabilities
Training References:	DTR 4500.9-R. Part III, Appendix V Aircraft Load Planning and Documentation
Additional Supporting References:	N/A
Training Support Material:	N/A
Specific Techniques:	This lesson plan is designed for hands-on (demonstration/performance). Trainers will demonstrate, document, and verify training using a variety of hands-on scenarios with actual missions or simulated training scenarios.
Criterion Objective:	<p>A. Upon completion of training, trainee will be able to:</p> <ol style="list-style-type: none"> 1. Know the primary Air Mobility airframes. 2. Know the various capabilities of each airframe. 3. Know basic facts, terms, and principles about airlift capability. <p>B. Trainee will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. <p>C. Trainer will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references 3. Ensure trainee has completed prerequisites 4. Conduct the training using the attached lesson plan. 5. Perform remedial training if necessary 6. Comply with the duties outlined in AFI 24-605, 7. Complete the USAF EC QTP Evaluation survey
NOTES to Trainer:	<p>This lesson plan is designed for hands-on training (demonstration-performance). Aerial port missions are inherently different from station to station; training sessions may or may not easily lend themselves to hands-on training. Therefore, it is imperative that trainers demonstrate, document and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC).</p> <p>Prior to accomplishing the practical application of this lesson, ensure the trainee has the necessary PPE; i.e., gloves, steel-toed boots, hearing protection, and reflective gear during hours of darkness. Use caution while maneuvering around the Mechanized Material Handling System (MMHS), if applicable.</p> <p>Brief the trainee to remain aware of vehicles/Material Handling Equipment (MHE) operating in the warehouse/pallet grid yard. Additionally, remind the trainee to remove all rings and exposed jewelry.</p>

TASK STEPS

Line Item 1.3 *Types and descriptions of transport aircraft*

Learning Objective 1 Capabilities of the C-130 Hercules:

A. History

1. Four decades have elapsed since the Air Force issued its original design specification, yet the remarkable C-130 remains in production since December 1956.
2. The latest C-130 to be produced, the C-130J, entered the inventory in February 1999. The C-130J brings substantial performance improvements over all previous models.
 - a). The C-130J-30, a stretch version with a 15-foot fuselage extension, increases the capabilities even more. To date, the Air Force has taken delivery of 77 C130J aircraft from Lockheed-Martin Aeronautics Company

B. Mission

1. The C-130 Hercules primarily performs the tactical portion of the airlift mission.
2. The aircraft is capable of operating from rough, dirt strips and is the prime transport for airdropping troops and equipment into hostile areas.
3. The C-130 operates throughout the U.S. Air Force, serving with Air Mobility Command, Air Force Special Operations Command, Air Combat Command, U.S. Air Forces in Europe, Pacific Air Forces, Air National Guard and the Air Force Reserve Command, fulfilling a wide range of operational missions in both peace and war situations.
 - a). Basic and specialized versions of the aircraft airframe perform a diverse number of roles, including airlift support, Antarctic ice resupply, aeromedical missions, weather reconnaissance, aerial spray missions, firefighting duties for the U.S. Forest Service and natural disaster relief missions

C. Features

1. Using its aft loading ramp and door, the C-130 can accommodate a wide variety of oversized cargo, including everything from utility helicopters and six-wheeled armored vehicles to standard palletized cargo and military personnel.
2. In an aerial delivery role, it can airdrop loads up to 42,000 pounds or use its high flotation landing gear to land and deliver cargo on rough, dirt strips.
3. The flexible design of the Hercules enables it to be configured for many different missions, allowing one aircraft to perform the role of many.
 - a). Much of the special mission equipment added to the Hercules is removable, allowing the aircraft to return to its cargo delivery role if desired.
 - b). Additionally, the C-130 can be rapidly reconfigured for the various types of cargo such as palletized equipment, floor-loaded material, airdrop platforms, container delivery system bundles, vehicles and personnel or aeromedical evacuation.
4. The C-130J is the latest addition to the C-130 fleet and will replace aging C130Es.

- a). The C-130J incorporates state-of-the-art technology, which reduces manpower requirements, lowers operating and support costs, and provides life-cycle cost savings over earlier C- 130 models.
- b). Compared to older C-130s, the J model climbs faster and higher, flies farther at a higher cruise speed, and takes off and lands in a shorter distance.
- c). C-130J/J-30 major system improvements include advanced two-pilot flight station with fully integrated digital avionics, color multifunctional liquid crystal and head-up displays and state-of- the-art navigation that includes a dual inertial navigation system and GPS.
- d). The aircraft also features fully integrated defensive systems, low-power color radar, digital moving map display, new turboprop engines with six-bladed all composite propellers and a digital auto pilot.
- e). The C-130J/J-30 also includes improved fuel, environmental and ice protection and an enhanced cargo-handling system



4. Characteristics (See Figure 1.2 below).

C-130 Hercules Characteristics	
Cargo Compartment:	
Length:	52 feet (624 inches) (612" usable)
Width:	123 inches
Height:	108 inches
NOTE: Maximum heights are as follows: <ul style="list-style-type: none"> • 102 inches for large, single items of cargo placed on pallets. • 100 inches for palletized, netted cargo connected. • 100 inches for single, palletized, netted cargo weighing no more than 8,000 lbs. • 96 inches for single, palletized, netted cargo weighing no more than 10,000 lbs. All heights are measured from the surface of the pallet. Maximum height for cargo located forward off fuselage station 381 or positioned on the airplane ramp is restricted to 76 inches.	
In terms of width, cargo must be 14 inches from the sides of the airplane, without passengers. Without dual rails installed, the cargo compartment floor is limited to 105 5/8 inches wide. Maximum height for other-than-palletized cargo located on the aircraft is restricted to 80 inches.	
Vehicle loading:	35-inch tread ways extend entire length of cargo compartment- FS 257 to 867
Maximum Axle Weights:	
Station: 257-337 682-737	
Station: 337-682	
Aircraft Ramp Station: 737-869	3,500/2,500 lbs. NOTE: Single axle of 3,500 lbs. (provided it is the only item on the ramp) or multiple axles of 2,500 lbs. each. In any case, maximum allowable weight on the ramp is 4,664 lbs. when aircraft rails and rollers are installed.

Palletized Cargo Loading:		NOTE: Includes weight of cargo, pallet, and nets.	
Maximum weight loaded in:			
Pallet positions 1-4:	10,355lbs		
Pallet positions 5:	8,500 lbs.		
Pallet positions 6 (Ramp):	4,664 lbs.		
Height of pallet positions 1-5:	96 inches	Maximum height allowed:	
Height of pallet positions 6 (Ramp):	76 inches	<ul style="list-style-type: none"> • An 18-inch aisle must be provided on the left-hand side of the pallet in position six. • To allow for the use of the toilet facility on most C-130 aircraft, an 18x18-inch cut-out must be provided on the forward, left corner of pallets loaded on the ramp. • A minimum of 6-inch aisle must be provided on the left-hand side of pallets positioned in the wheel-well area (pallet positions three and four). 	
Passenger Loading:			
Airline seats plus one comfort pallet:	40		
Web passenger seats:	90		
Paratroops:	64		
Litter patients (plus medical crew):	72		
Full sidewall seats only:	41		
Maximum pax on over-water flights:	74		
Aeromedical Evacuation Role:			
A basic crew of five (two flight nurses and three medical technicians) is added for aeromedical evacuation missions.			
Medical crew may be decreased or increased as required by the needs of patients.			
Restraint:			
<ul style="list-style-type: none"> • Pallets are restrained to aircraft by detent locks. If pallet is properly built and nets installed correctly, no additional restraint is required. • Tie-down rings which have a 10,000 lb. rated capacity are installed in 20-inch grid pattern on the cargo floor. • 25,000 lb. tie-down rings are not available when dual rail system is installed. (Exception: Two, 25,000 lb. tie-down rings are located just forward of the ramp hinge.) • Tie-down rings located on aircraft ramp and cargo compartment walls have a rated strength of 5,000 lb. • Tie-down rings mounted on the aircraft dual rails at 10,000 lb. • Aircraft carry a specified complement of tie-down equipment, adequate for most loads. 			

Figure 1.2, C-130 Characteristics (continued)

C-130J Super Hercules Characteristics														
Cargo Compartment:														
Length:	66 feet (796 inches) (779" usable)	NOTE: Although the cargo compartment is 796" long, <u>only</u> 779" are usable.												
Width:	123 inches	NOTE: In terms of width, cargo must be 14 inches from the sides of the airplane, without passengers. Without dual rails installed, the cargo compartment floor is limited to 105 5/8 inches wide.												
Height:	108 inches													
<p>NOTE: Maximum heights are as follows:</p> <ul style="list-style-type: none"> • 102 inches for large, single items of cargo placed on pallets. • 100 inches for palletized, netted cargo connected. • 100 inches for single, palletized, netted cargo weighing no more than 8,000 lbs. • 96 inches for single, palletized, netted cargo weighing no more than 10,000 lbs. <p>All heights are measured from the surface of the pallet. Maximum height for cargo located in pallet position one is restricted to 76 inches and needs to be contoured 12 inches on inboard side.</p> <p>In terms of width, cargo must be 14 inches from the sides of the airplane, without passengers. Without dual rails installed, the cargo compartment floor is limited to 105 5/8 inches wide. Maximum height for other-than-palletized cargo located on the aircraft is restricted to 80 inches.</p>														
<p>Vehicle loading:</p> <p>35-inch tread ways extend entire length of cargo compartment- FS 345 to 1022</p> <p>Maximum Axle Weights:</p> <table border="1"> <tr> <td>Station: 345-652 832-1011</td><td>6,000 lbs. per individual axle</td></tr> <tr> <td>Station: 652-832</td><td>13,000 lbs. per individual axle</td></tr> </table> <p>Aircraft Ramp Station: 1011-1141 3,500/2,500 lbs.</p> <p>Palletized Cargo Loading:</p> <table border="1"> <tr> <td>Maximum weight loaded in:</td><td></td></tr> <tr> <td>Pallet positions 1-6:</td><td>10,000 lbs.</td></tr> <tr> <td>Pallet positions 7:</td><td>8,500 lbs.</td></tr> <tr> <td>Pallet positions 8 (Ramp):</td><td>5,000 lbs.</td></tr> </table>			Station: 345-652 832-1011	6,000 lbs. per individual axle	Station: 652-832	13,000 lbs. per individual axle	Maximum weight loaded in:		Pallet positions 1-6:	10,000 lbs.	Pallet positions 7:	8,500 lbs.	Pallet positions 8 (Ramp):	5,000 lbs.
Station: 345-652 832-1011	6,000 lbs. per individual axle													
Station: 652-832	13,000 lbs. per individual axle													
Maximum weight loaded in:														
Pallet positions 1-6:	10,000 lbs.													
Pallet positions 7:	8,500 lbs.													
Pallet positions 8 (Ramp):	5,000 lbs.													

Height of pallet positions 1-7:	96 inches	Maximum height allowed: <ul style="list-style-type: none"> • A 20-inch aisle must be provided on the left-handside of pallets positioned in pallet position eight. • To allow for the use of the toilet facility on the aircraft, a 20x20-inch cut-out must be provided onthe forward, left corner of pallets loaded on the ramp. • A minimum of 6-inch aisle must be provided on the left-hand side of pallets positioned in the wheelwell area (pallet positions four and five).
Height of pallet positions 8 (Ramp):	77 inches	
Passenger Loading:		
Airline seats plus one comfort pallet:	48	
Web passenger seats:	126	
Paratroops:	90	
Litter patients (plus medical crew):	97	
Full sidewall seats only:	62	
Maximum pax on over-water flights:	138	
Aeromedical Evacuation Role:		
A basic crew of five (two flight nurses and three medical technicians) is added for aeromedical evacuation missions. Medical crew may be decreased or increased as required by the needs of patients.		
Restraint:		
<ul style="list-style-type: none"> • Pallets are restrained to aircraft by detent locks. If pallet is properly built and nets installed correctly, no additional restraint is required. • Tie-down rings which have a 10,000 lb. rated capacity are installed in 20-inch grid pattern on the cargo floor. • 25,000 lb. tie-down rings are not available when dual rail system is installed. (Exception: Two, 25,000 lb. tie-down rings are located just forward of the ramp hinge.) • Tie-down rings located on aircraft ramp and cargo compartment walls have a rated strength of 5,000 lb. • Tie-down rings mounted on the aircraft dual rails at 10,000 lb. • Aircraft carry a specified complement of tie-down equipment, adequate for most loads. 		

Learning Objective 2 Capabilities of the C-17 Globemaster:**A. History.**

1. The C-17 made its maiden flight on Sept. 15, 1991, and the first production model was delivered to Charleston Air Force Base, now known as Joint Base Charleston, S.C., on June 14, 1993 (See Figure 1.3).
2. The first squadron of C-17s, the 17th Airlift Squadron, was declared operationally ready Jan. 17, 1995.

**B. Mission**

1. The ultimate measure of airlift effectiveness is the ability to rapidly project and sustain an effective combat force close to a potential battle area. Threats to U.S. interests have changed in recent years, and the size and weight of U.S.- mechanized firepower and equipment have grown in response to improved capabilities of potential adversaries. This trend has significantly increased air mobility requirements, particularly in the area of large or heavy outsize cargo. As a result, newer and more flexible airlift aircraft are needed to meet potential armed contingencies, peacekeeping or humanitarian missions worldwide. The C- 17 is capable of meeting today's demanding airlift missions.
 - a). The C-17 Globemaster III is the newest, most flexible cargo aircraft to enter the airlift force.
 - b). The C-17 is capable of rapid strategic delivery of troops and all types of cargo to main operating bases or directly to forward bases in the deployment area.
 - c). The aircraft can perform tactical airlift and airdrop missions and can transport litters and ambulatory patients during aeromedical evacuations when required.
 - d). The inherent flexibility and performance of the C-17 force improve the ability of the total airlift system to fulfill the worldwide air mobility requirements of the United States.

C. Features

1. Reliability and maintainability are two outstanding benefits of the C-17 system. Current operational requirements impose demanding reliability and maintainability. These requirements include an aircraft mission completion success probability rate of 92 percent, only 20 aircraft maintenance man-hours per flying hour, and full and partial mission availability rates of 74.7 and 82.5 percent, respectively.

2. The aircraft is operated by a crew of three (pilot, co-pilot and loadmaster), reducing manpower requirements, risk exposure and long-term operating costs.
3. Cargo is loaded onto the C-17 through a large aft door that accommodates military vehicles and palletized cargo.
4. The C-17 can carry virtually all of the Army's air-transportable equipment.

D. Design.

1. The design of the aircraft allows it to operate through small, austere airfields. The C-17 can take off and land on runways as short as 3,500 feet (1,064 meters) and only 90 feet wide (27.4 meters).
2. Even on such narrow runways, the C-17 can turn around using a three-point star turn and its backing capability.
3. Maximum payload capacity of the C-17 is 170,900 pounds, and its maximum gross takeoff weight is 585,000 pounds. With a payload of 169,000 pounds and an initial cruise altitude of 28,000 feet, the C-17 has an unrefueled range of approximately 2,400 nautical miles.
4. Its cruise speed is approximately 450 knots (.74 Mach).
5. The C-17 is designed to airdrop 102 paratroopers and equipment.

Characteristics (See Figure 1.4 below).

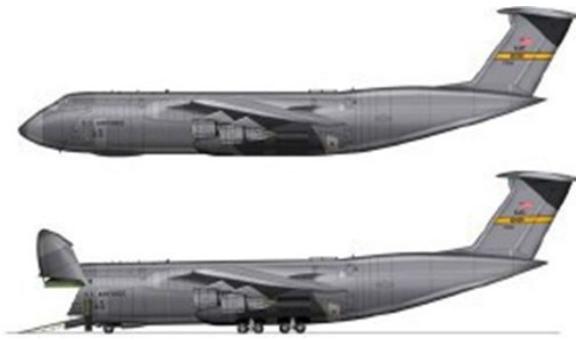
C-17 Globemaster III Characteristics	
Cargo compartment:	
Length:	88' (1056 inches)
Width:	18' (216 inches)
Height:	9' 5" (148 inches)
Cargo area:	
Fuselage Station: 347-1165 (main cargo floor) and from Station 1165-1403 (aircraft ramp).	
Vehicle Loading (Maximum weights):	
Station 347-578 Station 1073-1165	27,000 lbs. per individual axle
Station 578-1073	36,000 lbs. per individual axle
Aircraft Ramp Station 1165-1403	27,000 lbs. per individual axle
NOTE: Width of cargo affects use of sidewall seats. Cargo/vehicle widths less than 157 inches, seats will be available on both sides on the cargo; cargo/vehicle widths of 157 to 192 inches, seats will be available on one side of the aircraft only.	
Cargo/vehicle widths 193 inches and greater, no seats will be available beside the cargo.	

Palletized cargo loading:	
Logistics Rail System: (Pallet positions 1L-9L and 1R-9R)	10,355 lbs.
Aerial Delivery System:(Pallet positions 1-11):	10,355
Height of all pallets positions:	96"
Passenger Loading:	
Permanently installed seats:	54 pax
Onboard centerline seat kit:	48 pax
Paratroops (maximum):	102 paratroops
Onboard litter capacity:	12 liters
Additional litter capacity:	36 pax
Maximum over-water flights:	102 pax
NOTE: Any passenger load requires a minimum of one loadmaster in the cargo compartment; two if more than 40 passengers are carried.	
Passengers will NOT occupy a seat closer than 30 inches from strapped or netted cargo.	

Learning Objective 3 Capabilities of the C-5 Galaxy:

A. History.

1. Lockheed-Georgia Co. delivered the first operational Galaxy to the 437th Airlift Wing, Charleston Air Force Base, now known as Joint Base Charleston, S.C., in June 1970.
2. In March 1989, the last of 50 C-5Bs was added to the 76 C-5As in the Air Force's airlift force structure.
 - a). Based on a study showing 80 percent of the C-5 airframe service life remaining, AMC began an aggressive program to modernize the C-5 in 1998 (See Figure 1.5).
 - b). The C-5 Avionics Modernization Program included upgrading the avionics to improve communications, navigation and surveillance/air traffic management compliance.
 - c). The upgrade also added new safety equipment and installed a new autopilot system.
3. In FY04 and FY12 Congress authorized the retirement of 46 C-5As.
 - a). In FY06 one C-5B crashed at Dover AFB, Del., and was not repairable
 - b). The resulting fleet size from these events is 79, i.e. 29 C-5As and 52 C5B/C/M.



B. Mission.

1. The C-5 Galaxy is one of the largest aircraft in the world and the largest airlifter in the Air Force inventory. The aircraft can carry a fully equipped combat-ready military unit to any point in the world on short notice and then provide the supplies required to help sustain the fighting force.



C. Features.

1. The C-5 has a greater capacity than any other airlifter. It has the ability to carry 36 standard pallets and 81 troops simultaneously.
2. The Galaxy is also capable of carrying any of the Army's air-transportable combat equipment, including such bulky items as the 74-ton mobile scissors bridge.
3. It can also carry outsize and oversize cargo over intercontinental ranges and can take off or land in relatively short distances.
4. Ground crews are able to load and off-load the C-5 simultaneously at the front and rear cargo openings, reducing cargo transfer times.
5. Other features of the C-5 are:
 - a). Able to operate on runways 6,000 feet long (1,829 meters).

- b). Five landing gear totaling 28 wheels to distribute the weight.
 - c). Nose and aft doors that open the full width and height of the cargo compartment to permit faster and easier loading.
 - d). A "kneeling" landing gear system that permits lowering the parked aircraft to facilitate drive-on/drive-off vehicle loading and adjusts the cargo floor to standard truck-bed height.
 - e). Full width drive-on ramps at each end for loading double rows of vehicles.
 - f). A maintenance diagnostics system that records and analyzes data from more than 800 (C-5A) and 7000 (C-5M) test points so that maintenance repair time is reduced.
6. The C-5 has the distinctive high T-tail, 25-degree wing sweep, and four turbofan engines mounted on pylons beneath the wings.
 7. The C-5 has 12 internal wing tanks with a total capacity of 51,150 gallons (194,370 liters) of fuel -- enough to fill 6 1/2 regular size railroad tank cars.
 8. A full fuel load weighs 332,500 pounds (150,820 kilograms).
 9. A C-5 with a cargo load of 270,000 pounds (122,472 kilograms) can fly 2,150 nautical miles, offload, and fly to a second base 500 nautical miles away from the original destination -- all without aerial refueling.
10. With aerial refueling, the aircraft's range is limited only by crew endurance.
- D. Characteristics (See Figure 1.5).

Figure 1.5, C-5 Galaxy Characteristics

C-5 Galaxy Characteristics	
Cargo Compartment:	
Length:	1736 inches
Width:	228 inches
Height:	162 inches
Maximum Axle Weights:	
Station 395-517 Station 1971-2131:	3,600 lbs.(in any 20" length)
Station 511-724 Station 1884-1971:	20,000 lbs.(in any 40" length)
Station 724-1884:	36,000 lbs.(in any 40" area)
Palletized Cargo Loading:	
Pallet positions 3 thru 34	10,355 lbs.
Pallet positions 1, 2, 35, and 36(Fwd and Aft Ramps)	7,500 lbs.
Height of pallet positions 1 thru 34	96"
Height of pallet positions 35 and 36(Ramp)	70"
Passenger Loading:	
Airline seats (permanently installed):	73 pax/troops
Airline seats (additional seat kit):	267 pax/troops
Web passenger seats:	Not Available
Paratroops:	73 paratroops
Litter patients (plus medical crew):	Not Available
Full sidewall seats only:	Not Available
Maximum pax on over-water flights	329 pax

Learning Objective 4 Capabilities of the KC-10 Extender:**A. History**

1. A modified Boeing Company DC-10, the KC-10A entered service in 1981. Although it retains 88 percent of systems commonality with the DC-10, it has additional systems and equipment necessary for its Air Force mission (See Figure 1.6).
 - a). These additions include military avionics; aerial refueling boom and aerial refueling hose and drogue; seated aerial refueling operator station; and aerial refueling receptacle and satellite communications.
2. During operations Desert Shield and Desert Storm in 1991, the KC-10 fleet provided in-flight refueling to aircraft from the U.S. armed forces as well as those of other coalition forces.
 - a). In the early stages of Operation Desert Shield, in-flight refueling was key to the rapid airlift of materiel and forces.
 - b). In addition to refueling airlift aircraft, the KC-10, along with the smaller KC-135, moved thousands of tons of cargo and thousands of troops in support of the massive Persian Gulf buildup.
 - c). The KC-10 and the KC-135 conducted about 51,700 separate refueling operations and delivered 125 million gallons (475 million liters) of fuel without missing a single scheduled rendezvous.
3. Since Sept. 11, 2001, KC-10s have played a prominent role. The KC-10 has flown more than 350 missions guarding U.S. skies as a part of Operation Noble Eagle. During operations Enduring Freedom and Iraqi Freedom, KC-10s flew more than 1,390 missions delivering critical air refueling support to numerous joint and coalition receiver aircraft.

B. Mission.

1. The KC-10 Extender is an Air Mobility Command advanced tanker and cargo aircraft designed to provide increased global mobility for U.S. armed forces.
2. Although the KC-10's primary mission is aerial refueling, it can combine the tasks of a tanker and cargo aircraft by refueling fighters and simultaneously carry the fighter support personnel and equipment on overseas deployments.
3. The KC-10 is also capable of transporting litter and ambulatory patients using patient support pallets during aeromedical evacuations.

C. Features.

1. The KC-10 can transport up to 75 people and nearly 170,000 pounds of cargo a distance of about 4,400 miles unrefueled.
 - a). In addition to the three main DC-10 wing fuel tanks, the KC-10 has three large fuel tanks under the cargo floor, one under the forward lower cargo compartment, one in the center wing area and one under the rear compartment. Combined, the capacity of the six tanks carries more than 356,000 pounds (160,200 kilograms) of fuel - almost twice as much as the KC-135 Stratotanker.
2. Using either an advanced aerial refueling boom, or a hose and drogue centerline refueling system, the KC-10 can refuel a wide variety of U.S. and allied military aircraft within the same mission. The aircraft is equipped with lighting for night operations.
3. The KC-10's boom operator controls refueling operations through a digital, fly-by wire system. Sitting in the rear of the aircraft, the operator can see the receiver aircraft through a wide window. During boom refueling operations, fuel is transferred to the receiver at a maximum rate of 1,100 gallons (4,180 liters) per minute; the hose and drogue refueling maximum rate is 470 gallons (1,786 liters) per minute. The automatic load alleviation and independent disconnect systems greatly enhance safety and facilitate air refueling. The KC-10 can be air-refueled by a KC-135 or another KC-10A to increase its delivery range.
4. The large cargo-loading door can accept most air forces' fighter unit support equipment.
 - a). Powered rollers and winches inside the cargo compartment permit moving heavy loads.
 - b). The cargo compartment can accommodate loads ranging from 27 pallets to a mix of 17 pallets and 75 passengers.

KC-10 Extender Characteristics	
Length:	1508 inches
Width:	218 inches
Height:	108 inches
Cargo Area:	From FS 496-2004 (main cargo floor)
Maximum Axle Weights:	
Station 630-1066	4,500 lbs. per individual axle
Station 1066-1175	4,800 lbs. per individual axle
Station 1175-1502	3,200 lbs. per individual axle
Station 1502-1937	4,000 lbs. per individual axle
Palletized Cargo Loading:	
Pallet positions 1-6 (left and right)	6,500 lbs.
Pallet positions 7-11 (left and right)	10,000 lbs.
Pallet positions 12-13 (left and right)	6,500 lbs.
Height of pallet positions 2 thru 10	96"
Height of pallet positions 11 thru 12	96"
Passenger Loading:	
Airline seats (Code A):	8 Pax
Airline seats (Code B):	10 Pax
Airline seats (Code D):	65 Pax
Airline Seats (Increased Accommodation Kit)	69 Pax
Web passenger seats:	Not Available
Paratroops:	Not Available
Litter patients (plus medical crew):	Not Available
Full sidewall seats only:	Not Available
Maximum pax on over-water flights	69 pax

Learning Objective 3 Capabilities of the KC-135 Stratotanker:**A. History.**

1. Air Mobility Command manages an inventory of 414 Stratotankers, of which the Air Force Reserve and Air National Guard fly 247 aircraft in support of AMC's mission (See Figure 1.8).
2. The Boeing Company's model 367-80 was the basic design for the commercial 707 passenger plane as well as the KC-135A Stratotanker.
 - a). In 1954, the Air Force purchased the first 29 of its future 732-plane fleet.
 - b). The last KC-135 was delivered to the Air Force in 1965.
3. Through the years, the KC-135 has been altered to do other jobs ranging from flying command post missions to reconnaissance.
 - a). RC-135s are used for special reconnaissance and Air Force Materiel Command's NKC-135As are flown in test programs.
 - b). Air Combat Command operates the OC-135 as an observation platform in compliance with the Open Skies Treaty.

**B. Mission.**

1. The KC-135 Stratotanker provides the core aerial refueling capability for the United States Air Force and has excelled in this role for more than 50 years.
 - a). This unique asset enhances the Air Force's capability to accomplish its primary mission of global reach.
 - b). It also provides aerial refueling support to Air Force, Navy, Marine Corps and allied nation aircraft.
 - c). The KC-135 is also capable of transporting litter and ambulatory patients using patient support pallets during aeromedical evacuations.

C. Features.

1. A cargo deck above the refueling system can hold a mixed load of passengers and cargo.
 - a). Depending on fuel storage configuration, the KC-135 can carry up to 83,000 pounds of cargo.
2. Nearly all internal fuel can be pumped through the flying boom, the KC-135's primary fuel transfer method. One crewmember, known as the boom operator, is stationed in the rear of the plane and controls the boom during in-flight air refueling.
3. A special shuttlecock-shaped drogue attached to and trailing behind the flying boom may be used to refuel aircraft fitted with probes. Some aircraft have been configured with the multipoint refueling system, which consists of special pods mounted on the wingtips. These KC-135s are capable of refueling two receiver aircraft at the same time.

4. Characteristics (See Figure 1.9).

KC-135 Stratotanker Characteristics	
Cargo Compartment:	
Length:	840 inches
Width:	129 inches
Height:	84 inches
Cargo Area:	From FS 440-1120 (main cargo floor)
Palletized Cargo Loading (Max cargo loading wt):	
Pallet positions 1-6	6,000 lbs.
Height of pallet positions 1 thru 6	65 inches
Passenger Loading:	
Airline seats:	56 Pax
Web passenger seats:	57 Pax
Litter patients(plus medical crew):	8 litters(1 floor loaded)
Full sidewall seats only:	Not Available
Maximum pax on over-water flights	57 pax

Learning Objective 3 Capabilities of the KC-46 Pegasus:**A. History**

1. First flight was on September 25, 2015
2. The Boeing-built KC-46A tanker is a military version of the 767 commercial aircraft. It is intended to replace the oldest of the U.S. Air Force's KC-135 Stratotanker fleet

**B. Mission**

1. The KC-46A Pegasus is a wide body, multirole tanker that can refuel all U.S.
2. Allied and coalition military aircraft compatible with international aerial refueling procedures.
3. Boeing designed the KC-46 to carry passengers, cargo and patients.
4. The aircraft can detect, avoid, defeat and survive threats using multiple layers of protection, which will enable it to operate safely in medium-threat environments

C. Features

1. Two Pratt & Whitney 4062 engines
2. Max Speed 530 mph
3. Boom operator refueling screen is a 24 inch display with 3D refueling picture verses traditional refueling.
4. The KC-46A can carry up to 18 side-by-side 463L cargo pallets.
5. 10 pallet positions centerline

KC-46 Pegasus	
Overall Dimensions	
Length:	1990 inches
Width:	1873 inches
Height:	634 inches
Zone Weight Limits	
Zone 1-3 and 6-8	7020 lb
Zone 4-5	9936 lb
Zone 9-10	5720 lb
Side By Side Single Pallet Weight Limits	
Pallet Positions 1 thru 3	4676 lbs
Pallet Positions 4 and 5	9936 lbs
Pallet positions 6-8	4676 lbs
Centerline Pallet weight limits	
1-3 Center	7020 lbs
4-5 Center	9936 lbs
6-8 Center	7020 lbs
9-10 Center	5720 lbs
Passenger Loading:	
Aircrew Seats (permanent)	15
Airline seats (additional se)	58
Contengency Seats	114
Aeromedical Passengers	58 Patients

Figure 2.0, KC-46 Pegasus Characteristics

TRAINER GUIDANCE

Line Item 1.4 Locate and reference transportation forms, publications, and technical orders

Prerequisites:	1. Trainee has no prerequisites. 2. Trainer will establish a timeline for completing the required training with the trainee.
Training References:	1. ePublications (https://www.e-publishing.af.mil/) 2. ETIMS – Enhanced Technical Information Management System (https://etims.cce.af.mil/ETIMS/index) 3. Defense Travel Regulation (https://www.ustranscom.mil/dtr/)
Additional Supporting References:	Not applicable.
Training Support Material:	Not applicable.
Specific Techniques:	Not applicable.
Criterion Objective:	<p>1. Upon completion of training, the trainee will:</p> <ul style="list-style-type: none"> a. Know the different publications and forms associated with the air transportation career field. b. Locate information within publications. c. Locate forms used. <p>2. Trainee will:</p> <ul style="list-style-type: none"> a. Review the training objectives. b. Review the training references. c. Perform the training with assistance from the trainer. d. Perform an unassisted evaluation under the observation of the trainer. <p>3. Trainer will:</p> <ul style="list-style-type: none"> a. Review the training objectives. b. Review the training references. c. Conduct the training using the attached lesson plan and the Task Evaluation Checklist (TEC). d. Perform remedial training if necessary. e. Comply with the duties outlined in AFI 24-605, Vol. 5, Chapter 2, Air Transportation Operations.
NOTES to Trainer:	<p>This lesson plan is designed for hands-on training (demonstration-performance). Aerial port missions are inherently different from station to station; training sessions may or may not easily lend themselves to hands-on training. Therefore, it is imperative that trainers demonstrate, document, and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC).</p> <p>For the purpose of this TTG, the term “publication” refers to any written document such as and AFI, pamphlet, manual, or technical order. This TTG supports CFETP task 1.4.</p>

TASK STEPS

Line Item 1.4 Locate and reference transportation forms, publications, and technical orders

Learning Objective 1: Upon completion of training, the trainee will know how to identify the most common publications and forms in the 2T2X1 career field.

- 1.. AF 24 series
 - a. Serves as the Transportation guidance. Supersedes AMCI 24-101 and AMCI 24-114
- 2.. DOD 4500 Series
 - a. Defense Transportation Regulation
3. Technical orders for equipment or aircraft
 - a. ETIMS – Enhanced Technical Information Management System

Learning Objective 2: Upon completion of training, the trainee will know how to find publications and forms utilized in the 2T2X1 career field.

1. Copies that are printed out in your office
 - a. For regulations and forms: <https://www.e-publishing.af.mil/>
 - b. For Technical Orders: <https://etims.cce.af.mil/ETIMS/index>
- NOTE: To access TOs in the ETIMS site, you will need to gain access from your unit's Technical Order Distribution Office (TODO).
- c. Defense Transportation Regulation?

The screenshot shows the AF Portal homepage. At the top, there are several navigation tabs: NEWS & ANNOUNCEMENTS, BASE, ORG & FUNCTIONAL AREA, APPLICATIONS, CAREER & TRAINING, LIFE & FITNESS, and LIBRARY & RESOURCES. The LIBRARY & RESOURCES tab is highlighted with a red box and has an arrow pointing to it from the left. Below this tab, there is a sidebar with links to Online Resources, A-Z Directory of Resources, Libraries, Knowledge Areas, News Services, Publications, Reference Center, AF ePublications (which is also highlighted with a red box and has an arrow pointing to it from the right), and Air & Space Forces Logos. The main content area features a banner for '2021 Fall Prevention FOCUS' and another for 'POWER BI AVAIL'. At the bottom, there are sections for 'FIND THE LATEST INFORMATION HERE' and 'QUICK'.

 **DEPARTMENT OF THE AIR FORCE
E-PUBLISHING**

HOME TOOLS ▾ **PUBLICATIONS + FORMS** PUBLICATION MANAGEMENT FAQ ABOUT US ▾



FACT SHEET
Air Force Information Management Publishing Tool

Search Air Force E-Publishing

f t

MISSION AND VISION

MISSION STATEMENT:
The Air Force Departmental Publishing Office's Mission is to provide publishing products and services for administrative publications and forms to Air Force customers worldwide

VISION:
The Air Force Departmental Publishing Office's Vision is to provide life cycle management of Air Force Electronic Publishing enabling product and service delivery to the end user, regardless of media, at the time and location needed, in peace and in war

NEWS ALERT EXTRA! EXTRA!

 **DEPARTMENT OF THE AIR FORCE
E-PUBLISHING**

HOME TOOLS ▾ **PUBLICATIONS + FORMS** PUBLICATION MANAGEMENT FAQ ABOUT US ▾

HOME > PUBLICATIONS + FORMS

Do not use spaces when performing a product number/title search (e.g. pubs: AFMAN33-361; forms: AFTO53, AF673, AFSPC1648)

To minimize results, use the navigation buttons below to find the level/organization you are looking for, then use the "Filter" to search at that level

PRODUCT INDEX

EPUBS Home

<p>Publications</p> <ul style="list-style-type: none"> » Air Force » Air National Guard » United States Space Force » Major Commands » Lead Commands » DRUs » FOAs » Numbered Air Forces » Bases » Units 	<p>Forms</p> <ul style="list-style-type: none"> » Air Force » Air National Guard » United States Space Force » Major Commands » Lead Commands » DRUs » FOAs » Numbered Air Forces » Special Series » Bases » Units
---	--

The screenshot shows the Department of the Air Force E-Publishing website. The search bar at the top contains the text "24-605". A red arrow points from this search term down to the "Product Number" column of a table below. The table lists five products, each with a red box around its "Product Number" cell. The columns are: Product Number, Product Title, Published, Certified Current, Last Action, and GM Date.

Product Number	Product Title	Published	Certified Current	Last Action	GM Date
AFI24-605V1	AIR TRANSPORTATION ORGANIZATION AND STRUCTURE	01 Jul 2020	01 Jul 2020	Rewrite	
AFI24-605V2	AIR TRANSPORTATION OPERATIONS	01 Jul 2020	01 Jul 2020	UpdateContact	
AFI24-605V3	AIR TRANSPORTATION FUNCTIONS AND UNILATERAL AIR-CREW TRAINING	01 Jul 2020	01 Jul 2020		
AFI24-605V4	AIR TRANSPORTATION RESERVE COMPONENT	01 Jul 2020	01 Jul 2020	Correction	
AFI24-605V5	AIR TRANSPORTATION STANDARDIZATION AND RESOURCES	01 Jul 2020	01 Jul 2020		

 **USTRANSCOM**
United States Transportation Command

Doing Business with USTRANSCOM Moving Passengers and Cargo **Defense Transportation Regulations** Defense Personal Property Program

Passenger Cargo Mobility **Personal Property** Customs Intermodal Human Remains

Search Tips Search All DTR... 

Defense Transportation Regulation



Human Remains (DTR Part VII)

DTR Volume

- [Passenger Movement \(Part I\)](#)
- [Cargo Movement \(Part II\)](#)
- [Mobility \(Part III\)](#)
- [Personal Property \(Part IV\)](#)
- [Customs \(Part V\)](#)
- [Intermodal \(Part VI\)](#)
- [Human Remains \(Part VII\)](#)

Quick Links

- [Acronyms/Abbreviations](#)
- [Change Requests](#)
- [Definitions](#)
- [Missions, Roles, & Responsibilities](#)
- [References](#)
- [DTR Comment Resolution Matrix](#)

ETIMS

Main Menu

User	
Account	None

Catalog | Account | TO Change Requests | **My Libs** | My TOs/CPINs | DDR |

Prev | Home | Help | Logout

Notifications

The security accreditation level of ETIMS is UNCLASSIFIED//FOUO and below. Do not use ETIMS to process, store, or transmit information classified above the accreditation level of this system. Catalog data is "DISTRIBUTION STATEMENT D: Distribution authorized to the DoD and U.S. DoD contractors only for Administrative or Operational Use."

Help Desk Information

The AFTOFST has been temporarily directed to maximize the use of telework in response to the social distancing requirements at Eglin AFB. We are still available to assist our customers via email. In lieu of calling the AFTOFST and leaving a voicemail, please utilize email to request support: af.etimstofst@us.af.mil.

ETIMS

User []

Home | My Libraries | My TOs/CPINs | Data Discrepancies | Close | Help

My Libraries

Filter Value
ASL Show Direct Assignment Only [] Clear Filter Apply Filter

Libraries for : anthony.m.anderson1

ASL Number	Direct Assignment	Inherited Assignment	Can View TOs?	Actions
1 F*183B.eTO Library	[]	[]	[]	[] TOs/CPINs

<< < > >> Jump

Page My Libraries-01.03.00.00.00 Last Modified: 2021-04-03

ETIMS

User []

Home | My Libraries | My TOs/CPINs | Data Discrepancies | Close | Help

Library's TO/CPIN List

Filter Value
TO Number/CPIN Title Clear Filter Apply Filter

TOS/CPINs for : F*183B.eTO Library

TO Number/CPIN	Date	Status	Title	Proponent	MAJCOM	Base	Account	Action
1 00-5-1-ANG-WA-1	22 Mar 2021	A	AF TECHNICAL ORDER SYSTEM (ANG SUPPLEMENT MERGED)	MPTO SUPPS	*	*	*	View TO
2 00-5-1-WA-1	25 Jan 2021	A	AF TECHNICAL ORDER SYSTEM	OC-COMMON	*	*	*	View TO
3 00-5-15-WA-1	01 Jul 2020	A	AIR FORCE TIME COMPLIANCE TECHNICAL ORDER PROCESS	OC-COMMON	*	*	*	View TO
4 00-5-16-WA-1	16 Sep 2019	A	COMPUTER PROGRAM IDENTIFICATION NUMBER (CPIN) MANAGEMENT	EG-Programs	*	*	*	View TO
5 00-5-18-WA-1	15 Apr 2019	A	USAF TECHNICAL ORDER NUMBERING SYSTEM	OC-COMMON	*	*	*	View TO
6 00-5-19-WA-1	15 Feb 2019	A	SECURITY ASSISTANCE TECHNICAL ORDER PROGRAM	OC-COMMON	*	*	*	View TO
7 00-20-1-WA-1	06 Sep 2019	A	WEB ACCESS - AEROSPACE EQUIPMENT MAINTENANCE INSPECTION, DOCUMENTATION, POLICY AND PROCEDURES	OC-COMMON	*	*	*	View TO
8 00-20-3-WA-1	10 Jul 2017	A	MAINT PROCESSING OF REPARABLE PROPERTY AND REPAIR CYCLE ASSET CONTROL SYS	OC-COMMON	*	*	*	View TO
9 00-25-172-WA-1	06 Sep 2019	A	GROUND SERVICING OF AIRCRAFT AND STATIC GROUNDING BONDING	WR-COMMON	*	*	*	View TO
10 00-25-172CI-1-WA-1	01 Oct 2016	A	CHECKLIST -- CONCURRENT FUEL SERVICING OF COMMERCIAL CONTRACT CARGO AND PASSENGER AIRCRAFT	WR-COMMON	*	*	*	View TO

Rows : 442

Learning Objective 3: Locate information within publications: There are many ways to locate information within a publication. Here are just a few ways for you to try.

1. Locate information in publications by utilizing the table of contents.
2. Locate information in publications by scanning the text.
3. Locate information in publications by utilizing the search function, “ctrl+f”.

Learning Objective 4: Complete the following exercises. The trainer will demonstrate how to find the information, and the trainee will then do the same.

1. Find “Denying Passenger Boarding” within the 24 series.
 - a. AFI24-605, Air Transportation Operations
 - b. Paragraph 2.10
 2. Find this paragraph: “Airlift. The two sources for air transport assets are military and civil aircraft. Each has various transport restrictions based on the dimensions, weight, and shapes of the cargo to be moved. To mitigate lift constraints, USTRANSCOM will analyze all transportation resources to efficiently transport the shipper’s requirement.”
 - a. DTR Part III
 - b. Chapter 302, Pre-Deployment
 - c. Paragraph E, (a)
- B. Find the Technical Order for “Manual Cargo Loading” for a C-130 aircraft.
- a. 1C-130A-9-WA-1

TRAINER GUIDANCE

Line Item 1.5 Inspect, inventory, and store 463L pallets, nets, and tie down equipment

Prerequisites:	The trainee will possess all required Personal Protective Equipment (PPE); i.e. gloves, hearing protection, steel-toed boots, and reflective gear (during the hours of darkness and/or inclement weather).
Training References:	<ul style="list-style-type: none"> A. AFI 24-605 Vol 2, Air Transportation Operations B. DoD 4500.9-R, Defense Transportation Regulation, Part VI Management and Control of Intermodal, Chapter 608 C. T.O. 35D33-2-2-2, 463L Air Cargo Pallets D. T.O. 35D33-2-3-1, Maintenance and Repair Instructions Air Cargo Pallet Net
Additional Supporting References:	N/A
Training Support Material:	463L Pallet Top Net Side Net
Specific Techniques:	This lesson plan is designed for hands-on (demonstration/performance). Trainers will demonstrate, document, and verify training using a variety of hands-on scenarios with actual missions or simulated training scenarios.
Criterion Objective:	<p>A. Upon completion of training, the trainee will:</p> <ul style="list-style-type: none"> 1. Understand the General Guidance Surrounding Net and Pallet Management 2. How to Maintain 463L Pallets and Nets. 3. Tie-down Equipment principles. <p>B. Trainee will:</p> <ul style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. <p>C. Trainer will:</p> <ul style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. 3. Conduct the training using the attached lesson plan. 4. Perform remedial training if necessary. 5. Comply with the duties outlined in AFI 24-605. 6. Complete the AMC TTG (EOS CRS Feedback). https://www.usafecsurvey.com/se/251137455E5A907801
NOTES to Trainer:	It is imperative that trainers demonstrate, document and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC).

TASK STEPS

Line Item 1.5 Inspect, inventory, and store 463L pallets, nets, and tie down equipment

Learning Objective 1: Understand the general guidance:

- A. Each unit appoints, at a minimum, a primary and alternate System 463L asset manager with a signed letter by unit Commander or designated representative. This letter will include the name, rank, DSN, and office symbol of the appointees.
- B. Unit pallet and net managers will create/maintain a System 463L asset management continuity book with a minimum of the latest revalidation letter, control log/1297s, appointment letters, and appropriate messages.
- C. Each unit is required to request a Global Asset Reporting Tool (GART) account through its MAJCOM/DoD Component pallet and net manager for the purpose of submitting or viewing unit reports. Each unit is authorized no more than five GART accounts. This limitation is required to keep the bandwidth to a minimum for workability of the system.
- D. Each unit's System 463L asset manager is responsible for issuing, accounting for, and controlling System 463L pallets, nets, tie-down chains and devices, straps, pallet couplers, and radio frequency identification tags.
- E. Accurate inspection is vital to maintaining accurate levels of System 463L assets. Each unit will inspect all System 463L assets in its possession on a monthly (between the 15th and 20th) basis utilizing TO 35D33-2-2-2 and TO 35D33-2-3-1
- F. Accurate reporting is essential in the accountability of all System 463L assets within the DTS. Each unit is required to report all System 463L assets in its possession and submit a monthly (between the 15th and 20th) asset report. Input data in GART using the following link: <https://webapp.amc.af.mil/GART/Login.aspx>

Learning Objective 2 Understand how to maintain pallets and nets:

- A. Maintaining Pallets
 1. Cleaning Pallets: Prior to use, pallets must be thoroughly cleaned and inspected for missing and cracked D rings, warping, exposed core, and/or surface de-lamination.
 2. Pallet Storage: Never store empty pallets upside down. This can cause the pallet tie-down rings to swing under the pallet and damage the surface beneath the pallet. Dunnage must be placed under all pallets and be uniform in thickness of 3 inches or more and 88 inches long at a minimum. Place the dunnage parallel to the short side of the pallet. You must use three pieces per pallet. Not complying can cause the pallets to warp, making it difficult for them to fit into the rail system. Stack empty pallets 50 high with dunnage placed between each group of 10. Make sure rings are in the lowered position.
 3. Damage Pallets: Inspect pallets for defects IAW T.O. 35D33-2-2-2. Pallets with missing ring assemblies and/or external de-lamination are unserviceable and will not be loaded prior to maintenance. This affects the restraint requirements and is a risk of flight safety.

Unserviceable pallets will be tagged with a DD Form 1577-2, Unserviceable (Repairable) Tag Material. Each tag will note the type of repair required. Ensure tag is securely attached to the pallet and marked with a weatherproof marker.

B. Maintaining Nets

1. Cleanliness: If nets contain a large amount of residue (oil/grease), they must be washed with mild soap and water.
2. Storage: Each box will be labeled with the type and quantity of nets it contains. Boxes must be lined with water and vapor proof barrier material or a polyethylene cargo pallet bag. DO NOT store nets in direct sunlight or store wet. NEVER use hot air to dry nets; it could damage them.
3. Damaged Nets: Inspect nets for defects IAW T.O. 35D33-2.3.1 Nets must be inspected each time they are used. Anytime a net's webbing is frayed or cut, do NOT use it without first repairing it or sending it out for repair IAW local procedures. If sliding or moving parts cannot be manually freed and/or continue to bind, the hardware part shall be replaced. Hardware twisted or bent out of shape shall be replaced.

Learning Objective 3 Understand tie-down equipment principles used to restrain cargo:

- A. Cargo is restrained (tied down) in an aircraft so that it remains stationary in the cargo compartment when the aircraft is subjected to rough air, vibration, acceleration, deceleration, and rough landings.
- B. Cargo loaded in an aircraft is restrained so that it will not shift during any condition the aircraft experiences in flight. Basic principles of restraint apply to tying down cargo. Although the details vary for different kinds of cargo, the basic principles of restraint do not change.
 1. Tie-down cargo to prevent movement in all directions
 - a). Forward 3G
 - b). Aft 1.5G
 - c). Lateral (Left and Right) 1.5 G
 - d). Vertical 2G
 2. Attach tie down devices in symmetrical pairs
 3. Do not combine straps and chains when restraining cargo
- C. Types of Tie-down Equipment
 1. MB-1 – 10,000 lbs.
 2. MB-2 – 25,000lbs
 3. CGU-1/B – 5,000lbs

TRAINER GUIDANCE

Line Item 1.6 Build-up single pallet

Prerequisites:	A. Trainee will have all required PPE available B. Trainer will establish a timeline for completing the required training with the trainee.
Training References:	A. AFI 24-605, Vol 2, section 3C B. T.O. 1C-17A-9, Loading Instructions, section IV C. T.O. 1C-5M-9, Loading Instructions Manual, chapter 4 D. T.O. 35D33-2-2-2, 463L Air Cargo Pallets E. T.O. 35D33-2-3-1, Maintenance and Repair Instructions Air Cargo Pallet Net
Additional Supporting References:	N/A
Training Support Material:	Possess all required Personal Protective Equipment, i.e., gloves, hearing protection, safety-toed boots, and reflective gear (during darkness or inclement weather)
Specific Techniques:	This lesson plan is designed for hands-on (demonstration/performance). Trainers will demonstrate, document, and verify training using a variety of hands-on scenarios with actual missions or simulated training scenarios.
Criterion Objective:	<p>A. Upon completion of training, trainee will be able to: Build a Single pallet</p> <ol style="list-style-type: none"> 1. Identify the usable space and loading constraints of a 463L pallet 2. Identify how cargo is selected for palletization 3. Describe how cargo is built on a 463L pallet 4. Identify weight and height limits of 463L pallets for given aircraft 5. Identify when pallet covers are needed 6. Identify the types of restraint used to secure cargo on pallets 7. Identify which restraint(s) to use based on the type, weight, height of the cargo 8. Identify the procedures for placing documents on a pallet <p>B. Trainee will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. <p>C. Trainer will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. 3. Conduct the training using the attached lesson plan. 4. Perform remedial training if necessary. 5. Comply with the duties outlined in AFI 24-605, Vol 2
NOTES to Trainer:	<p>This lesson plan is designed for hands-on training (demonstration-performance). Aerial port missions are inherently different from station to station; training sessions may or may not easily lend themselves to hands-on training. Therefore, it is imperative that trainers demonstrate, document and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC).</p> <p>Prior to accomplishing the practical application of this lesson, ensure the trainee has the necessary PPE; i.e., gloves, safety-toed boots, hearing protection, and reflective gear during hours of darkness. Use caution while maneuvering around the Mechanized Material Handling System (MMHS), if applicable.</p> <p>Brief the trainee to remain aware of vehicles/Material Handling Equipment (MHE) operating in the warehouse/pallet grid yard. Additionally, remind the trainee to remove all rings and exposed jewelry.</p>

TASK STEPS

Line Item 1.6 Build-up single pallet

Learning Objective 1 Identify usable space and loading constraints:

- A. Usable space of a 463L pallet is 104" x 84"
- B. Cargo must fit the contour of the aircraft it is going to be loaded on.
- C. A full net set can restrain 10,000lbs of cargo on a 463L pallet.

Learning Objective 2 Identify how cargo is selected for palletization:

- A. The following filters determine which pieces of cargo to load onto a pallet in order of importance with "1" being the first criteria:
 - 1. Destination – Where is it going?
 - 2. Priority – What is most important?
 - 3. System Entry Time (SET) – which item has been here the longest?
 - 4. Select cargo to maximize utilization of the pallet and aircraft

Learning Objective 3 Describe how to build cargo on a 463L Pallet:

- A. Once cargo has been selected for palletization, follow the guide below on how to place it on the 463L pallet.
 - 1. Start with the heavier items. They go on the bottom to form a foundation that is less likely to be crush. A crushed box can cause the built up pallet to collapse.
 - 2. Try to balance weight evenly across the usable dimension
 - 3. Alternate items to form an interlocking grid with each consecutive level.
- B. Every pallet will be placed on acceptable dunnage/support. No pallet will rest flat on the ground. Acceptable dunnage/support is listed as follows:
 - 1. Three rows of warehouse type conveyors on hard surface material or pallet trailer.
 - 2. Three pieces of dunnage at least 3" thick, at least 88" long, uniform in height and free of protrusions/sharp edges. Arrange wood to provide three lines of support.
 - 3. Sand bags. Use nine sand bags at a minimum.

Learning Objective 4 Identify weight and height limits of 463L pallets for given aircraft:

- A. The typical limits of a 463L pallet is 96" tall and 10,000lbs using a full net set
- B. Each aircraft has different limitation and configurations for pallets and pax
 - 1. These configurations determine how cargo can be built
 - 2. Pallet modules assist in determining what can go on which planes and where

<u>Module</u>	<u>Module Code Descriptions</u>
<u>Mode</u>	
A	Non-Unitized Rolling Stock
B	Pallet 61"-84" B-747 (PPS 1C, 2R, 3-6L, 18-21R), B-767 (PPS M11)
C	Containerized, Skidded, or Loose Cargo
D	Pallet Contoured for KC-10 (PPS 13L)
E	Belly Pallet or Non-Stackable Commodity(s) Up to 60" for B-747, MD-11, or B-777
F	Pallet Contoured for MD-11 (PPS 2-14 L&R) and B-767 (PPS M1-M10 L&R)
G	Pallet with a Propeller
H	Ramp Pallet w/20" Aisleway for C-130 and L-100
I	ISU Pallet (All Types)
J	Pallet w/6" Aisleway for C-130/L-100
K	Pallet Contoured for KC-135 (PPS 1-6)
L	Pallet 85"-96" for C-5, C-17, C-130, B-747 (PPS 7-17 L, 22-33 R), B-777 (PP 16C), MD-11 (PP 18C)
M	Pallet 96" & Up for C-5/C-17 Only
N	Pallet Contoured for KC-10 (PPS 2-10 L&R), B-777 (PPS 1 L&R, 15 L&R)
P	Pallet Contoured for KC-10 (PPS 1 L&R), MD-11 (PPS 1 L&R)
Q	Pallet Contoured for KC-10 (PPS 11-12 L&R), MD-11 (PPS 15-17 L&R)
R	Pallet for C-5 Ramp (14" Aisleway PPS 1, 2, 35 & 36) and AN-124 (PPS 1, 2, 37 & 38)
S	Logistics Pallet Train (2" Couplers)
T	Logistics Pallet Train (1" Couplers)
U	ADS Pallet Train (1" Couplers)
V	T-1 for LGS Pallet
W	T-1 for ADS Pallet
X	Pallet Contoured for B757 Combi (PPS 1-10 ADS) (PPS 1-8 LGS)
Y	ADS Pallet Train (2" Couplers)
Z	Pallet Contoured for B-777 (PPS 2-11 L&R, 12R, 13-14 L&R)

Learning Objective 5 Identify when pallet covers are needed:

- A. Plastic covers are used to protect cargo from the elements
- B. Perishable goods (food items) do not receive any pallet covers
- C. A general cargo pallet receives one pallet cover
- D. Household goods receive 2 pallet covers, a third is added over the net-set when stored outdoors or transported during inclement weather

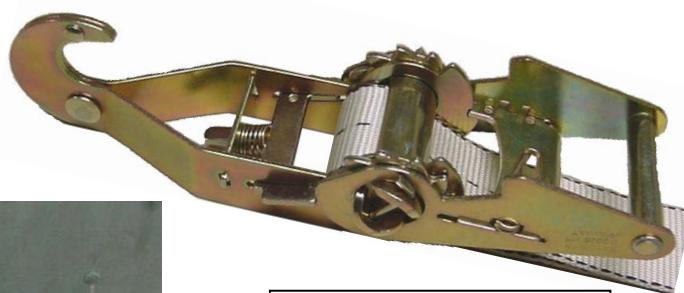
Learning Objective 6 Identify the types of restraint used to secure cargo on pallets:

- A. Full net assembly consists of two HCU-7/E Side Nets (green) and one HCU-15/C Top Net (usually yellow). Used for tall cargo roughly 76"-96"
 - 1. One side net weighs 22 lbs.
 - 2. One top net weighs 21 lbs.
 - 3. The total weight for a complete net set is 65 lbs.
- B. Sides and 7: use 2 side nets and 7 CGU-1/B straps. Used for mid-sized cargo roughly 45"-76" tall
- C. Using only a top net is authorized when the cargo is not bulk, under 45" tall and under 2,500 lbs. If the cargo exceeds 2,500 pounds, use CGU-1/B straps as belly bands.

Learning Objective 7 Identify which restraint(s) to use:

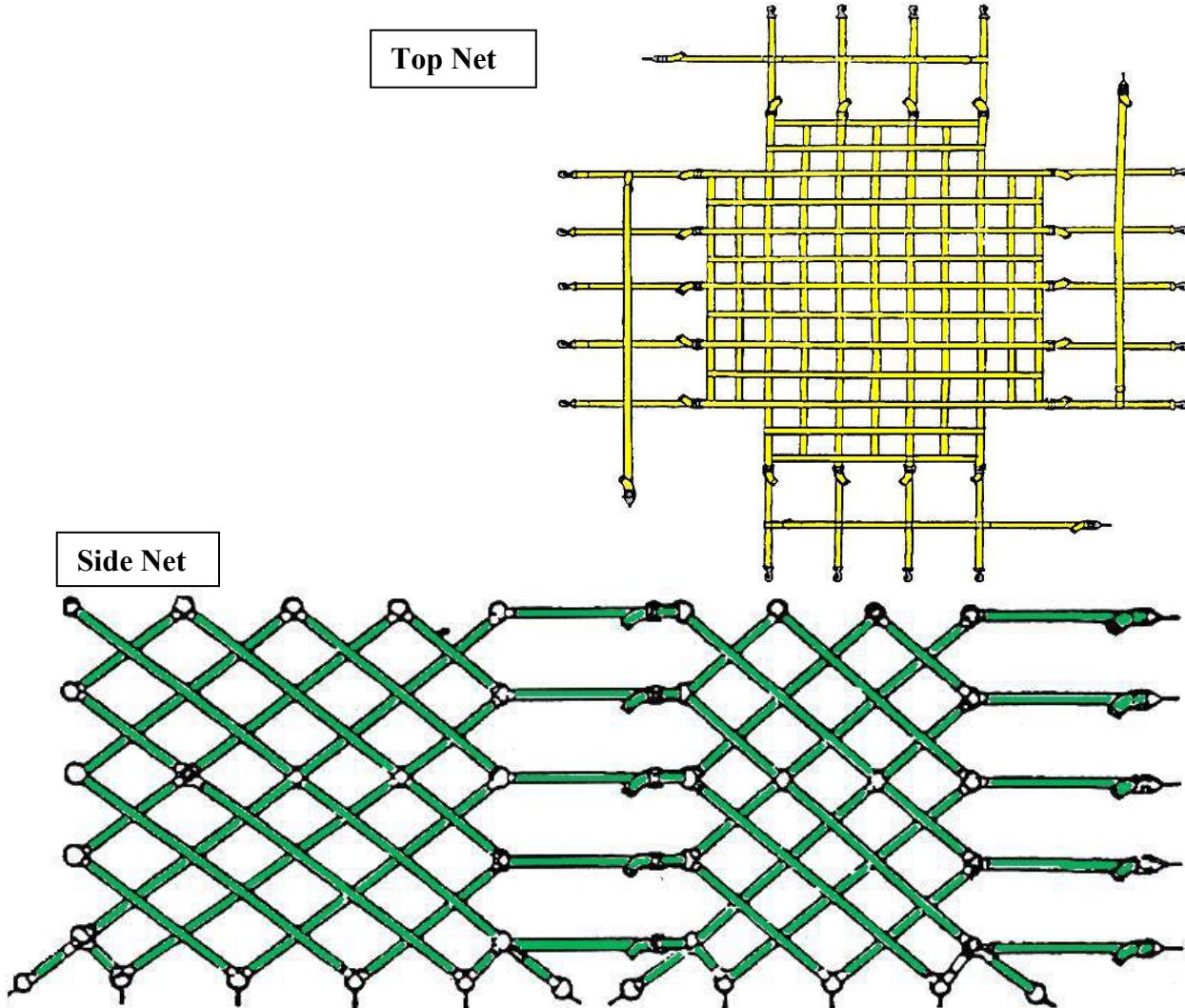
- A. There are many different ways to secure cargo to pallet/pallet trains. The three different mechanisms used are:
 - 1. CGU-1B straps.
 - 2. Chains and devices: You can use the chains and devices in three different ways.
 - 3. General tie-down method
 - 4. Chain gate
 - 5. Chain bridle

Chain and Device



CGU-1/B Cargo Strap

- B. 463L nets: The use of nets on a pallet train is to secure additional cargo. Ensure the cargo is secured to the maximum extent possible. Attach the nets accordingly:
1. Two pallet train-use three side nets and two top nets.
 2. Three pallet train-use four side nets and three top nets.



NOTE: There are no specific training aids or guidance in demonstrating these. The trainer will instruct using hands on demonstration.

Learning Objective 8 Identify the procedures for placing documents on a pallet:

- A. Place documentation in weather resistant bags
- B. Place documentation on a long and a short side at a minimum
- C. Place documentation at roughly eye level on the left hand side for consistency

TRAINER GUIDANCE

Line Item 1.7 Identify types of shoring

Prerequisites:	A. Complete the Air Freight DL Course // Aircraft Loading // Cargo Assembly and Transportation.
Training References:	A. DTR Part II, Chapter 208, Packing and Handling, Para I.; B. AFI 24-605, Vol 2, 3.4; C. AFI 24-602, Vol 2, 2.16.8; D. TO 1C-17A-9-WA-1, Section IVB, 4B60-82 E. TO 1C-130-9-WA-1, TO 1C10(K)A-9, Section IV, 4-44/4-50 F. TO 1C-130A-9, Section 4, 4A-4 TO 1C-135-9, Section IV, 4-4 – 4-9 G. TO 1C-46 Section VI XXXX
Additional Supporting References:	Access to the Air Transport Test Loading Activity (ATTLA) database.
Training Support Material:	Examples of cargo that contain need for calculations to determine requirement of shoring.
Specific Techniques:	Trainers will annotate with TBA once trainee is capable of identifying purpose and application of shoring. Additionally, trainees must be able to properly determine if presented is correct and adequate for mission requirements.
Criterion Objective:	A. Upon completion of training, trainee will be able to: <ol style="list-style-type: none"> 1. Determine type(s) of shoring as required. 2. Determine calculations for shoring requirements. 3. Understand the effects of shoring.
NOTES to Trainer:	<p>This lesson plan is designed for hands-on training (demonstration-performance). Aerial port missions are inherently different from station to station; training sessions may or may not easily lend themselves to hands-on training. Therefore, it is imperative that trainers demonstrate, document and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC).</p> <p>Prior to accomplishing the practical application of this lesson, ensure the trainee has the necessary PPE; i.e., gloves, steel-toed boots, hearing protection, and reflective gear during hours of darkness. Use caution while maneuvering around the Mechanized Material Handling System (MMHS), if applicable.</p> <p>Brief the trainee to remain aware of vehicles/Material Handling Equipment (MHE) operating in the warehouse/pallet grid yard. Additionally, remind the trainee to remove all rings and exposed jewelry.</p>

TASK STEPS

Line Item 1.7 Identify types of shoring

Learning Objective 1 Determine types of shoring:

A. Terms and definitions:

1. **ATTLA:** Air Transport Test Loading Activity (ATTLA) is a database which provides instructions on how to prepare and transport equipment on US Air Force aircraft to Aircraft loadmasters/Air Transportation personnel and other persons requiring movement of equipment.
2. **Shoring:** Shoring refers to the protection of the conveyance (normally aircraft) by using materials to respond to floor limitations (pounds per square inch [PSI]) or clearance limits. Standard sized lumber and plywood are both used to shore aircraft loads. Shoring is used to protect the aircraft floor, distribute the cargo load over a larger area of aircraft floor (and substructure), and, on occasion, to reduce the ramp-angle during vehicle loading (see Military Standard 1791, Designing for Internal Aerial Delivery In Fixed Wing Aircraft). The shipper is responsible for any required shoring when not provided by the APOE or airlift unit. Equipment will be designed to minimize the requirements for shoring to limit the logistics burden during air movement and minimize the volume of solid waste generated. The shipper is responsible for any required specialized shoring IAW technical order shipment instructions when not provided by the APOE or airlift unit. The following types of shoring may be required for airlift:
3. **Approach shoring (step-up shoring):** Approach shoring is used to reduce the ramp angle that a vehicle must traverse during aircraft on/offloading. Reduction of the ramp angle becomes necessary to avoid interference problems where there are minimal underside, overhead, or overhang clearances. Approach shoring requires large amounts of lumber.
4. **Floor protection shoring:** Shoring that is required to protect the aircraft ramps and cargo compartment floor from damage during on/offloading and flight of tracked vehicles or vehicles with wheels that have lugs, cleats, studs, metal rolling surfaces, or small diameters.
5. **Parking shoring:** Shoring that is required under the wheels or tracks of vehicular cargo prior to loading to reduce PSI exertion on the aircraft floor by increasing the wheel or track contact area.
6. **Rolling shoring:** Shoring that is required to distribute weight on the cargo floor during on/offloading.
7. **Sleeper shoring:** Sleeper shoring is used to prevent the movement of a vehicle due to gust and flight maneuver load conditions where tires or suspension system cannot withstand these loads without failure or depression producing slack in tie-down devices. This type of shoring is placed between the aircraft floor and a structural part of the vehicle (e.g., frame).

8. **Contact Area:** Amount of cargo actually contacting the cargo floor (in square inches). Determined by multiplying Length (L) x Width (W) = contact area. Round off to the tenth position and never increase, even if there are remainders in the hundredth position (29.48 rounds off to 29.4). If there are any numbers after the tenth position, they are dropped off.
9. **Pound per square inch:** The amount of weight exerted, per square inch, for a piece of cargo on the aircraft floor. The strength of the cargo floor is measured in pounds per square inch (PSI). When determining shoring requirements, always consult the FLIGHT columns in the -9. FLIGHT PSI limits are always less than those for loading and offloading. The weight of the cargo must be in pounds. The cargo's contact area must be in square inches.
10. **PSI Computation:** Divide the contact area into the weight to get the PSI. For PSI, round off to the tenth position and always increase to the next highest tenth if there is any remainder in the hundredths position (32.52 rounds off to 32.6). If there is any number after the tenth position, round up.

Learning Objective 2 Determine calculation for shoring requirements:

- A. **Formulas:** The trainer will explain and demonstrate each shoring formula. There are six different formulas used to determine shoring requirements. Different types of items have different methods to determine the contact area. The contact area is determined first. Then, the contact area is used to determine the PSI exerted in the floor.
 1. **Squared/Rectangle Boxes:** (Length X Width = Contact Area).
 - a. Example: A box has dimensions of 24" by 30". That makes the contact area 720 square inches (24" X 30"). If the contact area is not a whole number, drop off any number after the tenth position. Do this even if the remainder is .09! (CONTACT AREA = DROP OFF past the tenth position). Following this rule creates a safety margin, because if you underestimate the area, the calculated PSI will be on the high side for an even bigger safety margin.
 - a. Divide weight of box by the contact area to get the PSI. Round off to the tenths position and always increase to the next highest tenth if there is a remainder in the hundredths position (PSI=ROUND UP).
 - b. Determine strength of the floor (target PSI) where cargo will be positioned. The maximum floor pressure for each part of the aircraft is listed in the aircraft's -9 T.O. When you are load planning, always consult the FLIGHT columns. FLIGHT PSI limits are always less than those for loading and offloading.
 - c. Determine if the maximum PSI for the cargo location in the aircraft will be exceeded. If PSI is exceeded, shoring is required to spread the contact area over a larger area. Example: Cargo loaded on the treadways has loading limit of 125 PSI, but the flight limit is only 50 PSI. If the cargo PSI exceeds 50 PSI and will be located on the treadways during flight, shoring is required.
- B. **Skidded Cargo:** (Length of Skid x Width of Skid x Numbers of Skids = Contact Area).

1. Example: Each skid is 10" long and 3" wide. There are three skids, so the contact area of this item is 90 square inches (10" X 3 "X 3 skids = 90 square inches). (CONTACT AREA = DROP OFF past the tenth position).
2. Determine PSI for a skidded box. Divide the weight of the box by the contact area to get the PSI. Round off to the tenths position and always increase to the next highest tenth if there is a remainder in the hundredths position (PSI=ROUND UP).
3. Determine strength of the floor (target PSI) where cargo will be positioned. The maximum floor pressure for each part of the aircraft is listed in the aircraft's -9 T.O. When load planning, always consult the FLIGHT columns. FLIGHT PSI limits are always less than those for loading and offloading.
4. Determine if the maximum PSI for the cargo location in the aircraft will be exceeded. If PSI is exceeded, shoring is required to spread the contact area over a larger area.
Example: Cargo loaded on the treadways has loading limit of 125 PSI, but the flight limit is only 50 PSI. If the cargo PSI exceeds 50 PSI and will be located on the treadways during flight, shoring is required.

C. Drums without Rims: (Diameter Squared x 0.785 = Contact Area).

1. Example: Diameter of a drum without a rim is 22". To get the contact area, multiply 22" X 22" X .785 = 379.94 square inches. Then, round down to 379.9, which would be used in the PSI calculation. (CONTACT AREA = DROP OFF past the tenth position).
2. Determine PSI for a drum without rims. Divide weight of the drum by the contact area. Round off to the tenths position and always increase to the next highest tenth if there is a remainder in the hundredths position (PSI=ROUND UP).
3. Determine strength of the floor (target PSI) where cargo will be positioned. The maximum floor pressure for each part of the aircraft is listed in the aircraft's -9 T.O. When load planning, always consult the FLIGHT columns. FLIGHT PSI limits are always less than those for loading and offloading.
4. Determine if the maximum PSI for the cargo location in the aircraft will be exceeded. If PSI is exceeded, shoring is required to spread the contact area over a larger area.
Example: Cargo loaded on the treadways has loading limit of 125 PSI, but the flight limit is only 50 PSI. If the cargo PSI exceeds 50 PSI and will be located on the treadways during flight, shoring is required.

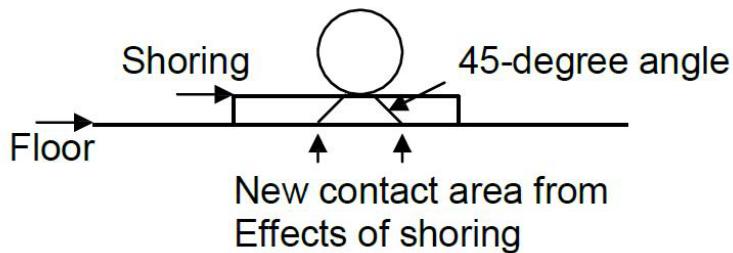
D. Drums with Rim: [(Outside Rim Diameter Squared – Inside Rim Diameter Squared) x 0.785 = Contact Area.]

1. Example: To calculate the contact area of the drum, you must first measure the Outside Diameter (OD) and the Inside Diameter (ID). Calculate contact area of a drum with a 24" OD and a 22" ID: $(24 \times 24) - (22 \times 22) \times .785 = 72.22$. Simplified formula: (OD squared - ID squared) X .785 = contact area.
2. Determine PSI for a drum with rims. Divide weight of drum by the contact area to get the PSI. Round off to the tenth position and always increase to the next highest tenth if there is a remainder in the hundredths position (PSI=ROUND UP).

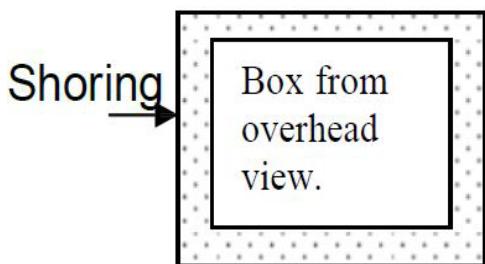
3. Determine strength of the floor (target PSI) where cargo will be positioned. The maximum floor pressure for each part of the aircraft is listed in the aircraft's -9 T.O. When load planning, always consult the FLIGHT columns. FLIGHT PSI limits are always less than those for loading and offloading.
 4. Determine if the maximum PSI for the cargo location in the aircraft will be exceeded. If PSI is exceeded, shoring is required to spread the contact area over a larger area.
Example: Cargo loaded on the treadways has a loading limit of 125 PSI, but the flight limit is only 50 PSI. If the cargo PSI exceeds 50 PSI and will be located on the treadways during flight, shoring is required.
- E. Pneumatic Tires:** ($0.785 \times \text{Length of Pad} \times \text{Width of Pad} = \text{Pad "contact" Area}$).
1. Example: $0.785 \times 6"$ (length touching floor) $\times 8"$ (width of the tire) = Pad (contact) area of 37.68 square inches (DROP OFF past the tenth position) to 37.6 inches to be used in the PSI calculations.
 2. Determine the wheel load. Divide the axle weight by the number of wheels to receive the wheel load.
 3. Once the wheel load is determined, determine PSI. Divide the wheel load by the pad area to get the PSI. Round off to the tenth position and always increase to the next highest tenth if there is a remainder in the hundredth position. (PSI=ROUND UP).
 4. Determine strength of the floor (target PSI) where cargo will be positioned. The maximum floor pressure for each part of the aircraft is listed in the aircraft's -9 T.O. When load planning, always consult the FLIGHT columns. FLIGHT PSI limits are always less than those for loading and offloading.
 5. Determine if the maximum PSI for the cargo location in the aircraft will be exceeded. If PSI is exceeded, shoring is required to spread the contact area over a larger area.
Example: Cargo loaded on the treadways has a loading limit of 125 PSI, but the flight limit is only 50 PSI. If the cargo PSI exceeds 50 PSI and will be located on the treadways during flight, shoring is required.

Learning Objective 2 Understand the effects of shoring requirements:

- A. Plane of angle effect is the typical plane of 45 degrees outward from the base of the cargo where it meets the shoring. The contact area can be increased because of the 45-degree angle from the upper surface of the shoring down to the cargo floor. Shoring will only increase the area of contact by an amount approximately equal to the thickness on all sides of the object it supports. Example: 2" thick shoring would increase length of area by 4" total. To obtain this result you must ensure the width and length of shoring used equals the thickness of it.



1. Example: A **6" by 8"** rectangle box has a contact area of 48". When positioned on a $\frac{1}{2}"$ piece of shoring, its contact area changes to 7" by 9", for a new contact area of 63".



2. Example: A **box with 6 2" X 3" skids** has a contact area of 36" ($L \times W \times$ number of skids). If placed on a $\frac{1}{2}"$ piece of shoring, the new computation would be $3" \times 4" \times 6$ skids = 72 square inches of contact area.
3. Example: A **drum without a rim** is 20" in diameter, which computes to a contact area of 314" ($20" \times 20" \times 0.785 = 314$ square inches). If placed on a $\frac{1}{2}"$ piece of shoring, the diameter would change to 21" and the new contact area would be 346.185" rounded off to 346.1 square inches.
4. Example: A **drum with a rim** has an OD of 15" and an ID of 14.5". This computes to a contact area of 11.578 (drop off to 11.5 inches). ($OD^2 - ID^2$) $\times 0.785 =$ contact area of a rimmed drum. If this drum is put on a $\frac{1}{2}"$ piece of shoring, the OD would change to 16" and the ID would change to 13.5". The contact area will change to 57.893 square inches (rounded off to 57.8).

NOTE: Be sure to include weight of shoring when determining the cargo center of balance (CB).

TRAINER GUIDANCE

Line Item 1.8 Perform spotter/chocker duties

Prerequisites:	<p>A. Trainee will:</p> <ol style="list-style-type: none"> 1. Complete the Aerial Port Vehicles DL Course // Basic Operation // Spotter Basics https://lms-jets.cce.af.mil/moodle/ 2. Complete AMC Spotter Training Slides (General, Forklift, K-Loader) located in Section 5 of the QTPs on ATSEV Website. 3. Possess a valid AF IMT 483, Certificate of Competency for Flight Line Training if performing operations on the flight line. 4. Possess all required Personal Protective Equipment, i.e., gloves, hearing protection, steel-toed boots, and reflective gear (during the hours of darkness or inclement weather). <p>B. Trainer will:</p> <ol style="list-style-type: none"> 1. Establish a timeline for completing the required training with the trainee.
Training References:	<p>A. TC 21-305-20/AFMAN 24-306 (I), Manual for the Wheeled Vehicle Operator B. Defense Travel Regulation, 4500.9-R-Part III, Mobility Appendix X C. AFMAN 91-203, Air Force Consolidated Occupational Safety, Fire, and Health Standards D. AMC myLearning Course // Aerial Port Vehicles // Basic Operation // Spotter Basics</p>
Additional Supporting References:	N/A
Training Support Material:	N/A
Specific Techniques:	This lesson plan is designed for hands-on (demonstration/performance). Trainers will demonstrate, document, and verify training using a variety of hands-on scenarios with actual missions or simulated training scenarios.
Criterion Objective:	<p>A. Upon completion of training, trainee will be able to:</p> <ol style="list-style-type: none"> 1. Identify the conditions when spotters and secondary spotters are required. 2. Identify the action(s) to take if visual contact is lost with either the operator or the secondary spotter. 3. Identify the different AMC approved hand signals. 4. Identify the hand signals unique to forklifts and K Loaders. 5. Properly use hand signals during daytime. 6. Properly use hand signals during nighttime. 7. Identify chocking procedures. 8. Properly apply chocking procedures.
NOTES to Trainer:	<p>This lesson plan is designed for hands-on training (demonstration-performance). Aerial port missions are inherently different from station to station; training sessions may or may not easily lend themselves to hands-on training. Therefore, it is imperative that trainers demonstrate, document and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC).</p> <p>Prior to accomplishing the practical application of this lesson, ensure the trainee has the necessary PPE; i.e., gloves, steel-toed boots, hearing protection, and reflective gear during hours of darkness. Use caution while maneuvering around the Mechanized Material Handling System (MMHS), if applicable.</p> <p>Brief the trainee to remain aware of vehicles/Material Handling Equipment (MHE) operating in the warehouse/pallet grid yard. Additionally, remind the trainee to remove all rings and exposed jewelry.</p>

TASK STEPS

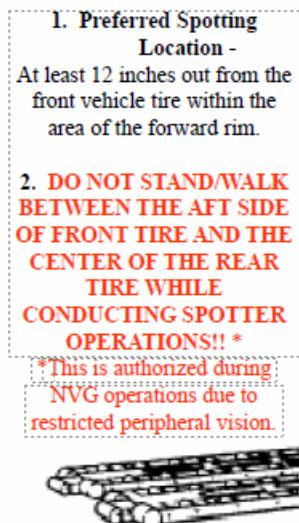
Line Item 1.8 Perform spotter/chocker duties

Learning Objective 1: *Preform spotting procedure for vehicles:*

- A. Spotters must be in a position that ensures all movements are visible to the driver/operator.
 - 1. The spotter and driver must ensure the required hand signals are understood.



- B. Visual contact between the driver and the spotter must be maintained until a safe distance is reached from surrounding objects
 - 1. Proper placement of your spotter is essential. Operator must maintain visual contact with spotter at all times.
 - 2. Spotters will NEVER spot between the tires of an AT Forklift.
 - a). At least 12 inches out from the front vehicle tire within the area of the forward rim.



- C. If for any reason visual contact is lost with the spotter, the operator will stop the vehicle until contact is reestablished.
- D. In most cases only one spotter is required. The spotter will be positioned so he/she will be seen by the operator at all times.
- E. In the event more than one spotter is required, one will be designated as the primary spotter. The primary spotter will be responsible for the overall operation
- F. Use a spotter when the Tunner is within 15 feet of any stationary vehicle or obstacle
- G. Ensure that guides are stationed inside and outside the aircraft to monitor clearances
- H. General spotting signals



1. **Forward-Bend** both elbows, palms or night wands facing up. In unison, move forearms forward. Signal either above your head, or to the sides of your body to ensure hand movements are clearly seen



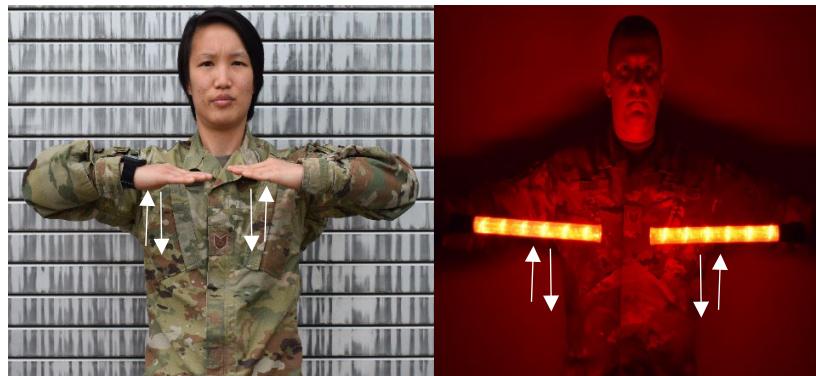
2. **Backing up**-Extend both arms downward with palms facing away and wands pointing down. In unison, move arms forward and back. At no time should hands be above waist height. Repeat this movement until you want the driver to stop



3. **Left turn**-Raise your right arm or wand, pointing to the right. Raise left arm and bend elbow. Hand or wand will be pointing up. Motion left hand or wand right and left.



4. **Right turn**-Raise your left arm or wand, pointing to the left. Raise right arm and bend elbow. Hand or wand will be pointing up. Motion right hand or wand left and right



5. **Slow down**-Raise both arms, bend elbows. Position palms or wands facing down, in front of body. Move either hands or wands in an up and down motion.



6. **Stop**-Extend and raise both arms. Cross arms or wands in front of body.

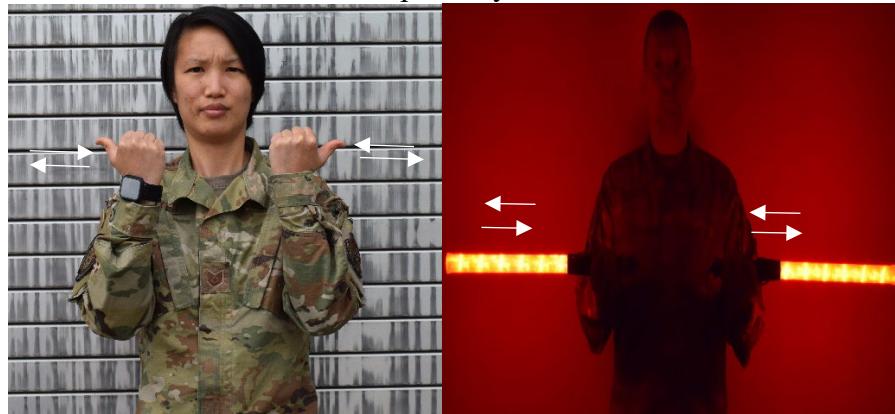


7. **Shut down**-Position palm or wand facing down, horizontally across your neck. Move your hand, or wand in a sweeping motion from left to right.

I. Forklift Spotting



1. **Close fork tines**-Bend elbows and point your thumbs or wands, at each other. Move thumbs or wands toward each other repeatedly



2. **Open fork tines**-Bend elbows and from each other. Move thumbs or wands point your thumbs, or wands, away from each other repeatedly



3. **Side shift left**-Bend elbows, with hands closed or holding wands, point thumbs or wands to the left and motion side to side



4. **Side shift right**-Bend elbows, with hands closed or holding wands, point thumbs or wands to the right and motion side to side



5. **Raise carriage**-Bend elbows and point your thumbs or wands in the up position, and motion up and down



6. **Lower carriage**-Bend elbows and point your thumbs or wands in the down position, and motion up and down



7. **Tilt mast forward**-Bend one elbow, palm or wand facing out. Place your other arm or wand across your chest, as shown in picture. Move your forearm or wand up and down away from chest



8. **Tilt mast back**-Bend one elbow, palm or wand facing in. Place your other arm across your chest, as shown in picture. Move your forearm or wand up and down towards chest

J. K-Loader spotting



1. **Front up**-Place left hand or wand in the center of your chest. Extend right hand and point upward with your thumb or wand



2. **Front down**-Place left hand or wand in the center of your chest. Extend your right hand and point downward with your thumb or wand



3. **Rear up**- Place your left hand or wand behind your back (in a manner that clearly indicates your back). Extend your right hand and point upward with your thumb or wand



4. **Rear down**-Place your left hand or wand behind your back (in a manner that clearly indicates your back). Extend your right hand and point downward with your thumb or wand



5. **Raise deck**-Bend elbows, point thumbs or wands in the up position and motion up and down



6. **Lower deck**-Bend elbows, point thumbs or wands in the down position, motion up and down



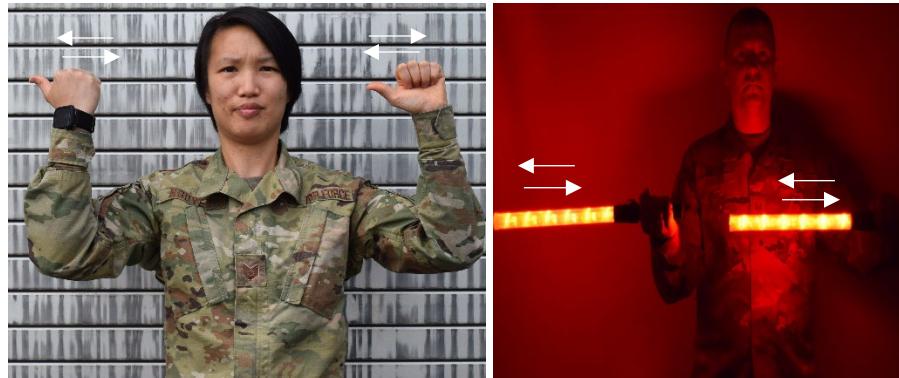
7. **Roll deck right**-Bend elbows, point left thumb or wand down and right thumb or wand up. Move your hands up and down (alternating).



8. **Roll deck left**-Bend elbows, point left thumb or wand up and right thumb or wand down. Move your hands up and down (alternating).



9. **Side shift left**-Bend elbows, with hands closed or holding wands, point thumbs or wands, to the left and motion side to side.



10. **Side shift right**-Bend elbows, with hands closed or holding wands, point thumbs or wands to the right and motion, side to side

Learning Objective 2 Perform choker duties:

- A. Chalks are required for vehicles within 10 feet of aircraft.
 1. A good sense of distance is important
 2. If your chock is too close to the aircraft your loader could damage the ramp.



3. Each vehicle has a unique Front and Rear End clearance.



- a). These clearances are critical the individual used as the chocker needs to remain aware of the distance between contact surfaces of the vehicle in use, as well as the object being approached.
- b). Proper placement of the chock is paramount.

TASK EVALUATION CHECKLIST (TEC)

Line Item 1.8 Perform spotter/chocker duties

Directions: Given all applicable materials, the trainee will complete the following items unassisted and without error.		YES	NO	N/A
1. Training Assessment				
N/A				
2. Perform spotter duties				
Trainee demonstrated proficiency by:				
A. Discussing signals with vehicle operator prior to operations.				
B. Position them in the proper area to be seen by the driver.				
C. Ensuring the chock was positioned correctly.				
D. Performing clear signals during daytime.				
E. Performing clear signals during nighttime.				
NOTES:				

Trainee (print): _____

Start Date: _____

Trainer's Signature: _____

Complete Date: _____

TRAINER GUIDANCE

Line Item 1.9 *Vehicle Inspections*

Prerequisites:	A. Complete Aerial Port Vehicles Distance Learning (DL) Course // Basic Operations // Vehicle Licensing and Inspections https://amc.adls.af.mil
Training References:	A. AFI 24-302, Vehicle Management B. TC 21-305-20/AFMAN 24-306 (I), Manual for the Wheeled Vehicle Operator C. AF Form 1800, Operators Inspection Guide and Trouble Report D. Vehicle specific inspection attachments.
Additional Supporting References:	N/A
Training Support Material:	N/A
Specific Techniques:	This lesson plan is designed for hands-on (demonstration/performance). Trainers will demonstrate, document, and verify training using a variety of hands-on scenarios with actual missions or simulated training scenarios.
Criterion Objective:	<p>A. Upon completion of training, trainee will be able to:</p> <ol style="list-style-type: none"> 1. Identify the purpose of AF Form 1800. 2. Properly complete an AF Form 1800. 3. Identify required actions for discrepancies found during inspections. 4. Properly perform a vehicle inspection. <p>B. Trainee will:</p> <ol style="list-style-type: none"> 1. Review the training objective. 2. Review the training references. 3. Complete the prerequisites. 4. Complete the USAF EOS TTG Evaluation survey. https://www.usafecsurvey.com/se/251137455E5A907801 <p>C. Trainer will:</p> <ol style="list-style-type: none"> 1. Review the training objective. 2. Review the training references. 3. Ensure the trainee has met the prerequisites. 4. Comply with the duties outlines in AFI 24-605 Vol 5, Air Transportation Readiness and Resources 5. Complete the USAF EOS QTP Evaluation survey. 6. https://www.usafecsurvey.com/se/251137455E5A907801
NOTES to Trainer:	<p>This lesson plan is designed for hands-on training (demonstration-performance). Aerial port missions are inherently different from station to station; training sessions may or may not easily lend themselves to hands-on training. Therefore, it is imperative that trainers demonstrate, document and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC). Prior to accomplishing the practical application of this lesson, ensure the trainee has the necessary PPE; i.e., gloves, steel-toed boots, hearing protection, and reflective gear during hours of darkness. Use caution while maneuvering around the Mechanized Material Handling System (MMHS), if applicable.</p> <p>Brief the trainee to remain aware of vehicles/Material Handling Equipment (MHE) operating in the warehouse/pallet grid yard. Additionally, remind the trainee to remove all rings and exposed jewelry.</p>

TASK STEPS

Line Item 1.9 *Vehicle Inspections*

Learning Objective 1 Identify the purpose of AF Form 1800:

- A. AF Form 1800 is the Operator's Inspection Guide and Trouble Report for all Registered Vehicle Equipment, except refueling vehicles and equipment. AF Form 1800 is used to document mandatory daily and monthly vehicle inspections.
- B. A new AF Form 1800 is issued by the owning/using organization on the 1st duty day of each month. The previous month's form will be returned to the owning/using organization's Vehicle Control Officer (VCO).
- C. The AF Form 1800 must stay with the vehicle while it is in use.
- D. Disposition.
 - 1. Maintain prior month forms in accordance with the Air Force Records Disposition Schedule in the Air Force Records Information Management System.

Learning Objective 2 Properly complete an AF Form 1800:

- A. Heading Information.
 - 1. The owning/using organization enters the heading information on the 1st duty day of the month. This information should not change unless the vehicle or control officer gets reassigned.
- B. Operator's Signature.
 - 1. Each day is split into three shifts; use the top line for First Shift, middle for Second Shift, and bottom for Third Shift.
 - 2. During every shift, the operator who inspects the vehicle must input a legible signature, consisting of first initial and last name (ex: J. Doe), in the proper day and shift space.
 - a). The operator's signature signifies accomplishment of inspection.
 - b). When an inspection was not performed (non-use days), leave the operator signature space blank.
- C. Operator's Monthly Requirement.
 - 1. At the beginning of the month, the operating miles/hours must be recorded, and the tire pressure checked (to include spare tire) and recorded.
 - a). Tire pressure checks must be completed and documented regardless if the organization utilizes the vehicle.
 - b). Vehicles equipped with electronic Tire Pressure Monitoring System, are not exempt from tire pressure checks.
 - c). Vehicles that are non-mission capable during the first 10 calendar days of the month do not require completion until released/picked-up from maintenance.
- D. Vehicle / Equipment Discrepancy and Maintenance Report
 - 1. Operator Report.

- a). This section is used for documenting vehicle discrepancies and reporting actions. It is recommended that this section be completed using a pencil.
 - b). In the "Item No." column, use the number from the "Items to be checked" list corresponding to the discrepancy.
 - c). In the "Discrepancy" column, enter a brief/clear description of the discrepancy.
 - d). In the "Date Disc." column, enter the date the discrepancy was discovered.
2. Reported to Maintenance.
 - a). This section is used for reporting the date the discrepancy is reported and the time the vehicle or equipment was turned in for repair or support.
 - b). In the "Date/Time" column, enter the date and time the vehicle or equipment was turned in for repair or the request for maintenance support was received.
 - c). In the "Miles/Hours" column, enter the current hour meter/odometer reading next to the discrepancy.
 - d). In the "Name" column, the individual completing the "Reported to Maintenance" portion of the form prints their name legibly.
 3. Maintenance Report Status.
 - a). Maintenance personnel fill out this section of the form as they address the discrepancy.
 - b). On new monthly forms, all open discrepancies are transferred to the new form and "C/F" (carried forward) is entered in the blank "Date" block of the old form.
- E. Items to Be Checked.
1. A checklist of items requiring inspection at the start of every shift. The owning/using organization places an "X" in the column next to the specific area/item row of the specific areas/items requiring inspection.
 2. Not all items apply to every vehicle. Items not listed but relating to a specific vehicle may be added in lines 36-39 labeled "Other".

ITEMS TO BE CHECKED	
(Place "X" in block adjacent to items requiring Operator's inspection for the vehicle type only)	
<input type="checkbox"/>	CLEANLINESS/DAMAGE/MISSING ITEMS (Interior/Exterior/UNUSUAL NOISE OR OCCURRENCE (During Operation)
<input type="checkbox"/>	LEAKS/FLUID LEVELS (Visually check for any leaks/check oil/coolant/hydraulic/transmission/brake fluid)
<input type="checkbox"/>	SAFETY DEVICES (Wiring/lights/horn/warning devices/sirens/refectors/mirrors/seat belts)
<input type="checkbox"/>	BATTERIES (Fluid/damage/cleanliness/security) INSTRUMENTS/GAUGES (Operation & readings)
<input type="checkbox"/>	DRIVE BELTS (Fraying/cracking/tension/PULLEY/MOTOR (Air/hydraulic/electrical))
<input type="checkbox"/>	STEERING/SPRINGS/SHACKLES (Free play/excessive wear)
<input type="checkbox"/>	EXHAUST SYSTEMS/PARK ARRESTORS (Damage/leaks)
<input type="checkbox"/>	TIRES/WHEELS (Lug nuts/cracks) TRACKS
<input type="checkbox"/>	HEATER/DEFROSTER/AIR-CONDITIONER/AUXILIARY GENERATORS/AUXILIARY HEATERS
<input type="checkbox"/>	BRAKES (Servicing/Parking) CLUTCHES Operate)/ACCELERATOR PEDAL (Damage/worn)
<input type="checkbox"/>	WINDSHIELD (Wipers/washer fluid/cracks)
<input type="checkbox"/>	HYDRAULIC HOSES (Damage/frayed) CYLINDERS/VALVES (Damage/leaks)
<input type="checkbox"/>	COLD WEATHER AIDS (Ether/alcohol injector/battery heater/oil-engine heater/coolant heater, etc.)
<input type="checkbox"/>	POWER TAKE-OFF (PTO)
<input type="checkbox"/>	WINCH/TOW CONNECTIONS
<input type="checkbox"/>	AIR TANKS (Drain daily or after operation)
<input type="checkbox"/>	MAST TIRES/ROLLERIZED TIRES
<input type="checkbox"/>	ROLLERS/POWER CONVEYORS/RAILS/LADDERS/CAT WALKS/CARGO BED
<input type="checkbox"/>	BED (K-LOAD) TOP/HALF/LOWEST/ROLL/SHIFT/YAW (check position)
<input type="checkbox"/>	LOWER LOBE CAB SHIFT (Operation)
<input type="checkbox"/>	EMERGENCY STAND-BY SYSTEM
<input type="checkbox"/>	MARKINGS-CHECK LEGIBILITY ("WATCH STEP" stencil IAW36-1-191)
<input type="checkbox"/>	CHUTES/AUGERS/FAN BLADES/WEAR SHOES
<input type="checkbox"/>	DRUMS/CROWNS/FAIR LEADS
<input type="checkbox"/>	BOOMS/OUTRIGGERS/BASKET/PLATFORM/TURNTABLE (Check for cracks and damage)
<input type="checkbox"/>	BROOMS/PROCKETS/CHAINS
<input type="checkbox"/>	BLADES/REELS/SICKLE BARS/FLAILS
<input type="checkbox"/>	KETTLE/HOISTING MECHANISM/GITATORS
<input type="checkbox"/>	SHEAVES/BLOCKS/CABLES
<input type="checkbox"/>	MOULDBOARDS/BOWLS/CUTTING EDGES/SKIDS
<input type="checkbox"/>	PUMPS/PIPING/DISCHARGE VALVES FOR LEAKS, CORROSION/SPARE BARS
<input type="checkbox"/>	FIREFIGHTING SPECIALIZED EQUIPMENT/SAFETY DEVICES (Axle, spanner wrench, power saw, ladder, pike trouble light, megaphone, generator, resuscitator, rescue tools, winch/buzzers, fire extinguishers, ropes, breathing apparatus, personal alert safety system, etc.)
<input type="checkbox"/>	FIREFIGHTING SYSTEM OPERATION AND FOAMWATER LEVELS
<input type="checkbox"/>	AUXILIARY FIREFIGHTING SYSTEM (Nitrogen tank pressure, agent levels, etc)
<input type="checkbox"/>	HOSE/REELS/HANDLINES/TURRETS (Operation/all functions)
<input type="checkbox"/>	OTHER (Specify)

AF FORM 1800, 20100401

PAGE 3 OF 3 PAGES

OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT (For use with all Registered Vehicle Equipment except Refueling Vehicles and Equipment)					
VEHICLE TYPE	REGISTRATION NO.				
ORGANIZATION	LOCATION/BASE		PHONE NO.		
VEHICLE CONTROL OFFICER NAME			PHONE NO.		
OPERATOR'S SIGNATURE SIGNIFIES ACCOMPLISHMENT OF CHECKS (First Initial, Last Name)					
DAY	SHIFT/SIGNATURE	DAY	SHIFT/SIGNATURE	DAY	SHIFT/SIGNATURE
1		11		21	
2		12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
7		17		27	
8		18		28	
9		19		29	
10		20		30	
				31	

AF FORM 1800, 20100401

PAGE 1 OF 3 PAGES

OPERATOR'S MONTHLY REQUIREMENT									
BEGINNING OF MONTH OPERATING MILES/HOURS			TIRE PRESSURE CHECK (Check manufacturer's manual or vehicle for applicable pressure)						
DATE: (DD/MM/YYYY)	MILES:	HOURS:	FRONT PSI:	REAR PSI:					
OPERATOR'S NAME(print legibly) and SIGNATURE			DATE: (DD/MM/YYYY)	OPERATOR'S NAME(print legibly) and SIGNATURE			DATE: (DD/MM/YYYY)		
VEHICLE / EQUIPMENT DISCREPANCY AND MAINTENANCE REPORT									
OPERATOR REPORT			REPORTED TO MAINTENANCE			MAINTENANCE REPORT STATUS			
ITEM NO.	DISCREPANCY	DATE DISC. (DD/MM/YY)	DATE/ TIME/ (DD/MM/YY)	MILES/ HOURS	NAME (print legibly)	WORK ORDER#	DATE (DD/MM/YY)	STATUS CODE	EMPLOYEE NUMBER
STATUS CODE	C = CORRECTED	C-T by Temp Fix C-P by Perm Fix	D = DELAYED	D-P for Parts D-M for Maint.	D-D for Disposition	W = Waiver for Repair N = No Repairs Required			

AF FORM 1800, 20100401

PAGE 2 OF 3 PAGES

Learning Objective 3 Identify required actions for discrepancies found during inspections:

- A. Discrepancies found during inspections must be annotated on the AF Form 1800. In the Vehicle / Equipment Discrepancy and Maintenance Report section, use the Operator Report and Reported to Maintenance columns to record any discrepancy requiring maintenance.
 - 1. Before entering a discrepancy, check the discrepancy list and status to avoid duplicate reporting and processing of discrepancies before entering a discrepancy.
 - 2. After annotating a discrepancy, notify your immediate supervisor and report the discrepancy to Vehicle Management.
 - 3. Even if discrepancies have been found and reported to Vehicle Management the operator needs to certify completion of inspection.
- B. Maintenance should not be delayed if you find a discrepancy that could adversely affect the safety of personnel or operation of equipment. The vehicle should be taken out of service immediately.

Learning Objective 4 Properly perform a vehicle inspection:

- A. This objective is covered in the Aerial Port Vehicles DL Course // Basic Operations // Vehicle Licensing and Inspections. Further details can be found in the referenced regulations.

TRAINER GUIDANCE

Line Item 1.10 Perform engine running off-load or on-load (ERO) operations

Prerequisites:	<p>A. Trainee will:</p> <ol style="list-style-type: none"> 1. Possess a valid AF IMT 483, Certificate of Competency for Flight Line Training for all flight line operations. 2. Possess all required Personal Protective Equipment, i.e., gloves, hearing protection, steel-toed boots, and reflective gear (during darkness or inclement weather) 3. Complete Air Freight Distance Learning Course 4. Complete the Following QTPs: <ol style="list-style-type: none"> a) 5.1.2 Assemble/Set-up aircraft loads b) 1.8 Perform spotter/chocker duties c) 5.2.1 Prepare aircraft cargo compartment for loading d) 5.2.2 Load/offload cargo/mail/baggage e) 5.2.3 Calculate Tie down/restrain cargo/mail/baggage in aircraft <p>B. Trainer will establish a timeline for completing the required training with the trainee.</p>
Training References:	<p>A DOD 4500.9-R, Defense Transportation Regulation, Part III, Mobility, Appendix Y. B AFI24-605 V2, Air Transportation Operations, paragraph 3.69.</p>
Additional Supporting References:	N/A
Training Support Material:	<p>A Possess a valid AF IMT 483, Certificate of Competency for Flight Line Training for all flight line operations. B Possess all required Personal Protective Equipment, i.e., gloves, hearing protection, steel-toed boots, and reflective gear (during darkness or inclement weather)</p>
Specific Techniques:	This lesson plan is designed for hands-on (demonstration/performance). Trainers will demonstrate, document, and verify training using a variety of hands-on scenarios with Actual missions or simulated training scenarios.
Criterion Objective:	<p>A. Upon completion of training, trainee will be able to:</p> <ol style="list-style-type: none"> 1. Determine step by step procedures for performing Engine Running Off/On loads (EROs). 2. Conduct Engine Running Off/On loads (ERO's).
NOTES to Trainer:	<p>This lesson plan is designed for hands-on training (demonstration/performance). Aerial port missions are inherently different from station to station; training sessions may or may not easily lend themselves to hands-on training. Therefore, it is imperative that trainers demonstrate, document and verify training using a variety of hands-on and scenario-based techniques to achieve the desired proficiency prior to signing the Task Evaluation Checklist (TEC).</p> <p>Prior to accomplishing the practical application of this lesson, ensure the trainee has the necessary PPE, i.e., gloves, steel-toed boots, hearing protection, and reflective gear during hours of darkness. Use caution while maneuvering around the Mechanized Material Handling System (MMHS), if applicable.</p>

	<p>Brief the trainee to remain aware of vehicles/Material Handling Equipment (MHE) operating in the warehouse/pallet grid yard. Additionally, remind the trainee to remove all rings and exposed jewelry.</p> <p>This lesson covers the process of performing EROs. EROs are authorized to expedite the flow of aircraft through airfields during operations where the reduction of ground time warrants a departure from normal operating procedures. Other QTP modules cover related material. To better understand the process, these will be completed prior to this lesson.</p>
--	--

TASK STEPS

Line Item 1.10 Perform engine running off-load or on-load (ERO) operations

Risks associated with an ERO: Safety is paramount when doing an ERO. Risk Management (RM) is used to assess the risks.

- A. The five steps of the RM process are:
 - 1. Determine the types of hazards.
 - 2. Assess the risks.
 - 3. Analyze risk control measures.
 - 4. Make control decisions.
 - 5. Implement risk controls.
- B. The trainer will explain, using the RM process, how to identify risks associated with:
 - 1. Day or night operations.
 - 2. Weather.
 - a). Ensure the vehicle operator's vision is not obscured by the elements.
 - b). Self-propelled vehicles may require winch assistance if positive traction of vehicle wheels cannot be maintained throughout the operation.
 - 3. Experience level of team members.
 - a). Experienced, qualified members.
 - b). Trainees.
 - c). Augmentees.
 - d). User personnel.
 - 4. Types of cargo.
 - a). Small arms ammunition class/division 1.4 is authorized.
 - b). All others must be authorized by the Mobility Force Commander, contingency operations order or air tasking order.
 - 5. Types of passengers.
 - 6. Location of ERO.
 - a). Limited clearance around aircraft.
 - b). Personnel/equipment areas.
 - c). Traffic congestion.

Equipment used during EROs: The trainer will explain and demonstrate the use of:

- A. Safety equipment.
 - 1. Gloves.
 - 2. Steel-toed boots.
 - 3. Hearing protection.
 - 4. Goggles (optional for C-17 operations parked on hard surface).

5. Reflective vests or belts during hours of darkness.
 6. Reflective wands for spotting.
- B. Other equipment.
1. Extra sets of C-130 auxiliary loading ramps, as required.
 2. Vehicle with front-mounted pintle hook (prime mover).
 3. C-130 ramp support (milk stool).
 4. Materiel Handling Equipment (MHE).

Brief participants on EROs: The load team chief will brief all members prior to the ERO. The trainer will explain and demonstrate a briefing consisting of:

- A. Procedures.
- B. Safety requirements.
- C. Hand signals.
- D. Route to and from the aircraft.
- E. Load team position.
- F. Cargo type.
- G. Special on/offloading instructions.
- H. Use of any MHE.

Onload Procedures The trainer will explain and demonstrate the onload procedures. Vehicle and troop directors use distinctive clothing/equipment such as reflective vest and wands for night operations. The trainer will explain and demonstrate how to:

- A. Position load team in a pre-planned area. The load team chief must make sure the area is:
 1. A minimum of 50 ft. aft (C-5: 200 ft., C-17: 25 ft.) of the aircraft when it has stopped.
 2. Clear of engine exhaust.
 3. On the outside of the aircraft's turning radius.
- B. Approach the aircraft. For C-5s, always approach the aircraft from the front when the crew entrance door is deployed, and the scanner has deplaned. When loading pallets at the rear, the person chocking the K-loader approaches the aircraft from the nose and is escorted to the rear by the scanner.
 1. Wait until all engines are in low-speed ground idle or reverse thrust and an aircrew member signals you.
 2. Lead the load team perpendicular to the fuselage at least 50 ft. aft (C-5: 200 ft., C-17: 25 ft.) until reaching the centerline.
 3. Turn and approach the aircraft.
 4. Remain clear of aircraft cargo ramp until it is positioned for loading.
- C. Coordinate with the loadmaster. The loadmaster retains overall responsibility for loading the aircraft. The load team chief coordinates with the loadmaster to:
 1. Present manifest

2. Confirm load sequence.
 3. Confirm ground vehicle direction
 4. Confirm tie-down requirements.
- D. Prepare for loading. For C-5s, the preferred method for loading is in the forward kneels, drive-in position.
1. Position necessary MHE.
 2. For C-130s, install extra auxiliary ground loading ramps if needed.
 3. For C-130s, team members may assist the loadmaster in positioning the milk stool.
 4. Go aboard and prepare the aircraft for a specific load.
 5. Position loads a minimum of 50 ft. (C-5: 200 ft. forward or aft, C-17: 25 ft.) aft and slightly to the right or left of aircraft fuselage, leaving a clear path behind the aircraft.
 6. Position the first piece of equipment to be loaded at the bottom of the aircraft cargo ramp.
 7. Ensure only one piece of loading equipment approaches the aircraft at a time.
- E. Load the aircraft.
1. Vehicle operators remain in their vehicles when within 50 ft. of the aircraft (C-5: 200 ft., C-17: 25 ft.) and until vehicle is secure aboard aircraft with one chain forward and one aft.
 2. Ensure ground vehicle spotter takes a position clearly visible to the vehicle driver.
 3. For trailers, ensure the vehicle director takes position next to the driver's side cab of the prime mover.
 4. Ensure load team members are positioned to observe load clearance.
 5. Load troops after the main cargo floor is loaded.
 - a). Ensure all troops remain a minimum distance of 50 ft. aft (C-5: 200 ft. forward, C-17: 25 ft.) off the aircraft.
 - b). When troops reach aircraft centerline, the team chief directs them to the aircraft.
 6. Load the ramp cargo after the troops are aboard.
- F. Leaving the aircraft.
1. Obtain the completed outbound DD Form 365-4F weight and balance clearance form from the loadmaster
 2. For C-130s:
 - a). Assist in placing the auxiliary loading ramps on the aircraft ramp as required.
 - b). If used, stow the extra auxiliary loading ramps in the load team's vehicle.
 3. Proceed aft down the aircraft centerline with the rest of the team.
 4. Team chief stops 50 ft. aft (C-5: 200 ft. fwd. or aft, C-17: 25 ft.) and signals with thumb up informing the loadmaster that the load team and equipment are all clear.

Offload procedures: The trainer will explain and demonstrate the offload procedures. The procedures are the same as on load with the additional requirements outlined below.

- A. Position load team in a pre-planned area. The load team chief must make sure the area is:
1. A minimum of 50 ft. aft (C-5: 200 ft., C-17: 25 ft.) off the aircraft when it has stopped.

2. Clear of engine exhaust.
 3. On the outside of the aircraft's turning radius.
- B. Approach the aircraft. For C-5s, always approach the aircraft from the front when the crew entrance door is deployed, and the scanner has deplaned. When offloading pallets at the rear, the person chocking the K-loader approaches the aircraft from the nose and is escorted to the rear by the scanner.
1. Wait until all engines are in low-speed ground idle or reverse thrust and an aircrew member signals you.
 2. Lead the load team perpendicular to the fuselage at least 50 ft. aft (C-5: 200 ft., C17: 25 ft.) until reaching the centerline.
 3. Turn and approach the aircraft.
 4. Remain clear of aircraft cargo ramp until it is positioned for offloading
- C. Coordinate with the loadmaster. The loadmaster retains overall responsibility for offloading the aircraft. The load team chief coordinates with the loadmaster to receive manifests.
- D. Prepare for offloading. For C-5s, the preferred method for offloading is in the forward kneels, drive-in position.
1. Position necessary MHE.
 2. For C-130s, install extra auxiliary ground loading ramps as needed.
 3. If troops are aboard, team members position themselves to the side of the aircraft ramp until all troops have deplaned.
- E. Offload the aircraft. Exiting through the aft cargo door or ramp is the preferred method when troops are involved on the C-130, and C-17. For C-5s, the preferred method is through the forward ramp.
1. Troops.
 - a). Deplane passengers before offloading cargo, unless cargo size and location dictate otherwise. Deplaning personnel must be briefed to remain forward of the extended interphone cord.
 - b). When unloading personnel, baggage, or equipment through the crew entry door with engines operating, stay clear of engine inlets or engine props.
 - c). Secure all loose personal items before passing in front of operating engines.
 - d). Personnel will not proceed aft of the crew entrance door while engines are operating.
 - e). When offloading troops through the front crew door, troop buses park in front of the aircraft on the left side with the nose of the bus pointing away from the aircraft, and no closer than 50 ft. (C-5: 200 ft.) forward of the left wing.
 - f). Loadmaster briefs troops on the hazards involved with ERO procedures. Items such as securing loose articles, hearing protection, local conditions, etc.
 - g). Loadmaster directs troops to deplane.
 - h). Troops proceed a minimum of 50 ft. aft (C-5: 200 ft. forward and aft, C-17: 25 ft. aft) of the aircraft.

- i). Troops then turn left or right and continue parallel to the aircraft's wing a minimum of 300 ft. (C-17: 200 ft.) before stopping.
2. Cargo.
 - a). Direct team aboard to remove any remaining tie-down restraints, beginning with the first vehicle to be offloaded.
 - b). Put all tie-down equipment on aircraft centerline (C-5: stow tie-down in containers if time permits).
 - c). Position the ground vehicle director 25 feet aft of the aircraft to direct vehicles 50 ft. aft (C-5: 200 ft. forward and aft, C-17: 25 ft. aft) before turning left or right to the receiving area.
 - d). Ensure load team members are positioned to observe load clearance.
- F. Depart the aircraft.
 1. Obtain the completed outbound DD Form 365-4F, Weight and Balance Clearance Form. For C-17s and C-130s leaving empty, a DD Form 365-4F is not required.
 2. For C-130s:
 - a). Assist in placing the auxiliary loading ramps on the aircraft ramp, as required.
 - b). If used, stow the extra auxiliary loading ramps in the load team's vehicle.
 3. Proceed aft down the aircraft centerline with the rest of the team.
 4. Team chief stops 50 ft. (C-5: 200 ft. forward or aft) aft of aircraft centerline and gives thumbs up to inform the loadmaster the team and equipment are clear of aircraft.

*** NOTE:** Close coordination is always required between air and ground crews. Due to the fast-paced nature of an ERO, it is imperative the trainee thoroughly understands the procedures before participating. At the time of execution, EROs cannot be slowed down or stopped and started to satisfy the needs of the trainee.

TASK EVALUATION CHECKLIST (TEC)

Line Item 1.10 Perform engine running off-load or on-load (ERO) operations

Directions: The trainee will successfully complete the TA IAW AFI 24-605, Vol. 5 before completing the TEC.	YES	NO	N/A
1. Training Assessment			
Directions: Given all applicable materials, the trainee will complete the following items unassisted and without error.			
2. Risks associated with ERO operations			
Trainee demonstrated proficiency by identifying risks associated with EROs.			
3. Brief participants on ERO procedures			
Trainee demonstrated proficiency on:			
A. Procedures.			
B. Safety requirements.			
C. Hand Signals.			
D. Route to and from the aircraft.			
E. Load team position.			
F. Cargo type.			
G. Special on/offloading instructions.			
H. MHE use.			
4. Conduct an ERO on a C-130, C-17, or C-5 aircraft			
Trainee demonstrated proficiency by:			
A. Positioning load team in correct pre-planned area.			
1. Maintaining minimum distance for type aircraft.			
2. Maintaining clearance of engine exhaust.			
3. Maintaining position outside of turning radius.			
B. Safely approaching the aircraft.			
1. Waiting until engines are set to idle or reverse thrust and signaled from aircrew member.			

2. Ensure ramp team maintains minimum distance for type of aircraft until reaching centerline.			
3. Remaining clear of cargo ramp until positioned.			
C. Coordinating with the loadmaster.			
D. Preparing for loading. For offloading, skip to letter "F".			
1. Positioning MHE.			
2. Preparing aircraft (auxiliary loading ramps, milk stool, aircraft floor, struts).			
3. Positioning loads correctly in relation to the aircraft.			
4. Ensuring one piece approaches aircraft at a time.			
E. Loading the aircraft.			
1. Positioning personnel (ground vehicle director, load team).			
2. Loading troops.			
3. Loading ramp cargo after troops are aboard.			
F. Preparing for offload. If loading, skip to letter "H".			
1. Positioning MHE.			
2. Preparing aircraft (auxiliary loading ramps, aircraft floor, struts).			
3. Positioning team for troop offload.			
G. Offloading the aircraft.			
1. Ensuring troops are briefed by loadmaster.			
2. Directing troops down centerline until minimum distance is reached.			
3. Directing troops parallel to wing maintaining minimum distance.			
4. Removing tie down restraints in order of offload.			
5. Putting tie down on aircraft centerline or in storage containers.			
6. Positioning personnel (ground vehicle director, load team).			
H. Safely leaving the aircraft.			
1. Obtaining the weight and balance clearance form.			
2. Stowing equipment (struts, auxiliary loading ramps).			
3. Leaving aircraft maintaining minimum distance.			
4. Signaling all clear to loadmaster.			

I. Using safety equipment.			
J. Using other equipment (auxiliary loading ramp, prime mover, milk stool, MHE).			
NOTES:			

Trainee (print): _____

Start Date: _____

Trainer's Signature: _____

Complete Date: _____

TRAINER GUIDANCE

Line Item 1.11 Air Transportation Information Systems

Prerequisites:	<ul style="list-style-type: none"> A. Trainee has no prerequisites B. Trainer will establish a timeline for completing the required training with the trainee
Training References:	<ul style="list-style-type: none"> A. AFI 24-605, Vol 1-5 B. AFI 10-403. Deployment Planning and Execution C. DTR Part III appendix I
Additional Supporting References:	N/A
Specific Techniques:	<p>A. Upon completion of training, the trainee will:</p> <ol style="list-style-type: none"> 1. Identify the principles surrounding the ITV process. 2. Identify the various computer systems that provide ITV. 3. Identify additional commonly used Air Transportation Systems. <p>B. Trainee will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. <p>C. Trainer will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. 3. Conduct the training using the attached lesson plan. 4. Perform remedial training if necessary. 5. Comply with the duties outlined in AFI 24-605. 6. Complete the AMC TTG (EOS CRS Feedback). https://www.usafecsurvey.com/se/251137455E5A907801
Criterion Objective:	

TASK STEPS

Line Item 1.11 Air Transportation Information Systems

Learning Objective 1 Upon completion of training, identify principle surrounding the ITV process:

- A. Intransit Visibility (ITV).
 - 1. AFI 24-605, Vol 2, states ITV is the ability to track the identity, status, and location of DOD unit and non-unit cargo, passengers, patients, forces, military and commercial airlift, sealift, surface assets, and personal property from origin to consignee or destination during peace, contingencies and war.
 - 2. The ability to see and track supplies and people is pivotal in the military decision-making process.
 - a). Military commanders must have access to real-time ITV information of units and shipments entering a theater of operations during times of peace and war.
 - b). Knowing where cargo and passengers are allows U.S. Transportation Command (USTRANSCOM) to better utilize assets, reduce the amount of reordering and inventory levels by the users, conduct fluid movement of troops into the theater, and react much faster to meet field commander's rapidly changing needs.

Learning Objective 2 Upon completion of training, Identify the various computer systems that provide ITV:

- A. Integrated data base systems that provide ITV.
 - 1. Integrated IGC Convergence <https://www.igc.ustranscom.mil/igc/>
 - a). In 2010, the Defense Logistics Agency (DLA) and USTRANSCOM converged DLA's Integrated Data Environment (IDE) with USTRANSCOM's Global Transportation Network (GTN) to create what is referred to as "IGC".
 - (1) The "I" and "G" representing the two existing systems' acronyms, and "C" reflecting their convergence.
 - (2) IGC allows the newer Enterprise Data Warehousing capabilities of GTN and the capability deliveries of the IDE to be managed by a single Program Manager
 - (3) IGC is designed to provide the Department of Defense (DoD) with an integrated set of networked, end-to-end visibility, deployment, and distribution capabilities.
 - (4) The end goal of IGC is to effectively support the Joint Force Commander's ability to make decisions based on actionable logistics information.
 - (5) IGC enhances capability to interoperate, unifies information technology (IT) development across the Domain, synchronizes investment into objective systems, and eliminates legacy/redundant data stores and interfaces.
 - 2. Single Mobility System (SMS) <https://sms.transport.mil>

- a). SMS is a web-based computer system that provides visibility of air, sea, and land transportation assets and provides aggregated reporting of cargo and passenger movements.
 - b). SMS does this by collecting plane, ship, and truck movement data from other computer systems such as IGC and GDSS.
 - c). IGC also helps to measure performance in the various segments of the Defense Transportation Systems (DTS), provides search option tools that allow a user to input key terms as well as data discovery tools that allow for searching/displaying metadata (data about data) related IGC data information.
 - d). Today IGC is the DOD's single designated source for in-transit shipment information that supports the family of transportation users and providers--both DOD and commercial.
 - e). IGC collects and integrates transportation information from selected transportation systems and gives its customers located anywhere in the world, a seamless near- real-time capability to access and employ transportation and deployment information.
3. Global Air Transportation Execution System (GATES).
 - a). GATES is the IGC In-Transit Visibility (ITV) feeder system used by AMC aerial ports and deployed forces to process, manifest, and track passengers and cargo; support resource management and provide command and control support information.
 - (1) GATES is the current AMC real-time system that supports fixed, deployed, and mobile sites.
 - (2) GATES processes and tracks cargo and passengers; supports resource management and provides command and control support information.
 - (3) GATES generates cargo, passengers, and resource reports at headquarters and unit level, and provides message routing and delivery for all AMC transportation airlift operators regardless of size, workload, volume, configuration, or location.
 - b). HQ AMC/A4T is the functional manager for GATES and common-user aerial port ITV business processes.
 - c). HQ AMC/A4TI serves as the command ITV functional manager and ensures/monitors ITV capabilities at fixed aerial ports.
 - (1) Per AFI 24-605, Vol 2, Air Terminal Operations Center, Information Control (located within the Air Terminal Operations Center) must ensure all missions in GATES are departed NLT 30 minutes after actual departure time.
 - (2) NOTE: GATES should automatically enter departure time based on a departure message from Global Decision Support System (GDSS). If GATES is not automatically updated, the information controller will update GATES with the departure time.
 - d). The information controller must query IGC to ensure ITV timeliness criteria IAW Defense Transportation Regulation (DTR) 4500.9-R (Part I, Passenger Movement, Part II, Cargo Movement, and Part III, Mobility).

- (1) NOTE: Timeliness is measured from actual aircraft departure time to availability of data in IGC.
 - e). Movement data must be available in IGC as follows:
 - (1) Two hours for all intra-theater and CONUS air movements
 - (2) One hour for all sustainment airlift and unit/non-unit strategic air movements.
 - f). Information Controllers must have IGC and GDSS accounts to verify and support ITV data.
4. Cargo Movement Operations System (CMOS). <https://www.cmos.csd.disa.mil/>
- a). CMOS is a combat support system that provides automated base level processing of cargo for movement during peacetime and deployment cargo and passenger movement during contingencies for the Air Expeditionary Forces.
 - b). CMOS is the Air Force's designated deployment system for use at non-AMC locations as well as those AMC locations that do not have GATES.
 - c). Used for wing-level deployment and contingency passenger and cargo processing operations.
 - d). Used for preparing and managing all movement documentation.
 - e). Enables bar coding and scanning for cargo processing.
 - f). Provides ITV.

Learning Objective 3 Upon completion of training, the trainee will be able to identify the various computer systems that provide ITV:

- A. Additional commonly used Air Transportation Systems.
 - 1. Air Transport Test Loading Activity (ATTLA)
https://intelshare.intelink.gov/sites/attla/_layouts/15/start.aspx#/SitePages/Home.aspx
 - a). Memorandums which provide instructions on how to prepare and transport equipment on US Air Force aircraft to Aircraft Loadmasters/Aerial Port Personnel, Unit movement officers, and other persons requiring movement of equipment on US Air Force Aircraft.
 - 2. Integrated Computerized Deployment System (ICODES) <https://icodesgs-ciwl.transport.mil/ICODESPortal/>
 - a). Is the single DoD system to complete load plans for sealift, airlift and rail. It became mandatory for use and is the only acceptable automated system for completing air load plans as of 1 May 2013.
 - b). Is an AIS designed to support multi-modal load planning requirements in support of the DoD requirement for a Single Load Planning Capability.
 - c). Is a joint decision-support system developed to assist users with the staging and load-planning requirements for multiple military and commercial modes of transportation?
 - d). The combined functionality of ship, air, rail, and the other services, provided by ICODES, gives commanders, planners, and operators at all levels a single platform capable of producing and evaluating load plans and alternative actions for units of

- any size, using varied modes of transportation, in support of peacetime or wartime operations.
- e). The reporting and networking functions support the mission to provide Commanders with strict accountability of these cargoes during the loading, transhipment, and discharge operations at ports and terminals.
3. Joint Hazard Classification System (JHCS) -
<https://mhp.redstone.army.mil/MhpMain.aspx>
- a). Database that stores all of the munitions data for the DOD.
 - b). This can be used to validate Net Explosive Weight (NEW) data provided on a shippers declaration based on the NSN, DODIC, LOT.

TRAINER GUIDANCE

Line Item 1.12 *Compliance/evaluation fundamentals*

Prerequisites:	A. Trainee has no prerequisites. B. Trainer will establish a timeline for completing the required training with the trainee.
Training References:	A. AFI 24-605, Vol 5, Air Transportation Standardization and Resources B. AFI 20-112, Logistics Readiness Quality Assurance Program C. AFI 24-605, Vol 4, Air Transportation Reserve Component D. CFETP 2T2X1, Air Transportation Specialty
Additional Supporting References:	N/A
Training Support Material:	N/A
Specific Techniques:	N/A
Criterion Objective:	<p>A. Upon completion of training, the trainee will:</p> <ol style="list-style-type: none"> 1. Know the different programs used to evaluate compliance within the various unit types across the Air Transportation career field. 2. Know the basic facts, terms, and general principles about the Air Transportation Standardization Evaluation Program (ATSEP). 3. Know the basic facts, terms, and general principles about the Logistics Readiness Quality Assurance Program. 4. Know the basic facts, terms, and general principles about the Aerial Port Quality Assurance Program. <p>B. Trainee will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. <p>C. Trainer will:</p> <ol style="list-style-type: none"> 1. Review the training objectives. 2. Review the training references. 3. Conduct the training using the attached lesson plan. 4. Perform remedial training if necessary. 5. Comply with the duties outlined in AFI 24-605, Vol 2, Air Transportation Operations. 6. Complete the AMC TTG (EOS CRS Feedback) https://www.usafesurvey.com/se/251137455E5A907801
NOTES to Trainer:	This training guide is knowledge based.

TASK STEPS

Line Item 1.12 *Compliance/evaluation fundamentals*

Learning Objective 1 Upon completion of training, the trainee will know the different programs used to evaluate compliance within the various unit types across the Air Transportation career field:

- A. Air Transportation Standardization Evaluation Program (ATSEP)
 - 1. ATSEP is Air Mobility Commands air transportation compliance program executed by commanders at aerial port and air mobility squadron level. This program provides commanders and AMC/A4T with assessments of a unit's ability to perform core air transportation and traffic management procedures ensuring standardized, repeatable, and technically compliant process execution.
 - 2. Applies to AMC active duty, civilian equivalent, reserve and guard personnel activated under Title 10 performing air transportation or traffic management functions while assigned to an AMC aerial port squadron (APS), air mobility squadron (AMS), contingency response group (CRG) or to an expeditionary location with similar structure.
- B. Logistics Readiness Quality Assurance Program
 - 1. The purpose of the Logistics Readiness Quality Assurance program is to provide the unit commander/civilian director and senior leadership with an assessment of the unit's ability to perform key logistics processes by ensuring standardized, repeatable, technically compliant process execution, while promoting a culture of professional excellence and personal responsibility. The program's primary focus is on personnel proficiency and adherence to established policy and procedures.
 - 2. Applies to all Air Force Uniformed personnel (Regular, Air Force Reserve (AFR) and Air National Guard (ANG)) and civilian personnel assigned to a Logistics Readiness Squadron.
- C. Aerial Port Quality Assurance Program (APS QA)
 - 1. APS QA is the Air Force Reserves' (AFR) air transportation compliance program, executed by commanders at the squadron level. Assessments are the official avenue to ensure the effectiveness of training, readiness of unit personnel, areas for improvement and a standardized training program. They provide leadership with information about the health and effectiveness of the unit. Accurate assessments of personnel proficiency are critical to identifying unit effectiveness. This program is intended to enhance training and communication within the aerial port community.
 - 2. Applies to Air Force Uniformed personnel and civilian personnel assigned to an Air Force Reserve (AFR) Aerial Port Squadron.

Learning Objective 2 Upon completion of training, the trainee will know the basic facts, terms, and general principles about the Air Transportation Standardization Evaluation Program (ATSEP):

A. Purpose. ATSEP provides tools to:

1. Validate compliance with established operational and training directives.
2. Develop trend data by identifying deficiencies in core transportation functions.
3. Oversee root cause determination and ensure corrective action plan (CAP) for all command process evaluation list (CPEL) items graded as non-compliant, including trends, are in place.
4. Ensure PA is completed as required.

B. Roles and Responsibilities

1. AMC/A4T will:
 - a). Establish guidance and training for administration and execution of ATSEP.
 - b). Review deficiencies for trends and establish quarterly air transportation interest item(s) (ATII). ATIIs require a focused evaluation and will be documented in Logistics Evaluation Assurance Program (LEAP).
 - c). Manage the AMC/A4T ATSEP SharePoint® website.
 - d). Determine if an ATSEP workshop is required. Should funding not be available for a physical presence of program participants, then a workshop event is not required. Teleconference and/or online meetings can suffice by using Defense Collaboration Service online or other similar e-tools.
 - e). Act as LEAP functional administrator for ATSEP.
 - f). Provide monthly ATSEP metrics for unit crosstalk when manual procedures are implemented.
 - g). Review and brief command leadership on unit evaluation results monthly.
 - h). Manage CPEL. CPEL is AMC/A4T managed/directed list of tasks to be evaluated monthly within each unit.

C. Unit Commander will:

1. Establish and assign appointed personnel to an ATSEP section that will report directly to unit commander. For contingency response forces, if determined operationally more effective, ATSEP shall be administered at group level (CRG, Chief of Standardization/Evaluation). ATSEP section will be continually manned and report directly to the squadron commander (or group commander as appropriate within contingency response construct).
2. Maintain overall program responsibility.
3. Designate, in writing, a full-time ATSEP unit program manager (UPM), full-time evaluators, and augmentees as applicable. Templates are available on the AMC/A4T ATSEP SharePoint® website. Appointment letters will be maintained in ATSEP office files. A copy must also be provided to AMC/A4T ATSEP manager.
4. Ensure ATSEP section is staffed with SMEs for all air transportation and applicable traffic management functions in the unit.
5. Limit additional duties for ATSEP personnel.

6. Conduct monthly ATSEP briefing to analyze trends of deficiencies and on-duty mishaps. Attendees will include: ATSEP UPM (or designated representative), work center representatives and other senior leaders and unit personnel as required.
 7. Ensure all deficiencies are addressed and ensure flight leadership develops CAPs for all CPEL line items graded as non-compliant. Note: CPEL line items graded as non-compliant are still required to have minimum number of monthly evaluations completed.
 8. Develop monthly commander focus item(s) (CFI) based on CPEL. CFIs require a focused evaluation and will be documented in LEAP. Commanders should consider areas of non-compliance, trends, high missed items and on-duty mishaps when developing monthly CFI(s).
 9. Ensure an annual ATSEP self-assessment is completed in Management Internal Control Toolset.
 10. Consider ATSEP data when conducting squadron self-assessments in Management Internal Control Toolset.
 11. Determine/validate significant and critical deficiencies based on category descriptions in this volume.
- D. APS/Flight Senior Enlisted Leader/Superintendent will:
1. Recommend to commander most qualified and proficient individuals to serve as ATSEP UPM and evaluator(s).
 2. Review monthly ATSEP data: determine if any processes (i.e., mishaps, close-calls, negative evaluation trends) should be recommended to commander as a CFI.
 3. Attend ATSEP monthly briefings to assess unit performance and actions taken to analyze, correct, and improve aerial port processes.
 4. Ensure all deficiencies are briefed to all sections and flight leadership develops written CAPs to all CPEL line items graded as non-compliant.
 5. Review ATSEP deficiencies to ensure corrective actions and CAPs are valid, accurate, and complete.
- E. Unit Program Manager will:
1. Be an air transportation senior non-commissioned officer or civilian equivalent. Grade exceptions require a waiver from AMC/A4T. Waivers expire one year from approval date or when mission changes. Templates can be found on the AMC/A4T ATSEP SharePoint® website.
 2. Reflect highest standards of military bearing and professionalism; be impartial, objective, and consistent in all evaluations. Possess strong verbal and written communication skills.
 3. Complete ATSEP Formal Training course. Interim training will consist of viewing ATSEP training video located on the AMC/A4T ATSEP SharePoint® website.
 4. Manage unit-level ATSEP.
 - a). Ensure evaluators effectively and accurately identify deficiencies and detect trends of non-compliance.

- b). Review, track, and compile items graded as non-compliant. Present to flight leadership for review, and to commander for validation.
 - c). Review monthly ATSEP data and all on-duty mishap reports to make recommendations for CFIs.
 - d). Ensure monthly CFIs are evaluated as identified by unit commander.
 - e). Track non-compliant CPEL line items until resolved. Re-evaluate previous month's areas of non-compliance to ensure established CAPs are effective.
5. Assist leadership in nominating most knowledgeable personnel within the unit to serve as ATSEP evaluators.
 6. Ensure required number of evaluations are conducted and evenly spread throughout a 30-day period. Evaluation requirements are listed in paragraph 3.11. Ensure evaluations are conducted to cover all shifts and work centers.
 7. Review current and previous month's reports to identify trends.
 8. Initiate actions when additional attention is required to resolve adverse trends or training discrepancies. Actions include facilitating cross-talk and conducting briefings to unit personnel.
 9. Document, review, and submit monthly evaluation results to AMC/A4T no later than the seventh day of each month.
 10. Maintain continuity binder or electronic file equivalent. Ensure files consist of but not limited to: appointment letters, previous 12 months CFIs, waivers, and previous 12 months ATSEP reports.
 11. Review and validate deficiencies noted during evaluations.
 12. Communicate deficiencies to flights/sections within one duty day of discovery for cross-talk and appropriate corrective action.
 13. Provide a monthly summary of evaluations to unit commander and brief all validated deficiencies.
 14. Ensure ATIIs are reviewed, and appropriate action(s) taken.
 15. Be well-versed on training requirements contained in Chapter 2.
 16. Certify training for all ATSEP evaluators and augmentees.
 17. Complete ATSEP Formal Training course within 60 calendar days of assignment.
 18. Ensure evaluators are proficient on evaluation techniques, LEAP system, and documenting evaluations. ATSEP evaluators must pass a PA within 30 calendar days of appointment and prior to being certified to perform unsupervised evaluations. PAs will be documented in LEAP and individual training records/TBA.
 19. Perform LEAP site manager duties for unit.
 20. Participate in ATSEP meetings hosted by AMC/A4T. If UPM is unavailable, the highest ranking evaluator will participate.
 21. Review and validate all evaluations. Ensure all deficiencies include a clear, detailed, and accurate narrative with a valid reference.

22. If UPM acts for both a squadron and a group, UPM will be liaison to the group for aggregation and reporting of squadron ATSEP results.
23. Perform evaluations as needed.
24. Review CAPs and ensure PAs are conducted. Assist sections with root cause analysis (RCA) as required.
25. With the exception of civilian personnel, ATSEP UPMs will serve for a minimum of one year, but no longer than three years. Commanders will establish a rotation procedures in order to ensure fresh expertise is provided to ATSEP section without disrupting continuity

F. ATSEP evaluators will:

1. Be an air transportation non-commissioned officer with a seven skill level (or civilian equivalent). Traffic management personnel can evaluate applicable traffic management processes. Skill level exceptions require a waiver from AMC/A4T.
2. Reflect the highest standards of military bearing and professionalism; be impartial, objective, and consistent in all evaluations. Possess strong verbal and written communication skills.
3. Complete ATSEP Formal Training course within 60 calendar days of assignment. Interim training will consist of viewing ATSEP training video.
4. Be well versed on training requirements contained in Chapter 2.
5. Provide post-evaluation feedback to personnel.
6. Assist sections with RCA as required.
7. With the exception of civilian personnel, ATSEP evaluators will serve for a minimum of one year, but no longer than three years. Commanders will establish rotation procedures in order to ensure fresh expertise is provided to ATSEP section without disrupting continuity.

G. Guidance and Procedures

1. Program Guidance
 - a). Evaluations are AMC's formal avenue to ensure effectiveness of air transportation processes, identify areas for improvement, and maintain a standardized training program across aerial port functions of the air transportation career field. They provide leadership at all levels with factual information about health and effectiveness of unit training. Accurate assessments of proficiency are critical to identifying unit effectiveness. This program is intended to enhance training, cross-tell, and facilitate potential benchmarking.
 - b). Process evaluations are assessments of procedures required to accomplish a unit's mission. Conduct evaluations on processes while unit personnel are performing their daily duties without disruption to the normal work schedule. Focus on efficient and effective completion of tasks and processes within command standards. Safety must be inherent in all processes and an integral part of evaluations. Whenever safety is compromised, leadership will apply risk management principles to prevent mishaps.

This may include risk assessments or job safety analysis in accordance with AFI 91-202, The US Air Force Mishap Prevention Program.

2. Mishap Documentation
 - a). ATSEP will be used to document all mishap occurring within an aerial port. ATSEP's role is solely to document these findings and will not be involved in any investigation processes. Investigations are responsibility of local safety office and/or flight/squadron leadership. Deficiencies and CAPs are not required for mishaps. Note: All mishaps will be reported through chain of command to applicable safety office in accordance with AFI 91-204, Safety Investigations and Reports.
 - b). ATSEP will send AF Form 978, Supervisor Mishap Report, to AMC/A4T ATSEP org box by the 7th of the following month of evaluation cycle. (T-2). Privacy Act information will be omitted from AF Form 978 (i.e., name and social security number) when submitted. Note: AF Form 978s will be routed to applicable safety office within timelines established in AFI 91-204.
 - c). ATSEP will also validate accomplishment of PAs required as a result of a mishap.
3. Evaluation Requirements
 - a). Minimum number of monthly air transportation CPEL evaluations required is listed below in Table 3.1 Units not performing task(s) on CPEL due to location or operational specific reasons may request a waiver through AMC/A4T. Waivers expire one year from approval date or if nature of the waiver changes.
 - b). Types of evaluation waivers:
 - (1) Type 1: Exemption/exception waiver allows squadron commanders to approve exemption/exception waivers for respective units. Squadron commanders can determine evaluation frequency for CPEL line items identified as Type 1 waiverable. This type of waiver applies to units that may not possess certain types of equipment or resources (i.e., MHE) or a particular function that is performed by another entity (i.e., contractor). Units are required to send signed waivers to AMC/A4T ATSEP functional area managers once approved.
 - (2) Type 2: Exception waiver allows AMC/A4T approval to decrease number of monthly evaluations for a particular CPEL line item within a respective unit. Units with this type of waiver will still evaluate waived CPEL line item(s) when opportunity arises, once a month, or quarterly, depending on justification provided. Real-world based evaluations are preferred but may not always be an option for units with Type 2 waivers. Therefore, training scenarios will be used when real world opportunities are not available.
 - (a) Units can request this type of waiver if a significant lack of workload or opportunities for evaluation of a particular line item exists (i.e., JIs only performed once a quarter or minimum available hazardous material for inspection).

- (b) This waiver is intended to provide flexibility in balancing needs for training opportunities with ensuring compliance and is strictly based on workload or opportunities for evaluation. It is not associated with manning and will not be approved without proper justification. Note: Whenever possible, units with an approved CPEL requirement waiver will still perform evaluations on waived items and meet their original CPEL requirements (i.e., an increase in monthly workload provides evaluation opportunities).
- (3) All waivers require detailed written justification. (T-2). Wartime tasks identified in unit designed operational capability statements and core tasks identified in CFETP do not qualify for a Type 1 exemption/exception waiver. CPEL line items that are evaluated once a month or quarterly, regardless if item is waived or not, will require a focused evaluation.
- (4) Traffic management processes are exempt from this specific requirement. Units with assigned Traffic management functions will evaluate each Traffic management process on CPEL twice monthly regardless of available personnel.

Table 3.1. Number of Required Evaluations Based on Personnel.

Available Personnel	Monthly CPEL Evaluation Requirements
51-200	2
201-300	3
301-400+	4

H. Evaluation Process

1. All personnel assigned (officers, enlisted, and civilians) to an AMC air transportation unit are subject to ATSEP evaluation to include AFR and/or ANG personnel assigned to and performing duties within a RegAF unit. Evaluations and findings on AFR and ANG personnel are conducted and documented as they are for RegAF. However, ATSEP will not conduct PAs on AFR or ANG personnel. ATSEP members will communicate findings with the reserve liaison.
2. ATSEP evaluations may be conducted in two ways: wing-tip view and focused evaluation.
3. Wing-tip view is used to evaluate multiple tasks within a process at the same time. While this approach does not focus on every step within a task, wing-tip view can detect a need for a focused evaluation.
4. Focused evaluations scrutinize critical steps to an individual task. It is a step-by-step evaluation of a process. Three situations drive focused evaluations:
 - a). While conducting a wing-tip view an indicator is present, or a deficiency is noted that requires a closer look.
 - b). CFIs.
 - c). ATIIs.

5. Evaluations will be conducted in a natural working environment as much as possible allowing the process to occur without interruption by ATSEP personnel. Evaluations will accurately assess proficiency of personnel and processes. In the absence of real world opportunities, training scenarios will be used with intent to provide flexibility in balancing the need for compliance and proficiency. Anyone may stop any process if a safety issue is discovered or further process completion could result in harm to an individual, and/or damage to equipment or aircraft.
6. Evaluations resulting in a deficiency will include a reference, instruction, and/or the required standard that was violated.
7. Evaluations will be conducted as part of a process with emphasis on documenting them as either a Minor, Significant or Critical deficiency. ATSEP will not conduct investigations to look for deficiencies that are not part of an evaluation.
8. Grading is based on total number of evaluations completed for 30 calendar days.

I. Deficiencies

1. A deficiency is a validated evaluation finding that violates established guidance. ATSEP will identify all deficiencies. Each deficiency requires leadership to resolve the issue based on merits of the deficiency rather than severity of the deficiency level. Deficiencies fall into three categories: Minor, Significant, Critical.
 - a). Minor - validated deficiency noted while evaluating a CPEL line item that violates established guidance but has no immediate threat of personal injury, damage to equipment, severe mission degradation, or does not impose excessive unnecessary cost to the enterprise. NOTE: Unnecessary cost to enterprise will include misappropriation and/or mismanagement of funds or misuse of fund cites/transportation account codes.
 - b). Significant - deficiency noted during an evaluation resulting from actions that have a clear and unambiguous indication that continuing/repeating such action has potential to cause personal injury, damage equipment, incur severe mission degradation, or impose excessive unnecessary cost to the enterprise. Additionally, repeated and deliberate violations of guidance noted during same evaluation may be assigned a significant deficiency. Note: Safety violations are not necessarily significant deficiencies; however, if observed safety violation clearly could have resulted in a mishap, it should be annotated as a Significant. A mission delay will not automatically be considered as severe mission degradation unless delay resulted in mission being canceled or re-cut. Examples of a significant deficiency are: failure to utilize chock when inside circle of safety, failure to use spotter when operator's view is obstructed by cargo/baggage and/or sterile area/vault left unsecured, etc.
 - c). Critical - deficiency that resulted in personal injury, damage to equipment or property, severe mission degradation, or imposed excessive unnecessary enterprise cost.

2. Unit commanders will be notified of all Significant and Critical deficiencies within one duty day.
 3. Individuals cited with three or more Minor deficiencies within a single evaluation, a Significant or Critical deficiency, are required to undergo a PA on deficient line item task, to include a review of their TBA records or equivalent. PA will be documented in TBA and verified by ATSEP after estimated completion time.
 4. CPEL line items that receive a single Significant or Critical deficiency or a total number of Minor deficiencies that is greater than total number of required evaluations on that CPEL line item will be documented as non-compliant.
 5. CPEL line items with a Type 2 waiver or a monthly/quarterly evaluation requirement will be graded as non-compliant when there are three or more deficiencies within an evaluation.
 6. Line items that are graded as non-compliant for two months in a three month period on a rolling calendar will be tracked as trends.
 7. Leadership will brief all applicable deficiencies to their respective flights/sections as it applies to their work center. Any line item found to have a deficiency will not be re-evaluated for at least one duty day. Flight/section leaders shall brief all personnel and take corrective actions as required.
 8. Deficiencies will be referenced per paragraph within applicable guidance. Deficiencies with a separate reference on same process would constitute more than one deficiency. Final determination is made by UPM after consulting process owners, leadership, and subject matter experts.
- J. Corrective Action Plan (CAP). In accordance with AFI 90-201, The Air Force Inspection System, a CAP is a deficiency corrective action which at a minimum includes root-cause(s), deficiency cause code(s), countermeasures, responsible section, and estimated completion date.
1. The following situations require a written CAP:
 - a). All Significant and Critical deficiencies. (T-2).
 - b). All line items graded as non-compliant for the month. (T-2).
 - c). Non-compliance trends. (T-2).
 2. Applicable flights/sections must provide a written CAP for all non-compliant line items by stating actions taken/planned to resolve the identified non-compliance, to include an implementation date or estimated closure date. Work center CAPs for non-compliant items will be reviewed by applicable superintendent(s), flight chief(s), operations officer and approved by unit commander before ATSEP suspense date.
 3. An RCA of deficiency shall be conducted anytime a CAP is required. Recommend using the continuous process improvement program to determine primary, and if applicable, contributing root causes. Guidance can be found in AFI 38-401, Continuous Process Improvement (CPI).
- K. Reporting Procedures

1. ATSEP shares all deficiencies with all squadron members. Intent is for unit leaders from other sections to proactively look at same/similar processes, tasks, or operations to ensure compliance across all functions.
2. Evaluations should be documented in LEAP. When LEAP is not available, AMC units will utilize ATSEP Manual Evaluations Report found on the AMC/A4T ATSEP SharePoint® website. Regardless of documentation method, AMC deficiency data (to include all written CAPs and RCAs) is due to AMC/A4T for review no later than the seventh day of the following month of evaluation cycle. Failure to provide data due to computer downtimes and/or problems will not be an acceptable reason during unit inspections.
3. Evaluation disputes will be resolved within squadron chain of command, preferably between flight leadership and UPM. Ultimately, squadron commander has sole authority to accept or reject results of an evaluation.
4. Unit ATSEP personnel will brief ATSEP data up their applicable chain of command, (i.e., maintenance group, air mobility operations group, CRG) when required. AMC ATSEP reporting data, as a minimum, will include:
 - a). Overall compliance (evaluations vs. deficiencies).
 - b). Number of evaluations and deficiencies by CPEL breakdown.
 - c). Deficiency breakdown (Minor, Significant, Critical), CAPs and RCAs.
 - d). CFIs/ATIIs/mishaps.
 - e). Non-compliance areas and trends.

L. ATSEP Program Administration/Execution

1. Non-deployed/In-Garrison Locations
 - a). Squadron commanders will establish an ATSEP section. Additional duties must be minimized and not take priority over management/evaluation requirements of unit task evaluation. AMC ATSEP sections will establish and maintain an ATSEP organizational email address.
 - b). Manning for ATSEP office is based on assigned personnel to include civilians and foreign nationals. A minimum of one military 2T2X1 is required; however, squadron commanders will ensure evaluation/quality assurance (QA) section is sufficiently manned so that all required CPEL line item evaluations are fulfilled.
 - c). Commanders of AMC units with 50 or less permanently assigned air transportation personnel (including civilian and foreign nationals) are not required to establish an ATSEP section. Commanders electing to establish an ATSEP must fully comply with this instruction. These AMC units not required to maintain an ATSEP under this instruction are still subject to inspection by wing inspection or MAJCOM Inspector General teams.
 - d). Refer to Table 3.2 for recommended manpower authorizations based on 2T2X1 authorized positions.

- e). ATSEP sections should be comprised of a cross-section of aerial port personnel with experience in all work center function, who are highly professional and motivated, and possess strong communication skills. Evaluators should be assigned to ATSEP program manager for evaluation performance report (EPR) purposes.

Table 3.2. ATSEP Manning Requirements.

Assigned 2T2X1	UPM + Evaluators
0-50	(0) 1*
51-149	2
150-199	3
200-249	4
250-299	5
300-349	6
350-399	7
400-449	8
450-499	9
500-549	10

*ATSEP requirement is not required per Air Force Manpower Standard 42P500. If program is established, ATSEP section will be manned as indicated and duties will be assigned to unit trainers/supervisors. (T-2).

2. Expeditionary Locations
 - a). Commanders at expeditionary AMC locations are required to establish an ATSEP. ATSEP section will establish and maintain an ATSEP organizational email address.
 - b). Manning for ATSEP will be taken from available personnel. In deployed environments, ATSEP duties may be a primary or an additional duty.
 - c). Provisions of this publication will be utilized as guidance; however, the following requirements may be waived:
 - (1) Grade requirement for UPM based on allocated authorizations.
 - (2) Formal training requirements for UPM and evaluators.
 - (3) Rotation procedures for UPM and evaluators.

Learning Objective 3 Know the basic facts, terms, and general principles about the Logistics Readiness Quality Assurance Program:

- A. Purpose and Scope.
 1. Purpose. The purpose of the Logistics Readiness (LR) Quality Assurance (QA) program is to provide the unit commander/civilian director and senior leadership with an assessment of the unit's ability to perform key logistics processes by ensuring standardized, repeatable, technically compliant process execution, while promoting a culture of professional excellence and personal responsibility. The program's primary focus is on personnel proficiency and adherence to established policy and procedures.

2. Scope. The LR QA program is focused on enabling and strengthening commanders' mission effectiveness and efficiency. To motivate and promote military discipline, improved unit performance, and manage excellence up and down the chain of command at all levels. To identify issues interfering with readiness, economy, efficiency, discipline, effectiveness, compliance, performance, surety and management excellence. Civil Service Most Efficient Organizations and contracted organizations shall follow the requirements established in their contract's Performance Work Statement (PWS) and the Quality Assurance Surveillance Plan (QASP) for an accepted quality program.
- B. Roles and Responsibilities. The Quality Assurance Evaluator (QAE), where applicable, are responsible for coordinating compliance actions for their assigned logistics management function, and will be aligned under individual flights within LRS. The evaluations will be accomplished by qualified subject matter experts from the various Air Force Specialty Codes (AFSC) resident in the LR Activity. Air Force Reserve Command and National Guard units are authorized to tailor the QAE in order to accomplish the quality assurance function and complete mission requirements.
 1. Headquarters Air Force Logistics Readiness Division (AF/A4LR & A4LX) will:
 - a). Develop, articulate, and clarify all Air Force LR QA guidance.
 - b). Develop/maintain/approve Key Task List (KTL) and Routine Inspection List (RIL) pertinent to MAJCOM/AFSC unique requirements via Career Field Education and Training Plan (CFETP).
 - c). Ensure MAJCOMs utilize LEAP (Logistics Evaluation Assurance Program) as the automated IT/SharePoint to manage all aspects of the program while serving as the central repository.
 - d). Review effectiveness of the overall LR QA program through metrics pertinent to AFSC unique requirements.
 - e). Provide funding and sustainment for LEAP.
 2. MAJCOM/A4R will:
 - a). Manage QA programs within the command.
 - b). Ensure units are executing Key Task List (KTL) and Routine Inspection List (RIL) developed by AF/A4LR/A4LX.
 - c). Recommend program guidance and administrative changes to AF/A4LR/A4LX.
 - d). Ensure units are utilizing LEAP as the repository for the LR enterprise.
 - e). Ensure distribution and posturing for LEAP in collaboration with Program Office and AF/A4LR/A4LX.
 3. LR Activities will:
 - a). Establish a LR QA program.
 - (1) Assign a QA Manager.
 - (a) QA Manager will manage the unit-level QA Program.
 - (b) Ensure Quality Evaluator's are trained IAW Chapter 3 of AFI 20-112.

- (c) Ensure the required number of process evaluations are conducted monthly based on the percentages of personnel assigned to the functional area detailed in Attachment 2 of AFI 20-112 and evaluation results are reported to each respective Commander, Flight Chief, Superintendent, and the Training Manager.
 - (d) Track all evaluations rated Fail, Technical Data Violation (TDV), Detected Safety Violation (DSV), or Unsatisfactory Condition Report (UCR) until resolved. Comply with the written response policy defined by the Commander, to avoid overdue or overlooked replies.
 - (e) Provide a summary of evaluations to LR leadership to include all late replies and repeat findings on a monthly basis.
- b). Review reported findings for appropriate corrective actions.
- (1) Determine when additional assessments are required in a specific area based upon findings.
 - c). Review and submit unit developed KTL/RIL items to MAJCOM.
 - d). Utilize LEAP as the repository for the AF LR inspections/evaluations.
4. LR QA Program will:
- a). Evaluate the performance of logistics procedures performed within the organization or falling under the responsibility of the commander/director and report results.
 - b). Make recommendations for improving the effectiveness of all logistics processes.
 - c). Provide functional area inspection and evaluation quotas by type (e.g., Personnel Evaluations (PEs), Quality Verification Inspections (QVIs), etc.).
 - d). Incorporate Special Inspections (SI) resulting from cross-tells or determined by Commander driven metrics and designated Special Interest Items. Ensure SIs are reviewed, maintained, and appropriate action(s) taken.
 - e). Employ RIL/KTL items developed by Headquarters Air Force or locally developed to improve effectiveness of logistics processes.
 - f). Utilize the Career Field Education and Training Plan (CFETP), policy and procedural guidance to evaluate and inspect flights.
 - g). Determine when job guides and manuals associated with assessments, evaluations and inspections are current and available. Notify the appropriate organization (HAF, MAJCOM, Wing, and Group) when deficiencies are found.
 - h). Enter observations, inspections, and evaluation reports into LEAP.
 - i). Track all failed assessments, TDV, DSV, or UCR until resolved within LEAP.
 - j). Customer assistant visits as requested by installation customers, as available and approved by LRS/CC, without impacting required inspection schedules.
 - k). Provide a developed Monthly QA Evaluation and Inspection Plan. The plan must show the areas, types, and number of assessments, inspections and evaluations that must be conducted over the course of a quarter. The plan will comprise the following to provide QA clear direction for assessing and measuring compliance:

- (1) Consult with local legal counsel and ensure compliance with federal, state, and local environmental laws/regulations and AF publications. At overseas locations, ensure compliance with Final Governing Standards (FGS) or the Overseas Environmental Baseline Guidance Document in the absence of the FGS.
 - (2) Consult with the Installation Environmental Protection Committee, Base Environmental Manager, Base Civil Engineer, Base Bioenvironmental Engineer, Wing Safety, Staff Judge Advocate, Unit Environmental Coordinators and the Environmental Management System Cross-Functional Team semiannually to stay current on local environmental rules, restrictions, and regulations.
5. Contracted Functions. Contracted functions will be evaluated by the Contract Officer Representative IAW the contract's Performance Work Statement using the Quality Assurance Surveillance Plan (QASP).
 6. Munitions Activities. Munitions activities assigned to an LRS are responsible to the LRS/ CC for quality assurance, will follow the quality assurance program requirements prescribed by AFI 21-200, Munitions and Missile Maintenance Management. Munitions quality assurance reporting will be through the QA leadership to the LRS/CC.
- C. Evaluation Requirements and Methodology
1. Program Guidance. The LR QA representative will perform analysis, surveillance, and trend identification of LR processes through personnel evaluations on all duties assigned within their functional area to include personnel and inspections of processes. Commanders must ensure oversight is provided for all LR processes.
 2. Personnel Requirements. Personnel assigned QA duties within LR must be impartial, objective, and consistent in all evaluations. Leadership is encouraged to select qualified personnel that are considered subject matter expert.
 - a). Military Quality Evaluators must hold the same Air Force Specialty Code (AFSC) of those being evaluated on technical tasks contained in the applicable CFETP. General evaluations or observations may be conducted by any qualified evaluator.
 - b). Civilian Quality Evaluators must have experience in the functional discipline they are responsible for evaluating. Evaluator duties must be included in the individual's position description and their performance plan.
 - c). Air Reserve Component (ARC) LRs may utilize traditional members not on extended active duty as QAE.
 - d). Those component LR activities (active, guard and reserve), which are collocated are encouraged to integrate LR quality evaluator functions to facilitate diversity and experience while consolidating and streamlining workload. ANG LR/CCs may request to waive the AFSC requirement only in manning shortage situations and after Total Force Integration opportunities have been exhausted.
 3. QA Personnel Training Requirements.
 - a). All QA personnel must be trained to perform quality evaluator functions. Training must cover evaluator responsibilities, inspection and evaluation techniques, metrics

analysis, inspection worksheet documentation, report writing, problem-solving, publications management, and actions to prevent personnel injury or equipment damage. Personnel assigned to QA must complete the following mandatory requirements to become fully qualified:

- (1) QA Evaluator Course (AFIT LOG 143). This course is designed to educate LRS evaluators on the concept, policies and responsibilities of the LR Quality Assurance Program contained in this AFI. It will ensure a standardized method is used to evaluate a unit's compliance with Air Force, command and local directives and policies. Completion of this course is mandatory to qualify as an evaluator.
 - (2) NWRM Fundamentals Course IAW applicable CFETPs. This course can be found on the Advanced Distributed Learning Service (ADLS) website.
 - (3) Evaluators must pass three Evaluator Proficiency Evaluations (EPE) within 120 days of appointment (the first EPE will be accomplished within 40 days). EPEs will be conducted by a qualified evaluator to ensure the member can execute the proper steps to conduct an evaluation. Each quality evaluator, must pass the EPEs prior to performing unsupervised evaluations and inspections. ARC evaluators must accomplish mandatory training and pass three EPEs within 210 days of appointment (the first EPE will be accomplished within 90 days).
 - (4) Create a Master Training Plan in the Training Business Area using LR QA Air Force Job Qualification Standard (AFJQS) and document QAE training in individual training plans. Document civilian training on AF Form 971, Supervisor's Employee Brief.
4. Assessment Methodology. Assessments are the formal avenue to ensure the effectiveness of logistics procedures and identify areas for improvement. They provide leadership with factual information about the health and effectiveness of the unit and training. Accurate assessments of personnel proficiency and processes are critical to gauging unit effectiveness. This program enhances cross-tell and facilitates benchmarking, while allowing latitude to adapt it for local needs. QAE assessments will be conducted through the use of evaluations, inspections, and observations.
- a). Evaluations. Represent the direct evaluation of a logistics action, inspection, or training conducted/Performed by an individual or team. Evaluations are used to assess job proficiency, degree of training, and compliance with technical data or instructions. Any individual performing, supervising, or evaluating logistics tasks is subject to a direct evaluation. Evaluations include:
 - (1) Personnel Evaluations (PE). A PE is the direct evaluation of an individual or team conducting/performing a logistics action. PEs may be conducted on task-oriented functions such as equipment maintenance as well as process-oriented functions such as vehicle dispatch.

- (2) Evaluator Proficiency Evaluation (EPE). An EPE is the direct evaluation of QA or any individual performing a quality/compliance assurance function in a unit.
 - (3) Trainer Proficiency Evaluations (TPE). A TPE is the direct evaluation of a unit instructor/trainer or certifier to determine their ability to teach accurately and sufficiently. TPEs also assess weapon system, equipment or process knowledge; teaching methods and techniques; the ability to operate trainers; and adequacy and effectiveness of training programs. Any individual training or certifying personnel on a task or process is subject to a TPE.
- b). Inspections. Defined as the inspection of equipment, to ensure compliance with established standards. Inspections are rated as Pass/Fail. Inspections include:
- (1) Quality Verification Inspection (QVI). A QVI is an inspection of equipment condition or a process after an inspection, repair action or process that has been completed by a technician or supervisor to assess if it was properly completed. The QVI finding should reflect deficiencies by the individual who accomplished the task and identify specific discrepancies.
 - (2) Special Inspections (SI). SIs are inspections not covered by QVIs or Evaluations and may include, but are not limited to, inspections of: equipment forms, document control procedures and file plans, inventory controls, Technical Order (T.O.) files, vehicle inspections, housekeeping, safety practices, and other interest items identified by Headquarters Air Force and MAJCOMs. SIs may be compliance or proficiency oriented.
- c). Observations. Defined as the observed events or conditions with safety implications or technical violations not related to an evaluation or inspection that are considered unsafe, not in accordance with established procedures, or in the case of equipment, unfit to operate. Observations include:
- (1) Detected Safety Violation (DSV). A DSV is an observed unsafe act by an individual. The QAE must stop the unsafe act immediately. Do not document a separate DSV on an individual undergoing a direct evaluation since the unsafe act automatically results in a “Fail” rating. Annotate the failure with “Safety” when a safety violation is committed during an evaluation. Report all safety incidents to the squadron safety representative IAW local safety policy.
 - (2) Technical Data Violation (TDV). A TDV is an observation of any person performing maintenance or another logistics process inconsistent, contradictory or without the required technical data present at the job site when mandatory use is required. The technician must have knowledge of all general directives associated with the job prior to performing the task. Do not document a separate TDV on an individual undergoing a direct evaluation since failure to use technical data automatically results in a “Fail” rating. Annotate the failure with “Tech Data” when a TDV is committed during an evaluation.

- (3) Unsatisfactory Condition Report (UCR). A UCR is an unsafe or unsatisfactory condition, other than a DSV, chargeable to the work center supervisor. UCRs will be documented even when it is not possible to determine who created the condition.
5. Acceptable Quality Levels (AQLs). An AQL denotes the maximum allowable number of minor findings that a process or product may be charged for the task to be rated "Pass." It must be strict enough that the task, process or product meets an acceptable level of quality, and is not so strict that a pass rating is unattainable. Task issuing authorities (e.g., HAF, MAJCOM, LR/CC) establish/approve AQLs. Discrepancy codes are IAW AFI 90-201, Air Force Inspection System.
 6. Key Task List (KTL). The KTL is a HAF, MAJCOM or unit developed list of required inspections. The KTL is designed to cover tasks that are complex and those affecting critical logistics processes, nuclear surety and/or safety as designated by leadership. All logistics actions/functions listed on the KTL require mandatory call-in to QA each time the logistics action/function is accomplished. QAE will respond and perform an inspection. The QAE must review and update unit KTLs as required to ensure they encompass those logistics actions/functions directly affecting quality of complex critical logistics processes.
 7. Routine Inspection List (RIL). The RIL is a HAF, MAJCOM or unit developed list of routine inspections that must be performed with an identified frequency. The QAE shall consolidate inputs provided by flight leadership for suggested RIL items/frequency and obtain LR/CC approval. Tasks shall not be removed from the RIL without issuing authorities' approval (e.g. HAF, MAJCOM, LR/CC).
 8. Assessment Finding Procedures.
 - a). The QAE will notify the LR/CC immediately of all major findings or failures related to safety, security, or nuclear surety. Additionally, the QAE will suspense evaluations/inspections receiving a fail, DSV, TDV, or UCR to the appropriate flight commander/NCOIC for corrective action(s).
 - b). Work centers will provide a corrective action plan to all findings by the 10th duty day, stating the action taken to resolve the identified problem(s) to include an implementation date or estimated completion date. Root cause analysis will be conducted by the evaluated work center for all major findings to determine underlying causes and appropriate corrective action. The LR quality evaluators may assist with conducting root cause analysis. Unit commanders will be briefed on open/closed items. ARC units will submit replies by the end of the next scheduled Unit Training Assembly/Regularly Scheduled Drill.
 - c). Evaluators will provide the following:
 - (1) Introductory and post-evaluation feedback to personnel, as appropriate to the evaluation.

- (2) Offer guidance/suggestions as needed during the post-evaluation feedback session.
 - (3) Tracking number assigned to each evaluation within LEAP.
 - (4) Use Specialty Training Standard to evaluate authorized areas.
 - (5) Maintain all specialty training, i.e., Hazardous Materials, Joint Inspections, etc.
 - (6) Review all individuals' records, where applicable, for those evaluations receiving a fail, DSV or TDV to verify training documentation.
 - (7) Identify discrepancies in documentation to the individual's supervisor with follow-up action to the unit training manager. At no time will the evaluation ratings be changed based on OJT Record documentation discrepancies alone.
- d). Findings are validated deficiencies and will be tracked at the unit level until resolved. The following are the two types of findings:
- (1) Major Finding. A deficiency that results or could result in widespread or significant mission impact or failure.
 - (2) Minor Finding. A deficiency that is procedurally incorrect, but only has minor mission impact.
 - (3) All findings (e.g., failed evaluation/inspection or observation) will include a reference to the TO, instruction, and/or command standard individually violated. QAE will review results with the individual(s) and supervisor upon completion of each evaluation.

Learning Objective 4 Know the basic facts, terms, and general principles about the AFRC Aerial Port Quality Assurance Program:

A. Purpose

1. Provide commanders with a systematic, quantitative measurement of process and task performances with associated feedback.
2. Assess the unit's ability to perform key air transportation tasks and processes to ensure standardized, repeatable, and technically compliant process execution.
3. Assess members' proficiency of UTC tasks and inspect quality of training prior to deployment and identify areas requiring additional training.
4. Develop trend data by identifying deficiencies in core air transportation functions.
5. Oversee root cause determination and ensure there is a corrective action plan for all observations and assessments rated as "Fail".

B. QA Structure

1. The QA section is aligned under the Readiness and Resources flight (TROX). The required minimum number of QA evaluators in a small sized aerial port squadron is two. The required minimum number of QA evaluators in a medium and large aerial port squadron is three. The UPM is not included in the minimum number of QA evaluators, however, the UPM should also maintain QA evaluator proficiency. QA personnel must

remain UTC trained and deployable. Personnel assigned as primary evaluators will not perform daily functional duties except in cases where mission failure will result. To avoid potential conflicts of interest, primary evaluators will be assigned to the QA UPM for reporting purposes. Augmentees will be used to ensure assessments are accomplished in all areas outlined in the contingency/expeditionary training requirements listed in the CFETP 2T2X1.

2. Primary evaluators will have experience in one or more of the following sections: Ramp Service, Cargo Processing, and/or Passenger Operations. For smaller work centers, (e.g., Air Terminal Operations Center, Fleet Service, Load Planning, Special Handling, Joint Inspection), flight leadership will select qualified personnel to serve as augmentees. Augmentees cannot be the flight chief or non-commissioned officer in charge for the work center being assessed.
3. Personnel are assigned to QA for a minimum of 36 months, but no longer than 48 months. In addition, personnel will serve no more than two rotations in the QA section. To ensure expertise flows in and out of the QA section without disrupting continuity, rotation of personnel will be staggered.

C. Responsibilities

1. AFRC Readiness Branch (AFRC/A4RR) will:
 - a) Establish policy and administration of the program.
 - b) Review unit reports for trends.
 - c) Publish command specific Air Transportation Interest Items in response to trend data or when otherwise directed.
 - d) Act as the Logistics Evaluation Assurance Program (LEAP) Functional Administrator.
 - e) Manage the AFRC APS QA section on the AFRC/A4R SharePoint® website.
2. Unit commanders will:
 - a) Establish a QA program and maintain overall program responsibility.
 - b) Designate, in writing, the QA UPM (if the unit does not have an Assistant Aerial Port Manager), evaluators, and augmentees. The letter of appointment will identify the sections which each QA personnel are qualified to assess and the date member will rotate from the section.
 - c) Establish a written response policy for all Observations and assessments rated as Fail.
 - d) Host QA quarterly meeting.
 - e) Provide a QA quarterly report to the group commander.
3. QA UPM will:
 - a) Be a SNCO with a 7-skill level or higher.
 - b) Complete training in accordance with paragraph 5.5.
 - c) Manage the unit level QA program and nominate and select the most qualified and proficient personnel to serve as evaluators and/or augmentees.
 - d) Ensure rotation of personnel.

- e) Enter and update QA personnel information in the AFRC Air Transportation Special Certification database.
 - f) Develop milestones in the ATR for all QA personnel.
 - g) Work with commander, flight chiefs, superintendents, and squadron senior enlisted leader to establish an augmentee schedule.
 - h) Ensure QA personnel are qualified on the tasks they are assessing.
 - i) Ensure required evaluator proficiency evaluations (EPEs) are performed on all QA personnel and recorded in LEAP.
 - j) Ensure assessments are conducted as outlined in the APS Evaluation Guide.
 - k) Perform LEAP site manager duties outlined in paragraph E.4.
 - l) Ensure QA Assessments are accomplished on all work center UTC tasks using the contingency/expeditionary training requirements listed in the CFETP 2T2X1 as a guide.
 - m) Provide supervisors with assessment results.
 - n) Track all observations and assessments rated as “Fail” until resolved.
 - o) Inform unit leadership of all late replies and repeat findings in accordance with the commander’s written response policy.
 - p) Assist section leads with root cause analysis for all major findings to determine underlying causes.
 - q) Ensure assessments are closed with appropriate corrective action and dates.
 - r) Review past and present reports to identify trends.
 - s) Prepare and provide the commander and flight leadership with a quarterly QA briefing.
 - t) Upload the commander’s letter of appointment for UPM, evaluators and augmentees, training plan, commander’s written response policy, and completed briefing slides in the appropriate unit folder located on the AFRC/A4R SharePoint® website.
4. QA Evaluators/Augmentees will:
- a) Be a non-commissioned officer, well-seasoned in the 2T2XX AFSC and have a 7-skill level awarded.
 - b) Have been QTP trained on all CFETP processes they are certified to evaluate.
 - c) Complete training in accordance with paragraph D.
 - d) Ensure APS related local operating instructions, technical orders, manuals, ATR, and policy documents are spot checked for currency.
 - e) Not serve as an extension of the workforce and will not provide assistance (e.g., ground spotting duties, verify vehicle lights are operable) or provide training to evaluatees during an evaluation.
 - f) Perform assessments as outlined in the APS QA Evaluation Guide. All assessments on personnel, including SNCOs, must be conducted using the current QTPs/TTGs. Guides can be found in the APS QA Document Library on the AFRC/A4R SharePoint® website (Attachment 4).

- g) Verify evaluated individuals have been trained properly and training is documented in member's ATR.
 - h) Enter all assessments into LEAP. All detected findings will be included even if the acceptable quality level has not been exceeded.
 - i) Provide UPM with updates on all observations and assessments rated as "Fail".
Include details of the finding(s) and valid reference(s).
5. Work center supervisors will:
- a) Provide responses to failed assessments in accordance with the commander's written response policy and provide QA with an estimated closure date by close of the following UTA.
 - b) Provide root cause analysis and corrective action plan actions for observations, assessments rated as Fail and repeat findings.
 - c) Determine if decertification and/or retraining is warranted for an individual that has failed an assessment.
 - d) Work closely with the QA UPM to ensure training deficiencies are being addressed.
- D. QA Training
- 1. Units will identify milestones in the ATR for all QA evaluators and augmentees. Training must cover inspection and evaluation techniques, documenting inspections, and actions to prevent personal injury or equipment damage.
 - 2. Units will use the AFRC QA Evaluation Guide for QA training. The guide can be found on the AFRC/A4R SharePoint® site. AFRC/A4RR's in-residence, Logistics Enterprise Quality Assurance Course is optional. To become fully qualified, QA personnel must:
 - a) Complete evaluation technique training requirements outlined in the evaluation guide and practical hands on training within 210 days of appointment.
 - b) Pass three initial EPEs upon completion of training (the first EPE will be accomplished within 90 days).
 - c) Complete LEAP training located in the APS QA section of the AFRC/A4R SharePoint® website.
 - d) Become familiar with root cause analysis fundamentals.
- E. Logistics Evaluation Assurance Program (LEAP) Database
- 1. The Air Force Logistics Directorate has designated LEAP as the QA authoritative source for QA. Units will use LEAP for documenting and reporting QA assessments and observations. Access to LEAP requires all users to submit a DD Form 2875, Systems Authorization Access Request (SAAR). Roles in LEAP are assigned, based on the user's level of responsibilities to QA (see AFR LEAP User's Manual on the AFRC/A4R SharePoint® website). LEAP accounts are disabled after 60 days of inactivity; the system automatically deletes accounts after 90 days of inactivity.
 - a) Manual Procedures. Units unable to access the LEAP database due to unforeseen circumstances may construct an Evaluation & Inspection (E&I) plan using localized products such as Microsoft Word, Microsoft Excel, etc. to conduct evaluations and

inspections. Evaluations and inspections conducted using localized products must be populated into the LEAP database as soon as the system becomes available, not to exceed 30-days after system access/availability has been restored.

2. LEAP training slides and the users' manual can be found in the APS QA section of the AFRC/A4R SharePoint® website.
3. Each unit is authorized two (2) site managers: the QA UPM and an individual designated by the QA UPM.
4. Site Managers. These personnel manage LEAP at the unit level by: providing oversight of unit accounts; approving and disapproving new users; modifying existing user accounts and enabling locked accounts; and developing and publishing the unit's Evaluation & Inspection (E&I) plans by 1 October each year. E&I plans show the areas, types, and number of assessments to be conducted over the course of the year. E&I plans will list planned evaluation and inspections on a monthly basis. Site Managers will also:
 - a) Ensure QA personnel enter assessments by close of the following UTA.
 - b) Conduct a monthly review and validation of all LEAP inputs for accuracy of content and data integrity.

F. Assessment Requirements

1. The contingency/expeditionary training requirements listed in the CFETP 2T2X1 provides a list of tasks and processes for each work center's UTC and identifies each task and/or process to be assessed.
2. The unit will ensure 100 percent of the work center's contingency/expeditionary training requirements are inspected by the end of each fiscal year. Assess a random sampling of 25 percent of the personnel assigned to each work center. Assigned personnel are individuals on the manning document that are active participants versus non-participating AFR members. Example: A non-participating member would be no-pay no-points, student status, retired, etc.
3. QA evaluators and/or augmentees will evaluate tasks based on the member's assigned section contingency/expeditionary training requirements listed in the CFETP 2T2X1 (i.e., load planning personnel are evaluated on load planning processes).
4. Evaluations may be conducted by RegAF personnel. Recommend providing the APS QA Worksheet. AFR QA personnel will enter these evaluations into LEAP. Enter evaluator's name and unit in the remarks section of LEAP (e.g., "Evaluation conducted by TSgt John Doe, 60APS").
5. Types of Assessments. There are five categories of assessments and three categories of observations. Assessments consist of evaluations and inspections. Evaluations include: personnel evaluation (PE), trainer proficiency evaluation (TPE), and evaluator proficiency evaluation (EPE). Inspections include: quality verification inspection (QVI), and special inspection (SI). Observations include: detected safety violation (DSV), technical data violation (TDV), and unsatisfactory condition report (UCR).
 - a) Evaluations. Evaluations accurately assess the proficiency of each individual, team,

- trainer, and/or evaluator. The evaluator focuses on members' performance in relation to task standard as outlined in QTPs.
- i. Personnel are evaluated to the "go or no go" level. "Go" means the individual can perform the task without assistance and utilizing appropriate instructions or procedural guidance.
 - ii. All 2T2XX personnel involved in performing air transportation processes are subject to an evaluation, to include senior NCOs.
 - b) Inspections. Inspections are a review of a completed process and/or task such as a form review. All inspections will be rated as a "Pass" or "Fail."
 - c) Observations. Observations are unplanned events. They are neither an evaluation nor an inspection. Observations occur when a QA members' intent was to assess other events, however, the observation is discovered and/or witnessed and action must be taken due to safety and/or security. If an unsafe act or security violation occurs during an assessment, it results in an immediate rating of "Fail." Observations are not counted toward contingency/expeditionary training requirements completion.
6. Findings are validated deficiencies and will be tracked at the unit level until resolved. All findings must include a reference (technical order, instruction and/or command standard) that was violated. There are two types of findings:
 - a) Minor Finding. A deficiency that is procedurally incorrect but, only has minor mission impact. It has no immediate threat to personal injury, damage to equipment, mission degradation, or does not impose excessive unnecessary cost to the enterprise.
 - b) Major Finding. A deficiency that results or could result in widespread or significant mission impact or failure. Actions have a clear indication that continuing such action in the particular instance will cause personal injury, damage equipment, incur severe mission degradation or impose excessive unnecessary cost to the enterprise. Under no circumstances will a safety or equipment reliability error go uncorrected. When these conditions are detected, correct them immediately. The evaluator considers the seriousness of the error when deciding whether or not the member(s) performing the process, and the evaluation itself, should continue.
 7. Rating Criteria. Personnel are assessed using the same performance standard in AFI 36-2670, *Total Force Development*, paragraph 4.6.9.5. Acceptable quality levels denotes the maximum allowable minor findings and still pass an assessment. Assign one of the following ratings to every assessment:
 - a) A "Pass" rating indicates the process met the acceptable standard and is in compliance with established guidelines.
 - b) A "Fail" rating indicates the process did not meet the acceptable standard and is not in compliance with established guidelines.
 8. Follow-Up Assessments and Observations. QA will follow-up on all major findings and observations, after the root cause analysis has been submitted to the QA office to verify the corrective action plan has been implemented by the flight. Note: This does not

constitute an additional assessment towards the minimum quarterly assessments standards. If the QA UPM determines that the follow-up is not a sustainable solution, the assessment will remain open.

9. Trend Analysis. QA personnel review previous reports to determine if inspected areas have improved or declined. Consistent high scores in any category may indicate the program's emphasis is not focused on the unit's actual problem areas. Low scoring areas may require a reassessment of the corrective action plan taken by management. Continuous communication between unit leadership, supervision and QA personnel is essential. QA personnel will highlight trends and root causes in the summary.
10. Quarterly Briefing. The briefing provides a summary of the unit's performance, a discussion of problem areas, a review of trend data and successful initiatives. The following areas must be addressed: number of evaluations and/or inspections completed, pass and/or fail rate for each section, open and closed items (to include estimated closure dates), observations, major findings and/or trends, root cause, and corrective actions. This can be done using graphs, and narratives. A template for the briefing can be found on the AFRC/A4R SharePoint® website.