

CDC 2T357

Fleet Management and Analysis Journeyman

Volume 1. Occupational Safety and Squadron Organizational Structure



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WELCOME TO THE Vehicle Management and Analysis career field. CDC 2T357, *Fleet Management and Analysis Journeyman* is a continuation of the 3-skill level Fleet Management and Analysis (FM&A) apprentice course. This three-volume course will provide you with the subject knowledge you need for upgrade training to AFSC 2T357. Volume 1 covers safety, environmental compliance programs, and organizational structure.

Unit 1 of Volume 1 covers Air Force Occupational Safety and Health (AFOSH)-related publications, job hazards, and shop safety. It also addresses the environmental compliance program, specifically program objectives, hazardous materials (HAZMAT) and hazardous waste management, as well as waste minimization and the pollution prevention program.

Unit 2 covers the logistics readiness squadron (LRS) and vehicle management (LGRV) organizational structure, the LGRV shop, and an introduction to FM&A. In this unit, we discuss the responsibilities and operation of the LRS commander's staff, deployment and distribution flight (LGRD), materiel management flight (LGRM), vehicle management flight (LGRV), and the fuels management flight (LGRF). The LGRV section looks at the organizational structure and associated responsibilities, wartime concept of operations, and the status of resources and training systems. Finally, the FM&A section addresses its functions and the vehicle control program (VCP).

Volume 2 covers vehicle management programs and procedures, preventive maintenance, and warranties. Volume 3 covers maintenance information management systems, management products and materiel control.

A glossary is included for your use.

Code numbers on figures are for preparing agency identification only.

The use of a name of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

To get a response to your questions concerning subject matter in this course, or to point out technical errors in the text, unit review exercises, or course examination, call or write the author using the contact information provided in this volume.

NOTE: Do not use Air Force Instruction (AFI) 38–402, *Airmen Powered by Innovation and Suggestion Program*, to submit corrections for printing or typographical errors. For Air National Guard (ANG) members, do not use Air National Guard Instruction (ANGI) 38–401, *Suggestion Program*.

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For Guard and Reserve personnel, this volume is valued at 8 hours and 2 points.

NOTE:

In this volume, the subject matter is divided into self-contained units. A unit menu begins each unit, identifying the lesson headings and numbers. After reading the unit menu page and unit introduction, study the section, answer the self-test questions, and compare your answers with those given at the end of the unit. Then complete the unit review exercises.

	<i>Page</i>
Unit 1. Air Force Occupational Safety and Health Program.....	1-1
1–1. Air Force Occupational Safety and Health (AFOSH) for Vehicle Management.....	1-1
1–2. Environmental Compliance Program	1-12
Unit 2. Logistics Readiness Squadron and Vehicle Management	2-1
2–1. Logistics Readiness Squadron.....	2-1
2–2. Vehicle Management	2-11
2–3. Fleet Management and Analysis.....	2-24
 <i>Glossary</i>	 <i>G–1</i>

Unit 1. Air Force Occupational Safety and Health Program

1–1. Air Force Occupational Safety and Health for Vehicle Management.....	1–1
001. Air Force Occupational Safety and Health-related publications.....	1–1
002. Job hazards	1–5
003. Personnel and shop safety practices.....	1–7
1–2. Environmental Compliance Program.....	1–11
004. Program objectives	1–11
005. Hazardous material management.....	1–12
006. Hazardous waste management.....	1–15
007. Waste minimization.....	1–16
008. Pollution prevention program	1–17

SAFETY AND environmental compliance have increasingly become one of the biggest concerns in the workplace. Like all industrial work areas, the Air Force Occupational Safety and Health (AFOSH) program sets the guidelines for safety, while environmental compliance programs govern our effect on the environment. The Air Force (AF) is strongly committed to a safe workplace and a clean environment. Although regulations may state that the supervisor’s responsibility is to enforce these rules, all of us share such responsibilities. After all, it is your life and your environment.

1–1. Air Force Occupational Safety and Health for Vehicle Management

Imagine you are performing maintenance under a raised vehicle without a jack stand, the jack fails, and the vehicle falls on you. Now, imagine yourself jump-starting a vehicle, wearing no eye protection, and the battery explodes, or you may be inflating a split-rim tire without using the tire cage, and it explodes. The consequences could be devastating and, unfortunately, the reality is that one too many Airmen have been seriously injured or killed in such scenarios. Safety must become a major part of your consciousness, not only for your sake, but also for others that work with and around you.

001. Air Force Occupational Safety and Health-related publications

You may say to yourself, I work in an office, why do I need to know about AFOSH? Though you will not necessarily encounter most of these safety issues sitting in your office, you will invariably encounter a situation as you walk around the vehicle management compound in the performance of your job. If you are in a particular shop and observe an individual performing a task, you need to know if an individual could potentially hurt himself or herself.

Injuries can occur many ways in the vehicle management environment and, unfortunately, there are those who don’t know or adhere to the AFOSH requirements. Recognizing these requirements, the AFOSH program provides us guidance on safety, fire prevention, and health precautions in the specific areas we conduct work. Many of these guidelines stem from national standards and have been proven effective in preventing or minimizing injuries on the job. The guidelines provide minimum acceptable requirements for conducting the type of work we do safely. Following is a description of the AFOSH publications that relate specifically to your job. You must become familiar with them to perform your duty correctly.

Hazard communication

The criteria in Air Force Instruction (AFI) 90–821, *Hazard Communication (HAZCOM) Program*, are the AF’s minimum requirements for an effective HAZCOM program for those work areas/shops that have personnel who handle or use hazardous chemicals. It contains the requirements for practices and procedures, assigns responsibilities, and provides guidance for managing the AF HAZCOM program. This AFI should help reduce the incidence of chemically-induced occupational illnesses and injuries

by informing employees of the hazards associated with using or handling hazardous material (HAZMAT) and performing proper, preventive measures.

HAZMAT are substances that have chemicals, which by nature, are a physical or health hazard but may be necessary for completing a job. You should not confuse HAZCOM programs with other separate and distinct entities, such as hazardous waste operations and emergency response (HAZWOPER) and the HAZMAT management programs. The environmental compliance program covers hazardous wastes, which are wastes generated by HAZMAT or by-products of manufacturing processes.

Respiratory protection program

AFI 48-137, *Respiratory Protection Program*, regulates military and civilian personnel performing duties requiring the use of respiratory protection, such as paint shop personnel. This instruction provides the necessary information to ensure a respiratory protection program consistent with Occupational Safety and Health Administration (OSHA) standards. The instruction includes the following:

- Outlines the minimum acceptable requirements for a respiratory protection program.
- Assigns responsibilities.
- Provides selection criteria in determining respiratory protection needs.
- Lists currently approved respiratory protective devices.

Welding, cutting, and brazing

Air Force Manual (AFMAN) 91-203, *Air Force Occupational Safety, Fire, and Health Standards*, Chapter 27, *Welding, Cutting and Brazing*, provides guidance for welders, cutters, firewatchers, and others engaged in welding, cutting, and brazing operations throughout the AF. The main purpose of this chapter is to minimize or eliminate safety, fire, and health hazards to personnel and property associated with these metalwork operations.

Machinery

Hazards exist where shop machinery is being operated and may be present at all job sites where vehicles, equipment, or machinery are in use. AFMAN 91-203, Chapter 11, *Machinery*, contains general safety requirements for the most common powered material-processing machinery in the AF inventory. It gives information on the following:

- Acquisition.
- Installation.
- Training.
- Safe operation.
- Equipment inspection and maintenance.

Other areas covered are woodworking machinery, metalworking machinery, and permanently installed abrasive wheel machinery. This chapter does not apply to portable power grinders, metal cutting wheels, masonry or pavement cutting wheels, lapidary (gem polishing) wheels or sanding discs, natural sandstone wheels, and metal, wooden, cloth, or paper discs that have a layer of abrasives on the surface.

Interior spray finishing

AFMAN 91-203, Chapter 28, *Interior Spray Finishing*, applies to interior spray finishing, uses of flammable and combustible materials, and facility requirements for operations when using these materials as a spray. The spray can be propelled by compressed air, airless, electrostatic, or other means in continuous or intermittent processes. The chapter also covers the application of combustible powders by powder spray guns, electrostatic powder spray guns, fluidized and electrostatic fluidized

beds. The chapter does not apply to outdoor spraying operations on buildings, tanks, or other structures.

Vehicle maintenance shops

AFMAN 91-203, Chapter 32, *Motor Vehicle—Operations and Maintenance*, contains basic information for operating a vehicle maintenance shop. It includes general safety information applicable to vehicle management operations. It addresses safety, occupational health, and fire prevention requirements associated with shop operations, materiel-handling equipment (MHE), and repair of general-purpose, special-purpose, and base maintenance vehicles. This instruction does not include safety, occupational health, or fire prevention requirements associated with specific, special equipment technical orders (TO). Each vehicle maintenance shop should have ready access to this publication.

Personal protective equipment

AFMAN 91-203, Chapter 14, *Personal Protective Equipment (PPE)*, addresses the acquisition, issue, use, and care of PPE. It also covers those portions of PPE concerning clothing and equipment, such as eye, face, head, foot, hand, and body protection. This instruction does not apply to United States Air Force (USAF) fire departments. In addition, it doesn't apply to normal work or seasonal clothing, respiratory protection, aircrew protective clothing, or chemical warfare clothing. The accompanying table lists frequently performed vehicle management operations where PPE may be required.

Operations	Type PPE Required
Battery handling	Eye protection (side and frontal). Acid-resistant gloves. Arm gauntlets or extended length gloves. Acid-resistant apron. Acid-resistant shoes or boots (only when performing battery maintenance).
Body shop	Gloves. Face shield/goggles. Respiratory protection may be required during sanding operations. (NOTE: Consult the bioenvironmental section [BES].)
Brake shop	Respiratory protection. (NOTE: Consult the BES.)
Cleaning tank	When processing parts in cleaning tank, the following: Eye protection. Respiratory protection may be required. (NOTE: Consult the BES.) Apron. Gloves. Boots.
Compressed air cleaning	Eye protection or face shields.
Machinery/grinders	Eye protection or face shields. Respiratory protection may be required. (NOTE: Consult the BES.)
Mobile maintenance	Eye protection or face shield. Gloves. Baking soda (not PPE, but it should be available).
Paint shop	Protective clothing. Respiratory protection may be required. (NOTE: Consult the BES.) Eye protection. Rubber gloves.

Operations	Type PPE Required
Radiator shop	During boiling out operation, use the following: Eye protection. Gloves.
Refueling shop	Cotton/polyester uniform (50/50). Nonsparking safety shoes. Respiratory protection may be required. (NOTE: Consult the BES.)
Repair pits	Eye protection. Head protection. Rubber boots. Gloves as appropriate.
Soldering	Vented goggles. Face shield. Head covering (when soldering overhead). Gloves.
Tire shop	Eye protection. Foot protection. Hearing protection. Gloves as appropriate.
Welding	Eye and face protection. Head protection (when welding overhead). Foot protection. Flame-resistant clothing, leather protection for clothing. Gloves (welding not rubber). Welding apron. Welder's goggles or welding helmet—refer to AFMAN 91–203, Chapter 32, for lens shade requirements. Respiratory protection (may not be required when adequate exhaust ventilation is used. Consult the BES).

NOTE: Safety goggles, face shield, safety glasses (with shatterproof lenses and side protector shields), or a combination will be worn during operations requiring the use of power/hand tools where particles from the tool and/or work material may become airborne and projected at the eyes, face, or neck. These operations include, but are not limited to, drilling, grinding, chipping, cutting (with chisel), sandblasting, and scaling metals. Approved eye protection is mandatory while using stone- or wire-wheel grinders, regardless of whether or not eye shields are installed. Furthermore, management, ground safety, and the base BES should be consulted to determine PPE requirements for tasks not covered.

Emergency shower and eyewash units

AFMAN 91–203, Chapter 9, *Emergency Shower and Eyewash Units*, addresses selection, acquisition, location, installation, maintenance, and testing of emergency shower and eyewash units. Also included are performance specifications for both permanently installed and self-contained units. The types of equipment covered are emergency showers, eyewash units, eye and face units, combination units, handheld drench hoses, and eyewash bottles. This instruction also covers battery shops located within vehicle management.

Hydrocarbon fuels

AFMAN 91–203 defines a hydrocarbon fuel as any substance that vaporizes and burns in the presence of oxygen. It designates liquid fuels as flammable or combustible and further places them in different classes and subclasses by their flashpoints. Flashpoint is the lowest temperature at which a

liquid gives off enough vapors to become ignitable. A combustible liquid has a flashpoint at or above 100 degrees. Flammable liquids are those with a flashpoint below 100 degrees. The requirements contained in AFMAN 91-203 apply to all personnel involved in handling specified fuels.

Flammables and combustibles

AFMAN 91-203, Chapter 22, *Flammables and Combustibles*, applies to the storage (inside/outside), use, and handling of flammable and combustible liquids in containers of 60 gallons or less and in portable tanks up to 660 gallons in capacity. It also includes storage in fuel tanks of two gallons or less located on small, gasoline-powered equipment, such as lawn mowers and snow-blowers. It does *not apply* to the following:

- Petroleum products in the fuel tanks of motor vehicles, aircraft, boat, and large portable or stationary engines.
- Petroleum product in portable tanks larger than 660 gallons.
- Alcoholic beverages when packed in individual glass, plastic, metal, or ceramic containers not exceeding 4 liters in volume.
- Medicines, foodstuffs, and cosmetics.
- Special-purpose vehicles designed and maintained for the storage and transportation of flammable and/or combustible liquids, such as refuelers.
- Liquids having no flashpoint but may burn under certain conditions.

002. Job hazards

To better fulfill your responsibilities in maintaining a safe work environment, you must be able to identify hazards that you will encounter in vehicle maintenance shops. Hazard is defined in *Webster's Dictionary* as a source of danger. You will encounter many sources of danger in your career, and the quicker you can recognize them, the better you can prevent personnel injury or loss of property. In the vehicle management career field, safety is considered *JOB 1*. Mission and safety are inseparable. The following are examples of the many possible situations that could cause injury on the job.

Asbestos

Although most automotive brake and clutch pads are now made of organic materials, some brake and clutch assemblies may still contain asbestos and could pose a hazard to mechanics. Asbestos dust is a known carcinogen (cancer-causing substance), and when handling such items, wear protective gloves and a facial mask to prevent exposure.

Battery charging

If it is exposed to an open flame or spark, hydrogen gas released during a lead-acid battery charge or discharge will explode. Always remove the battery from the vehicle and charge it in a well-ventilated area.

Flammable and combustible liquids

A fire/explosion is also a hazard in vehicle management operations due to fuels. Some of the hazards associated with the use of flammable and/or combustible liquids include explosions, burns from fire, chemical burns, asphyxiation, inhalation of vapors, absorption through the skin, skin irritation, and eye damage from direct contact or exposure. Static electricity can cause fuel or fuel vapors to ignite. Touching a screwdriver or other metal tool to the wrong electrical terminal can cause a short circuit or sparks that in the presence of flammable or combustible liquids, vapors, or gases, could cause an explosion.

Fumes

Petroleum vapors displace oxygen from enclosed spaces and low-lying pits having poor ventilation, making the environment in these areas dangerous. Suitable respiratory protection, such as supplied air or self-contained breathing apparatus, must be worn to prevent asphyxiation when painting or in

confined spaces. Do not run vehicles indoors unless they are connected to an operational exhaust ventilation system.

Flying objects

Splashes from petroleum and other chemicals, materials thrown from machines, substances propelled by air pressure, and so on, can injure the eyes, face, and other parts of the body when not wearing protective equipment.

Handling and lifting techniques

Hernias, back strains, crushed hands and feet, broken bones, and severe lacerations are all too common in vehicle management. Many of these problems are a result of improper handling and lifting practices. The major cause of back injuries can be attributed to the failure to use proper lifting techniques or mechanical lifting devices for handling heavy loads. The root of the problem is not necessarily the failure to use proper handling/lifting techniques; it is the apathetic attitude or lack of concern for failing to use these techniques and handling equipment.

Hazardous noise

Exposure to noise can harm employees in many ways and its effects include hearing loss, interference with the normal communication process, sleep loss, and possible stress reactions that could have long-term health results. The use of protective hearing devices prevents harmful exposure to hazardous noise.

Painting operations

These activities present hazards that require rigid controls. Mists and vapors produced by painting operations are highly flammable. Explosion can result from accidental ignition of these vapors and is one of the main dangers of paint usage. Paints often contain toxic substances such as lead, methyl ethyl-ketone (MEK), toluene, xylene, and/or isocyanates, which are potentially hazardous if inhaled and are another main source of danger. Physical contact with paints also causes skin irritations.

Personal items

Contact lenses may trap toxic or dangerous substances that are harmful to the eye. They also diminish the effectiveness of emergency eyewashes. Contact lenses provide little protection from external forces. They may even compound the severity of an injury. There is no substitute for safety glasses/goggles.

Wheel and tire repairs

Over the last couple of years there have been many injuries caused by improper wheel/tire assembly repairs. Safety is *a must* when servicing both split-rim and single-piece rim assemblies. One of the biggest problems is failure to remove the valve core and deflate the tire before servicing. Always inflate a split-rim tire on the inside of an approved tire cage. An exploding split-rim tire assembly can cause death or serious injury. Don't let this happen to you or any of your co-workers.

Other factors

Consider other factors that cause accidents in the shop. Most of these are preventable by simply using common sense and having a safety-minded attitude. Some other factors to consider are as follows:

- Using housekeeping practices that are poor.
- Having lighting and ventilation that is inadequate.
- Having inadequately trained personnel.
- Having a poor shop layout.
- Storing flammable/combustible liquids improperly.
- Removing a radiator cap on an overheated engine.
- Working under vehicles without safety glasses or goggles, which allow rust or other debris to fall into your eyes.

- Elevating a vehicle using ramps that are not resting on a firm, level surface.
- Crawling under a vehicle supported by only a jack and not using jack stands for additional support.
- Placing your hands or feet directly under the wheel while changing a flat tire.
- Peering directly into the throat of a carburetor when the engine is running, resulting in face and hair burns or eye damage (or both) if the engine backfires through the carburetor.
- Leaving hoses, cords, and creepers on the floor.

003. Personnel and shop safety practices

Now that you've learned many of the hazards you may encounter in your work area, what are you supposed to do? Statistics show that over 90 percent of all accidents are due to human failure, such as a bad or wrong attitude, ignorance, failure to wear protective equipment, lack of common sense, and so on. Practicing shop safety is *not* just your supervisor's responsibility; it is everyone's responsibility. Monitoring shop safety is not a "his" or "her" thing; it's an "us" or "we" thing.

Horseplay is not acceptable in the vehicle management compound. Remember, if you observe horseplay or an unsafe situation within your duty section, it is your responsibility to correct it, and inform your immediate supervisor or section noncommissioned officer in charge (NCOIC) of the occurrence.

Documenting employee safety and health record

Use Air Force Form 55, Employee Safety and Health Record, to document records of general and specialized job safety, fire prevention, and health instructions you have received. It is important that you and your supervisor properly maintain these records.

Air conditioning maintenance

Handle gas and liquid coolants used in automotive air conditioners with care, especially those stored under pressure. Always wear eye and face protection and gloves while servicing or purging these systems. Technicians servicing this system must be certified or licensed to do so.

Authorized personnel

The potential for an accident is present in a vehicle maintenance shop, especially for those who are not familiar with the workplace. This is the main reason only authorized personnel are allowed on the shop floor. This means only individuals who have a valid reason for being there should be there. Vehicle operators should report any discrepancies to the customer service center (CSC). If possible, establish a waiting area for your customers. If a customer needs to be in the shop, maintenance personnel must accompany him or her at all times.

Backing vehicles and equipment

When backing, always use a spotter if your vision is obstructed, especially if you move large equipment. Always sound the horn before and intermittently during the entire operation if the vehicle is not equipped with backup alarms. You also need to stop and sound the horn before entering and leaving the maintenance shop. Completely open or raise vehicle entrance doors whenever a vehicle enters or exits the shop. Many shops have lost a door because the mechanic thought it was all the way up.

Body shop operations

When working in or around the body shop, be careful as jagged edges of fenders, deck, and quarter panels are razor sharp. Wear protective gloves when handling these things. Also, wear a full, protective plastic face shield, plus safety glasses or goggles while cutting or grinding glass. When handling sheets of glass, you will use gloves to grip better and to prevent injury to your hands.

Cleaning operations

Never use or allow others to use compressed air to clean their body or clothing. Small particles could be present in the air stream and excessive pressure could puncture soft skin areas of your body. Only

use compressed air for *approved cleaning operations* and only with proper eye protection. Regulate the air pressure to less than 30 pounds per square inch (psi).

Entering confined spaces

Working in confined spaces (e.g., tank trucks, etc.) present a particularly hazardous situation, and for this reason each base will have a confined-space entry program and all individuals who work in this environment will be trained. AFMAN 91-203, Chapter 23, *Confined Spaces*, gives guidance and procedures for working in these areas.

Highlighting and marking obstructions

Obstructions (e.g., building support columns, etc.) in the vehicle maintenance area pose significant traffic hazards. Therefore, mark the lower 4 feet of obstructions with angled black and yellow stripes.

Lifting vehicles

Never place any part of your body directly under the wheels or tires of a raised vehicle without jack stands. If the jack fails, there is no possible way for you to win that transaction. Ensure you use the correct jack and jack stands for the weight of the vehicle. Never use equipment with a rating less than the actual gross vehicle axle weight. Never use repair ramps on soft or uneven surfaces and always chock all nonlifted wheels.

Mobile maintenance

Vehicles used routinely for mobile maintenance should include, as part of their equipment, baking soda for neutralizing acid spills, adequate fire extinguishers, container of water, first-aid kit, and eye/face protection for use in jump-start procedures.

Proper clothing and apparel

The potential for snagging or catching pieces of clothing in and around the shop is high. Because of this, be attentive to what you are doing. Steel-toed shoes are required when working on vehicles or in the shop. Again, be sure you are not wearing jewelry while in the shop or working around vehicles and other mechanical equipment. Follow these simple common sense rules and make sure others do the same.

Refueling vehicle maintenance areas

Vehicle management no longer maintains refueling shops. However, if you are required to work in these shops; become thoroughly familiar with refueling shop safety requirements before entering the shop floor. Besides the normal precautions, refueling maintenance (RFM) shops have several special considerations to be aware of, largely because of the high flammability and low flashpoints of aircraft fuels. The following information gives examples of some of the special considerations, particularly those listed in this table:

Special considerations	Explanation
Area markings	Open flames and spark-producing devices are prohibited within 25 feet of the RFM shop when a refueling vehicle is undergoing maintenance and fuel vapors are likely to be present. Remember too, no smoking within 50 feet of a refueling shop or facility. (NOTE: Post properly worded danger signs in the immediate area.)

Special considerations	Explanation
Personal clothing	Wear only specified work clothing in the RFM area. Don't wear open toe shoes or metal plates. Don't wear clothing that creates static electricity, such as nylon, rayon, wool, or polyester. To avoid creating static electricity, make all clothing changes away from the work area. Do not bring matches or lighters into the work area.
Personal grounding	As an extra precaution, workers should ground themselves before entering a RFM shop. There are several methods to discharge static electricity from your body. If the facility or building is metal, it should be grounded and bonded. You can ground yourself by touching your hand to the bare metal. By simply touching your bare hand to a door handle, you have grounded yourself (if the door is metal and sufficiently bonded to the metal structure).
Special equipment	Special equipment is available for use in the RFM shop. Make sure you have "sniffer" equipment, also known as explosimeters, available during refueling vehicle repairs. They can detect the presence of excessive fuel vapor-to-air concentrations that can make the work environment unsafe. In addition, use only approved tools in the RFM shop.
Vehicle grounding	Ensure the refuelers you maintain have proper grounding straps or cables and make sure they are used.
Weather factors	Weather conditions present a hazard to RFM operations. Know what you can or cannot do during specific weather conditions.

Two-man concept

In refueling shops, the "two-man" concept is required, and this concept simply states that there must be at least two people in the shop any time you perform maintenance. This concept allows individuals to assist and act as safety observers for each other. If possible, consider this concept in other shops. You don't have to commit an unsafe act to find yourself in an unsafe situation, so be extra careful when working by yourself and no one else is around.

Vehicle maintenance repair pits

Make sure a repair pit is guarded properly. The type of guard used is dependent on the location, reason for the opening, and frequency of use. It should be painted optic yellow to designate caution. Pits should also have a vertical barrier (toe board) placed at the floor level, along open edges (except at the entrance) of the pit, to prevent materials, tools, and so on, from dropping and striking workers. Lighting should be permanently installed, explosion-proof luminaries or portable, explosion-proof extension lights. In addition, use a local exhaust system to remove vapors. Exhaust fans used in pits should have explosion-proof motors and nonsparking blades. Contact the BES for assistance on ventilation problems.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

001. Air Force Occupational Safety and Health-related publications

1. What type of guidance does the AFOSH program provide AF personnel?
2. What is the intent of the AF HAZCOM program, as established by AFI 90-821?

3. Match the subject area in column A with its applicable response in column B. Each item in column B is used only once.

*Column A**Column B*

- | | |
|--|---|
| ____ (1) Addresses general safety information associated with a vehicle maintenance shop. | a. AFMAN 91-203, Chapter 27. |
| ____ (2) Provides guidance in eliminating or minimizing hazards associated with metal works. | b. AFMAN 91-203, Chapter 18. |
| ____ (3) Contains safety requirements for most common powered material-processing equipment. | c. AFMAN 91-203, Chapter 28. |
| ____ (4) Covers the application of combustible powders by spray guns. | d. AFMAN 91-203, Chapter 32. |
| ____ (5) Covers the use of such equipment as face and body protection. | e. AFMAN 91-203, Chapter 14. |
| ____ (6) Addresses the use of drench hoses that may be used in battery shops. | f. AFMAN 91-203, Chapter 19. |
| ____ (7) Agencies consulted for tasks requiring PPE that is not covered elsewhere. | g. AFI 48-137. |
| ____ (8) Regulates personnel performing painting duties in the paint shop. | h. Management, ground safety, and the base BES. |
4. Which chapter in AFMAN 91-203 covers safety precautions when handling substances that vaporize or burn in the presence of oxygen?
5. Which chapter in AFMAN 91-203 applies to the storage of fuels in portable containers up to 660 gallons?

002. Job hazards

1. What hazardous substance may vehicle brake and clutch assemblies contain?
2. Name eight hazards associated with the use of flammable and/or combustible liquids.
3. What is the major cause of back injuries?
4. What difficulties can arise from exposure to noise?
5. What can happen if you wear contact lenses when performing vehicle repairs?

003. Personnel and shop safety practices

1. What is the purpose of an AF Form 55?
2. Who may service vehicle air conditioning systems?
3. When may a customer be allowed on the shop floor?
4. When must you always use a spotter when backing a vehicle?
5. Which psi amount is air pressure regulated when used for approved cleaning operations?
6. Name some safety items that need to be in a mobile maintenance vehicle.
7. What is the two-man concept? Explain its benefit.

1-2. Environmental Compliance Program

The Environmental Compliance Program is a Department of Defense (DOD)–wide program to ensure we conduct operations according to all federal, state, and local environmental standards. The Code of Federal Regulations (CFR) covering hazardous waste management is complex and highly technical. This career development course (CDC) cannot, in any way, teach the whole regulation and is not expected to do so. However, there are very basic things that everyone must know about hazardous waste. The intent of this lesson is to create an awareness of what hazardous waste is and what to do about it.

004. Program objectives

The Hazardous Waste Management System, established under Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976, provided a framework for the Hazardous Waste Management Program from cradle to grave (i.e., from waste generation to final disposal). The objective of the program is to ensure that hazardous waste is handled in a manner that protects human health and the environment.

To manage the program, a system of recordkeeping, reporting, and permitting has been established. Generators of hazardous waste, such as vehicle maintenance shops, are the first link of the chain. Therefore, our basic duty is to comply with the management system that has been put in place. To do this, make sure all generated waste that is produced is collected and fully documented, identified, and transported to an approved treatment, storage, or disposal facility. To better understand the program, your understanding of the two categories of waste and how to deal with it at our level is important.

Solid waste

Examples of solid wastes are trash, rubbish, garbage, liquids, or sludge that are normally discarded and are (or could be) taken to a sanitary landfill. Solid waste generated by AF operations is subject to the same regulations as those generated by commercial and private sources. Our goal is to reduce the amount of solid waste produced. Source of consumption reduction (conservation) and recycling are the best reduction solutions.

We can also reduce waste volume by using returnable, or reusable, containers and purchasing products with minimum packaging. We can recycle paper, glass, aluminum, and plastics. Recycling centers are available throughout the local area. On base, we have various areas to place recyclable materials. Use them so that we can have a safe and clean environment! All that is required is a change in attitudes and wasteful habits.

Hazardous waste

Federal regulation states “A person who generates a solid waste, as defined in the regulations, must determine if that waste is hazardous.” It also states that solid waste is hazardous when listed in the regulations as hazardous and has certain specified hazardous characteristics, such as being ignitable, corrosive, or exceeding specific toxicity limits. Federal regulations list hazardous wastes into four categories, designated by a number code listed as follows:

1. F-List.
2. K-List.
3. P.
4. U-List.

F-List

These are types of waste from *nonspecific* sources. A number with an F prefix (e.g., F005) designates these. Examples are degreasing materials, parts cleaning solvents, paint sludge, and so forth.

K-List

This is waste from *specific* sources. They are specific to a particular process and are designated by a number with a K prefix (e.g., K035 is a wastewater treatment sludge resulting from the production of creosote).

P- and U-Lists

These two categories are somewhat different. Numbers with a P-prefix (e.g., P066) are ACUTELY hazardous waste, such as cyanides, beryllium, carbon disulfide, and so forth. Numbers with a U-prefix (e.g., U105) are toxic, hazardous waste, such as arsenic acids, chloroform, dichloro-diphenyl-trichloroethane (DDT), formaldehyde, mercury, and so forth. P and U wastes are defined as discarded commercial chemical products and off-specification manufacturing intermediates (a derivative of the initial material formed before the desired product of a chemical process).

In vehicle management, most of the hazardous wastes generated are in the “F” category, such as parts cleaning solvents, oils, paint thinners, paint sludge, antifreeze, degreasers, and so on. As a generator of hazardous waste, you must be familiar with the following rules:

1. Any combination of a solid waste and one or more listed waste (e.g., F, K, P, or U) are generally treated as hazardous waste regardless of the concentration level.
2. Empty containers of HAZMAT are considered hazardous waste and must not be thrown away. They must be turned-in to the hazardous waste accumulation point or satellite accumulation point for disposal.

005. Hazardous material management

The key to environmental compliance is managing HAZMAT, and the key item used in managing HAZMAT is the safety data sheet (SDS). This is the best way to learn about the materials you deal

with on a daily basis and make management easier is for you to know what a product is, how it is handled, and how to dispose of it properly.

Safety data sheets

These items are the primary link in the communication process between a chemical manufacturer and you, the handler or user of materials. The OSHA requires that businesses maintain files of SDSs for all HAZMAT. SDSs contain important information that will help you use products in a safe manner and should accompany the material upon delivery to your workplace. These sheets contain information regarding the following:

1. Chemical and Chemical Abstracts Service (CAS) number—a number assigned to identify the chemical.
2. Physical and chemical characteristics.
3. Manufacturer or importer name.
4. Emergency and first-aid procedures.
5. Physical and health hazards.
6. Primary routes of entry.
7. Exposure limits.
8. Precautions.
9. Controls.

If the SDS is missing, you can get a copy from the civil engineering (CE) environmental flight. Figure 1-1 shows a partial example of the SDS for a substance commonly used in vehicle management. This lesson does not go into detail with all the individual areas on the form, but you should become familiar with it.





Safety Data Sheet

1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company Address: 1061 Cuddeby Place (92110) P.O. Box 88607 San Diego, California, USA 92138 -0607 Telephone: Emergency only: 1-888-324-7596 (PROSAR) Information: 1-888-324-7596 Chemical Spills: 1-888-424-9300 (Chemtrec) 1-703-527-3887 (International Calls)	Chemical Name: Organic Mixture Trade Name: WD-40 Aerosol Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion MSDS Date Of Preparation: 3/11/10
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2 - Hazards Identification

Emergency Overview:
DANGER! Flammable aerosol. Contents under pressure. Harmful or fatal if swallowed. If swallowed, may be aspirated and cause lung damage. May cause eye irritation. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:
 Yes No X

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Aliphatic Hydrocarbon	64742-47-8	45-50
Petroleum Base Oil	64742-50-1	<25
	64742-53-6	
	64742-56-9	
	64742-65-0	
LVP Aliphatic Hydrocarbon	64742-47-8	12-18
Carbon Dioxide	124-38-9	2-3
Surfactant	Proprietary	<2
Non-Hazardous Ingredients	Mixture	<10

4 - First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.

Figure 1-1. Sample Safety Data Sheet (page 1 of 4).

The following situations indicate when you should refer to the SDS:

- Before you handle the material for the first time.
- If you have questions about the material's physical characteristics.
- If you have questions about how and where to store the material.
- When you have to clean up a spill or leak and dispose of the material.
- If you have questions about the potential health hazards of the material.
- If you want to know the recommended first-aid measures in case of contact with the material.
- If you have questions about the material's reactivity, combustibility, flammability, or exposure limits.
- If you have forgotten or are unsure of the recommended PPE to wear when handling the material.
- When there is an unusual circumstance involving potential exposure to the material, such as maintenance or confined-space entry.

The SDS is a valuable reference tool. Refer to it whenever you are unsure about any precautions or protective measures to take when handling, using, or disposing of a product.

SDS hazard information

The information provided by the SDS includes hazard-specific and other important information useful in managing HAZMAT. You heard these words earlier: toxicity, reactivity, and flammability. The SDS lists the information in the table below that will help when deciding which management practices to use in your work area.

Information	Explanation
Toxicity	Provides known short- and long-term health hazard information as well as toxicology and environmental data.
Reactivity	Provides safe-handling information for use and anticipated misuse of a product.
Flammability	Provides information indicating potential fire hazard of a product.
First Aid	Gives emergency procedures in the event of exposure to a poisonous and/irritating (corrosive) product.
Personnel Protection	Indicates the type of PPE (e.g., gloves, apron, respirator, etc.) and ventilation to be used, in addition to other precautions to be taken when using the product for its intended purpose or in an overexposure situation.
Spill or Leak Procedure	Indicates the applicable precautions and action necessary if a spill or leak occurs.
Physical Identification	Provides the physical/chemical properties of the product for accurate identification.
Product Identification	SDS line items that state the product's name and manufacturer's address, emergency telephone numbers for both medical and environmental emergencies, and the product's chemical identification.

Boiling point

An important piece of information is the substance's boiling point. The boiling point temperature given on the SDS can be used to avoid the evaporation of solvents, such as paint thinners and degreasers. When a solvent evaporates, its vapors are lost into the air and costs just as much as using

the solvent. You can often tell if a solvent is evaporating by the odor of its vapors. The SDS describes these odors.

These vapors often pose a fire hazard and expose personnel directly to the chemical. Solvents with low-boiling points will evaporate more easily than solvents with high-boiling points. By using simple precautions, you can save money by not wasting solvents through evaporation. Keep solvents with low-boiling points in a cool storage area, away from open flames, sunlight, or artificial light and with the lid tightly closed.

Flash point

The flash point temperature is another useful piece of information. To recap, the flash point is the temperature at which a substance's vapors will burst into flame, or "flash," when exposed to an open flame. By knowing a given substance's flash point, proper storage facilities can be provided, and places where the substance is used can be designated as NO SMOKING areas.

Specific gravity

In the case of fires, knowing the specific gravity of a substance can help in choosing the proper fire extinguisher. Specific gravity is the measure of a material's density relative to water. The specific gravity of water is one. Thus, if a liquid substance has a specific gravity less than one, that substance is "lighter than water." Therefore, if such a liquid were burning, any water applied to the fire would sink below the flames, allowing the fire to continue burning. In fact, water can even spread fires in this way, as in the case of burning hydrocarbons (e.g., gasoline). An extinguishing agent with a specific gravity less than one, such as carbon dioxide, would not sink and, consequently, smother the flames.

When was the last time you reviewed the SDS file in your work area?

006. Hazardous waste management

A hazardous waste generator is defined as a facility owner, or operator, or a person who first produced a hazardous waste. On USAF or other DOD installations, the Environmental Protection Agency (EPA) considers the installation commander the "generator." The installation commander, who signs permit applications and reports, is liable for mismanagement of hazardous waste. However, this interpretation does not relieve individuals from the responsibility of proper management.

Any activity that treats, stores, or disposes of hazardous waste must have a permit from the EPA or an authorized state agency. Generators of hazardous waste are required to register their activity with the EPA and file an application to receive a permit. The EPA assigns an identification number to the activity that tracks hazardous waste from the generator's address or location. All hazardous waste manifests originating from that address must include the assigned identification number.

Recordkeeping

For a successful waste management program, you must keep accurate records. Government inspectors (known as the inspector general [IG]) often focus their initial attention on the paperwork aspect of managing the program. If you are keeping accurate records, inspectors often view this as a sign of attention to details and a genuine concern to do the job correctly. Maintain and retain your records for three years, minimum, from the date of initial shipment, or due date of reports, or from date of inspection as applicable.

NOTE: Because of ever-changing requirements, these are subject to change. Remember, one of the keys to avoiding or reducing liability is keeping a good and accurate record.

Hazard prevention and training

You must exercise precautionary measures to prevent releases and to clean up a release if it happens in keeping with the objective of protecting human health and the environment. When required, accumulation points must have portable fire extinguishers, spill control equipment, decontamination equipment, automatic sprinklers, water spray systems, and so forth. Personnel handling hazardous

wastes must wear appropriate PPE for protection from potential hazards while performing their tasks. Hazardous waste training is required for personnel whose duties may require them to handle HAZMAT or waste or whose official activities involve work in or around areas where hazardous waste is present. Information for required training can be obtained from the base environmental manager.

Accumulation procedures and container use

Hazardous waste must be stored in EPA-approved containers and be in good condition. Containers must be compatible with the waste. You must not mix different hazardous waste. Mixing can cause violent and dangerous chemical reactions. It also is very expensive to dispose of and may carry penalties. Follow these guidelines:

- Always close containers except when adding or removing waste.
- Do not overfill containers; fill to no more than 90 percent of their capacity to account for expansion of the liquid.
- Inspect containers at least weekly.
- Handle containers in a manner that will not cause them to rupture or leak and place on pallets to reduce corrosion caused by contact with the ground.
- Do not stack containers more than two high; do not stack flammable containers.
- Arrange flammable or combustible materials in rows so there is a separation of 2–4 feet. Containers must also be marked or labeled with the words “Hazardous Waste” and state the accumulation start date.

Turning in hazardous waste

Normally, each base has a designated satellite accumulation point that may store up to 55 gallons of hazardous waste or one quart of acutely hazardous waste at or near the point of generation. The generating activity must transfer the hazardous waste to the 90-day accumulation site (temporary storage area) within three days of reaching the 55-gallon or one-quart limit.

Consequences of environmental law violations

You need to be aware of the stiff penalties for violating environmental laws. Prison terms can range from six months to 15 years; one-time fines can range anywhere from \$10,000 to \$150,000, with cumulative fines as high as \$50,000 per day of violation. Commanders and supervisors can be held liable for the acts of their subordinates. Individuals can be punished under the Uniform Code of Military Justice (UCMJ) for environmental regulations’ violations and gross negligence. The success of our environmental and pollution prevention program rests with all of us individually and collectively. Use common sense, follow the rules, conserve, and always be environmentally conscious. Set the example for your troops, co-workers, peers, and family.

007. Waste minimization

Anyone who generates hazardous waste has a legal and moral responsibility to reduce its production as much as possible. Minimization includes any source reduction or recycling which results in the reduction of total volume, or quantity, of hazardous waste. Secondly, the reduction of hazardous waste toxicity, or both, minimizes present and future threats to humans and the environment.

Why waste minimization? The following are some reasons why:

- It’s the law.
- It’s AF policy.
- It reduces liability. The current cradle-to-grave management system carries stiff penalties for mismanagement ranging from fines to imprisonment.
- It saves money. Handling, transporting, and disposing of hazardous waste are very expensive. The less hazardous waste generated, the greater the savings.

- It saves our environment and it's good for you and the generations yet to come. This is the best reason of all.

The following are suggestions to help minimize hazardous waste generation:

- Shop operating procedures should address waste minimization. Policies and procedures that address minimization opportunities can reduce or eliminate accidental or inadvertent waste generation.
- Employee training and awareness programs must be provided.
- Proper inventory control involves proper material handling and storage. It is an easy and economical way to reduce waste generation.
- Segregate hazardous waste from nonhazardous waste to prevent mixing. Isolate hazardous waste by contaminant. Isolate liquid wastes from solid wastes. Secure waste containers to prevent inadvertent contamination. Be aware that segregated wastes are much cheaper to dispose of than mixtures.
- Look for opportunities for minimizing parts cleaning and degreasing since this typically generates one of the largest volumes of hazardous waste on base.

008. Pollution prevention program

The pollution prevention program was established to minimize or prevent pollution by reducing the use of hazardous and toxic materials, using the generation of wastes by source reduction, recycling, and implementing environmentally sound treatment. This program covers guidance we, as a society, need to follow to make our environment safer, cleaner, and a better place to live.

Air pollution

Air pollution produced from waste products or emissions that foul the air as suspended particles or toxic gases is a growing concern worldwide. Major air pollutants include carbon monoxide, which is generated from vehicle exhaust mostly, and sulfur dioxide that is from coal-burning plants or industries.

You can help reduce air pollution by carpooling or using public transportation when practical. If you must drive, maintain proper care of your vehicle's engine, emission system, and air-conditioning system. If you do maintenance on your own vehicle, adhere to current standards and recycle waste materials.

Water pollution

Water pollution is a major concern and is a high priority in environmental programs. Water pollution occurs when toxic materials, such as antifreeze, cleaning solvents, paint thinners, and so on, are released into water supplies (e.g., rivers, lakes, and oceans). Major water pollutants include untreated sewage or any chemical disposed of, used on, or leaked onto, or into, the ground. Overuse of pesticides and fertilizers has also caused contamination. As a consumer, you can help prevent and reduce water pollution by doing the following:

- By recycling used oil from your vehicles at a recycling center.
- Not dumping household cleaning products or any toxic materials down the drain or on the ground.
- By minimizing the use of pesticides and fertilizers on your lawns.
- Report illegal dumping of hazardous waste.

Energy conservation

Energy conservation is the organized effort to reduce energy use. Pollution is a common byproduct of most energy-producing processes. The production of steam or electricity requires the combustion of coal, fuel oil, or gas, which produces various waste products. Conservation is the key to reducing

energy dependency and air pollution. As a consumer, you can help save energy by practicing the following simple rules.

- Turn off lights and appliances when not in use.
- Ensure your home has adequate insulation.
- Buy energy efficient appliances when old ones need replacing.
- Maintain proper care of your vehicle and conserve gas.

NOTE: Remember, conservation not only makes sense, it also can put cents into your pocket.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

004. Program objectives

1. What is meant by the words from cradle to grave concerning hazardous waste?
2. What is the objective of the Hazardous Waste Management Program?
3. Give examples of solid waste.
4. What can we do to reduce the solid waste strain on landfills?
5. What category do the majority of our automotive hazardous wastes fall into?
6. How must you dispose of empty containers that contained HAZMAT?

005. Hazardous material management

1. What are SDSs?
2. List four situations where you would refer to an SDS.
3. What should you know about a substance to help in choosing the right fire extinguisher?

006. Hazardous waste management

1. Who is considered a hazardous waste generator?
2. What is one of the keys to avoiding liability?
3. State two reasons why you should not mix different hazardous wastes.
4. How should hazardous waste containers be placed on pallets?
5. What is a satellite accumulation point?
6. What can the penalties be for violating environmental laws?

007. Waste minimization

1. What is waste minimization?
2. Name three reasons why we should minimize the generation of hazardous waste.
3. What are ways to help minimize waste generation?

008. Pollution prevention program

1. Match each pollutant in column A with the impacted pollution area in column B. Each item in column B is used more than once.

<i>Column A</i>	<i>Column B</i>
____ (1) Sulfur dioxide.	a. Air pollution.
____ (2) Antifreeze.	b. Water pollution.
____ (3) Used oil.	
____ (4) Carbon monoxide.	
____ (5) Cleaning products.	
____ (6) Vehicle exhaust.	
____ (7) Fertilizer usage.	

2. What is used to help us reduce water pollution?
3. What is the best way to reduce our energy dependency and air pollution?

Answers to Self-Test Questions

001

1. Safety, fire protection, and health precautions.
2. To reduce the incidence of chemically-induced occupational illnesses and injuries by informing employees of the hazards associated with the use or handling of HAZMAT and proper preventive measures.
3. (1) d.
(2) a.
(3) b.
(4) c.
(5) e.
(6) f.
(7) h.
(8) g.
4. Chapter 18.
5. Chapter 22.

002

1. Asbestos.
2. (1) Explosions, (2) burns from fire, (3) chemical burn, (4) asphyxiation, (5) inhalation of vapors, (6) absorption through the skin, (7) skin irritation, and (8) eye damage from direct contact or exposure.
3. The failure to use proper lifting techniques or mechanical lifting devices.
4. Hearing loss, interference with communication, loss of sleep, and stress reactions with possible long-term health consequences.
5. They may trap toxic or dangerous substances that are harmful to the eye.

003

1. To document general and specialized job safety, fire prevention, and health instructions received.
2. Only those certified or licensed technicians.
3. Only when accompanied by maintenance personnel.
4. If your vision is obstructed.
5. Less than 30 psi.
6. Baking soda, fire extinguishers, a container of water, first aid kit, and eye/face protection.
7. It means to never work alone and allows each mechanic to assist and act as each other's safety observer.

004

1. Beginning with waste generation and ending with final disposal.
2. To ensure that hazardous waste is handled in a manner that protects human health and the environment.
3. Trash, rubbish, garbage, liquids, or sludge that are normally discarded and are (or could be) taken to a sanitary landfill.
4. Reduce consumption and recycle.
5. "F" category, nonspecific sources, such as degreasers.
6. Turn them in to the hazardous accumulation point or satellite accumulation point for disposal.

005

1. They are the primary link in the communication process between the chemical manufacturer and you, containing information that helps you handle and use products safely and accompany materials upon delivery.
2. Any four of the following:
 - (1) Before you handle the material for the first time.
 - (2) If you have questions about the material's physical characteristics.
 - (3) If you have questions about how and why to store materials.
 - (4) If you have to clean up a spill or leak and have to dispose of the material.
 - (5) If you have questions about potential health hazards of the materials.
 - (6) If you want to know the for recommended first aid measures.
 - (7) If you have questions about the reactivity, combustibility, flammability, or exposure limits.
 - (8) If you have questions concerning PPE.
 - (9) When there is an unusual circumstance involving potential exposure to the material.
3. Its specific gravity.

006

1. A facility owner, operator, or person who first creates a hazardous waste.
2. A good and accurate record.
3. Mixing can cause violent and dangerous chemical reactions and will be very expensive to dispose of.
4. In a manner to reduce corrosion caused by contact with the ground.
5. A designated place that may store up to 55 gallons of hazardous waste or one quart of acutely hazardous waste at or near the point of generation.
6. Prison terms of six months to 15 years and fines anywhere from \$10,000 to \$150,000, with cumulative fines as high as \$50,000 per day of violation.

007

1. Any source reduction or recycling which results in the reduction of total volume, or quantity, of hazardous waste.
2. Any three of the following: (1) it's the law, (2) it is AF policy, (3) it reduces liability, (4) it saves money, and (5) it saves our environment.
3. Shop operating procedures should address waste minimization; employee training and awareness programs; proper inventory control; segregating hazardous and nonhazardous waste; and looking for ways to minimize parts cleaning and degreasing.

008

1.
 - (1) a.
 - (2) b.
 - (3) b.
 - (4) a.
 - (5) b.
 - (6) a.
 - (7) b.
2.
 - (1) Recycle used oil; (2) don't dump household cleaning products or any toxic materials down the drain or on the ground; (3) minimize the use of pesticides and fertilizers on your lawns; and (4) report illegal dumping of hazardous waste.
3. Energy conservation.

Complete the unit review exercises before going to the next unit.

Unit Review Exercises

Note to Student: Consider all choices carefully, select the *best* answer to each question, and *circle* the corresponding letter. When you have completed all unit review exercises, transfer your answers to the Field-Scoring Answer Sheet.

Do not return your answer sheet to the Air Force Career Development Academy (AFCDA).

1. (001) Which chapter of Air Force Manual 91–203, *Air Force Consolidated Occupational Safety, Fire and Health Standards*, includes general safety information applicable to vehicle maintenance operations?
 - a. 28.
 - b. 32.
 - c. 36.
 - d. 38.
2. (001) When you are working in the tire shop, which type of personal protective equipment (PPE) is required?
 - a. Hearing protection.
 - b. Rubber boots.
 - c. Helmet.
 - d. Apron.
3. (001) Air Force Manual (AFMAN) 91–203, *Air Force Consolidated Occupational Safety, Fire and Health Standards*, defines a hydrocarbon fuel as any substance that vaporizes and burns
 - a. at a set temperature.
 - b. for 30 seconds or less.
 - c. in the presence of oxygen.
 - d. in the presence of nitrogen.
4. (002) Which kind of gas is released when charging or discharging a lead-acid battery and will explode if it is exposed to an open flame or spark?
 - a. Oxygen.
 - b. Chlorine.
 - c. Nitrogen.
 - d. Hydrogen.
5. (002) The *major* cause of back injuries on the job is considered
 - a. improper lifting techniques.
 - b. constant stooping and bending.
 - c. proper use of mechanical devices with heavy loads.
 - d. failure to use back protection devices.
6. (002) Which is one of the main dangers of painting operations?
 - a. Stress reactions.
 - b. Nontoxic substances.
 - c. Explosions from flammable vapors.
 - d. Asbestos inhalation and asphyxiation.
7. (002) This is one of the *biggest* mistakes made by shop personnel when they repair a tire *before* servicing.
 - a. Not having the right size replacement tire.
 - b. Failing to remove the valve core and deflate the tire.
 - c. Stripping the lug nuts while removing a vehicle tire.
 - d. Not making sure another vehicle operator is present to help.

8. (003) Which form do you use to document specialized job safety and health instructions?
 - a. Air Force (AF) Form 9.
 - b. AF Form 55.
 - c. Standard Form (SF) 9.
 - d. SF 55.
9. (003) Which air pressure setting is safe for approved cleaning operations?
 - a. 29 pounds per square inch (psi).
 - b. 32 psi.
 - c. 35 psi.
 - d. 39 psi.
10. (003) The *minimum* distance (in feet) that individuals *must* be from the refueling shop before they are permitted to smoke is
 - a. 25.
 - b. 50.
 - c. 75.
 - d. 100.
11. (003) Before entering a refueling maintenance (RFM) shop, how should static electricity be released from your body?
 - a. Ground yourself.
 - b. Wear rubber boots.
 - c. Use eye protection.
 - d. Wear rubber gloves.
12. (004) As defined in regulations, which agency or individual *must* determine if a solid waste is hazardous?
 - a. State agency charged to conduct tests.
 - b. Person who generates the solid waste.
 - c. Trash collection agency that picks it up.
 - d. Environmental Protection Agency (EPA).
13. (004) Which type of hazardous waste is vehicle management (LGRV) *most* likely to generate?
 - a. Cyanide.
 - b. Mercury.
 - c. Creosote.
 - d. Degreasers.
14. (005) Which agency requires businesses to maintain files of safety data sheets (SDS) for all hazardous material (HAZMAT)?
 - a. Wing Environmental and Safety Office.
 - b. Environmental Protection Agency (EPA).
 - c. Occupational Safety and Health Administration (OSHA).
 - d. Air Force Occupational Safety and Health (AFOSH) program.
15. (005) The safety data sheet (SDS) contains information regarding
 - a. federal regulations.
 - b. authorized personnel.
 - c. base hazardous waste program.
 - d. physical and chemical characteristics.

16. (005) Knowing the specific gravity of a substance helps when choosing the
 - a. flash point temperature.
 - b. proper fire extinguisher.
 - c. boiling point temperature.
 - d. personal protective equipment (PPE).
17. (006) The *best* definition of a hazardous waste *generator* is
 - a. sanitary landfills.
 - b. hazardous material (HAZMAT) dealers.
 - c. any facility accumulating the waste.
 - d. anyone who first produced the waste.
18. (006) How many gallons of hazardous waste, *maximum*, may be stored at the satellite accumulation point?
 - a. 55.
 - b. 75.
 - c. 100.
 - d. 125.
19. (006) Cumulative fines for violating environmental laws can be as high per day as
 - a. \$30,000.
 - b. \$50,000.
 - c. \$70,000.
 - d. \$90,000.
20. (007) The *best* reason for enforcing waste minimization is to save our environment and
 - a. adhere to the law.
 - b. limit landfill usage.
 - c. avoid stiff penalties.
 - d. preserve it for generations.
21. (008) The best practice you can follow to help reduce air pollution is to
 - a. use nuclear energy for home heating.
 - b. drive to work early to avoid traffic jams.
 - c. use public transportation when practical.
 - d. ride a motorcycle to reduce gas emission.
22. (008) You can help reduce *water pollution* by
 - a. fertilizing the lawn regularly.
 - b. recycling used oil at a recycling center.
 - c. emptying used paint thinner onto the ground.
 - d. draining used antifreeze into a home plumbing system.
23. (008) Which is considered *key* to reducing energy dependency and air pollution?
 - a. Recycling.
 - b. Rationing.
 - c. Conserving.
 - d. Raising prices.

Unit 2. Logistics Readiness Squadron and Vehicle Management

2–1. Logistics Readiness Squadron	2–1
009. Logistics Readiness Squadron’s commander’s staff.....	2–1
010. Deployment and distribution	2–3
011. Materiel management flight.....	2–6
012. Vehicle management flight.....	2–7
013. Fuels management flight.....	2–8
2–2. Vehicle Management	2–10
014. Organizational structure and associated responsibilities.....	2–10
015. Wartime concept of operations	2–13
2–3. Fleet Management and Analysis	2–23
016. Functions	2–23
017. Vehicle control program.....	2–24

SINCE ITS BEGINNING, the AF has shaped itself to meet current challenges; from global warfare to our current air and space expeditionary force (AEF) concept. The AF has transformed its philosophy from a heavy-go-and-slow concept of taking mountains of materiel via slow transportation channels, with virtually no in-transit accountability, to our current go-light-and-fast concept of agile combat support (ACS). With this new concept, essential materiel is moved at high speed with near real-time visibility. The war fighter no longer takes all materiel just in case. The concept now is to take minimal materiel forward and rely on regionalized, behind-the-lines operations to supply sustainment materiel when needed. These concepts and real-life operations have given birth to what we now know as the logistics readiness squadron (LRS). The AF also made a large investment in its maintenance shops and vehicles. To provide the required service and maintenance, we must have adequate facilities, tools, equipment, money, and personnel. In addition, the internal organizational structure and your responsibility within that structure is critical to day-to-day vehicle management operations. Acquiring the fundamental knowledge of the processes involved will make you a valuable member to your unit.

2–1. Logistics Readiness Squadron

The LRS provides overall direction for base logistics processes related to vehicles, cargo movement, passenger movement, personal property, supplies, equipment, deployment planning and operations, fuels, and when appropriate, logistics plans. At the time of this publication, LRS had just completed the reorganization and consolidation of flights from seven to four. Some will still remember the old flights, but most of you taking this CDC will have already grown up in the current LRS environment. Figure 2–1 illustrates the LRS organizational structure. In this section, you will study the functions of each section and element within the LRS.

009. Logistics Readiness Squadron’s commander’s staff

The commander’s staff provides overall direction for base logistics processes related to vehicles, cargo movement, passenger movement, personal property, supplies, equipment, deployment planning and operations, fuels, and when appropriate, logistics plans. The command staff is comprised of the following members as shown in figure 2–1:

1. LRS commander.
2. Operations (OPS) officer.
3. Logistics manager.

4. First sergeant (CCF).
5. Squadron superintendent.

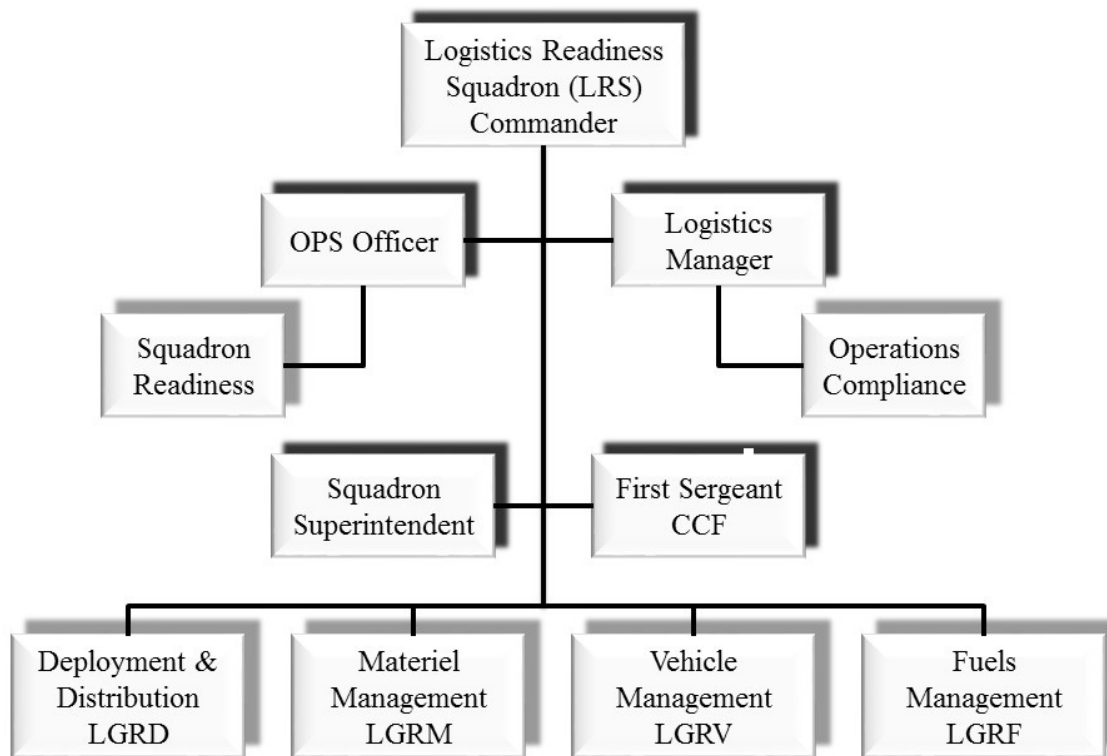


Figure 2-1. Logistics Readiness Squadron organizational structure.

LRS commander

The commander is responsible for directing the deployment and distribution, materiel management, vehicle management, and fuels management flights. The commander develops broad plans and policies to ensure the adequate health, welfare, and morale of assigned personnel. He or she ensures mission readiness, provides strategic planning, and acts as the focal point for squadron interaction within the base, major command (MAJCOM), and AF leadership. Commanders also determine and pursue funding, facilities, and equipment needed to perform the mission.

OPS officer

The OPS officer assists the commander in overseeing the daily operations of the squadron. He or she also becomes the acting commander in the absence of the squadron commander.

The OPS officer is responsible for the following:

- Supervises the LRS unit deployment manager (UDM) and squadron readiness directly.
- Recommends, in coordination with the UDM and squadron leadership, assignment of squadron personnel to deployment positions for commander approval.
- Coordinates on all AEF taskings.
- Carries out all logistics manager duties when no logistics manager is assigned.

The OPS officer also oversees the squadron readiness section. This section directs and controls squadron wartime and deployment programs. It is also responsible for reviewing and maintaining installation deployment plans, contingency plans, policy letters and related publications, as well as

review inspection reports, maintain checklists, and conduct self-inspections of squadron wartime readiness programs.

Logistics manager

The logistics manager is responsible for the oversight of squadron programs and processes, resource management (RM) (facilities, budget, stock control, and infrastructure), squadron analysis, systems management, strategic planning, metrics, and squadron training. The logistics manager is also the director of operations compliance (OC).

OC is the commander's single point of contact for health of the squadron issues. OC provides oversight of squadron compliance, training, resources, accountability, and analysis. The following table gives an overview of the OC processes:

Process	Description
Quality assurance (QA)	<ul style="list-style-type: none"> Responsible for measuring LRS processes through inventory analysis, surveillance, trends, and standards (including oversight of document control); develops and writes local policy/procedures and performs over-the-shoulder inspections augmented by all LRS career fields. Focus is on centralized oversight of critical squadron programs, many of which are executed at the flight level.
Squadron training section	<ul style="list-style-type: none"> Manage the training program for all Air Force specialty codes (AFSC) assigned to the squadron. Administer the on-the-job training (OJT) program and ensure qualification training is completed.
Resource management	<ul style="list-style-type: none"> Responsible for all funds management functions. Unit resource advisor, facilities manager, and is responsible for financial planning.
Functional systems management	<ul style="list-style-type: none"> Maintain the squadron's automated data processing equipment (ADPE) account records. Manage the local area network (LAN) operating system and computer system integrity.

First sergeant

With the office symbol of CCF, the first sergeant is the liaison between the squadron commander and enlisted personnel. He or she assists the squadron commander and squadron section commander with health, morale, welfare, and discipline of assigned personnel. The CCF also administers the unit awards program.

Squadron superintendent

The squadron superintendent is usually the senior ranking chief master sergeant or other senior noncommissioned officer (NCO) in the squadron. He or she is aligned under the squadron commander and functions as a key advisor on a broad range of operational, readiness, and enlisted human resource concerns. The squadron superintendent's duties will not interfere with the duties of the CCF or flight commander/chiefs. The position of squadron superintendent is optional and not all LRS squadrons will have one.

010. Deployment and distribution

The deployment and distribution flight (LGRD) (fig. 2-1) is responsible for the centralized command and control, planning, and execution of all wing deployment operations and the distribution of cargo, passengers, and personal property. This flight is composed of the plans and integration, small air terminal and passenger movement, distribution, and personal property sections.

Plans and integration section

The section provides wing-level management of AEF, unit type codes (UTC), expeditionary site plans, installation deployment plan (IDP), deployment training, deployment control center (DCC), reception control center (RCC), and core elements of an installation deployment readiness cell (IDRC). This section also provides management oversight of the wing's war reserve materiel (WRM) and support agreement programs.

Small air terminal and passenger movement section

Where applicable, this section manages wing passenger movement functions and provides core transportation expertise to the installation deployment officer (IDO). This enables a viable and robust training program to ensure fully qualified augmentees are available during contingencies and/or exercises. This section also conducts a wing training program that includes, but is not limited to, cargo deployment function (CDF)/personnel deployment function (PDF) augmentee training and unit cargo preparation training.

Passenger movement element

This element is responsible for providing official travel services for the movement of DOD passengers. They determine official travel entitlements and provide official travel reservations and ticketing services.

Small air terminal operations element

Where applicable, this element manages the day-to-day terminal operations and is responsible for passenger and cargo processing and aircraft handling.

Distribution section

This section is responsible for transporting cargo and personnel in support of daily and contingency operations. Distribution is also responsible for the receipt and shipment of DOD supplies and equipment, and it consists of the ground transportation and cargo movement elements.

Ground transportation

This element is the single source for safe and efficient ground transportation of personnel and cargo within, and between, installations in support of daily and contingency operations. Operations include transporting home-station and transient aircrews and cargo. Ground transportation is composed of the following sections:

Section	Description
Ground Transportation Operations Center	<ul style="list-style-type: none">• Responsible for the effective use of military taxi, you-drive-it (UDI), pickup and delivery, and dispatch support vehicles.• Receive and validate requests for dispatch support vehicles (i.e., wreckers, buses, tractor/trailers, forklifts, etc.) and ensure log of events is maintained.• Review and approve all requests that exceed the permissible operating distance (POD).
Dispatchers	<ul style="list-style-type: none">• Responsible for developing dispatch support personnel work schedules.• Ensure assigned personnel are properly trained and qualified to meet home station, contingency, deployment, and combat service support mission requirements.• Maintain installation vehicle wash rack.

Section	Description
Training/Validation	<ul style="list-style-type: none"> Manages installation vehicle training, operations records and licensing, Ground Transportation specific training, Readiness Honed IN Operations (RHINO) and reporting programs. Administers Ground Transportation training program according to AFI 36-2651, <i>Air Force Training Program</i>. Conducts RHINO training.
Operator Records and Licensing	<ul style="list-style-type: none"> Responsible for managing operator licensing and maintaining motor vehicle operator records. Response for development and administration of CDL (commercial driver's license) equivalent training.

Cargo movement element

The cargo movement element is responsible for planning, packaging, managing, shipping, and receiving all DOD cargo.

The two sections that make up the cargo movement element are the cargo inbound and cargo outbound sections:

Section	Description
Cargo inbound	<ul style="list-style-type: none"> Responsible for receiving incoming shipments and on-base turn-ins, inspecting property, and preparing transportation/supply discrepancy reports. Maintain contracts and purchase orders for locally purchased items, process due-out releases to delivery area, move items to storage areas, unload trucks, maintain container inventory control, and perform customs/agriculture duties as required.
Cargo outbound	<ul style="list-style-type: none"> Preserve and package items for shipment, processes outbound freight to carriers. Approve and reconcile billing statements. Perform customs/agriculture duties. Plan shipments, and inspects and certifies HAZMAT for shipment.

Personal property section

This section is responsible for administering the DOD personal property movement programs within its respective area of responsibility and consists of the elements in the following table:

Element	Description
Inbound element	<ul style="list-style-type: none"> Responsible for clearing and arranging delivery of inbound personal property shipments or authorizing their placement into storage. Performs cost estimates for personally procured transportation and assists members with the processing of inconvenience claims. Trace late shipments and counsel personnel on inbound claim and delivery procedures. Establish and maintain case files and prepare and update suspense records to include required delivery dates, storage in-transit authorizations, reweigh suspenses, and direct procurement method control information. Certify accessorial service payments and reweigh requirements.

Element	Description
Outbound element	<ul style="list-style-type: none"> Responsible for determining members' personal property shipment entitlements authorized in conjunction with permanent change of station (PCS), temporary duty (TDY), and local moves. Counsel military and DOD civilians on their entitlements.
Nontemporary storage element	<ul style="list-style-type: none"> Responsible for selecting low-cost storage and processing/handling in/out shipment requests. Correspond with service members, DOD civilians, and contractors for extensions of storage entitlements.
Quality control (QC) element	<ul style="list-style-type: none"> Responsible for QC and inspection duties, to include establishing and maintaining carrier/agent performance files. Inspect all types of personal property shipments, process carrier appeals, evaluate agent/contractor facilities, and manage the government-owned container program.

011. Materiel management flight

Materiel management flight (LGRM) (fig. 2-1) is responsible for stocking, storing, issuing, managing, inventorying, and inspecting DOD supplies and equipment. This flight is the primary liaison between customers and the Air Force Materiel Command (AFMC). LGRM consists of the following sections: asset management, maintenance support, and customer support.

Asset management section

The asset management section is responsible for stocking, storing, issuing, decentralized inventory, and inspection management of DOD supplies and equipment. This section is composed of the following elements:

Element	Description
Aircraft parts store (APS) element	<ul style="list-style-type: none"> A decentralized center that stores and issues weapon system spares and all in-warehouse aircraft supply and equipment items. Items are selected to be issued, shipped, or transferred. Conduct warehouse validations and inventories (where decentralized) and inspections (i.e., shelf life, functional checks) while maintaining central locator functions. Oversee readiness spares packages (RSP) and manage the staging area for delivery of items.
Central storage element	<ul style="list-style-type: none"> Responsible for storing all in-warehouse supply and equipment items (except RSPs), classified and sensitive items, war consumables and distribution objective (WCDO) items, and selecting items to be issued, shipped or transferred. Conduct warehouse validations and inventories (where decentralized), and inspections (i.e., shelf life, functional checks).
Individual protective equipment element	<ul style="list-style-type: none"> Responsible for the receipt, storage, and issue of mobility bags and base defense/mobility small-arms weapons. Maintain chemical warfare defense equipment back-up stocks, stores, issues, and ships gas masks/weapon support kits.
HAZMAT tracking activity (HTA)	<ul style="list-style-type: none"> HTA manages the receipt, storage, issue, inspection, distribution, and tracking of HAZMAT.
Individual equipment element (IEE)	<ul style="list-style-type: none"> Responsible for needed individual equipment items such as personal and organizational clothing IEE is usually outsourced outside the Materiel Management Section.

Maintenance support section

This section consists of the following two elements:

Element	Description
Decentralized materiel support (DMS)	<ul style="list-style-type: none"> Where applicable, DMS personnel are responsible for coordinating maintenance and supply actions for their assigned maintenance activity.
Flight service center (FSC) element	<ul style="list-style-type: none"> A decentralized center that solely supports flightline activities. Establish and manage supply points, time-change, and due-in from maintenance (DIFM) programs to include awaiting parts management (AWP) and turn-around (TRN) transactions. Manage the local manufacture program, command intensive management items, and quality deficiency report (QDR) program.

Customer support section

This section is the materiel management liaison and equipment accountability authority for wing customers. This section consists of the following two elements:

Element	Description
Equipment accountability element	<ul style="list-style-type: none"> Manage all equipment items with the exception of vehicles in the applicable materiel management IT system.
Customer support liaison element	<ul style="list-style-type: none"> Serves as customer liaisons who responds to customer logistics concerns and proactively anticipates problems that could stand in the way of wing units fulfilling mission requirements.

012. Vehicle management flight

The vehicle management flight (LGRV) (figs. 2-1 and 2-2) provides safe and serviceable motor vehicles and vehicular equipment to meet the war fighter's requirements. The LGRV flight is responsible for overall maintenance and management of the wing's vehicle fleet. It also assigns, accounts for, and maintains vehicle assets in a safe, efficient, environmentally sound, and reliable condition to meet the wing's needs. This flight has a manager/superintendent (when applicable) and consists of the following sections:

1. Administration.
2. Materiel control (MC).
3. Fleet management & analysis (FM&A).
4. CSC.
5. Vehicle specific maintenance and repair sections.

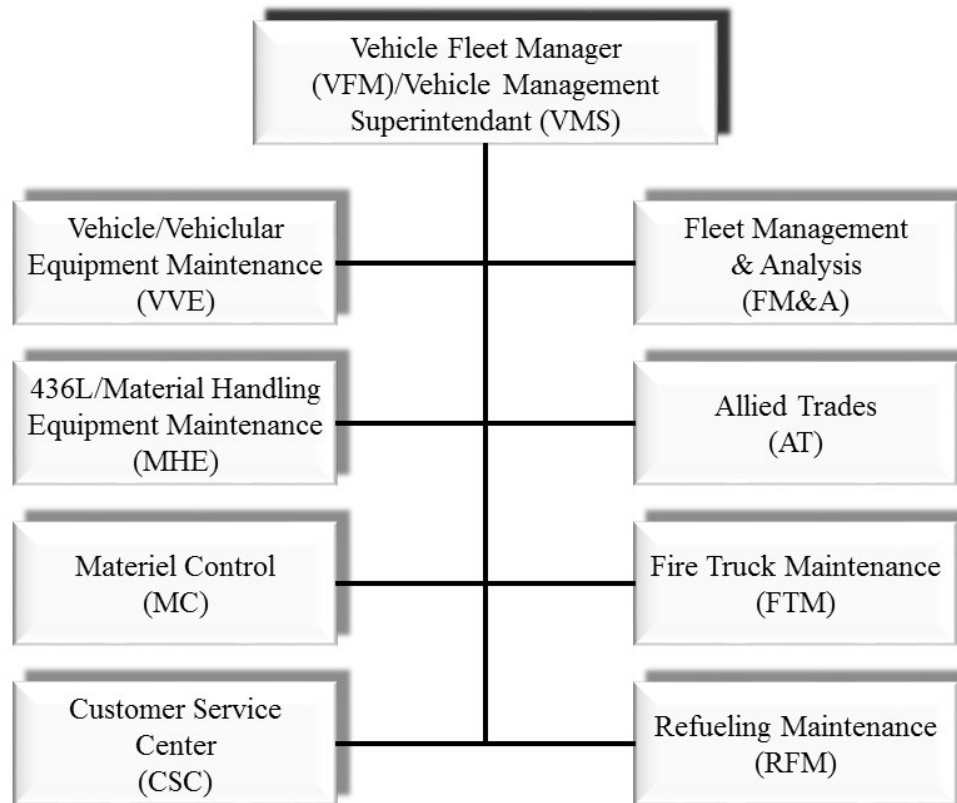


Figure 2-2. Vehicle management flight.

Specific duties and responsibilities are in AFI 24-302, *Vehicle Management*, TO 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance*, and applicable AFOSH standards.

NOTE: Lesson 014 will discuss more on LGRV's structure and associated responsibilities.

013. Fuels management flight

Fuels management flight (LGRF) (fig. 2-1) is responsible for ensuring quality petroleum products, cryogenics fluids, and missile propellants are acquired or produced and issued safely and efficiently to using organizations. The following sections are part of the LGRF:

Section	Description
Fuels operations	<ul style="list-style-type: none"> Responsible for fuels distribution, storage, cryogenic, and propellant storage functions.
Fuels information service center	<ul style="list-style-type: none"> Responsible for the daily management of fuels resources and provides support, accounting, and laboratory analysis of fuel and cryogenic products.
Compliance and environmental	<ul style="list-style-type: none"> Manage the inspection function by performing internal and external evaluations. The squadron's point of contact for spill prevention and containment. Perform waste fuel management and leak detection measures for the flight.
Cryogenic production	<ul style="list-style-type: none"> Manage product loss, maintains cryogenic support equipment and storage tanks, and performs online QC tests at locations with cryogenic production capability.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

009. Logistics Readiness Squadron's commander's staff

1. What does the commander's staff provide?
2. Who assists the commander in overseeing the daily operations of the squadron?
3. Which section reviews and maintains installation deployment and contingency plans?
4. Name the logistics manager's responsibilities.
5. Which section provides oversight of squadron compliance, training, resources, accountability, and analysis?
6. Which section has the key duty of unit resource advisor?
7. Which section maintains the ADPE account records for the squadron?
8. Who administers the unit awards program?

010. Deployment and distribution

1. Which activity has the key duty of determining official travel entitlements?
2. Which sections falls under the vehicle operations element?
3. What are the responsibilities of the dispatch operations section?
4. Which elements fall under the personal property section?

011. Materiel management flight

1. What actions does the LGRM perform?
2. Which element manages the storage and tracking of HAZMAT?
3. Which three sections make up the LGRM?
4. Which element supports flightline activities solely?

012. Vehicle management flight

1. What is LGRV's overall responsibility?
2. What are some of the sections that fall under the LGRV?

013. Fuels management flight

1. What is the responsibility of the LGRF?
2. Which section performs internal and external evaluations of the LGRF?

2-2. Vehicle Management

The success of the mission depends in large measure on vehicle management's ability to maintain and provide safe and serviceable vehicles when needed. Aircraft would not fly without vehicles transporting aircrews, and supplies would not be delivered without trucks and materiel-handling equipment. The primary mission of the vehicle management activity is to provide users with safe, serviceable, and reliable vehicles by using the most economical and up-to-date procedures available. For this reason, every person assigned to vehicle management has an obligation to use resources wisely, and to identify, prevent, and eliminate fraud, waste, and abuse. All members associated with vehicle management must understand his or her role and how it fits into the big picture, and most of all, how to do the job well. This section will help you understand base-level vehicle management and give you a better idea of how you fit into this very important organization.

014. Organizational structure and associated responsibilities

Although organizational structures may vary between commands and bases, in general, shop activities and responsibilities are essentially the same throughout the AF. Practically all AF organizations rely on the availability of safe and serviceable vehicles to do their mission. There are many types of

vehicles needed to support each organization or weapon system. Vehicle management plays a vital role in the success or failure of the mission. Specific duties and responsibilities are in AFI 24-302 and TO 36-1-191.

Vehicle management flight structure

All functions of a LGRV fall under the vehicle fleet manager (VFM) and the vehicle management superintendent (VMS). This is true, except in mobile units with an organic maintenance capability, such as the ability to repair their vehicles independent of the host base LGRV. Following are the elements under the VFM/VMS structure:

VFM/VMS

The VFM/VMS is responsible for the day-to-day management of the LGRV.

Administration element

If applicable, this element performs administrative functions as directed by the VFM/VMS. They provide overall flight administrative support. Also, the element may be located at the flight level or within each element (i.e., information manager may work in FM&A).

Training leader

The training leader sets up and administers a training program to provide needed guidance for on-the-job, upgrade, and qualification training within the LGRV.

FM&A element

This element is the focal point for all registered vehicle matters on an installation. The FM&A element ensures the efficient and economical operation of the base vehicle fleet. For efficiency of operation, FM&A must be centrally located to all work centers, if possible, and must be easily accessible and recognizable to customers.

Materiel control element

This element provides oversight and acquires materiel to support the LGRV. It acts as the liaison between vehicle management, the supply system, and other decentralized purchasing programs, such as blanket purchase agreements (BPA) and the government purchase card (GPC).

CSC element

The CSC is the interface between the vehicle user and vehicle management. CSC technicians debrief vehicle operators, perform incoming vehicle inspections to determine maintenance requirements, and perform other duties as prescribed by the VFM/VMS.

Maintenance workcenter elements

The maintenance work centers are focal points for the labor, parts, and tools needed to do the job. These workcenter elements perform maintenance and repairs on specific types of vehicles and equipment. The total number of work centers required depends on facilities, staffing, types of vehicles, and mission requirements. The workcenter supervisor is responsible for all work done in the work center.

Listed here are the vehicle specific work centers that may be in a LGRV. They are as follows:

- Vehicle and equipment.
- Fire truck maintenance (FTM).
- MHE.
- Allied trades (AT).
- Refueling maintenance (RFM).

Maintenance team lead responsibility

The maintenance team lead is accountable for all work done in the work center. Some of his or her responsibilities are as follows:

1. Coordinates with FM&A to ensure priorities are met and maintenance tasks are completed on time.
2. Assigns work to personnel and ensures that work is commensurate with their skills.
3. Ensure proper tools and equipment are readily available and serviceable and subordinate personnel are properly trained in their use. Report shortages and deficient equipment to the VFM/VMS.
4. Ensures technicians comply with safety procedures and technical data. This does not mean an open book reference for each repair tasks. You are required to be familiar with the procedures for each job. However, complex tasks, specifications, torque ratings, special tolerance adjustments, etc. do require reference to technical data (refer to AFI 24-302).
5. Inspects incoming vehicles and equipment not processed through CSC. He or she coordinates with FM&A if additional repairs not listed on the Fleet Management Information System (FMIS)-generated work order, are required, and revises the estimated time in commission (ETIC) as needed.
6. Inspects repaired vehicles and equipment to ensure all vehicles are in a safe, serviceable condition.
7. Briefs newly assigned personnel.
8. Assigns personnel to duty positions to ensure full use and progression opportunities.
9. Determines the most efficient and economical means of returning vehicles to service. The supervisor will carefully consider the repair or replacement of individual assemblies or subassemblies and components to make effective use of resources. At the same time, adhering to any safety and serviceability standards avoiding over-maintenance of the vehicle.
10. Informs FM&A of the requirement for more work so that maximum productivity may be obtained from assigned personnel.
11. Verifies with MC on parts requirements and availability.
12. Accounts for the workcenter labor hours.
13. Sets up training needs, sending training requirements to the VFM, VMS, and assisting personnel in OJT.

Responsibility

The *primary* responsibility of vehicle management is to maintain all vehicles and equipment displaying a valid USAF or Air Force Equipment Management System (AFEMS) registration number (regardless of cost). This may include any engine-driven agricultural, nursery, miscellaneous base support equipment, and permanently or seasonally mounted attachments. The exception would be those on the CE equipment authorization inventory data (EAID) and any tenant equipment assigned to CE according to agreements.

Organizations procuring nonregistered equipment (i.e., other government motor vehicle conveyance [OGMVC], all-terrain vehicles [ATV], mowers, etc.) will coordinate with the VFM or VMS to make sure parts, facilities, manpower, funds, and so forth are available to support the equipment before it is acquired. Organizations will *first consider* purchasing a maintenance agreement to support the equipment.

Follow the following procedures when vehicle management is responsible for a nonregistered asset:

1. Load master records into the FMIS.
2. Assess vehicle equivalents according to the information in the FMIS.

3. Schedule all required preventive maintenance and inspections (PM&I), to include lubrication, oil changes, and other special inspections.

Vehicle management will maintain or replace attachments that come with a vehicle or piece of equipment. If the using activity purchases additional attachments for this same vehicle or piece of equipment, it is the using organization's responsibility to maintain or replace them unless the VFM/VMS agree to do so.

Maintenance on major specialized systems mounted on a standard vehicle chassis is the responsibility of the using organization. Specialized systems include, but are not limited to, communications equipment, munitions maintenance systems, environmental systems, special hoists, and sensitive test equipment. Using organizations arrange for in-house or contract repair of this equipment. Vehicle management is only responsible for maintaining the basic vehicle chassis and power train.

When requested, and within its capabilities, the LGRV will assist organizations owning the vehicles and equipment listed in the FMIS database. Maintenance and parts support for this equipment will be on a reimbursable basis if deemed necessary by the VFM/VMS. If these assets require recurring maintenance by vehicle management, they will be loaded into the FMIS. Vehicle management will establish and maintain all vehicle and equipment records, load vehicle master records into FMIS, and schedule all required periodic inspections and services, provided technical data is available. The owning/using unit funds will procure any UNICOR (UNICOR) plate/replacement.

The VFM or VMS sets local procedures ensuring all organizations coordinate through vehicle management when they request to purchase equipment locally that vehicle management has primary or assistance maintenance responsibility for. This ensures that technicians can perform maintenance and that parts are obtainable. The VFM/VMS will not accept maintenance responsibility for equipment if the request to purchase the equipment was not coordinated with vehicle management before purchase. Also, do not assume maintenance responsibility for locally purchased equipment without the necessary technical data, if inspection, servicing, adjustment, or repair work cannot be performed properly.

Unauthorized vehicles

The following vehicles are *not* repaired, inspected, serviced, given manufacturer's technical assistance, or garaged in any vehicle management facility or vehicle operations site:

1. Vehicles and motorized equipment that have been disposed of as uneconomically repairable and transferred to the Defense Logistics Agency Disposition Service (DLADS).
2. Privately owned and nonappropriated-fund motor vehicles (except National Forest Service (NFS) and Civil Air Patrol (CAP) vehicles). Do not use government-owned tools, equipment, and supplies to service or repair these vehicles unless authorized by AF/A4LR. **NOTE:** Privately owned vehicles (POV) and non-appropriated fund vehicles may be garaged temporarily just prior to, during and just after severe weather if approved by the installation MSG/CC or equivalent.
3. Rented/leased vehicles. This applies to both General Service Administration (GSA) and commercial rental/leased vehicles.

Do not park privately owned vehicles in the LGRV compound except with written approval by the commander.

015. Wartime concept of operations

All the financial funding time and effort that we use in planning, organizing, and training are for one single purpose—to preserve our national security and way of life. When national security is threatened, and economic and political solutions don't work, military actions will ensue as the final arbiter of conflict. When the proverbial "button" is pushed, will you be ready? It's very important that you have a working knowledge of the wartime concept of operations.

Policies and responsibilities

The LRS wartime mission is to mobilize, deploy, receive, and sustain combat forces. The AF policy is to have motor vehicles, manpower, tools, facilities, and shop equipment on hand to support the USAF War and Mobilization Plan (WMP). LRS planners have these two tasks:

1. To provide the necessary forces to complete the in-theater mission.
2. To ensure that logistics requirements of all other deploying forces are met. There may not be much time during periods of tension or crisis; much of the planning must be done before crisis occurs.

The MAJCOMs provide manning, equipment, training, and specific guidance to their bases. Base-level vehicle management has the following responsibilities:

1. Maintain WRM vehicles according to established guidelines.
2. Comply with the provisions of TO 36-1-191.
3. Identify problem areas (that cannot be solved locally) to MAJCOM.
4. Develop local guidance for the vehicle management wartime concept of operations as directed by MAJCOM, to include procedures for operating in chemical/biological contaminated environments and repair of contaminated vehicles.
5. Determine vehicles suited for deployment based on age, parts availability, interchangeability, and maintainability. If possible, select the newest vehicle for deployment and contact MAJCOM if you are unable to ship the newest vehicle. In addition, ensure tasked vehicles are placed in TO 36-1-191 *PLUS* condition and accompanied with a complete temporary mission support kit (TMSK).
6. **NOTE:** If approved by higher headquarters or stated as a line-remark on vehicle redistribution list (RDO), deploying vehicles will be shipped with a TMSK. Refer to AFI 24-302, paragraph 3.8.6 for further guidance.
7. Deploy with sufficient, skilled personnel and equipment resources to satisfy all contingency wartime and AEF requirements.
8. Ensure VFM/VMS are familiar with current designed operational capability (DOC) statements, operation plans (OPLAN), base support plans, and UTC mission capabilities (MISCAP).
9. Document costs to prepare vehicles, spare parts, and technical data for shipment. Units will retain all expense data associated with the preparation of vehicles for shipment for possible reimbursement.
10. Monitor the time-phased force and deployment data (TPFDD) to ensure tasked vehicles are shipped to correct location on time.
11. Maintain duplicate copies of TOs to support each vehicle. When several vehicles same make/model are deployed as a package, each one will be accompanied with a complete TO set.
12. Ensure deploying units' individual members are trained and equipped for contingency operations. Individual members will ensure they are qualified and equipped for contingency operations.
13. Fill or shortfall personnel OPLAN or AEF taskings as appropriate.
14. Refer to the VFM precontingency checklist, found on the Vehicle Management Neighborhood webpage (<https://cs3.eis.af.mil/sites/OO-LG-AF-66/default.aspx>) for guidance on detailed predeployment planning. (**NOTE:** Users must request access via the AF Portal if the link does not redirect them.)

Organization during contingency operations

Contingency operations demand the flexibility and resourcefulness of vehicle maintainers, like you, to support the mission. However, it is ideal to run a shop in wartime the same as in peacetime; the organization at the onset could very well be different.

The terms in the following table relate to general maintenance concepts, especially during contingency operations:

Term	Explanation
Quick reaction maintenance team (QRMT)	A team of fully qualified, mobile mechanics equipped to carry out repairs at any contingency location deemed necessary for ongoing mission support.
TMSK	A predetermined, generic list of fly-away spare parts that units with deployment vehicles must requisition, mark, and box to ship with each vehicle before its departure. Vehicle specific listings are available for download from the Vehicle Management Neighborhood webpage (https://cs3.eis.af.mil/sites/OO-LG-AF-66/default.aspx). The kit is to support the vehicle for at least 30 days. It's intended to fill the need for parts and bench stock for the initial deployment period until the in-theater supply capability is in place.
Post-attack vehicle operability (PAVO)	A post-attack vehicle assessment of damage to determine maintenance priorities in the post-attack period rapidly. Using the triage maintenance concept, vehicles with the highest priority and needing the least amount of repairs are returned to service soonest. Repair sortie generating vehicles in triage category level A before vehicles in sortie sustaining level A. Repair-level B sortie generating vehicles in a two-to-one ratio compared to level-B sortie sustaining vehicles (fig. 2-4). The PAVO assessment is completed by the QRMT and determines triage maintenance categories and the sequence of maintenance actions.
Triage maintenance	An immediate, temporary repair of a battle-damaged vehicle during post-attack recovery operations to support the immediate ongoing mission. Vehicle repair requirements are placed in one of the three following categories: Level A—immediately returnable to service with minimal or minor repair. Level B—repairable but requires over 30 minutes of work but less than 4 hours. Level C—need repairs taking over four hours or not repairable at all. Emphasis is placed on repairing the vehicles that have the highest priority and can be returned to service soonest.

An increased level of operator maintenance will be essential during wartime. The local VFMs and vehicle control officers (VCO) will determine the scope of increased operator maintenance and the level of support (i.e., parts, tools, etc.) from vehicle management. Using organizations must understand that in a wartime situation, vehicle management will not be able to provide training to the users. Because of this, it may be advantageous during peacetime, when possible, to set-up a minor maintenance section that provides training for operators to perform minor repairs, such as replacing starter and battery cables, drive belts, headlights, tires, hoses, and so forth.

MAJCOM responsibility

MAJCOM manages WRM vehicle assets according to AFI 25-101, *Air Force War Reserve Materiel (WRM)*. The MAJCOM also assigns an office as the primary WRM vehicle management function within the headquarters that has the overall, primary responsibility for management of WRM vehicles.

Base-level responsibility

The designated host unit at AF installations (active, guard, or reserve) manages the installation WRM program, to include oversight responsibility for budgeting, maintenance, accountability, storage, and for processing monthly WRM reports. The installation commander has overall responsibility for

ensuring the readiness of assigned WRM. The LRS commander, or equivalent, manages the installation WRM program to include appropriate planning, programming, budgeting, acquisition, distribution *storage*, and *maintenance*.

Responsibility

Vehicle management's responsibility is to make certain storage and maintenance of WRM vehicles is in accordance to guidelines in prescribed instructions, such as AFI 24-302 and AFI 25-101 and TO 36-1-191. General responsibilities are outlined as follows:

1. Ensure WRM assets are continuously maintained and ready for any authorized contingency, complying with the provisions of TO 36-1-191 and other shipping instructions, as provided by Warner Robins Air Logistics Complex (WR-ALC) or the MAJCOM.
2. Make sure organizations storing WRM vehicles are also responsible for ensuring the readiness of assigned WRM.
3. Store WRM vehicles in a serviceable, ready-to-use condition. Ensure joint-use WRM vehicles assigned to other units are included in the WRM vehicle management program.
4. Identify WRM maintenance requirements through inspections or scheduling in accordance with TOs, AFIs, AFMANs, and command supplements.
5. Maintain WRM vehicle status to reflect vehicle registration number, unit, location, status, and specific nonmission capable maintenance (NMCM), nonmission capable supply (NMCS), and estimated completion date, and reports the status to the war reserve materiel officer (WRMO)/NCO. (**NOTE:** This information may be maintained in a computer database.)

Implementing WRM program

MAJCOMs develop specific storage concepts for vehicles identified against an OPLAN tasking. With so many guidelines and areas of responsibilities, how can you ensure that you're implementing the WRM program properly? Each base has different methods tailored to support its mission. One of the methods to ensure your office implements and complies with all the directives is to develop a self-inspection checklist. A good checklist provides an easy assessment of your WRM program, identifying strengths and weaknesses.

The checklist will need to incorporate all directives related to the program. You may develop the checklist as individual documents or combine all directive tasks. Referring to figures 2-3 and 2-4, -4 you can see that the checklists include questions addressing each numerical tasking from the directives.

WAR RESERVE MATERIEL (WRM) PROGRAM STORAGE CHECKLIST		PAGE 1 OF 2		
REFERENCE: TO 36-1-191, AFI 24-302 and AFI 25-101		30 JUNE 2011		
NO.	VM&A WRM ASSESSMENT QUESTIONS	YES	NO	N/A
1	During Storage/Storage Site (TO 36-1-191)			
1.1	- Is a major inspection accomplished IAW TO 36-1-191 and are inspection forms revised accordingly?			
1.2	- Is a serviceability inspection performed using AFTO Form 91 whenever storage inspection reveals damage through a failure in preservation (or any other cause)? (TO 36-1-191, 8.11.1.2)			
1.3	- Are vehicles previously listed as servicable scheduled into the vehicle management activity for repair, and return to a servicable condition? (TO 36-1-191, 8.11.1.2)			
1.4	- When reports indicate a possibility of general failure of a specific preservation application or a processing deficiency common to a certain type of vehicle: does the VFM direct inspection of a representative sample of like equipment in storage, and initiate further inspections as indicated by the results of such sampling to ensure that the equipment in storage is serviceable? (TO 36-1-191, 8.11.1.3)			
1.5	- At the storage site, are WRM vehicles stored on a surface which is not level having the wheels or tracks securely chocked to prevent movement? (TO 36-1-191, 8.12.4)			
1.6	- Outside Storage: (TO 36-1-191, 8.12.5) -- Is the most suitable hard standing or natural ground surface selected? -- When natural surface is selected, does it have good drainage, and maintain its texture under normal climatic conditions so as to be free from soft spots? -- To eliminate fire hazards during dry weather, is proper care taken to prevent accumulation of grass and weeds in the storage site and the areas immediately surrounding? -- Are WRM vehicles stored with one end slightly elevated so that the maximum amount of accumulated water will drain from the hull or body? -- Are WRM vehicles stored under trees?			
1.7	- Inside Storage: (TO 36-1-191, 8.12.6) -- Is inside storage used wherever available? -- Are fork lift trucks, fire trucks, and vehicles containing electronic equipment or other types of equipment as determined by the commander or VFM concerned, stored inside buildings or provided equal protection from weather conditions?			
2	WRM Vehicle Storage (AFI 24-302)			
2.1	- Are WRM vehicle authorized and maintained separately from active peacetime vehicle fleet and are normally preserved and stored IAW MAJCOM's specific storage concepts and identified against OPLAN tasking? (AFI 24-302, 2.11)			
2.2	- Are WRM vehicles stored in active (ready-to-roll) or inactive (deep stored) categories IAW MAJCOM directives? (AFI 24-302, 2.11.1)			
2.3	- Are WRM vehicles stored in Active Storage preserved to Level C as described in TO 36-1-191, or as specified by your MAJCOM? (AFI 24-302, 2.11.1.1)			
2.4	- Are WRM vehicles in Inactive Storage stored in an enclosed building and preserved to Level A Storage as described in TO 36-1-191 or as prescribed by MAJCOM guidance? (AFI 24-302, 2.11.1.2)			

Figure 2-3. WRM storage checklist, page 1.

WAR RESERVE MATERIEL (WRM) PROGRAM STORAGE CHECKLIST				PAGE 2 OF 2	
REFERENCE: TO 36-1-191, AFI 24-302 and AFI 25-101				30 JUNE 2011	
NO.	VM&A WRM ASSESSMENT QUESTIONS	YES	NO	N/A	
1	During Storage/Storage Site (TO 36-1-191)				
2.5	- Are WRM vehicles controlled according to AFI 25-101, as supplemented by the MAJCOM? (AFI 24-302, 2.11.2)				
2.6	- On active stored WRM vehicles, is lubrication accomplished at least annually on active stored vehicles and PM&I accomplished every two years? (AFI 24-302, 2.11.3)				
2.7	- Are WRM vehicles rotated into the active peacetime fleet (where like-vehicle peacetime authorizations exist) to ensure equipment dependability and equalize their use? (AFI 24-302), 2.11.4)				
2.8	- In general, are vehicles in WRM storage still under warranty? (AFI 24-302, 2.11.5)				
2.9	- Is a parking plan developed for each storage location? (AFI 24-302, 2.11.6)				
2.10	- Are fire extinguishers positioned in the vehicle storage area? (AFI 24-302, 2.11.7)				
2.11	- When inside storage cannot be provided, are outside storage areas well lit, have adequate drainage and are secured by a chain link or equivalent fence? (AFI 24-302, 2.11.8)				
2.12	- Are operational systems checks being performed and exercised every 30 days on WRM vehicles with the exceptions to Storage Policies? (AFI 24-302, 2.11.9)				

Figure 2-4. WRM storage checklist, page 2.

NOTE: The sample checklist (figs. 2-3) poses questions about WRM vehicle fleet and equipment storage; all questions are derived from AFI 24-302 and TO 36-1-191.

Creating a useful checklist is no easy task. The following are some basic steps to perform when developing your WRM checklist:

1. Study and familiarize yourself with all **current** directives relevant to WRM.
2. Focus on the task and define its intended use.
3. Determine the order of categories and decide if order is important to its intended use.
4. Generate questions (based on related references) addressing each specific task(s).
5. Ask potential users for input, review/critique.
6. Assess whether the checklist meets its intended use.
7. Finalize and/or print (as needed).
8. Apply the developed checklist to its intended use.
9. As a final step, review and revise/update the checklist periodically as directives change.

Expanded mobile maintenance

On-scene repair is the goal of expanded mobile maintenance. In using this concept, you can position vehicle management personnel in key areas throughout the base for quicker response as well as to disperse vehicle management assets. The capability for onsite repair or quick turnaround of critical sortie generating vehicles is essential to enhanced wartime operation. For this to work, VFMs must determine the number and makeup of teams and train and equip a specialized team to perform this task. If possible, each team must be equipped with its own mobile maintenance trucks, tools, equipment, parts, and supplies necessary to sustain a 30-day operation.

Intermediate and minor maintenance

Each vehicle management operation establishes a priority system that clearly identifies priority vehicles based on its mission support role. Assign the highest priority to sortie generating vehicles.

Sortie sustaining vehicles have a lower priority (fig. 2-5). The concept of minimum essential levels has to suffer based on established contingency maintenance priorities. Parts permitting, sortie-generating vehicles are worked on a 24-hour a day, 7 days a week basis until the vehicle is returned to service. An expanded cannibalization program is established to keep critical vehicles operational. VFMs have unlimited cannibalization authority on battle-damaged vehicles deemed a total loss.

Priority I Vehicles, Sortie Generating.

VEHICLE TYPE	MODEL OR SIZE
Aircraft Refuelers	R-9; R-11; R-12; Fuels Mobility Support Equipment (FMSE), Fuels Operational Readiness Capability Equipment (FORCE)
Aircraft Towing	MB-2, MB-4, U-30, Bobtail
Munitions Loading/Hauling	7.5T Crane; 50K Container Handler; Truck Tractor; 30/40 Foot Semi-Trailer; Forklift assigned to munitions functions
Aircraft Servicing	Potable Water Truck; Deicer; Lavatory Service Truck; Staircase Truck
Aircraft Cargo Loading/ Unloading	Aircraft Loader (25/40/60K) and Wide Body/Lower Lobe Loader, 10K Standard Forklift; 10K All Terrain Forklift; 40 Foot Rollerized Trailer
Aircraft Launch Vehicles	Various general purpose vehicles for crew transport and aircraft maintenance

Priority II Vehicles, Sortie Sustaining.

VEHICLE TYPE	MODEL OR SIZE
Firefighting Vehicles	Structural, Crash and Rescue Firefighting Vehicle
Medical	Ambulance Bus; Ambulance, Modular
Material Handling	Forklift; Truck, 9 Ton Hi-Lift
Explosive Ordnance Disposal	M-113 Armored Personnel Carrier (APC), M1116 High Mobility Multipurpose Wheeled Vehicle (HMMWV), Armored Conversion
Fuel Support	Truck Tank 1200 gallon, Trailer, Fuel 600 gallon
Rapid Runway Repair (RRR)	Truck, Dump; Tractor Dozer; Loader; Roller; Truck Tractor; Excavator; Grader; Sweeper Vacuum; Trailer; Farm Tractor, with broom
Snow and Ice Removal	Snow Plows, Blowers and Sweepers; Dump Trucks equipped with plows, blowers and/or brooms; Farm Tractors equipped with brooms
Security Forces Vehicles	HMMWV; M-113 APC; air conditioning equipped K-9 vehicles; other critical vehicles assigned to SFS

Figure 2-5. Mission critical list.

Mission and spare parts availability may drive a lower level of serviceability compared to peacetime operations. During wartime and contingency, you may waive repairs not affecting safe operation or operational capabilities of the vehicle. The senior maintenance technician at the site determines the safety and serviceability of a vehicle. As a rule, if the vehicle operates under its own power, goes to where you want it to go, stops when you want it to stop, attains a reasonable speed, and can carry the load, it may be considered safe and mission capable (MC).

At deployed or dispersed locations, the VFM or the senior maintenance technician determines if maintenance capability exists. Perform PM&I only if capability exists and operational mission tempo

allows. Perform unscheduled maintenance at the onset of hostilities to the maximum extent possible. As the situation allows, maintenance capability should return to fixed locations, completing all actions at the local level to the maximum extent possible.

Documenting and reporting

During the first 30 days (or as established by MAJCOM), documentation may be limited to Vehicle Work Orders; AF Form 1832, Record of Cannibalization; and posting of Vehicle Historical Records. As a minimum, the forms, publications, and TOs that you will need to operate at a deployed site are listed in AFI 24-302.

Feedback to the MAJCOM and other AF agencies are necessary to support actions of deployed units. Reports are limited to the minimum essential needed. During the deployment phase, you are normally not required to send formal reports. However, during the first 30 days of operations, you are required to forward a report on a weekly basis with the following information:

1. Total priority 1 and 2 vehicles assigned, total vehicle losses, NMCS, and NMCM.
2. Facility, equipment, technical data, personnel, and skill shortages.
3. Specific supply support difficulties that require MAJCOM assistance, listing vehicle registration number and type, part number, date parts ordered, requisition number, and status.

You will also have to manage the fleet using the Logistics Installation and Mission Support Enterprise View (LIMS-EV) Vehicle View, which you will learn about in volume 3 of your CDCs.

Levels of combat readiness

A unit's level or degree of combat readiness is expressed in the following five categories:

Categories	Degree of Readiness	Explanation
C-1	Fully combat ready	The unit has the required resources and is fully trained to undertake the full wartime mission(s) for which it is organized or designed.
C-2	Substantially combat ready	The unit has the required resources and has been trained to do most of its wartime mission(s) for which it is organized or designed.
C-3	Partially combat ready	The unit has the resources and has been trained to do many, but not all portions of the wartime mission(s) for which it is organized or designed.
C-4	Marginally combat ready	The unit needs additional resources or more training to undertake its wartime mission(s), but it may be directed to undertake portions of its wartime mission(s) with resources.
C-5	Not combat ready	The unit is undergoing a service-directed resource change such as the following: <ol style="list-style-type: none"> 1. Major equipment conversion and transition. 2. Activated or deactivated. 3. In-cadre status. 4. Not manned or equipped but is required in wartime. 5. Tasked as training units but could be tasked in wartime.
C-6	Not required to measure assets in a specified area	Is not a rating and may not be used as an overall C-level.

Units not in a C-1 level must provide a reason and a get well date. Anticipated changes in C-level must also be reported. The overall C-level rating is usually equivalent to that of the lowest objectively measured area and determined by the unit commander based on *objective and subjective factors*.

Objective factors

Objective factors are essentially a count of assets and the projected resource status at the unit's tasked response time. The following areas are how the objective areas are measured:

Objective Factor	Description
Personnel	Total personnel and critical personnel assigned vs. authorized. Reference is the unit manning document (UMD).
Equipment and supplies on hand	Availability of combat-essential vehicles, support equipment, and supplies. Examples of combat-essential vehicles are 463Ls, flatbed trailers, buses, truck tractors, 5 ton and above, high lifts, test equipment, generators, decontamination units, etc.
Equipment condition	The serviceability status of combat-essential vehicles and equipment. For example, are they in service or not, NMCS and NMCM
Training	Assessment of unit training by comparing the number of personnel trained versus the number authorized or required.

Subjective factors

Along with the objective factors, the commander considers subjective factors to either raise or downgrade the readiness level. The subjective factors may not be directly measured but must be taken into account. Such factors include the following:

1. Task changes without a resource change authorization.
2. Missing critical resource(s) masked by high-fill rates in measured resource areas.
3. Morale, experience, and turnover rates of personnel.
4. Results of inspections, chemical warfare training, and availability of individual equipment.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

014. Organizational structure and associated responsibilities

1. Where can you find the specific duties and responsibilities of vehicle management?
2. On what does the total number of work centers depend?
3. State the primary responsibility of vehicle management.
4. What must organizations do before purchasing nonregistered equipment?
5. What will vehicle management complete if they are responsible for a nonregistered asset?

6. Who is responsible for maintenance on major specialized systems mounted on standard vehicle chassis?
7. When will the VFM and the VMS *not* accept maintenance responsibility for equipment?
8. Name three types of vehicles or equipment that are *not* authorized services in a vehicle maintenance shop.

015. Wartime concept of operations

1. What is the LRS wartime mission?
2. What is the AF policy regarding the support for the USAF WMP?
3. Match the tasks in column A with the responsible office or individuals in column B. Each item in column B may be used once, more than once, or not at all.

Column A

- ___ (1) Provide the necessary forces to complete the in-theater mission.
- ___ (2) Provide manpower and equipment to vehicle maintainers.
- ___ (3) Ensure logistics requirements of all other deploying forces are met.
- ___ (4) Determine vehicles suited for deployment.
- ___ (5) Deploy with sufficiently skilled personnel and equipment.
- ___ (6) Provide specific guidance to bases.
- ___ (7) Maintain WRM vehicles according to established guidance.

Column B

- a. Base vehicle management.
- b. MAJCOM.
- c. LRS planners.

4. Name the team that consists of fully qualified, mobile mechanics that complete contingency repairs.
5. Which list is predetermined with generic spare parts that deployable units must requisition, mark, and ship?
6. What are the three categories of battle-damaged vehicle repair during triage maintenance?

7. What is vehicle management's responsibility concerning WRM vehicles?
8. What is one of the methods to ensure your office implements the WRM program properly and complies with all the AF directives?

2-3. Fleet Management and Analysis

Welcome to the FM&A career field, the hub of vehicle management. Your position within vehicle management and the FM&A section is very important. How well you learn and do your job contributes to the success of both the AF and vehicle management mission. Your goal, at this time, is to become a well-rounded professional, both as an Airman and as an FM&A specialist. This section will introduce the functions and duties of FM&A.

016. Functions

FM&A is responsible for the efficient and economical operation and maintenance (O&M) of the entire base vehicle fleet. FM&A is the focal point for determining repairs and authorizing the employment of manpower and materiel through the work centers. Also, the focal point for the movement of vehicle and equipment to and from the work centers and for commercial contract repair activities. It is in FM&A that data collecting, production control, and analysis functions of the base vehicle fleet take place.

Your job knowledge, organizational skills, communication skills, and ability to plan and analyze a situation will be tested daily. As a production controller and analyst, you can make the difference between a smooth-running shop and that of a disoriented one. When scheduling work requirements, you must use good judgment and be flexible. When analyzing data, you must have a thorough understanding of the process and what you are trying to do. The remainder of this lesson includes information on career progression, general responsibilities, and various duties and functions within management and analysis.

Career progression

One of the many functions of FM&A Airmen is to learn how to progress within their AFSC. The AF has developed a training outline called the career field education and training plan (CFETP) for career progression. Your responsibility is to follow this outline and become the best at what you do. Adequate training and timely progression from the apprentice to the superintendent skill level play an important role in the AF's ability to complete its mission. You will notice that your duties will become increasingly challenging as you progress through each skill level and rank. Look at your specialty training standard to see the array of jobs within management and analysis.

In vehicle management, your duties will range from doing yard checks and running the control board to analyzing vehicle operations, maintenance data, and managing the base vehicle fleet. How well you progress and apply your training will determine your level of responsibility.

General responsibilities

FM&A plans, schedules, monitors, and analyzes the maintenance and operational requirements of the vehicle fleet. FM&A uses the FMIS Defense Property Accountability System (DPAS) to open and close work orders, load vehicle and employee data, charge parts to vehicles, update vehicle estimated service end dates (ESID), and account for the vehicle fleet. Using the FMIS program, FM&A gathers, updates, tracks, analyzes, and reports data to higher headquarters and local VFMs who use this information to make the best possible decisions affecting the vehicle fleet. FM&A conducts the necessary analysis of performance indicators and vehicle utilization and makes recommendations to

correct or improve performance, utilization and rotations, vehicle authorizations listing (VAL), and effectiveness of services. Other responsibilities are as follows:

1. Administers the vehicle control program (VCP).
2. Manage the assignment and allocation of the vehicle fleet.
3. Provide training for VCOs and conduct VCO meetings.

AFI 24-302 lists specific responsibilities.

017. Vehicle control program

The VCP is a very important part of any vehicle management program. Working as FM&A, you will administer this program and maintain liaison with base organizations. You will also provide training on vehicle management programs, develop schedules, and conduct specific studies.

Policy and guidance

DOD policy requires that government vehicle resources are organized and managed to ensure optimum responsiveness, efficiency, and economy in support of the DOD mission. To ensure day-to-day management of those vehicles permanently assigned to units and agencies, the AF has adopted the vehicle control program.

Public law directs the DOD and AF to maintain the minimum number of motor vehicles to complete the mission and limits their use to official purposes. All levels of management must put emphasis on controlling and conserving vehicle assets. Because users are responsible for the operation, conservation, and condition of their vehicles, each base organization with vehicles assigned on a permanent basis will have a vehicle control program. Unit commanders needing a VCP must appoint a VCO and vehicle control noncommissioned officers (VCNCO). Both the VCO and VCNCO are the unit's point of contact for organizational vehicle matters and at the same time, the liaison between their unit and the vehicle management flight.

VCO and VCNCO responsibilities

You must be aware of the following VCO and VCNCO responsibilities:

1. Act as the focal point for all government vehicle matters for the unit.
2. Control unit's vehicles and get transportation services required to meet mission needs.
3. Ensure operator care is completed, report vehicle malfunctions to vehicle management maintenance, and ensure delivery of vehicles to maintenance for repairs and scheduled services.
4. Prevent and investigate all incidences of abuse, misuse, accidents, and recommend corrective action to the commander.
5. Ensure only qualified and properly licensed personnel operate the equipment.
6. Receipt for permanently assigned unit vehicles from the base VFM and VMS or FM&A.
7. Procure supplies, tools, and equipment for unit vehicles, such as highway warning kits, first-aid kits, tire chains, polish, wax, jacks, lug wrenches, fire extinguishers, spare tires, etc., through unit supply channels—if these items came with the vehicle when first received, vehicle management must turn them over to the users.
8. Make sure the operator's inspection guide and trouble report are documented properly.
9. Conduct and document monthly operator safety briefings to stimulate safety consciousness.
10. Conduct and document monthly inspections to make sure vehicles are clean, serviceable, and that operators are performing inspections.

VCO and VCNCO training

When notified by appointment letter, the VCP schedules all new VCO and VCNCOs for required training before departure of the current VCO and VCNCO. The VCO documents all training and maintains a copy in the VCO guidebook.

When you are conducting training, the use of one-on-one type briefings is the preferred method. Consistency in presenting the training material is vital. Suggested items to cover during your training session are as follows:

1. Concept, policy, and duties of the VCO and VCNCO.
2. VCP duties and procedures.
3. Receipting of vehicles, vehicle control, and vehicle requirements.
4. POD.
5. VCO guidebook.
6. Vehicle authorizations and status.
7. Vehicle equipment add-ons and modification.
8. Vehicle analysis and rotation program.
9. Approved vehicle lesson plans/unit vehicle trainers.
10. Installation vehicle official use policy/vehicle idling policy.
11. Operator care.
12. Vehicle accident, abuse, and misuse program.

As the VCP, you establish guidebooks for each organization assigned vehicles on a permanent basis. Maintain current information less than one year old or having permanent value to the unit's program. Maintain a separate copy of the VCO guide for each organization.

Vehicle rotations

You must rotate vehicles when it is practical and economically feasible to help ensure they reach their programmed life expectancy. High-mileage vehicles should be rotated with low-mileage vehicles of the same type to prolong the life of the vehicle. For example, Deployment and Distribution has a pickup truck driven 50,000 miles over the past year and vehicle management has the same type of truck driven 20,000 miles over the past year; by rotating between these two flights, you have taken steps to prolong the life of the high-mileage vehicle. For underutilized vehicles, you must consider authorization deletions, changes, or rotations. When determining if rotation actions are necessary consider utilization data, mission requirements, and the cost of moving equipment.

Analyze FMIS data to determine how well the fleet compares to established AF and base mileage averages, as well as, other vehicle management objectives. *Do not include* GSA and other leased vehicles in your analysis. Document all analysis with recommendations, action taken, and include the rationale for action taken.

DOD Fleet Card

The DOD fleet card is used to obtain fuel and services from off-base commercial service stations outside of the using organization's POD. The Defense Logistics Agency (DLA) Energy is the program manager and provides policy oversight for the DOD card. The 441st Vehicle Support Chain Operations Squadron has been designated as the Air Force Component Program Manager (AFCPM). Vehicle Management is responsible for the administration of your DOD Fleet Card Program/account. FM&A must establish procedures with accountable officials (AO) (if not from an LRS Vehicle Management account) and card users. The AO will establish and maintain an online account with the credit card vendor. Your unit will develop local procedures that best fit the local mission.

Having fleet cards that numerous individuals use can prove to be a challenge. Because the fleet cards are vulnerable to misuse and pilferage, establish a filing and suspense system by using a control file to account for all credit cards. Your control file will contain, but is not limited to, receipt for on-hand credit cards, copies of documents certifying loss, investigation, destruction, turn-in, semiannual validation, and a credit card control register.

You can decide to use a locally developed control register or maintain your fleet card documentation electronically. At a minimum, this information will be divided into two parts, files or sections: 1) funding and transactions 2) card administration and management control. If a control register is not available, create one! As a minimum, the Funding and Transactions section of the fleet card will include but is not limited to the following:

- FY funding documents copies.
- Billing cycle transaction documents (vendor invoices, monthly purchase transaction reports).
- All purchase and other transaction receipts.

All billing cycle transactions documents must be maintained for six years, regardless of the account status. The card administration and management control section will include but is not limited to the following:

- Local program policies/procedures.
- Account position appointment forms, letters and training certificates.
- Card listings, to include: card number, profile, fuel LOA, etc.
- Card register/control log.
- File copies of card user statement of understanding (SOU).
- Card User training log.
- Documents, memorandums or statements certifying card loss, destruction, turn-in, completion of semiannual (twice a year) validation and any fraud, waste, and abuse investigation.

You should store unused cards in a suitable, locked container and report questionable purchases to the Unit Commander (or equivalent) APC, and AFCPM.

Funding procedures

Ensure established accounts have specific payment procedures with the host base and are paid directly to the authorized vendors. Once a quarter, you must provide the accounting liaison office (ALO) a projected estimate of nonfuel purchases you expect the fleet service cards to incur for the upcoming fiscal quarter. Complete this by using the AF Form 616, Fund Cite Authorization (FCA), and forwarding the original plus one copy to the ALO for approval, at the beginning of each fiscal quarter. The approved copy is authority to cite funds for purchases. Maintain a separate funding file for each account. The file should include copies of the AF Form 616, current quarterly funding documents, and requests for additional supplemental funds.

There are certain things that must be completed when the fleet service card is used. You must check all delivery receipts returned by customers for accuracy and correctness. You will retain all receipts until you receive the vendor's invoice. *Always* verify the invoice against the user's receipts—all the information and cost should match. Validate all entries and forward the invoice and receipts to the base comptroller for payment.

Disposition of the DOD fleet credit card

The vehicle management staff, or requisitioning agency, destroys all credit cards no longer required, authorized, or that have become unserviceable. Keep records of all destroyed credit cards and maintain them for one year after the expiration date of card. Make sure you notify the authorized vendor of all verified cases of lost or stolen cards.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

016. Functions

1. What is the AF training outline called?
2. Where can you find the list of specific responsibilities for FM&A?

017. Vehicle control program

1. What is DOD policy regarding government vehicles?
2. Why did the AF adopt the VCP?
3. Who on an installation will have a VCP?
4. Who appoints the VCO and VCNCO?
5. Who is the point of contact and liaison between their unit and the LGRV on vehicle matters?
6. When should VCOs and VCNCOs be scheduled for required training?
7. Why must vehicles be rotated?
8. What should you consider when determining if vehicles should be rotated?
9. What two parts/sections must be included for documenting of the Fleet Card?
10. What length of time *must* billing cycle transaction documents be maintained?

Answers to Self-Test Questions

009

1. Overall direction for base logistics processes related to vehicles, cargo movement, passenger movement, personal property, supplies, equipment, deployment planning and operations, fuels, and when appropriate, logistics plans.
2. OPS officer.
3. Squadron readiness section.
4. Provides oversight of the squadron programs and processes, resource management (facilities, budget, stock control and infrastructure), squadron analysis, systems management, strategic planning, metrics, and squadron training.
5. The operations compliance; the logistics manager is the director.
6. Resource management.
7. Functional systems management.
8. CCF.

010

1. Passenger movement element.
2. Dispatch operations, dispatch support, training/validation, and operator records and licensing.
3. Effective use of military taxi, UDI, pickup and delivery, and dispatch support vehicles.
4. Inbound, outbound, nontemporary storage, and QC.

011

1. Stocking, storing, issuing, managing, decentralized inventorying, and inspecting DOD supplies and equipment.
2. HTA.
3. Asset management, maintenance support, and the customer support section.
4. FSC.

012

1. To manage and maintain the installation's (wing) vehicle fleet.
2. Administration, MC, FM&A, CSC, and vehicle specific maintenance and repair sections.

013

1. Ensure quality petroleum products, cryogenics fluids, and missile propellants are acquired or produced and issued safely and efficiently to using organization.
2. Compliance and environmental.

014

1. AFI 24-302 and TO 36-1-191.
2. Facilities, staffing, types of vehicles, and mission requirements.
3. Maintain all vehicles displaying a valid USAF or AFEMS registration number and miscellaneous, nonregistered vehicles and equipment with a new replacement cost of over \$10,000 that do not directly support a weapon system.
4. Coordinate with the VFM or VMS to make sure parts, facilities, manpower, funds, etc. are available to support the equipment.
5. Load master records into FMIS; assess vehicle equivalents according to the information in the FMIS; and schedule all required PM&I, to include lubrication, oil changes, and other special inspections.
6. The using organization.
7. If the request to purchase the equipment was not coordinated with vehicle management before purchase.

8. Those that have been disposed of as uneconomically repairable and transferred to the DLA-DS privately owned and nonappropriated-fund motor vehicles (except NFS and CAP vehicles) and rented or leased vehicles.

015

1. Mobilize, deploy, receive, and sustain combat forces.
2. To have motor vehicles, manpower, tools, facilities, and shop equipment on hand to support it.
3.
 - (1) c.
 - (2) b.
 - (3) c.
 - (4) a.
 - (5) a.
 - (5) b.
 - (6) a.
4. QRMT.
5. TMSK.
6. Level A, immediately returnable to service with minimal/minor repair; level B, repairable in over 30 minutes, but less than four hours; and level C, need repairs that take over four hours or not repairable.
7. To make certain storage and maintenance of WRM vehicles are according to guidelines in prescribed instructions.
8. Develop a self-inspection checklist to assess your program and identify strengths and weaknesses.

016

1. CFETP.
2. AFI 24-302.

017

1. That government vehicle resources are organized and managed to ensure optimum responsiveness, efficiency, and economy in support of the DOD mission.
2. To ensure day-to-day management of those vehicles permanently assigned to units and agencies.
3. Each base organization with permanently assigned vehicles.
4. Unit commanders needing a VCP.
5. The unit VCO and VCNCO.
6. When notified by appointment letter and before departure of the current VCO and VCNCO.
7. To help ensure they reach their programmed life expectancy.
8. Utilization data, mission requirements, and the cost of moving equipment.
9. 1) Funding and transactions 2) card administration and management control.
10. Six years.

Complete the unit review exercises before going to the next unit.

Unit Review Exercises

Note to Student: Consider all choices carefully, select the *best* answer to each question, and *circle* the corresponding letter. When you have completed all unit review exercises, transfer your answers to the Field-Scoring Answer Sheet.

Do not return your answer sheet to AFCDA.

24. (009) Which section's process includes the duty of facilities manager?
 - a. Customer service.
 - b. Systems management.
 - c. Resource management.
 - d. Procedures and accountability.
25. (009) Who administers the logistics readiness squadron (LRS) unit awards program?
 - a. Commander.
 - b. Operations officer.
 - c. First sergeant (CCF).
 - d. Commander's support staff.
26. (010) Which logistics readiness squadron (LRS) flight is responsible for the centralized command and control, planning, and execution of *all* wing deployment operations and the distribution of cargo, passengers, and personal property?
 - a. Deployment and distribution (LGRD).
 - b. Materiel management (LGRM).
 - c. Vehicle management (LGRV).
 - d. Fuels management (LGRF).
27. (010) The logistics readiness squadron (LRS) *section* that provides management oversight of the wing's war reserve materiel (WRM) and support agreement program is
 - a. Distribution.
 - b. Personal property.
 - c. Plans and integration.
 - d. Small air terminal and passenger movement.
28. (010) Which logistics readiness squadron (LRS) *section* is responsible for providing official travel services for the movement of Department of Defense (DOD) personnel?
 - a. Small air terminal and passenger movement section fixed-MB.
 - b. Vehicle operations.
 - c. Personal property.
 - d. Distribution.
29. (010) Which individual or activity within the logistics readiness squadron (LRS) is responsible for the effective use of military taxi vehicles?
 - a. Taxi operator.
 - b. Ground transportation.
 - c. Operations supervision.
 - d. Vehicle operations manager.

30. (010) The section in the ground transportation element that is responsible for development and administration of commercial driver's license (CDL) training is
- dispatch support.
 - training/validation.
 - dispatch operations.
 - operator records and licensing.
31. (010) Which two sections make up the cargo movement *element*?
- Inbound and storage.
 - Outbound and storage.
 - Storage and aircraft parts store.
 - Cargo inbound and cargo outbound.
32. (010) Which personal property section *element* is responsible for authorizing the placement of personal property into storage?
- Inbound.
 - Outbound.
 - Quality control (QC).
 - Nontemporary storage.
33. (010) This personal property section *element* is responsible for extensions of personal property storage entitlements.
- Inbound.
 - Outbound.
 - Quality control (QC).
 - Nontemporary storage.
34. (010) Which personal property section *element* manages the government-owned container program?
- Inbound.
 - Outbound.
 - Quality control (QC).
 - Non-temporary storage.
35. (011) Which materiel management flight (LGRM) asset management section's *element* stores and issues weapon system spares?
- Central storage.
 - Hazardous material (HAZMAT).
 - Aircraft parts store.
 - Individual equipment.
36. (011) Which materiel management flight (LGRM) *element* is a *decentralized* center that *solely* supports flightline activities by establishing and managing supply points?
- Storage.
 - Cargo inbound.
 - Materiel management flight (LGRM).
 - Flight service center (FSC).
37. (012) Which logistic readiness squadron (LRS) flight provides safe and serviceable motor vehicles and vehicular equipment?
- Ground transportation.
 - Vehicle management (LGRV).
 - Fleet management operations.
 - Fleet management & analysis (FM&A).

38. (013) Which section in the fuels management flight (LGRF) is responsible for fuels distribution, storage, cryogenic, and propellant storage functions?
- Fuels operations.
 - Cryogenic production.
 - Compliance and environmental.
 - Fuels information service center.
39. (013) Which section in the fuels management flight (LGRF) is responsible for the laboratory analysis of fuel and cryogenic products?
- Fuels operations.
 - Cryogenic production.
 - Compliance and environmental.
 - Fuels information service center.
40. (014) Where can you find the *specific* duties and responsibilities of vehicle maintenance?
- Air Force Instruction (AFI) 24-101, *Passenger Movement*.
 - AFI 24-301, *Vehicle Operations*.
 - AFI 24-302, *Vehicle Management*.
 - AFPD 24-1, *Personnel Movement*.
41. (014) Which activity within the vehicle management (LGRV) flight is the *focal* point for *all* registered vehicle matters on an installation?
- Vehicle operations.
 - Operations supervision element.
 - Maintenance work center element.
 - Fleet management & analysis (FM&A) element.
42. (014) The *primary* responsibility of vehicle management (LGRV) is to maintain *all* vehicles that
- cost over \$10,000.
 - are assigned to the installation.
 - are nonappropriated fund (NAF) motor vehicles.
 - have a United States Air Force/Air Force Equipment Management System (USAF/AFEMS) registration number regardless of cost.
43. (014) What should an organization consider *first* when it is purchasing a piece of equipment that vehicle management (LGRV) has responsibility for?
- Purchase price.
 - Lifetime warranty.
 - Attachments required.
 - Maintenance agreement.
44. (014) What action does vehicle management take when assets require recurring maintenance?
- Inform the unit to purchase a contracted maintenance policy.
 - Load the records in the Automated Fleet Information System.
 - Load the records in the Registered Fleet Management System.
 - Load the records in the Fleet Management Information System (FMIS).
45. (015) Which statement *best* describes a base level vehicle management (LGRV) function that supports the United States Air Force War and Mobilization Plan (WMP)?
- Provide manning and training.
 - Develop mobility and contingency plans.
 - Determine suitable vehicles for deployment.
 - Develop the squadron annex to the base mobility plan.

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46. (015) An immediate, temporary repair of a battle-damaged vehicle during post-attack recovery operations in a contingency is called
- triage maintenance.
 - quick reaction maintenance (QRMT).
 - organizational maintenance.
 - post-attack vehicle operability (PAVO).
47. (015) A major command (MAJCOM) uses this publication to manage war reserve materiel (WRM) vehicle assets.
- Air Force Instruction (AFI) 25-101, *Air Force War Reserve Materiel (WRM)*.
 - AFI 25-201, *Intra-Service, Intra-Agency, and Inter-Agency Support Agreements Procedures*.
 - AFPD 25-1, *War Reserve Materiel*.
 - AFPD 25-3, *Allied Logistics Support*.
48. (015) Which activity develops specific storage concepts for vehicles identified against an operation plan (OPLAN) tasking?
- Vehicle fleet manager (VRM).
 - Logistics readiness squadron (LRS) commander.
 - Warner Robins Air Logistics Complex (WR-ALC).
 - Major command (MAJCOM).
49. (015) Regarding implementing a war reserve materiel (WRM) program in vehicle maintenance, on-scene repair is the goal of which maintenance concept?
- Minor.
 - Triage.
 - Organizational.
 - Expanded mobile.
50. (015) During wartime, which factor would *most* likely drive a lower level of serviceability in vehicle management (LGRV) compared to peacetime operations?
- Damage assessments.
 - Spare parts availability.
 - Skill level of personnel.
 - Operational speed of the vehicle.
51. (015) During wartime and contingency, who determines the safety and serviceability of a vehicle?
- Chief of transportation.
 - Vehicle fleet manager (VFM).
 - Senior maintenance technician.
 - Mechanic who performed repairs.
52. (016) The Air Force (AF) developed training outline used to show your career progression is called the
- specialty training plan.
 - Air Force specialty code (AFSC).
 - career specialty training standard.
 - career field education and training plan (CFETP).
53. (016) Which logistic readiness squadron (LRS) function plans, schedules, monitors, and analyzes the vehicle fleet maintenance and operational requirements?
- Vehicle fleet manager (VFM).
 - Vehicle operations supervision.
 - Operations management (O&M).
 - Fleet management and analysis (FM&A).

54. (017) Which of these directs the Air Force (AF) to maintain a *minimum* number of motor vehicles to accomplish the mission?
- a. Public law.
 - b. Executive order.
 - c. Department of Defense (DOD).
 - d. Transportation Directorate policy.
55. (017) One responsibility of the vehicle control officer/vehicle control noncommissioned officer (VCO/VCNCO) is to
- a. conduct monthly vehicle inspections.
 - b. ensure vehicles are repaired under warranty.
 - c. administer the vehicle control program (VCP).
 - d. perform Standard Base Supply System (SBSS) vehicle transactions.
56. (017) Who provides policy oversight for the Department of Defense (DOD) fleet credit card?
- a. Defense Logistics Agency (DLA) Energy.
 - b. General Services Administration (GSA).
 - c. Defense Fuels Center.
 - d. Base Fuels Flight.
57. (017) How often is the Air Force Form 616, Fund Cite Authorization, provided to the base comptroller to report the projected estimate of nonfuel purchases on the Department of Defense (DOD) fleet credit card?
- a. Once each quarter.
 - b. By 1 January each year.
 - c. By 1 October each year.
 - d. Upon receipt of a new vehicle.

Glossary of Abbreviations and Acronyms

ACS	agile combat support
ADPE	automated data processing equipment
AEF	air and space expeditionary force
AF	Air Force
AFCPM	Air Force Component Program Manager
AFEMS	Air Force Equipment Management System
AFI	Air Force instruction
AFMAN	Air Force manual
AFMC	Air Force Materiel Command
AFOSH	Air Force Occupational Safety and Health
AFSC	Air Force specialty code
ALO	accounting liaison office
AO	accountable official
APS	aircraft parts store
AT	allied trade
ATV	all-terrain vehicle
AWP	awaiting parts management
BES	bioenvironmental section
BPA	blanket purchase agreement
CAP	Civil Air Patrol
CAS	Chemical Abstracts Service
CCF	first sergeant
CDC	career development course
CDF	cargo deployment function
CDL	commercial driver's license
CE	civil engineering
CFETP	career field education and training plan
CFR	Code of Federal Regulations
CSC	customer service center
DCC	deployment control center
DDT	dichloro-diphenyl-trichloroethane
DIFM	due-in from maintenance
DLA	Defense Logistics Agency
DLADS	Defense Logistics Agency Disposition Service

DMS	decentralized materiel support
DOC	designed operational capability
DOD	Department of Defense
DPAS	Defense Property Accountability System
EAID	equipment authorization inventory data
EPA	Environmental Protection Agency
ESED	estimated service end date
ETIC	estimated time in commission
FM&A	fleet management & analysis
FMIS	Fleet Management Information System
FSC	flight service center
FTM	fire truck maintenance
GPC	government purchase card
GSA	General Services Administration
HAZCOM	hazard communication
HAZMAT	hazardous material
HAZWOPER	hazardous waste operations and emergency response
HTA	hazardous material tracking activity
IDO	installation deployment officer
IDP	installation deployment plan
IDRC	installation deployment readiness cell
IEE	individual equipment element
IG	inspector general
LAN	local area network
LGRD	deployment and distribution flight
LGRF	fuels management flight
LGRM	materiel management flight
LGRV	vehicle management flight
LIMS-EV	Logistics Installation and Mission Support Enterprise View
LRS	logistics readiness squadron
MAJCOM	major command
MC	mission capable/materiel control
MEK	methyl ethyl-ketone
MHE	materiel-handling equipment
MISCAP	mission capability
NCO	noncommissioned officer

NCOIC	noncommissioned officer in charge
NFS	National Forest Service
NMCM	nonmission capable maintenance
NMCS	nonmission capable supply
O&M	operation and maintenance
OC	operations compliance
OGMVC	other government motor vehicle conveyance
OJT	on-the-job training
OPLAN	operation plan
OPS	operations
OSHA	Occupational Safety and Health Administration
PAVO	post-attack vehicle operability
PCS	permanent change of station
PDF	personnel deployment function
PM&I	preventative maintenance and inspection
POD	permissible operating distance
POV	privately owned vehicle
PPE	personal protective equipment
psi	pounds per square inch
QA	quality assurance
QC	quality control
QDR	quality deficiency report
QRMT	quick reaction maintenance team
RCC	reception control center
RCRA	Resource Conservation and Recovery Act
RDO	vehicle redistribution list
RFM	refueling maintenance
RHINO	Readiness Honed IN Operations
RM	resource management
RSP	readiness spares package
SDS	safety data sheet
SOU	statement of understanding
TDY	temporary duty
TMSK	temporary mission support kit
TO	technical order
TPFDD	time-phased force and deployment data

TRN	turn-around
UCMJ	Uniform Code of Military Justice
UDI	you-drive-it
UDM	unit deployment manager
UMD	unit manning document
UNICOR	UNIQUE Corporation
USAF	United States Air Force
UTC	unit type code
VAL	vehicle authorizations listing
VCNCO	vehicle control noncommissioned officer
VCO	vehicle control officer
VCP	vehicle control program
VFM	vehicle fleet manager
VMS	vehicle management superintendent
WCDO	war consumables and distribution objective
WMP	War and Mobilization Plan
WR-ALC	Warner Robins Air Logistics Complex
WRM	war reserve materiel
WRMO	war reserve materiel officer

Student Notes

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