

CDC 2T357

Fleet Management and Analysis Journeyman

Volume 2. Fleet Management



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THIS SECOND VOLUME of CDC 2T357 will give you an overview of the different vehicle programs and procedures that you will manage in your day-to-day job.

Unit 1 covers contract programs, vehicle rental and lease, vehicle modifications, equipment add-ons, cannibalization procedures, accident and abuse program, how to prepare budget inputs and manning requirements, base-level maintenance, and procedures for depot-level maintenance.

Unit 2 covers preventive maintenance and inspections (PM&I), mileage estimator concept, time compliance technical orders (TCTO)/service bulletins/manufacturer recall, one-time inspection programs, the limited technical inspection (LTI), corrosion control, and vehicle storage.

Unit 3 covers the warranty and deficiency reporting programs.

The information in this course is general in nature and not meant as a detailed guideline for use in your various duties and tasks.

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.

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

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344th Training Squadron

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Thanks!

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.

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Unit 1. Vehicle Management Programs and Procedures

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THE SUCCESS OF THE mission depends in large measure on vehicle maintenance's ability to provide safe and serviceable vehicles when needed. Without ground and in-flight refueling equipment and personnel, aircraft would not fly; likewise, without materiel-handling equipment (MHE), trucks, and their respective personnel, supplies would not be delivered. As vehicle managers and maintainers, you also have an obligation to taxpayers and that includes using your resources well. Topics covered in this unit include contracting and vehicle rental programs, vehicle modifications, accident and abuse procedures, budget and manning requirements, and base- and depot-level maintenance responsibilities.

1-1. Managing Vehicle Programs

Fundamental to a good production controller and analyst is a thorough understanding of the different policies, procedures, and concepts that guide every vehicle fleet and govern the maintenance activity. It is through the understanding of these policies and concepts that the process is improved; without them, many predicaments result. Further, management alone cannot improve a shop; you must take part in the process by complying with existing policies. When certain policies and procedures become counterproductive, management must be informed.

201. Available contract programs

Although base-level vehicle maintenance is manned and equipped for complete in-house repair capability, no shop is 100 percent self-sufficient. What do you do when needed repairs exceed your shop's capability? Consider contracting the repairs. However, keep in mind that contract maintenance is *not* meant as a permanent solution to problems resulting from lack of training, tools, or equipment; insufficient manning; inadequate facilities; and so forth. Tasks infrequently performed, such as machine shop work, may be more cost effective to contract than purchasing the equipment and training. Exercise good judgment when using contract maintenance; their excessive and unjustified assistance negatively impacts manning and wastes scarce resources. Remember, you are a steward of taxpayers' money; manage your resources well. When using any contract programs, make a concerted effort to find the best available price for quality maintenance and parts.

Individual contract

The time to pursue contract services is when a vehicle needs repair and capability or cost effectiveness precludes performing the job in-house. You need two documents to pursue contract maintenance. First, there must be a valid contract work order. Minor maintenance work orders are *not* valid for documenting contract maintenance. Second, there must be an authorization such as an approved contract request like an Air Force (AF) Information Management Tool (IMT) 9, Request for Purchase (fig. 1-1), or approval to use the government purchase card (GPC), or a blanket purchase agreement (BPA). The AF IMT 9 may be found by searching for "AF9" in the AF e-publications.

REQUEST FOR PURCHASE				NO. F9TRSS57229100	
INSTALLATION Port Hueneme CA 93043				DATE 20110817	
TO: CONTRACTING OFFICER Local contracting squadron				CLASS	
THROUGH: Squadron Resource Advisor				CONTRACT, PURCHASE ORDER OR DELIVERY ORDER NO.	
FROM: (Insert RC/CC, if applicable) 344 TRS, Det 1					
IT IS REQUESTED THAT THE SUPPLIES AND SERVICES ENUMERATED BELOW AND IN THE ATTACHED LIST, BE					
PURCHASED FOR 344 TRS, Det 1		FOR DELIVERY TO Bldg 1455		NOT LATER THAN 20110831	
ITEM	DESCRIPTION OF MATERIAL OR SERVICES TO BE PURCHASED	QUANTITY	UNIT	ESTIMATED UNIT PRICE	ESTIMATED TOTAL COST
	SERVICES NON-PERSONAL: FURNISH ALL LABOR, PARTS, MATERIAL, FACILITIES, AND TRANSPORTATION TO INCLUDE TEARDOWN, INSPECT, AND QUOTE/REPAIR 11B01234, BB 44 PASSENGER BUS, NSN 2310010370392 REPAIRS REQUIREMENT/CONTRACT REPAIR 1. SANDBLAST OUTSIDE OF BUS 2. PAINT TOP OF BUS WHITE (FED STND 15045) 3. PAINT REMAINDER OF OUTSIDE BLUE (FED STND 15045) 4. REFURBISH FLOORS 5. REUPHOLSTER SEATS AS NEEDED SUGGESTED SOURCE:	1	EA	\$1,500.00	\$1,500.00
TOTAL					
PURPOSE RC/CC NUMBER					
DATE	TYPED NAME AND GRADE OF REQUESTING OFFICIAL		SIGNATURE		
20110817			TELEPHONE NO.		
DATE	TYPED NAME AND GRADE OF APPROVING OFFICIAL		SIGNATURE		
I certify that the supplies and services listed above and in the attached list are properly chargeable to the following allotments, the available balances of which are sufficient to cover the cost thereof, and funds have been committed.					
ACCOUNTING CLASSIFICATION				AMOUNT \$1,500.00	
DATE	TYPED NAME AND GRADE OF CERTIFYING OFFICIAL		SIGNATURE		

AF IMT 9, 19770301, V2

Figure 1-1. Sample, AF IMT 9, Request for Purchase.

Local purchase of supplies

The Federal Acquisition Regulation (FAR), Part 13, *Simplified Acquisition Procedures*, provides for other sources of supply that organizations may be able to use. These sources do not replace the AF supply system but rather supplements it. As with an individual contract, you need certain documents to pursue local purchase of parts and supplies. As specified previously, there must first be a valid work order. Second, there must be an approved parts request, such as an AF IMT 9, or approval to use the GPC or BPA. When used properly, these sources can be very efficient and cost effective.

AF IMT 9

Submit an AF IMT 9 to the contracting squadron to initiate the contracting process when local purchase support is required and does not meet the criteria for the GPC or BPA. It is important to describe the exact requirement in the purchase request (using an item description for supplies, a performance work statement for services, or specifications and drawings for construction). In addition, you need to provide the following:

- The date required.
- A suggested source for the requirement.
- The appropriate approved fund cite authorization.

Blanket purchase agreements

A BPA is beneficial because it is a simplified way of filling repetitive requirements for supplies and services. Further, it is designed to reduce administrative costs for small purchases by eliminating the need for issuing individual purchase documents; hence, the term “blanket” purchase agreement. Finally, it is an internal decision so you do not need a purchase requisition or accounting and appropriation data.

Government purchase card

Since the 1940s, the federal government has used various methods to accommodate small purchases of goods required by field employees. The problem was that the methods, such as the forms we have already discussed, were not widely accepted by merchants because of the time involved for the merchants to receive payment. This naturally limited the number of alternative procurement sources. Consequently, the government developed the GPC program as a process to mirror the accepted business practices on the commercial market in both obtaining the item and paying the vendor. As the name implies, Air Force Instruction (AFI) 64-117, *Government Purchase Card Program*, governs the use of the GPC by those AF personnel whose specific duties require them to use the card in procuring appropriate and necessary items for their organizations. When making a purchase in person or over the phone, inform the vendor that it is for official United States (US) government purposes and therefore is not subject to state or local sales tax.

Objective

In the constant pursuit to improve support and efficiency of operations, the objective of a credit card program is to simplify small purchases, minimize paperwork, and improve cash management and internal controls.

Policies and regulations

The policies and regulations that govern commercial credit cards are the same for GPC. The cardholder is authorized to make small purchases under an established delegation of authority, and any vendor who accepts other credit cards accepts the GPC.

202. Vehicle rental and lease program

There are several conditions when it is more efficient and economical for you to rent a vehicle. Keep in mind that you must always use your fleet to the maximum extent possible first; however, there are times when you require vehicles for one-time requirements. Normally, you rent vehicles for special

events like conferences, contingency operations, and distinguished visitors. In addition, you may occasionally use vehicle rentals to fill an authorization until completion of vehicle procurement. In order to protect the resources of the AF, vehicle managers follow established procedures that facilitate the vehicle rental process.

Vehicle rental and lease

The Department of Defense (DOD) and its components must meet certain conditions before they can rent or lease a vehicle. As a minimum, a shortage of vehicles must exist; you can only establish a vehicle shortage after you have used all available vehicle assets. This includes the older vehicles in the fleet. Keep in mind that when vehicles are *older*, it does not mean they have a limited use. If the whole fleet within the unit is used and there is an additional need for a vehicle or vehicles, then you have established a shortage. Before considering renting or leasing a vehicle, try to recall lower-priority vehicles from other units or request vehicle support from nearby bases. If vehicle support is unavailable through these resources, consider renting or leasing. However, the following conditions must exist:

- The rental or lease must result in a cost benefit to the government.
- Before you can obtain vehicles through an annual procurement program, unforeseen requirements must have developed and be satisfied.
- Local laws or status of forces agreements prevent using government-owned vehicles. In this instance, a shortage of government vehicles is not a required condition.
- You are unable to fill valid vehicle authorizations with assets provided through normal acquisition procedures or resources.

Short term

Logistics readiness squadron (LRS) commanders can rent or lease vehicles for periods up to 120 days without regard to established allowances or authorizations. Commanders use this authority to satisfy peak workloads and unusual or emergency requirements. However, the commander cannot use this authority to provide transportation for normal, routine purposes that already have established authorizations with vehicles provided that are on hand and serviceable. You are able to use short-term leases to satisfy emergency requirements pending receipt of long-term lease approval. When rental or lease of vehicles exceeds 60 days, request written support from the 441st Vehicle Support Chain Operations Squadron (VSCOS). Fleet management & analysis (FM&A) will identify the vehicle type, quantity, and duration of the lease

NOTE: When guidance allows, the two methods permitted to lease or rent vehicles include an AF IMT 9 or GPC.

Long term

As a rule, you should lease for periods over 120 days only to fill approved accountable vehicle authorizations. Do this only when assets are unavailable through normal acquisition procedures or when long-term leasing results in an economic benefit to the government. Leased assets must be the same type and class as the authorization to which they are assigned. When the appropriate-size vehicle is not available through General Services Administration (GSA) or a local vendor to fill an approved lease authorization, a smaller or larger class (not to exceed a class restriction) vehicle may be temporarily substituted as long as there is no additional cost to the government and approved by the 441 VSCOS. A nonavailability statement must be obtained from the leasing agency and kept on file to support the unauthorized class vehicle being provided. FM&A reviews and validates all vehicle lease requests and forwards an AF IMT 601, Equipment Action Request, to the 441 VSCOS for processing and final approval.

Execute leases with operations and maintenance (O&M) funds but do not procure vehicles with these funds. LRS will determine where the funding origination stream lies to pay for lease vehicles (e.g., either unit or logistic [LOG] panel). The 441 VSCOS can provide assistance with funding source determination as requested.

203. Vehicle modification and equipment add-on and parts cannibalization

This lesson covers vehicle modification/equipment add-on and parts cannibalization, which are two programs that help vehicle managers maintain the vehicle fleet and expedite vehicle repairs. Proper management will enable better support for base customers and help prevent fraud, waste, and abuse (FWA).

Vehicle modification

A change in the configuration of the basic vehicle from its originally intended purpose is a *modification*. A change in configuration is made only when the need cannot be met any other way. FM&A first submits requests to the 441 VSCOS, which then sends proposals to Robins Air Force Base (AFB) before starting any modification on controlled vehicles. The integrated product team (IPT) reviews proposals for modification to determine acceptability and, if approved, who is to perform the work. The IPT assures that the configuration changes to special-mounted equipment are documented in appropriate technical data and that necessary adjustments are made to logistics support plans.

NOTE: Permanent local modifications to special-mounted equipment are not usually approved unless required to correct isolated problems. Route modification request for the 60K and 25K Aircraft Cargo Loaders through 441 VSCOS to AMC/A4R for coordination/approval with the Tunner/Halvorsen System Program Office.

The Air Force Materiel Command (AFMC) controls the following types of vehicles and must approve any modifications before they can be accomplished:

- 463L MHE.
- M-series tactical vehicles.
- Aircraft refuelers.
- Crash fire rescue vehicles.
- High-reach trucks or cranes.
- Aircraft and ground support equipment tow tractors.
- Compressed gas services equipment.
- Special aircraft and missile cranes.
- United States Air Force (USAF) management code W-series.
- Munitions MHE.

Equipment add-on

Adding special equipment or a commercial optional part or accessory to meet certain operational needs is not considered a modification if the vehicle is still used for its original purpose. The following are examples of unit-funded equipment items:

- Air conditioners.
- Camper shells.
- Hydraulic tailgate lifts.
- Cargo covers.
- Cargo bed liners.

- Beacon lights.
- Two-way radios.

The using organizations budget for the initial purchase and replacement of such items. The requesting activities send written change justification to vehicle management, which determines mechanical and structural feasibility. If approved, and when workload and resources permit, vehicle management installs these items in compliance with established safety standards. The vehicle fleet manager/vehicle manager superintendent (VFM/VMS) must approve of the add-on equipment.

NOTE: The using organization provides necessary funds for the installation of these items at the time of purchase. Likewise, the using organization funds for damages from installation of such items if/when the vehicle is identified for rotation/redistribution. Additionally, add-on equipment is retained by the original organization and the vehicle must be reverted into original configuration if the vehicle is rotated/shipped at the unit's cost.

Cannibalization

Cannibalization is the process of taking a serviceable part from one vehicle remaining within the fleet and installing it on another vehicle that immediately needs to return to service. Cannibalize only when the deadline of a vehicle seriously affects the users' mission or to meet wartime goals. The VFM/VMS approves most cannibalizations. Cannibalization of major components or assemblies from critical assets awaiting disposition requires the 441 VSCOS approval.

It is important to properly assess the cost of cannibalization to the correct vehicle. As a rule, the labor cost of removing and installing the cannibalized part goes to the vehicle returned to service. The cost of the replacement part and the labor to install it goes to the cannibalized vehicle with the exception of a vehicle belonging to a reimbursable organization. If the cannibalized vehicle belongs to a reimbursable organization, *all* costs are charged to the vehicle returned to service.

There are certain procedures used for processing and documenting the AF IMT 1832, Record of Cannibalization (fig. 1-2). While this form is not available on the AF's e-publications website, it is used extensively within each LRS throughout the AF.

- With the work center supervisor's assistance, materiel control initiates the AF IMT 1832 when cannibalization becomes necessary. The supervisor makes the entries for the parts identification, with materiel control completing the section marked ACTION BY MATERIEL CONTROL, then forwards it to FM&A.
- If cannibalization is necessary, workload control completes the section marked ACTION BY MAINTENANCE CONTROL and forwards it to the VFM/VMS for approval.
- If approved, the shop *then* proceeds with the cannibalization. If disapproved, destroy the AF IMT 1832 and procure the part through other sources as appropriate.
- Attach a copy to each work order of both the cannibalized and the receiving vehicle. Ensure the cannibalized part is on order through materiel control. If the cannibalized part is not going to be replaced, a copy of the AF IMT 1832 is filed in the cannibalized vehicle's record jacket. When cannibalizing a part from a vehicle going to Defense Logistics Agency-Disposition Services (DLA-DS), update the Air Force Technical Order (AFTO) Form 91, Limited Technical Inspection-Motor Vehicles, as appropriate. File all other copies in the administrative file in FM&A for quarterly analysis or as directed, after which they may be destroyed.

RECORD OF CANNIBALIZATION (Vehicle Maintenance)		DATE
STOCK NUMBER 2540012030183	DESCRIPTION Belt, Vehicular Safety	QUANTITY 1
		PRICE \$25.00
I. ACTION BY MATERIEL CONTROL		
REQUEST PART FOR VEHICLE DESCRIBED BELOW.		
TYPE/MODEL HMMWV	REGISTRATION NUMBER 03L00314	WORK ORDER NUMBER F1420
REQUESTER (Name and Organization)		VOUCHER NUMBER OF REQUISITION
SERVICEABLE LIKE ITEM OR ONE THAT CAN BE REPAIRED WILL NOT BE AVAILABLE UNTIL		TIME 16:00
		DATE 20200803
I have conducted a search of all base resources. If a part is required sooner than time and date specified, cannibalization is recommended.		
DATE 20200729	SIGNATURE OF MATERIEL CONTROL NCOIC	
II. ACTION BY MAINTENANCE CONTROL, ANALYSIS		
SERVICEABLE PART IS REQUIRED BY		TIME 9:00
		DATE 20200729
REMOVAL AND REINSTALLATION OF PART ON ABOVE VEHICLE WILL REQUIRE		MAN-HOURS 1.0
		CLOCK HOURS 1.0
RECOMMEND PART BE CANNIBALIZED FROM VEHICLE DESCRIBED BELOW.		
TYPE/MODEL HMMWV	REGISTRATION NUMBER 03L00318	STATUS (Check appropriate box)
		<input type="checkbox"/> VDM <input checked="" type="checkbox"/> VDP
		<input type="checkbox"/> DEFERRED (Give work order no.)
DATE 20200729	SIGNATURE OF MAINTENANCE CONTROL, ANALYSIS SUPERVISOR	
III. AUTHORIZATION		
(Send this form to Materiel Control to have part ordered after signing.)		
I AUTHORIZE THE CANNIBALIZATION OF THE ABOVE PART.		
DATE 20200729	SIGNATURE OF MAINTENANCE OFFICER OR SUPERINTENDANT	
IV. ACTION BY MAINTENANCE CONTROL, ANALYSIS SECTION		
TIME 8:30 A.M.	DATE 20200729	SIGNATURE
V. ACTION BY MATERIEL CONTROL SECTION		
TIME 9:00 A.M.	DATE 20200729	SIGNATURE
REMARKS		

AF IMT 1832, 19791201, V1

PREVIOUS EDITION WILL BE USED.

Figure 1-2. Sample, AF IMT 1832, Record of Cannibalization.

Reclamation

After a vehicle has been approved for transfer to DLA-DS (salvaged) and FM&A has received the action letter, the vehicle may be retained for reclamation purposes. The 441 VSCOS establishes

policy regarding retention of DLA-DS-bound vehicles for the purpose of parts reclamation or for training purposes.

Reclamation is the process of recovering serviceable parts from vehicles being retired from service and turned in for salvage. Reclamation may be performed to any extent necessary before final processing of a vehicle to DLA-DS. No more than two like vehicles (same management code, make, model, and year) are retained for retention at the same time. Before transferring the vehicle to DLA-DS, the using organization, together with FM&A, should conduct an inspection and remove all specialized equipment needed for future use. Storage and accountability of this equipment is the responsibility of the using organization. All parts assemblies and other items reclaimed from vehicles going to DLA-DS must meet an immediate or projected need based on previous consumption and stock position. Update the limited technical inspection (LTI) to reflect all parts removed during the reclamation process.

Vehicle managers, supervisors, and FM&A must continually monitor the reclamation of parts to ensure that parts with a foreseeable need are not turned in for disposal and to reduce the potential for FWA. However, they should also be careful that a shop does not turn into a “junkyard” operation. Vehicles will not be retained longer than 90 days after receipt of disposal instructions. If any special condition exists which warrants a longer retention timeframe, a 90-day retention limit waiver will be submitted from the 441 VSCOS. Reclaimed items must be clean, identified, inventoried, and properly stored as work order residue.

A local computerized listing may be developed for easier identification and tracking. As a minimum, identify these parts by part number or stock number, vehicle make, model, year it is applicable to, quantity, location, and date last inspected. Evaluate parts in work order residue at least once a year to determine its future use.

204. Accident and abuse procedures

All AF personnel have a responsibility to safeguard our resources. In fact, the number of accidents and abuses of government property is an indicator of the state of morale and discipline in a particular organization. More importantly, such an organization wastes money, time, and effort, all of which the AF cannot afford. The LRS commander establishes local reporting procedures, which must be fully supported by all commanders on an AFB to be completely effective.

Accidents

An accident may be defined as an “unfortunate event resulting especially from carelessness or ignorance.” Statistics show that most accidents are caused by unsafe acts and are therefore preventable.

NOTE: The vehicle operator involved in an accident must report the accident to the proper authorities (i.e., security forces, supervisor, or commander) before turning the vehicle in to vehicle management. Additionally, accident reporting for GSA-leased vehicles and commercial rental/leases must be in accordance with (IAW) the leasing/rental agency instructions or GSA policy.

When a vehicle is involved in an accident, the following procedures apply:

1. Do not accept a vehicle involved in an accident unless it has first been reported to proper authorities, as mentioned previously.
2. Upon turn-in to vehicle management, a qualified technician estimates damages. Initiate an accident estimate work order with “Accident Estimate” in the description field in FMIS reflecting *only* the repairs attributable to the accident. The estimate work order remains open until you are ready to open an actual accident repair work order.
3. Vehicle management notifies the commander and vehicle control officer (VCO) of the unit involved, along with base legal, finance, and safety offices (usually by form letter or as applicable).

4. The unit commander of the vehicle involved appoints an individual to complete the investigation (i.e., photographs, statements from witnesses, accident reports, etc.) if needed. Vehicle management repairs the accident damage after a predetermined period, unless otherwise notified by the using organization. If an investigation occurs, the investigating official usually releases the vehicle for repair once the investigation is complete.
5. When released for repair, close the accident estimate work order in FMIS and initiate an accident *repair* work order with “Accident Actual” in the description field in FMIS using the same job entries from the estimate work order. Repairs not associated with the accident must be on a separate work order.

Abuse

Abuse may be defined as “improper or excessive use or treatment; to use or treat so as to injure or damage.” Vehicle management defines it as a deliberate act or omission that has caused or may cause damage to a vehicle. Examples of vehicle abuse include the following:

- Poked holes on the dashboard.
- Kicked interior or exterior panels.
- Cigarette burn holes in the upholstery.
- Servicing with the wrong fuel (e.g., diesel for gas or vice-versa).
- Unjustified failure to turn-in vehicles for scheduled maintenance.
- Failure to perform operator care (e.g., washing the vehicle when needed, operating the vehicle with insufficient oil or coolant, etc.).
- Unreported accidents or any damage that you cannot attribute to fair wear and tear.
- Failure to distribute or tie-down the load over the cargo area properly.
- Operating the vehicle with tires excessively worn beyond serviceable limits.

The VFM/VMS implements local procedures to identify, report, correct, and prevent vehicle abuse. The procedures for processing abuses are the same as the steps under “Accidents” previously discussed, except that the estimate work order will reflect “Abuse Estimate” and the repair work order will reflect “Abuse Actual” in the description field in the FMIS-generated work order.

NOTE: Using organizations fund repairs resulting from vehicle accidents and abuse. All vehicle management O&M funds expended for vehicle accident and abuse repair costs, including contract cost, will be reimbursed to vehicle management by the owning organization, or the organization responsible for the damage, if not the owner.

Incidents

A vehicle incident is damage to a vehicle or equipment not attributable to accident or abuse. It is also classified as damages caused by acts of nature, natural disasters, mechanical failures, or other phenomenon that cannot be avoided by safe operation or adequate vehicle care while not in use. In some instances, it may include damages resulting from normal use for the vehicle’s intended purpose (e.g., snow removal or heavy construction work). It is recommended that using organizations furnish a written statement, fully explaining the incident, to vehicle maintenance before starting repairs. However, using organizations are not required to reimburse for damages caused by incidents.

NOTE: Wind damage to vehicle doors is not an act of nature.

205. Preparing budget and manning requirements

Two challenging tasks for leadership in the career field are to obtain funding and staffing with qualified and experienced personnel. Controlling your organization’s financial affairs requires a budget, and creating one is a critical step in obtaining funding. Budgeting and tracking your expenses gives you a strong sense of what funding is needed to support your mission. In addition, your shop

needs sufficient manning to sustain its capability. Therefore, preparing a budget and determining manning requirements are significant concerns.

Budgeting and financial planning

So, what is financial planning? It is the process of allocating funds towards competing needs, taking into account your income and goal. Based on this definition, you can tell that there are three key elements of a financial plan—expenses, income, and goals. In a personal sense, you can do two things if your expenses exceed your income—increase your income or cut your expenses. In vehicle maintenance, you can only do the latter. Our goal is to keep the vehicle fleet in good repair. In order to do that, we must have funds to purchase parts, tools, supplies, and so forth. Each base's comptroller squadron allocates funds to every organization and requires the use of different areas of spending called *element of expense/investment codes* (EEIC). These EEICs in vehicle maintenance include contract maintenance, contract parts, base supply, temporary duty (TDY), equipment, and so forth.

History of expenses

Your first step in preparing a financial plan is to find out how much you spent last year in each EEIC. List those expenses. You can find your history of expenses in your responsibility center/cost center (RC/CC) manager's report. The RC/CC manager's report is provided by the comptroller squadron and lists all expenditures for your cost center by EEIC. This report is available to you through your budget monitor.

Determine areas requiring support

Once you find out your prior year expenses, the second step is to ask yourself whether you are going to spend money on those areas again. If not, eliminate them. If there are new areas where you need to spend, add them. Third, find out if there are upcoming items or projects that you may need to support or that may impact the fleet.

Estimate expenses

The fourth step in your financial planning process is to estimate your expenses honestly and accurately. To do this, use your shop's FMIS products, supply listings, and other source documents that you may have. If necessary, call vendors for the actual price of items. Do not use inflation to boost your estimates. You must be prepared to justify any estimate you develop.

Justify financial plan

Finally, you must provide written justifications for your financial plan. The justification must include why the funding is necessary, the amount of funding, each specific area to be funded, and the consequences internally and externally if funding is not provided. A good justification can make a difference in getting more of the funds you need.

When your budget estimates exceed the projected funds allocation (income) for your organization, you may have to cut your expense projections. Is there a more sensible way of cutting expenses other than arbitrarily reducing the numbers? Be sensible in cutting expenses. Prioritize your needs and cut accordingly. If you have a legitimate need for additional funds, document it by establishing an unfunded requirement. A narrative justification must accompany unfunded requirements to explain the impact it creates to your mission if the funds do not become available. The importance of this is for management to know where to allocate the money should it become available. It can also explain productivity shortfalls if the need arises.

As with any other resource, control your funds. Otherwise, you will run out of money before the year is over. Controlling the vehicle maintenance budget is the responsibility of the VFM/VMS, but you play a very critical role. One way of controlling expenses is daily monitoring of contract and supply funds. When you reach a predesignated percentage of the quarterly programmed funds, inform the

VFM/VMS. Other ways of controlling expenses include challenging high-priced items, taking full advantage of warranties, and doing the job right the first time.

Manpower and personnel

Two of the biggest factors affecting productivity are manpower and personnel. Although directly related, and some people may use it interchangeably, there is a distinct difference between the two. Your job as an Air Force Specialty Code (AFSC) 2T3X7, Fleet Management and Analysis Journeyman, is a manpower requirement. In order to accomplish the mission of repairing vehicles, you must have mechanics, workload controllers, supervisors, and so on. These are jobs or positions that some call “spaces.” *Manpower* is the total number of jobs or positions required to accomplish a particular mission. *Personnel* are the “faces,” people like you who are hired to do a particular job. When jobs are eliminated, the need for personnel will eventually be eliminated as well. Since jobs are the basis for hiring personnel, how then do we determine manpower requirements?

There are different Air Force manpower standards (AFMS) that apply for different functions. In vehicle management, “VE” reflected in the vehicle master list as the main programming factor for determining manpower requirements. VE is a numerical value assigned to a vehicle based on its maintenance complexity. For example, a sedan may be assigned a VE of 1.0, while a fire truck may have a VE of 15.0. Every time you load a vehicle in the system, you need to assess the accurate VE. The AF Vehicle Equivalent List, located on the AF Vehicle Management Neighborhood, lists the VEs for vehicles in every management code category. These are the basic VEs. Vehicles come with different options and equipment that earn additional equivalents. Consider this when you assign a VE in the master record. For example, a compact sedan comes in with factory air conditioning. The basic vehicle is assigned a 1.0 equivalent. The FMIS lists an equivalent for air conditioning as plus 0.1. Add 0.1 to the base equivalent of 1.0 for a VE of 1.1 on that particular vehicle. Additional VEs can be found on the AF Vehicle Management Neighborhood, AF Vehicle Equivalent List, under the “Add-ons” tab. The VFM/VMS assigns a VE for any attachment not listed in the AF Vehicle Equipment List. If you add an equipment or attachment to a vehicle, make sure that you also add the appropriate equivalents in the master records. On the other hand, if you remove an added equipment or attachment for which additional VEs were credited, you also need to reduce the VE in the master record accordingly. It is highly recommended that you institute an annual VE revalidation program if you do not currently have one. This ensures accurate management of your assigned VEs. Use the AF Vehicle Equivalent List in conjunction to a vehicle’s preventive maintenance and inspection (PM&I) or condition inspection, to aid your annual VE revalidation.

Other factors affecting manpower authorizations are called *variances*, which impact manpower authorizations either positively or negatively. A positive variance compensates for the additional workload generated due to operational environment, mission, or technical requirements of the law. A negative variance decreases your “normal” manpower authorizations because others perform some of your workload. Another variance affecting manpower authorizations is the man-hour availability factor (MAF). Simply stated, MAF is the amount of time that an individual is normally available to do the tasks identified in the AFMS. Normally, this is based on an eight-hour day multiplied by the average number of working days in a month. Currently, the normal MAF is 160.7 hours per month. In some overseas locations, the MAF factor may be slightly higher or lower. In locations where the MAF is lower than 160.7, this variance will be positive; in locations where the MAF is higher than 160.7, this variance will be negative. The following table provides variance examples:

Type of Variances	Explanation
Positive	<p>Bases in extreme cold weather areas and heavy snowfall.</p> <p>Bases in excessively corrosive environment.</p> <p>Missile mobile maintenance support.</p> <p>Site support requirements.</p>

Type of Variances	Explanation
	Privately owned vehicle (POV) inspection requirements. Technical requirements for special emission control systems as required by law. Split location operations. Exercise support.
Negative	Materiel control function realigned under the appropriate LRS flight.
Variable	The MAF in certain overseas locations impacts negatively or positively depending upon the country the base is located.

For specific bases affected by these variances, refer to the AFMS. Are any of these variances applicable to your base? As you learned in the preceding paragraphs, VE is the main factor for determining manpower authorizations for vehicle management. This is why you must keep track of your VEs accurately.

Self-Test Questions

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

201. Available contract programs

1. What is the result of using contract maintenance excessively?
2. What two documents must you have to document a contract repair properly?
3. Name three types of authorizations vehicle maintenance may use.
4. What publication provides for other sources of supply that organizations might use?
5. Explain what a BPA is and identify its benefits.
6. What is the objective of the GPC program?

202. Vehicle rental and lease program

1. What conditions must exist before considering renting or leasing vehicles?
2. How long can commanders rent or lease vehicles without regard to established allowances and authorizations, and why are they given this authority?

3. What type and what class will be assigned when leasing vehicles?
4. Who provides assistance and sourcing funds for lease vehicles?

203. Vehicle modification and equipment add-on and parts cannibalization

1. What constitutes a vehicle modification?
2. When can you make a vehicle modification?
3. Who approves modification of 463L equipment?
4. What does vehicle management do when a unit requests adding special equipment to a vehicle?
5. Define cannibalization.
6. When may you use cannibalization?
7. Explain the cost accounting procedures for cannibalization.
8. How does reclamation differ from cannibalization?
9. State the basic criteria when reclaiming vehicle parts.
10. How must reclaimed items be identified, inventoried, and stored?

204. Accident and abuse procedures

1. What should a vehicle operator involved in an accident do before reporting to vehicle management?

2. Explain the steps to take for a vehicle involved in an accident.
3. What happens to the accident estimate work order after the estimate is accomplished?
4. How does vehicle management define vehicle abuse?
5. How will actual abuse repairs be identified in the description field of the FMIS work order?
6. What is a vehicle incident?

205. Preparing budget and manning requirements

1. Define financial planning.
2. What are the five steps to creating a financial plan?
3. What do you do if you have a legitimate need for additional funds?
4. List four ways you can help control expenses.
5. State the difference between manpower and personnel.
6. What is the main programming factor to determine vehicle management manpower?
7. What is a VE?
8. When should you assess the accurate VE for a new asset?
9. Who determines the VE if an attachment *is not listed*?

10. What do you do if an attachment is removed from a vehicle in which VEs were added?

11. What is the difference between a positive and negative variance.

1-2. Depot Maintenance

Many organizations using AF vehicles believe that vehicle management is responsible for all the “up-keep” of their vehicles. This is not so. Users have certain maintenance responsibilities that fall under organizational maintenance. Vehicle management is responsible for intermediate-level maintenance, and Robins AFB Special Equipment & Vehicles (SE&V) is responsible for depot-level maintenance on selected vehicles.

206. Develop depot maintenance plan

FM&A is responsible for the effective use of the depot program. Vehicles at depot will draw downtime while at the repair facility. Retain vehicle records in the master file while vehicles are undergoing depot rebuild so the vehicles’ downtimes are accurately documented. Downtime begins when a vehicle is removed from service and shipping LTI is accomplished (the FMIS-generated depot work order will remain “open”). Downtime ends after a vehicle returns from depot, acceptance LTI is accomplished, and the vehicle is available for use.

NOTE: A vehicle will not draw downtime if it is not returned to the shipping base.

Process the FMIS transaction to capture the cost of depot rebuild when a vehicle returns from depot. The cost will include transportation and actual depot repair costs. Depot cost is provided by Robins AFB SE&V to the 441 VSCOS, which subsequently forwards the cost data to the bases. Contact servicing deployment & distribution flight (DDF) for the shipping cost to depot. Use this same shipping cost for the return cost from depot. Ensure the depot rebuild date is captured and properly loaded via FMIS to prevent premature movement into replacement codes. AF license plates must be removed from vehicles prior to departure for depot. License plate(s) will be stored in the vehicle’s record jacket (or in FM&A if vehicle records are stored electronically). If a vehicle is being transferred to another location after depot repairs, FM&A will ship the plates to the new location via registered mail. Refer to Technical Order (TO) 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance*.

207. Procedures for depot-level maintenance

Robins AFB SE&V manages depot-level maintenance for AF needs, while FM&A, in coordination with the 441 VSCOS, is responsible for the effective use of the depot program. They also initiate and plan depot repair needs according to TO 36-1-191.

Depot supports intermediate maintenance shops by performing repairs or by providing technical aid on selected vehicles that are beyond base-level capabilities. This support may be accomplished by providing depot overhauled parts and assemblies, depot-funded local contract, or by shipping the vehicle to a repair site. The production manager determines the most economical and practical way of obtaining depot maintenance support.

Eligibility requirements

Not all vehicles are eligible for depot maintenance. Eligible vehicles are coded “S” in the repair column of the USAF Management List in the federal supply catalog. In addition, AFI 23-101, *Air Force Materiel Management*, identifies vehicle components coded “T” as repairable within specific

prices and costs. Consult the 441 VSCOS AF Vehicle Management Neighborhood SharePoint for vehicles eligible for depot.

A vehicle must meet the following conditions before it is eligible for depot maintenance:

- The using command's inventory of the authorized item and suitable substitute must not exceed their authorization, and the command certifies the vehicle is essential to the mission.
- The requested vehicle is *not* being applied as an unsuitable substitute for another.
- The required repairs listed on the LTI are clearly beyond the base vehicle maintenance capability.
- A serviceable replacement vehicle *cannot* be supplied from any source.
- The cost of overhaul and one-way transportation to the overhaul site must not exceed 75 percent of the replacement cost of a new vehicle.
- A replacement vehicle is *not* scheduled for delivery from new procurement within one year, and the command allocation is sufficient to allow replacement instead of overhaul.
- The vehicle is *not* assigned to the requesting command on an allowance source code (ASC) 048 (Special Retention Authority [Excess]).
- The vehicle is *not* designated by type and model by Robins AFB SE&V as unworthy of continued depot overhaul.
- The LTI does *not* indicate that the vehicle has reached a condition wherein repairs would be impractical (e.g., all major systems require rebuild, major accident, major components missing, etc.)

Robins AFB SE&V evaluates and approves or disapproves all requests for vehicle depot overhaul.

Procedures for requesting assistance

Prepare an LTI on each vehicle you request depot maintenance assistance that reflects all needed repairs. Annotate your desired quarter of input for overhaul on the LTI and on the Vehicle Repair Projections Report. Robins AFB SE&V uses LTIs to determine if overhaul is required and to prioritize the vehicles by their overall condition. Consequently, the LTI must be accurate.

NOTE: Labor and materiel cost need not be included in an LTI.

Forecasting vehicle requirements

By 15 May of each year, Robins AFB SE&V sends the 441 VSCOS a printout of "Current Vehicle Requirements and Vehicle Repair Projections." By 15 July, each base then submits to the 441 VSCOS a current year revalidation and projected requirements for the next five years. The 441 VSCOS then validates those requirements and sends them to Robins AFB SE&V. To submit your requirements, use the methods prescribed by the 441 VSCOS.

Repair scheduling

Commands obtain current LTIs for vehicles requiring overhaul in the upcoming fiscal year from their bases. The 441 VSCOS consolidates command requirements with appropriate justifications and sends to Robins AFB SE&V no later than 15 August each year. If Robins AFB SE&V approves a vehicle for depot overhaul, it will issue instructions for shipment to an overhaul facility at the appropriate time.

There is no substitution for vehicles scheduled for depot overhaul unless specifically authorized by Robins AFB SE&V. Coordinate and fully justify the substitution with the 441 VSCOS before substituting for a previously approved vehicle.

Work specifications

Overhaul activities are accomplished in strict accordance with Robins AFB SE&V work specifications and applicable TOs. The depot maintenance facility is required to provide an overhauled vehicle capable of performing its intended purpose and function with the exception of tires and problems attributed to operator abuse, transportation damage, or negligence. Overhauled vehicle warranties are according to the specific contract, and failures occurring during this period are the responsibility of the overhaul facility and subject to the provisions of the contract.

If the vehicle returns from depot with noted warranted discrepancies, the VFM/VMS makes contact with the contractor to correct these items. For warranty problems that cannot be resolved between the VFM/VMS and contractor, contact Robins AFB SE&V by message or telephone for assistance.

Shipping to depot repair facility

When shipping a vehicle to a depot overhaul facility, a copy of the original LTI, updated to include any change in the condition of the vehicle, must accompany the vehicle. To account for vehicle downtime, the work order that was opened to prep the vehicle for shipment and updated (original LTI), remains open while the vehicle is undergoing depot rebuild. Downtime ends when the vehicle returns from depot, the acceptance LTI is accomplished, and the vehicle is available for use. However, do *not* account for vehicle downtime if the vehicle will not return to your base.

NOTE: Missing accessories removed by owning and using activities are not replaced by depot (i.e., crane attachments, servicing hose, dozer blades, firefighting equipment, etc.).

Self-Test Questions

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

206. Develop depot maintenance plan

1. Who is responsible for the effective use of the depot program?
2. How are AF license plates stored for vehicles going for depot maintenance?

207. Procedures for depot-level maintenance

1. Who manages depot-level maintenance for AF needs?
2. How does depot support intermediate maintenance?
3. Who determines the most economical way of obtaining depot maintenance support?
4. How is a vehicle eligible for depot maintenance identified?
5. What repair cost criteria must be met before a depot-eligible vehicle is overhauled?

6. State the purpose of the LTI in the depot-level maintenance program.
7. How is depot-level maintenance requirements forecasted?
8. What is the warranty period for a depot overhauled vehicle?
9. What accompanies a vehicle to the depot repair facility?
10. How do you account for vehicle downtime when a vehicle is at depot?

Answers to Self-Test Questions

201

1. It negatively impacts manning and wastes scarce resources.
2. Valid contract work order and an approved contract request.
3. AF IMT 9, approval to use the GPC, and BPA.
4. FAR, Part 13.
5. First, it is a simplified way of filling repetitive requirements for supplies and services. Further, it is designed to reduce administrative costs for small purchases by eliminating the need for issuing individual purchase documents; hence, the term “blanket” purchase agreement. Finally, since it is an internal decision, you do not need a purchase requisition or accounting and appropriation data.
6. To simplify small purchases, minimize paperwork, and improve cash management and internal controls.

202

1. (1) The rental or lease must result in a cost benefit to the government.
(2) Before you can obtain vehicles through annual procurement program, unforeseen requirements must have developed and be satisfied.
(3) Local laws or status of forces agreements prevent using government-owned vehicles. In this instance, a shortage of government vehicles is not a required condition.
(4) Unable to fill valid vehicle authorization with assets provided through normal acquisition procedures or resources.
2. For periods up to 120 days to satisfy peak workloads and unusual or emergency requirements.
3. The same type and class as the authorization to which they are assigned.
4. The 441 VSCOS.

203

1. A change in the configuration of the basic vehicle from its originally intended purpose.
2. Only when the need cannot be met any other way.
3. AFMC.
4. Determines mechanical and structural feasibility. If approved and when workload and resources permit, these items are installed in compliance with established safety standards.

5. The process of taking a serviceable part from one vehicle within the fleet and installing it on another vehicle that immediately needs to return to service.
6. When the deadline of a vehicle seriously affects the users' mission or to meet wartime goals.
7. As a rule, the labor cost of removing and installing the cannibalized part goes to the vehicle returned to service. The cost of the replacement part and the labor to install it goes to the cannibalized vehicle, with the exception of a vehicle belonging to a reimbursable organization. If the cannibalized vehicle belongs to a reimbursable organization, *all* costs are charged to the vehicle returned to service.
8. Reclamation is the process of recovering serviceable parts from vehicles being retired from service and turned in for salvage. Cannibalized vehicles remain within the fleet.
9. Must meet an immediate or projected need based on previous consumption and stock position.
10. As work order residue.

204

1. Report the accident to proper authorities (i.e., security forces, supervisor, or commander). Additionally, accident reporting for GSA leased vehicles and commercial rental/leases must be IAW the leasing/rental agency instructions or GSA policy.
2. (1) Do not accept a vehicle involved in an accident unless it has first been reported to the proper authorities.
- (2) A qualified technician initiates an accident damage estimates work order with "Accident Estimate" in the description field in FMIS reflecting *only* the repairs attributable to the accident. The estimate work order remains open until you are ready to open an actual accident repair work order.
- (3) Vehicle management notifies the commander and VCO of the unit involved, along with base legal, finance, and safety offices (usually by form letter or as applicable).
- (4) If necessary, the unit commander of the vehicle involved appoints an individual to complete the investigation (i.e., photographs, statements from witnesses, accident reports, etc.). Vehicle management repairs the accident damage after a predetermined period, unless otherwise notified by the using organization. If an investigation occurs, the investigating official usually releases the vehicle for repair once the investigation is complete.
- (5) When released for repair, the accident estimate work order is closed in FMIS and an accident repair work order is initiated with "Accident Actual" in the description field in FMIS using the same job entries from the estimate work order. Repairs not associated with the accident must be on a separate work order.
3. Remains open until ready to open an actual accident repair work order.
4. A deliberate act or omission that has caused or may cause damage to a vehicle.
5. "Abuse Estimate/Actual" in the description field.
6. Damages to a vehicle or equipment not attributable to accident or abuse.

205

1. The process of allocating funds towards competing needs, taking into account your income and goal.
2. (1) Find out how much you spent last year in each of the different EEICs.
- (2) Ask yourself whether you are going to spend money on those areas again.
- (3) Find out if there are upcoming items or projects that you may need to support or that may impact on the fleet.
- (4) Estimate your expenses honestly and accurately.
- (5) Provide written justifications for your financial plan.
3. Document it by establishing an unfunded requirement.
4. Daily monitoring of contract and supply funds, challenging high-priced items, taking full advantage of warranties, and doing the job right the first time.
5. Manpower is the total number of jobs or positions required to do a particular mission; personnel are the people hired to do a particular job.
6. VE reflected in the vehicle master list.

7. A numerical value assigned to a vehicle based on its maintenance complexity.
8. Every time an asset is loaded in the system.
9. The VFM/VMS.
10. Reduce the VE in the vehicle master record.
11. A positive variance compensates for the additional workload generated due to operational environment, mission, or technical requirements of the law; a negative variance decreases your “normal” manpower authorizations because others perform some of your workload.

206

1. FM&A.
2. License plate(s) will be stored in the vehicle’s record jacket (or in FM&A if vehicle records are stored electronically).

207

1. Robins AFB SE&V.
2. By performing repairs or by providing technical aid on selected vehicles that are beyond base-level capabilities.
3. Production manager.
4. Coded “S” in the repair column of the USAF Management List in the federal supply catalogs.
5. The cost of overhaul and one-way transportation to the repair site must not exceed 75 percent of the replacement cost of a new vehicle.
6. To determine if overhaul is required and to prioritize the vehicles by overall condition.
7. By 15 May of each year, SE&V sends to the 441 VSCOS a printout of “Current Vehicle Requirements and Vehicle Repair Projections.” By 15 July, each base will then submit to the 441 VSCOS, a current year revalidation and projected requirements for the next five years. The 441 VSCOS then validates those requirements and sends them to Robins AFB SE&V.
8. IAW the specific contract.
9. A copy of the original LTI, updated to include any change in the condition of the vehicle.
10. The work order that was opened to prep the vehicle for shipment and update original LTI remains open while the vehicle is undergoing depot rebuild. Downtime ends when the vehicle returns from depot, the acceptance LTI is accomplished, and the vehicle is available for use. Do not account for vehicle downtime if the vehicle will not return to your base.

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 AFCDA.

1. (201) What document is *not* valid to use for contract repairs/maintenance?
 - a. Contract work order.
 - b. Air Force (AF) Information Management Tool (IMT) 9.
 - c. Minor maintenance work order.
 - d. Authorization to use government purchase card (GPC).
2. (201) What *best* describes a simplified way of filling repetitive requirements for supplies and services by eliminating the need for issuing individual purchase documents?
 - a. Air Force (AF) Information Management Tool (IMT) 9.
 - b. Standard Form (SF) 44.
 - c. Government purchase card (GPC).
 - d. Blanket purchase agreement (BPA).
3. (201) The process developed that mirrors the accepted business practices on the commercial market in both obtaining the item and paying the vendor is the
 - a. General Services Administration (GSA) program.
 - b. government purchase card (GPC) program.
 - c. blanket purchase agreement (BPA).
 - d. supply program.
4. (201) The objective of the government purchase card (GPC) program is to simplify small purchases, minimize paperwork, and
 - a. have a single source of credit card services for Department of Defense (DOD).
 - b. improve cash management and internal controls.
 - c. standardize government use of a credit card.
 - d. decentralize the procurement process.
5. (202) How long can logistics readiness squadron (LRS) commanders rent or lease vehicles without regard to established allowances or authorizations?
 - a. 120 days or less.
 - b. 180 days or less.
 - c. 365 days.
 - d. Indefinite.
6. (202) Request written support from the 441st Vehicle Support Chain Operations Squadron (VSCOS) when rental or lease of vehicles exceeds
 - a. 365 days.
 - b. 180 days.
 - c. 90 days.
 - d. 60 days.
7. (202) What methods are used for renting or leasing vehicles?
 - a. Air Force (AF) Information Management Tool (IMT) 9 or a government purchase card (GPC).
 - b. Standard Form (SF) 44 or a blank purchase agreement (BPA).
 - c. AF IMT 9 or an SF 44.
 - d. GPC or a BPA.

8. (202) You lease a vehicle for over 120 days only to
 - a. establish vehicle authorizations.
 - b. supplement the fleet as a reserve vehicle.
 - c. fill an approved accountable vehicle authorization.
 - d. satisfy an emergency vehicle requirement.
9. (202) What must be obtained from the leasing agency and kept on file to support an unauthorized class vehicle?
 - a. Nonavailability statement.
 - b. Vehicle authorization letter.
 - c. Letter from the logistics readiness squadron (LRS) commander.
 - d. Letter from the 441st Vehicle Support Chain Operations Squadron (VSCOS).
10. (202) Who must review and validate all vehicle lease requests and forward an Air Force (AF) Form 601, Equipment Action Request, to the 441st Vehicle Support Chain Operations Squadron (VSCOS)?
 - a. Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
 - b. Headquarters United States Air Force (HQ USAF).
 - c. Fleet management & analysis (FM&A).
 - d. General Services Administration (GSA).
11. (202) Which agency provides assistance with determining a funding source for lease vehicles when requested?
 - a. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - b. 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - c. Headquarters United States Air Force (HQ USAF).
 - d. General Services Administration (GSA).
12. (203) What is a vehicle modification?
 - a. Pickup truck bed-liner installation.
 - b. A change in primary vehicle colors.
 - c. Bins and shelving installation inside a step-van.
 - d. A change in the configuration of the basic vehicle from its originally intended purpose.
13. (203) Who determines the additional vehicle equivalents (VE) to assign for add-on equipment?
 - a. Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
 - b. Fleet Management & Analysis (FM&A).
 - c. Using organization.
 - d. Customer service.
14. (203) If a part is cannibalized from a vehicle that belongs to a reimbursable organization, how are repair costs charged?
 - a. All costs are charged to the vehicle returned to service.
 - b. All costs are charged to the vehicle being cannibalized.
 - c. Labor only is charged to the vehicle returned to service.
 - d. Parts cost are charged to the vehicle receiving the new part.
15. (203) Who initiates the Air Force (AF) Information Management Tool (IMT) 1832, Record of Cannibalization, when cannibalization becomes necessary?
 - a. Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
 - b. Fleet Management & Analysis (FM&A).
 - c. Customer Service Center (CSC).
 - d. Materiel control.

16. (203) At a *minimum*, how often should reclaimed parts be evaluated for future use?
 - a. Monthly.
 - b. Quarterly.
 - c. Semi-annually.
 - d. Annually.
17. (204) Which is considered vehicle abuse?
 - a. Hail damage.
 - b. Unreported accident.
 - c. Running over an animal.
 - d. Parking in a no parking zone.
18. (204) It is recommended that vehicle management wait to repair damages resulting from incidents until *after*
 - a. a report of survey is initiated.
 - b. release from the base safety office.
 - c. an accident estimate work order is completed.
 - d. receipt of a letter from the using organization explaining the incident.
19. (205) Which gives a list of all the shop's expenditures by element of expense/investment code (EEIC)?
 - a. Vehicle master list.
 - b. Daily Document register.
 - c. Vehicle management report.
 - d. Responsibility center/cost center (RC/CC) manager's report.
20. (205) Who is responsible for controlling the vehicle maintenance budget?
 - a. Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
 - b. Fleet management and analysis (FM&A).
 - c. Comptroller squadron.
 - d. Materiel control.
21. (205) What is the *main* programming factor for determining vehicle management manpower requirements?
 - a. The wing mission.
 - b. Size of the vehicle fleet.
 - c. Vehicle equivalents (VE).
 - d. Number of base personnel.
22. (205) Other factors that affect manpower authorizations are called
 - a. tenant agreements.
 - b. change factors.
 - c. variances.
 - d. standards.
23. (206) Downtime ends for a vehicle returned from depot maintenance when the vehicle is available for use after the
 - a. condition limited technical inspection (LTI) is accomplished.
 - b. acceptance LTI is accomplished.
 - c. shipment LTI is accomplished.
 - d. depot LTI is accomplished.

24. (206) Who provides depot cost to the 441st Vehicle Support Chain Operations Squadron (VSCOS), which subsequently forwards the cost data to the bases?
- a. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - b. Fleet management & analysis (FM&A).
 - c. Vehicle fleet manager (VFM).
 - d. Materiel Control.
25. (206) If a vehicle is transferred to another location after depot repairs, who ships the license plate(s) to the new location?
- a. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V)
 - b. Fleet Management & Analysis (FM&A).
 - c. United States Postal Service (USPS).
 - d. United Parcel Service (UPS).
26. (207) What federal supply catalog code is used to authorize depot repair for vehicle components?
- a. D.
 - b. L.
 - c. S.
 - d. U.
27. (207) Who *approves* or *disapproves* all requests for depot overhaul?
- a. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - b. 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - c. Headquarters United States Air Force (HQ USAF).
 - d. Wing commander.
28. (207) When and to whom is the base's five-year projected depot maintenance requirements submitted?
- a. 15 May to Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - b. 15 May to 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - c. 15 July to Robins AFB SE&V.
 - d. 15 July to 441 VSCOS.
29. (207) What is the warranty period for all depot overhauled vehicles?
- a. 12 months, 12,000 miles.
 - b. 15 months, 12,000 miles.
 - c. According to the specific contract.
 - d. According to commercial manufacturers.
30. (207) What document do you send with a vehicle to the depot repair facility?
- a. Air Force (AF) Form 868, Request for Motor Vehicle Service.
 - b. Shipping repair work order (FMIS-generated work order).
 - c. Original limited technical inspection (LTI).
 - d. Updated copy of the original LTI.
31. (207) If a vehicle will *not return* to your base after depot overhaul, downtime accounting of the vehicle is
- a. not performed.
 - b. only the time spent at depot.
 - c. the time until received at gaining base.
 - d. the time it takes to ship the vehicle to depot.

Unit 2. Preventive Maintenance and Inspections

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IN TODAY’S FISCALLY RESTRAINED environment, it is critical to protect the assets for which vehicle management is responsible. In this unit, you will learn the Vehicle Management’s Preventive Maintenance Program, its purpose, key components, and workflow throughout the vehicle management shop. You will learn about other inspections, how to control corrosion, and how to store AF vehicles and related equipment properly. It is very important to have a very good understanding of these programs because they are directly linked to the success or failure of the vehicle management shop.

2-1. Preventive Maintenance Program

AFI 24-302, *Vehicle Management*, stipulates that using organizations will make vehicles available for PM&I and special inspections or arrange for a reschedule time. Organizations that show a trend of failing to provide vehicles for preventive maintenance (PM) at the scheduled date/time should be reported to the next command level for corrective action. *Do not* delay PM&Is or any special scheduled maintenance actions.

208. Scheduling preventive maintenance

The key role of PM is to reduce breakdown, consequently cutting cost and vehicle non-mission capable (NMC) time and to extend the vehicle’s service life. If you have a good PM program and an effective operator care program, the majority of your workload will most probably be scheduled maintenance and repair services, in which case, you can save a lot of money from costly unscheduled breakdown repairs.

To achieve a successful PM program, you must have a good scheduled maintenance plan. It is the main conveyor for accomplishing PM. Scheduled maintenance includes PM&I and special inspections at regular intervals to maintain a safe and serviceable vehicle fleet. TO 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance*, stipulates maintenance and inspection intervals, which you may use to establish a monthly or an 18-month scheduled maintenance plan. Keep in mind that one of your main goals is to reduce costs. In this context, it is important that you understand, along with safety, that one of the main purposes of PM is to *prevent* failures and not to have something to fix. *Prevention* is the key word; thus lubrication, oil, and filter changes are integral functions of PM&I.

Preventive maintenance and inspection

PM&I is defined as a periodic prescribed inspection or servicing of equipment, accomplished on a calendar-date, mileage, or hours-of-operation basis. The 18-month PM&I must be documented on a vehicle and equipment work order and recorded in the vehicle historical record. TO 36-1-191 is your detailed guide for completing PM&Is. Technicians must use the checklist in AF Form 4354, Vehicle Preventive Maintenance and Inspection (PM&I), in conjunction with applicable manufacturer maintenance requirements when performing PM&Is. If a vehicle is under warranty, and the manufacturer establishes a *mandatory* interval more stringent than TO 36-1-191, or specifies a

specific product to use and deviations would cause damage and void the warranty, follow the manufacturer's recommendations until the warranty expires.

We all know the automotive industry has undergone tremendous changes, especially in terms of technology. Computer chips now automatically adjust the engine for optimum performance to obtain cleaner emissions. Modern vehicle "tune-ups" have changed from routine adjustments and services to more of testing to pinpoint problems or to comply with manufacturer's specifications and host country, state, or local regulations.

To comply with applicable environmental laws, vehicle emissions are checked in conjunction with PM&Is, unless required more frequently by host nation, state, or local laws. This does not mean that you absolutely have to perform a tune-up. It means when the emissions test does not meet specifications or standards, then perform a tune-up to meet the standards. Obviously, if engine performance requires a "tune-up," do not wait for the PM&I emissions test. Document the annual tune-up/emissions test on a vehicle and equipment work order and record in the vehicle historical records.

NOTE: Those inspections, services, or tests that are not tracked in FMIS will be accomplished concurrently with PM&Is. In addition, schedule time compliance technical orders (TCTO)/service bulletins/manufacturer's recalls and one-time inspections based on their urgency.

There may be instances where adjusting PM&I intervals may significantly benefit the fleet; however, consider the negatives. Shortening the intervals increases workload, bench stock expenses, and complicates scheduling. After considering various factors, the VFM/VMS may recommend shortened intervals for PM&I for 441 VSCOS approval. For example, the following factors may justify adjusting schedule intervals:

1. Operational environment (e.g., dust, high humidity, cold weather, corrosion).
2. Operational utilization (e.g., off-road [poor terrain], multi-shift, flight line, constant heavy loads).
3. Operational speed (e.g., extensive idling, high-speed usage, normal base).
4. Intervals that enhance safety and continued operation of the vehicle.

See figures 2-1 through 2-3 for PM&I intervals.

NOTE: Refer to TO 36-1-191 for explicit details on prescribed inspections and services required for AF vehicles and vehicular equipment.

Vehicle condition inspection

Vehicle management will perform the vehicle condition inspection every time a vehicle enters the shop, or every 12 months, whichever comes first. Technicians must use the AF Form 4355, Vehicle Incoming Inspection, to verify a vehicle's condition when accepting vehicles into vehicle management. Use of AF Form 4355 will satisfy the USAF's obligation to inspect a vehicle's ability to operate in safe and serviceable condition at least once within a 12-month period, in accordance with (IAW) Department of Defense (DOD) 4500.36, *Acquisition, Management, and Use of DOD Non Tactical Vehicles*. Therefore, vehicles that do not come into the shop within a 12-month period must be scheduled for this inspection as soon as possible. Accomplish a review of vehicles requiring completion of AF Form 4355 by October of each year.

NOTE: Vehicle condition inspection intervals are specified in TO 36-1-191. Refer to AFI 24-302 for guidance on use of the AF Form 4355.

Type Equipment/Inspection/Test	Type Inspection/Interval			VEHICLE CONDITION INSPECTION
	Operator Inspection	Daily/Weekly	Preventative Maintenance Inspection – PM&I	
1. General Purpose Vehicles	At least monthly, use Operator Inspection Guide	Tire Pressure Check (Chapter 4) Ambulance stretcher hangars (see note 3)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming inspection, to document
2. Firefighting Vehicles	Daily when used and weekly when not used, use Operator Inspection Guide	Tire Pressure Check (Chapter 4)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.
3. Fuel Servicing Vehicles -Hose Cart	Daily when used and weekly when not used, use Operator Inspection Guide See Note 2	Tire Pressure Check (Chapter 4)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first .	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.
4. Special Purpose Vehicles (de-icers, tow tractor, high reach, missile handling, high lift, etc.)	At least monthly, use Operator Inspection Guide	Tire Pressure Check (Chapter 4)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first.	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.

NOTE: Schedule by hours, if equipped with hour meter. Schedule by miles/kilometers if equipped with speedometer.

Figure 2-1. Vehicle and equipment inspection intervals, page 1.

Type Equipment/Inspection/Test	Type Inspection/Interval			VEHICLE CONDITION INSPECTION
	Operator Inspection	Daily/Weekly	Preventative Maintenance Inspection – PM&I	
5. Materials Handling (MHE) and 463L Equipment	Daily when used and weekly when not used, use Operator Inspection Guide.	Tire Pressure Check (Chapter 4)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first.	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.
6. Base Maintenance Vehicles/Equipment	At least monthly, use Operator Inspection Guide See Note 2	Tire Pressure Check (Chapter 4)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first.	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.
7. Other powered equipment for which vehicle management has primary responsibility (see AFI 23-302)	At least monthly, use Operator Inspection Guide	Tire Pressure Check (Chapter 4)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first.	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.
8. Trailers, semi-trailers and other non-powered equipment for which vehicle management has primary responsibility (see AFI 23-302)	At least monthly, use Operator Inspection Guide	Tire Pressure Check (Chapter 4)	18 months (Reference TO 36-1-191, Paragraph 3.13.2)	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.
9. Natural Gas Vehicles (NGV) operating on: Compressed Natural Gas (CNG) including Bi-fuel (either gasoline and CNG), dedicated CNG or Dual-fuel (mixture of diesel/CNG).	At least monthly, use operator guide as applicable	Tire Pressure Check (Chapter 4)	18 months or 500 hours/7500 miles/12000 kilometers, whichever comes first.	Every time a vehicle enters the shop or 12 months, whichever comes first. Use AF Form 4355, Vehicle Incoming Inspection, to document.

NOTE 1. Vehicles in storage will be inspected and serviced according to Chapter 8. VFM may waive Preventative Maintenance and Inspections on these vehicles as prescribed in this technical order.

NOTE 2. Operators will remove, inspect, and clean nozzle strainers every 30 days. Nozzle strainers will be replaced as required. This inspection will be entered manually on AF Form 1807. Use reverse side of forms if necessary.

NOTE 3. Medical personnel/vehicle operators will ensure ceiling stretcher hangers are operating correctly daily and prior to use.

NOTE 4. IAW 36M2.3-35-12, Table 1 Turner 60 K Loaders will have a periodic inspection performed at 250 hours or 6 months, whichever comes first. Annual periodic inspections will be performed annually or at 1,000 hours, whichever comes first.

NOTE 5. Tire pressures will be checked, adjusted, and documented by vehicle/equipment operators on the appropriate 1800 series form NLT the 10th day of the month using Chapter 4, para 4.23.1.4 of TO 36-1-191 as a guide.

Figure 2-2. Vehicle and equipment inspection intervals, page 2.

For safety reasons, and to ensure operational reliability, you need to perform numerous *special inspections and operational tests* on certain vehicles. Document each special/concurrent inspection/test on a vehicle and equipment work order and record in the vehicle historical record. FMIS provides a menu for adding numerous categories of inspections. Other inspections required by manufacturers or directives must be added/performed concurrently with PM&I as well. If your inspection criterion exceeds FMIS tracking capability, manually track inspections using a locally developed work sheet. See figure 2-3 for a list of common special inspection requirements.

Type Inspection/Test	Intervals-Special Instructions-Reference
1. Quinquennial Testing of Cryogenics Fuel Trailers/Tube Bank Trailers.	Every 5 years (reference Paragraph 3.111.c(2)). Perform hydrostatic tests (reference TO 42B5-1-2).
2. Fuel Servicing Vehicle Requirements. a. Water Segregators b. Replace filter/separator elements. c. Perform tank inspection	Clean and service every 3 years or when filter elements are changed. (Reference Paragraph 3.10.2.2) Change in accordance with TO 37A-1-101. External Inspections will be performed annually and Internal Inspections will be performed every 3 years IAW end item technical manual. NOTE: The preferred method of completing this inspection is to use a Bore Scope to eliminate personnel from entering the tank.
3. Clean, inspect (replace as required), and Repack Wheel Bearings, Check Brake Shoes, Wheel Cylinders/Calipers, Rotors, and Drums.	Every 3 years, 36,000 miles, 57,900 kilometers, or 2400 hours on all vehicles or more frequently if local law or operator conditions so warrant. Trailers/semi-trailers with packed wheel bearings will be repacked every 3 years.
4. Weight testing requirements for truck and crawler-mounted cranes.	Test loads (reference Paragraph 3.10.5.1 of this TO and AFOSHSTD 91-46 paragraph 8.2.6.2). NOTE: Notify user that weight tests are required when major maintenance is performed on lifting devices.
5. Dielectric test on cranes and high reach vehicles equipped with insulated booms, lift platforms, etc.	Semi-annual or when insulated booms or aerial platforms are serviced or repaired (reference Paragraph 3.10.5.2.2 of this TO and 36C-1-4).
6. Crane/High reach boom, hook and all associated equipment.	Boom, hooks, and associated equipment will receive complete inspections at intervals IAW AFOSHSTD 91-46 (paragraph 8.2.4 and 8.2.5 for specific guidance), or as directed or recommended by manufacturer, whichever is most stringent. The VFM will determine if and when overhaul is necessary (reference Paragraph 3.10.5.1.1).
7. Hydraulic Systems (Special Purpose Assemblies).	Every 3 years or 3,600 hours (whichever occurs first) hydraulic fluid shall be changed.
8. Spark arrestors.	In conjunction with PM&I.
9. 5th wheel wedges and bolt checks.	In conjunction with PM&I.
10. Spark check for aircraft refueling vehicle and other vehicles/equipment designated for concurrent refueling operation.	In conjunction with PM&I.
11. Bulk fuel cargo tank vapor recovery systems.	Comply with local, state, and host country.
12. Repack wheel bearings, Oshkosh R-11 (NOTE: Use of oil instead of grease is optional)	In conjunction with PM&I.
13. Forklift Tines/Carriage Mounting	-Perform visual inspection of forklift tines at least annually. Remove forklifts from service and replace tines when cracked, bent, or significantly damaged. -Inspect carriage lock plate mounting bolts for tightness
14. Emission Systems	In conjunction with PM&I, unless required more frequently by host nation or local laws (reference, para 3.10.8 or TO 36-1-191)
15. On-Board Cabin Filter Inspection	In conjunction with PM&I
16. Automatic Transmission Filter Inspection	Every 3 years

Figure 2-3. Special inspection intervals.

Developing a long-range scheduled maintenance plan

One major part of your job is scheduling. It can become very complicated, especially if you are dealing with a large fleet. Some vehicles, because of the way they are used, are almost impossible to predict as to when they may be due for PM&I. Most of these vehicles are in the general-purpose category (law enforcement sedans and missile crew vehicles). Further, you may receive new vehicles in groups; consequently, they almost invariably come due for PM&I at approximately the same time. To improve scheduling and help ensure these vehicles do not come due all at once, develop a long-range PM&I plan.

Purpose

The main purpose of a long-range scheduled plan is to balance the workload of the maintenance shops. When developing a long-range schedule, consider seasonal needs, labor-hour availability (i.e., leave, temporary duty), organizational needs, local exercises, and fair apportionment of the total requirement. Certain vehicles may be exempted from PM&I; these include vehicles used as static

training aids, mobile communication vans that are semipermanently or permanently positioned at a site, and vehicles in long-term storage.

Steps

When developing a long-range scheduled maintenance plan, consider reviewing the existing 18-month scheduled maintenance plan to generate effective timelines. Once you have a plan, try to stick with it and keep changes to a minimum.

Use the following steps as a guide:

1. Make a schedule by shop or team. List all the vehicles by management code maintained according to that particular shop or team. For example, list all the vehicles belonging to the vehicle and equipment (V&E) shop and MHE shop under Team A. Do the same for Team B. The Program Control Number (PCN)–48, Vehicle Static Maintenance Data List, will give you this information.
2. Determine the number of vehicles to schedule per month; coordinate with the shop supervisor on annual leave/holiday plans, and so forth.
3. Ensure no particular type of vehicle dominates the workload for a particular month. For example, do not schedule all the buses in August.
4. Make sure the using organization's needs are considered. Do not schedule too many vehicles from one organization for service at one time or in close proximity of each other.
5. Check with using organizations for planned exercises and other mission requirements (i.e., Red Flag, Team Spirit).
6. Consider a seasonal rebuild program (i.e., snow removal V&E).

Lastly, it is most important to monitor your plan continuously to ensure it is working properly.

209. Using the mileage estimator concept

Vehicle use plays a very important role in the efficient and effective management of the vehicle fleet. A PM interval depends largely on the vehicle's use, which helps predict the next time a PM&I is due. Utilization data helps determine a vehicle's life expectancy. Additionally, vehicle use data supports the budget process, one-time repair allowances, repair decisions, vehicle replacement program, capability analysis, and so on. For these reasons, the mileage estimator concept was established. Predicting current and future use as accurately as possible not only helps with fleet management, it is a very valuable source of data for resource planning by higher headquarters. It is very important that users and maintainers understand the significance of timely and accurate reporting of fuel consumption and mileage readings. FM&A must ensure all vehicle users are aware of the proper use of the vehicle identification links (VIL) keys and credit cards to prevent problems in tracking fuel consumption.

Concept

The basic idea of using fuel consumption to determine vehicle usage is sound. It is a fact that if a vehicle shows miles traveled, it has consumed fuel. If a vehicle shows fuel consumption, it was driven or used. Once the miles-per-gallon (MPG) factor is established and the quantity of fuel consumed is known, it becomes simple arithmetic to find the miles the vehicle should have traveled.

NOTE: Although the introduction generally discusses terms as they relate to miles, the same principles apply whether the miles/hours/kilometers (M/H/K) code reflects hours or kilometers.

Importance of reporting fuel consumption

When vehicles are first loaded in FMIS, enter the odometer reading and an estimated MPG. There are no "concrete" rules on how to estimate the MPG when first loading a vehicle in the system. However, the following include two common-sense approaches:

- Use the average MPG for like vehicles (model, year, engine configuration) assigned to the same organization.
- Use the manufacturer's MPG estimates (city or highway), whichever is more appropriate, when available. For vehicles primarily used on base, use a more conservative estimate.

Once the vehicle is in service, it begins to consume fuel. Normally, the fuels management flight provides fuel and the FM&A section receives a transaction showing the amount of fuel issued to a particular vehicle. FM&A processes these fuel transactions into FMIS daily. It is very important that all other fuel sources, such as off-base purchases, be input into FMIS. If not, the vehicle may show a MPG factor much higher than actual. In this case, when fuel consumption is reported, FMIS estimates data used that could be considerably off from the parameters. The opposite is also true. When crediting a vehicle with fuel consumption data that it did not use, it underestimates its true MPG, skewing utilization data. What are the consequences? (1) The vehicle may be projected for PM&I sooner than it should or may not receive scheduled services at the proper time. (2) Due to higher mileage, the vehicle may move to another replacement category sooner than it should, affecting other management areas. (3) Maintenance cost data may be overinflated or understated and could have an effect on resource planning.

FM&A responsibilities

Accurate recording and initiating correct mileage transactions cannot be overemphasized. To minimize errors, follow these measures:

- Carefully read odometers and hour meters, and record them directly to the work order.
- Compare the input mileage with the source document when reviewing the edit list. This should include those transactions that were accepted.
- Check the work order mileages failing the edit against the source document and if necessary against the vehicle odometer/hour meter. Inform the shop supervisor or the VFM/VMS of frequent occurrences of incorrect mileage entries on work orders so they can take corrective action.
- Input the actual mileage in FMIS.

Self-Test Questions

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

208. Scheduling preventive maintenance

1. State the key role of PM.
2. What checklist must a technician use when performing a PM&I?
3. What are the PM&I requirements for a vehicle under warranty?
4. Why is it important to stay aware of host country, state, and local regulations governing emissions?

5. What drawbacks are created by shorter PM&I intervals?
6. What factors may justify adjusted PM intervals?
7. What is the main purpose of a long-range scheduled maintenance plan?
8. Name some items to consider when developing a long-range scheduled maintenance plan.
9. Name three vehicles that may be exempt from PM&I.

209. Using the mileage estimator concept

1. State the basic concept of fuel consumption and vehicle usage.
2. What are two “common sense” approaches to estimating MPG on a new asset?
3. Identify three consequences of incorrect fuel data.

2-2. Other Inspection Programs

There are many other inspections to perform besides regularly scheduled inspections and services. Every inspection we perform is in one way or the other designed to ensure vehicles reach their programmed life expectancy and to provide users with a safe and serviceable vehicle.

210. Managing headquarters-directed inspections

This lesson covers the TCTO, manufacturer safety recall, and service bulletin/one-time inspection program for AF vehicles. Managing this program is of vital importance to the safety and serviceability of the vehicle fleet. The 441 VSCOS monitors compliance with upward reporting to the appropriate Robins AFB SE&V program manager. Accomplish all inspections with a vehicle and equipment work order and document the results on the vehicle historical record.

Time compliance technical order

TCTOs are managed differently than regular TOs. They must be requisitioned individually, and as a series, must be identified for automatic distribution. Robins AFB SE&V notifies the 441 VSCOS concerning newly released TCTOs. The 441 VSCOS will provide VFM/VMSs a list of vehicles requiring the TCTO for forwarding this information to units in their command for action. Vehicle management must ensure they are on distribution for each TCTO series. These series are listed in the “-36” index for the type of vehicle to which they pertain. The TO monitor should review the “-36”

index upon receipt and ensure there is an applicable TCTO series for each type of vehicle assigned on distribution. This ensures vehicle management receives TCTOs published under that series.

TCTOs are generally the “fix” issued to a vehicle or equipment problem identified by a manufacturer or a deficiency report (DR). Pay particular attention to the instructions given on the TCTO cover page to determine TCTO action (i.e., affected vehicles, action required, necessary parts, etc.). FM&A manages the TCTO program in vehicle management.

Follow and observe these step-by-step procedures:

1. Date stamp each TCTO once received. Determine TCTO action and/or parts kit requirement by reviewing the TCTO cover page for affected vehicle registration numbers.
2. Notify materiel control to order required parts kits after determining and verifying base requirements.
3. Contact the appropriate item manager/equipment specialist for the affected-vehicle type by telephone, fax, or electronic mail. Provide vehicle registration numbers, and requisition due-in document numbers obtained from materiel control to enable kit release.
4. Schedule TCTOs according to availability of materials, number of vehicles, and so forth.
5. Take continuous supply follow-up action until receipt of kits.
6. Schedule affected vehicles as soon as possible after receipt of kits. A TCTO that is not completed by the “when work will be done” date is an “outstanding” TCTO and places the affected vehicles’ serviceability in jeopardy. The 441 VSCOS may direct removal of these vehicles from service until the outstanding TCTO is accomplished. The VFM/VMS advises the 441 VSCOS within 24 hours after a TCTO becomes outstanding.
7. Record the completion of the TCTO on the vehicle historical record, and file the completed TCTO (work order and instructions) in the permanent side of the record jacket. Afterwards, advise the 441 VSCOS by message, letter, or electronic means when completed.
8. Maintain an active master TCTO file. A good practice is to make master files to contain two parts: the first part identifying current TCTOs with work to be accomplished, and the second part with TCTOs already accomplished. Use a locally developed work sheet identifying registration number, TCTO number, dates, and so on. TCTOs are active until the rescission date. A rescinded file may also be maintained when needed for special programs and projects. Follow the TCTO instructions for destroying inactive TCTOs.

Manufacturer recall program, service bulletins, and one-time inspection

From time to time, manufacturers must recall vehicles to fix a problem or a potential problem. Most of these problems involve safety. It may be unknown to you, but every time you send a DR or send a warranty part exhibit, you are participating in this program. When notified of a recall, you must take action as soon as possible to have the work done for the vehicles involved. If not specified as to where you need to take the vehicle, contact the manufacturer’s local dealer nearest you to schedule the work. If there are numerous vehicles involved, explore the possibility of having the dealer do the work at your facility. If you do not have access to the manufacturer’s dealership, have the manufacturer send the part and have your shop do the work and request reimbursement for the labor, if possible. Because of liability, you must promptly have the work done. Document and record this in the historical records. To do this, follow the documentation procedures per FMIS and AFI 24–302. If Robins AFB SE&V or the 441 VSCOS notifies you of the recall, inform them when the work is finished.

Sometimes, there are malfunctions, flaws, or “bugs,” inherent within a vehicle that a manufacturer does not foresee when engineering it or due to procedures at the assembly line. When these types of malfunctions occur, repair or troubleshooting procedures are not included in the repair or service manual. Manufacturers address these problems by issuing “service bulletins,” which are essentially notices of necessary repairs. If you experience the same problems indicated in a service bulletin and

the vehicle is under warranty, pursue warranty action. Keep a file of the service bulletins that you receive for reference. For easier tracking, maintain a file the same as the TCTO program.

Consequently, a one-time inspection is directed and an inspection TCTO is issued, which is a nonconfiguration-change TCTO that determines equipment condition/configuration. It is also approved by the appropriate technical content manager (TCM) division. These one-time inspections may be issued as Immediate Action, Urgent Action, or Routine Safety Category TCTOs. They either are performed outside the normal periodic inspection schedule for the equipment or provide inspection criteria not covered in existing TOs. It may also require inspection only, inspection and replacement of hardware with like serviceable items, inspection with repair IAW repair manuals, or similar requirements that do not change form, fit, or function. All TCTOs directing a one-time inspection shall indicate whether previous inspections satisfy the one-time requirement and indicate whether the requirement is being included in the normal inspection manual.

211. Limited technical inspection

When conducting LTIs, you must stress “serviceability,” *not* perfection. When you inspect a vehicle, you must use good judgment in order to prevent waste, while at the same time ensuring serviceability. Sometimes, in our responsibility to assure serviceability, we condemn more parts and assemblies than is necessary. When we do this, we waste our resources. You cannot expect a five-year-old vehicle to look as good as a new one, but you can expect it to be safe and in good operating order. This lesson covers the AFTO Form 91, Limited Technical Inspection–Motor Vehicles, and different situations where/when the LTI is necessary.

AFTO Form 91, Limited Technical Inspection–Motor Vehicles

An LTI is an inspection performed using an AFTO Form 91 to evaluate the current condition of a vehicle or equipment from an operational standpoint. FM&A prints an LTI worksheet using the FMIS-automated LTI program. This worksheet is a guide for conducting the inspection and lists various components to inspect. When the worksheet is complete, FM&A inputs the data into FMIS using the automated LTI program. Only the discrepancies identified during the inspection will be printed on the final LTI. The VFM/VMS must review all LTIs and certify their accuracy. Consequently, only technically qualified vehicle management personnel should perform an LTI. Perform an LTI for the following situations:

- For disposition.
- Prior to shipping a vehicle to another AF activity.
- When accepting a newly assigned vehicle.
- To support depot repair requests and inputs.
- When loaning/leasing a vehicle to other government agencies or a government contractor.
- When placing a vehicle on special projects/application as determined by the appropriate authority.
- To submit a request for major repair approval.
- Any other times as directed by appropriate directives.

There are many required items in the AFTO Form 91, most of which are self-explanatory. However, those presented in the following table are the commonly “misfiled” items:

Nomenclature	Description/Activity
Engine compression test	Enter the compression test results. If compression test cannot be performed, state so and the reason why. If a diagnostics machine prints out the information, you may attach it instead.
Subtotals	Ensure that subtotals are correct.
Labor cost	Direct labor cost is total labor hours multiplied by the shop hourly wage rate.

Nomenclature	Description/Activity
	Indirect labor cost is total labor hours multiplied by the shop indirect hourly rate. (NOTE: Something to watch for when computing labor hours is the inflation of labor hours to get rid of a vehicle. Ensure the labor hours documented accurately reflects the repairs needed to put the vehicle back in safe and serviceable condition.)
Material cost	All material cost attributed to a specified repair job.
Other costs	Other applicable costs, such as transportation.
Estimated additional service from vehicle if repairs are accomplished	This is the amortization of the repairs. The VFM/VMS should determine the additional service life if repairs are accomplished.

Estimating repairs

Each time a vehicle comes in for maintenance, estimate the cost of repairs to decide whether to fix the vehicle or not. Written repair estimates are required on the following:

- Accident and abuse damage.
- Vehicles in replacement code A through J (not required on minor maintenance work order).
- All other repairs that may exceed the one-time repair limit (OTRL).

Repair estimate shows the expected cost to make the vehicle in a safe and serviceable *not* “like-new” condition. When figuring the estimate, consider where the vehicle will be repaired (i.e., contract, other government agency, depot, or base maintenance activity). When estimating repairs, include the following expenses:

- Direct labor—Work identifiable to a specific repair job. Use the shop hourly wage rate for computation.
- Direct material—Materials or supplies identifiable to a specific repair job including applicable transportation charges. Direct materials are charged at the actual cost except for the following: (1) Retread tires are charged at the current cost of retreading. (2) Used tires are not charged. (3) Components and assemblies used in the repair process are charged at the exchange price. (4) Exchangeable parts obtained from normal supply channels are charged 50 percent of the stock list price.
- Indirect expenses—The total indirect expense is equal to the total direct labor hour estimate multiplied by the shop indirect hourly wage rate.
- Cost of contract services associated with a repair.
- Cost of preparing the vehicle or part for shipment if not repaired locally.
- Transportation cost from overseas to continental United States (CONUS) and return.
- Cost of repairs to modified equipment, winterization items, and follow-on corrosion control. Do not include the initial cost of providing these items.
- Any other costs associated with a repair.

Exclusions

When using the repair estimate to decide repair feasibility (except for accident repair estimates), exclude the following:

- Initial cost of corrosion control treatment.
- Transportation costs except overseas to CONUS.
- Fuel, oil, antifreeze, and other fluids or servicing agents.
- Two-way radios, fire extinguishers, tool kits, sirens, flashing lights, etc.
- The cost of modification and winterization kits and the initial installation.

- Charges for purchase, installation, and maintenance of special attachments that are not part of the basic vehicle.

Major repair

Any work that exceeds the replacement allowance, regardless of the replacement-code status, is a major repair. The squadron commander is the approval authority for major repairs. The VFM/VMS determines whether major repair is justified. If in the judgment of the VFM/VMS a major repair is justified, use the following procedures to request repair approval:

1. Prepare an AFTO Form 91 listing only those repairs necessary to return the vehicle to a safe and serviceable condition.
2. Furnish a complete, written evaluation of the vehicle's overall condition.
3. Forward the AFTO Form 91 and the written evaluation to the squadron commander for approval or disapproval.
4. If approved, proceed with the repairs. File the AFTO Form 91 and repair work order in the permanent portion of the record jacket.
5. If disapproved, process the vehicle for disposition.

If, in the judgment of the VFM/VMS, major repair is *not* justified, the following procedures may apply:

1. The VFM/VMS may approve minimum essential repairs, if the vehicle condition does not present a safety hazard to personnel or equipment, until the vehicle or equipment is no longer operable. In this case, place the required major repairs in delayed status code "G" according to 441 VSCOS policies.
2. If minimum essential repair is not feasible due to the vehicle condition or other factors, request approval for disposition.

Vehicle disposition

Vehicles and equipment under Logistics Installation and Mission Support Enterprise View (LIMS-EV) Vehicle View and reported in the vehicle management index file (VMIF) are coded according to their criticality towards the AF mission. Critical vehicles or equipment are coded "C" and noncritical are coded "N." Send the disposition request of noncritical vehicles, which have become obsolete, exceed programmed life and are unserviceable, or exceed the OTRL to the squadron commander for approval/disapproval. Upon approval from the squadron commander, process the vehicle directly to the base disposal activity.

Noncritical vehicles that are serviceable or economically repairable and critical vehicles, regardless of condition, declared excess to the needs of the major command (MAJCOM) are reported to the 441 VSCOS for disposition or redistribution.

Vehicle shipment

Besides being safe and serviceable, there are other requirements that a vehicle must meet before becoming eligible for shipment. Used vehicles will have a LTI in their records from the shipping unit. All vehicle deficiencies will be annotated on the AFTO Form 91 during receipt of an asset from another AF activity. If it is determined that the vehicle does not meet the standards, the AFTO Form 91 will be forwarded to the losing command through normal channels for necessary actions and information. An information copy of this letter will be forwarded to Robins AFB SE&V when the item manager has directed vehicle shipment.

NOTE: Replacement eligible vehicles considered in an "as is" status will only be shipped upon prior agreements between the two shipping and receiving bases except when shipping mission essential vehicles.

Acceptance of newly assigned vehicles

Upon receiving any newly assigned vehicles, whether new or used, each must have an acceptance inspection using the AFTO Form 91 within five duty days. However, FM&A has three days to initiate a vehicle load request in the transaction request tool (TRT). For vehicles received from another base, use the LTI from the losing unit as a reference. Conduct the acceptance inspection according to TO 36-1-191. The shipping activity is responsible for taking whatever action is necessary to place the vehicle in a serviceable status. This may include the shipping of replacement parts to the receiving activity or by providing funded obligation authority (OA). If a new vehicle is unserviceable or damaged, process it according to TO 36-1-191, Chapter 7.

212. Corrosion control and storage of Air Force vehicles and vehicular equipment

This lesson discusses policies, procedures, processes, and levels of protections to be performed upon AF vehicles for corrosion prevention and storage. In addition, vehicle management personnel must adhere to applicable AF directives pertaining to the long- and short-term storage of AF vehicles and vehicular equipment.

Corrosion control

Corrosion is defined as the premature deterioration of metals resulting from the action of oxidation. Corrosion spreads rapidly if not prevented or treated in its early stages. If ignored, it can have serious consequences on the mission. The objective of a corrosion control program is to enhance safety and help assure the vehicle reaches its programmed life expectancy. Concurrent with this aim, reduced cost, repair man-hours, and vehicle downtime must be of paramount concern in the preventive measures that you take. What this means is the cost of the program should be balanced with the benefits. The local installation commander establishes, controls, and upgrades/downgrades the installation's corrosion control and prevention program standards.

Corrosion control requirements

Along with the acceptance inspection upon initial receipt of a vehicle, conduct an inspection to determine the current corrosion treatment. The VFM/VMS determines the extent to which newly assigned vehicles are to be treated. Document corrosion control actions and inspections in the vehicle historical records. To ensure preventive standards are met, you must inspect all assigned vehicles annually.

Levels used for corrosion prevention

The four levels used for corrosion prevention are Types A, B, C, and D, as presented in the following table:

Type	Kind	Explanation
A	Factory Rust Proofing	These are the protective measures that the manufacturer applied during production in order to meet stated warranty provisions. Type A is adequate protection for most vehicles in a mild or moderate corrosion susceptibility area.
B	Mild Rust Proofing	A follow-on corrosion control that you take to protect those areas visually exposed on the vehicle undercarriage. Mild rust proofing is authorized at installations designated as mild or moderate corrosion susceptibility areas.
C	Design Corrosion Control	Rust proofing/treatments applied primarily to tactical vehicles before delivery. It further applies to general purpose vehicles treated according to manufacturer's standards. Type C is authorized for vehicles designated as/tactical, war reserve materiel (WRM) (M-series), Southwest Asia (SWA), and foreign military sales (FMS).
D	Tropical Corrosion Control	A follow-on corrosion control that you take to "rust proof" the vehicle. It is a complete treatment of all body surfaces and boxed-in internal structures for protection under highly corrosive climates. Type D is authorized for installations designated as under severe or very severe corrosion susceptibility areas.

To determine the corrosion susceptibility rating of your installation, refer to TO 36-1-191, Chapter 6. This TO also lists equipment and materials that you need to perform follow-on corrosion control and the procedures for treating different types of vehicles.

Vehicle and equipment storage

Sometimes it may become necessary to store a vehicle. In these instances, we take action to protect the vehicle from the elements. Processing for storage, conduct of storage, and processing vehicles for shipment are normally the responsibilities of vehicle management as prescribed in TO 36-1-191.

Levels of preservation

The degree of preservation depends upon the length of the storage period, conduct of shipment, or the requirement for immediate operational readiness.

Level	Explanation
Level A	Provides adequate protection during shipment, handling, and varying periods of storage in excess of 90 days from the date of preservation.
Level B	Provides adequate protection for domestic or overseas shipment (excluding open-deck loading) and may involve outside storage for a combined total of approximately 90 days.
Level C	Provides adequate protection during domestic shipments to immediate use location and for vehicles on vehicle non-mission capable supply (NMCS) for less than 90 days.
Active storage	Applies to WRM and air shipments of vehicles where the requirement for immediate operational readiness does not permit the delays incident to standard processing and de-processing for storage and shipment.

Vehicles on NMCS (awaiting repair or disposition, etc.) must be afforded proper protection. TO 36-1-191 provides the specific procedures and materials needed to place the vehicle in the proper level of protection.

Storage preparation and actions required for vehicles in storage

One very important consideration when storing vehicles is the storage site. The storage area must have adequate security to prevent pilferage and theft. Inside storage must be utilized whenever available. If outside storage is necessary and a natural surface is selected, it must have good drainage and maintain its texture under normal climactic conditions to be free from soft spots. The storage area should be level; if not, securely chock wheels or tracks to prevent movement. To eliminate fire hazards during dry weather, you must prevent grass and weeds from accumulating in and around the storage site. Vehicles must be adequately spaced to permit ready access for inspection and servicing, with fire lanes at appropriate intervals. Before placing a vehicle in storage, it must be cleaned both inside and outside to prevent corrosion.

Level “C” has no detailed requirements since the intent is to provide protection at a minimum cost for immediate-use domestic shipment. However, vehicles temporarily removed from service due to NMCS, awaiting repair or disposition, and so forth, require a “general condition” inspection every 90 days to ensure security and preservation. Level “B” also has no detailed inspection requirements. For vehicles stored in level A, perform the inspections presented in the following table:

Kind	When	Explanation
Visual	Every 90 days	This is a “look and see” inspection to detect corrosion, leaks of lubricants, condition of protective coverings, completeness of accessories, accumulation of water in body areas, proper tire pressure, etc. Report any indication of defect or deterioration to the responsible storage officer.
Functional	Every 180 days	This is an “exercise in-place,” designed to effect distribution of lubricants and preservatives using the vehicle’s own power or an external power source.

Kind	When	Explanation
Complete	Annual	This is a complete storage inspection specifically designed to determine if the preservation and processing measures applied are effectively preventing corrosion. During this inspection, preservation measures and assemblies are removed or disassembled sufficiently to ensure that no corrosion or deterioration has occurred. Inspect at least 1 percent of total stored and at least one unit from each group every 180 days.

Maintenance requirements

When storage inspection reveals damage through failure of preservation or any other cause, perform a serviceability inspection using an AFTO Form 91. Schedule vehicles found to be unserviceable into the shop for repairs. Maintain all historical records current and complete. Put these records in a “manila envelope” and place in the dash compartment or in a conspicuous location near the identification or data plate.

War reserve materiel

WRM vehicles must be ready for immediate use with minimum de-processing during periods of indefinite storage. For this reason, they are considered in “active storage.” Since operationally ready vehicles are especially subject to pilferage, you must pay special attention to their security. They must not be stored in stacks or blocked up to permit easy access during exercise periods. You must have the WRM vehicles (except the ones stored in plastic bags) exercised every 30 days.

The 441 VSCOS prescribes the use of WRM vehicles in storage. When used, usage must be sufficient to meet the periodic exercise requirements. Defects detected during the exercise period must be reported to ensure proper condition tagging. You should immediately report vehicles requiring repair to vehicle management for corrective action. Accomplishment of TCTOs is required on WRM vehicles in storage. Accomplish TCTOs on vehicles in deep storage during the next major inspection.

Self-Test Questions

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

210. Managing headquarters-directed inspections

1. How does vehicle management ensure they receive a published TCTO?
2. To what part of a TCTO should FM&A pay particular attention? Why?
3. What is the first step after receipt of a TCTO?
4. What may happen to vehicles if a TCTO becomes *outstanding*?
5. What is a good practice when making master files for TCTOs?
6. How long are TCTOs active?

7. Why would you receive a service bulletin?

211. Limited technical inspection

1. State the purpose of the AFTO Form 91.
2. Who certifies the LTI for accuracy?
3. Name five instances when an LTI is required.
4. Identify the items to exclude from a repair estimate.
5. What is considered a major repair?
6. Who determines whether a major repair is justified?
7. If a major repair is not justified, what procedures may apply?
8. Within how many duty days does FM&A have to initiate a Vehicle Load Request?

212. Corrosion control and storage for Air Force vehicles and vehicular equipment

1. How is corrosion defined?
2. State the objective of a corrosion control program.
3. What part does the installation commander take in the corrosion control program?
4. What is Type A corrosion prevention?
5. What type installation is authorized Type D corrosion prevention?

6. Where can you find the corrosion susceptibility rating for your installation?
7. Match the degree of preservation in column A with the corresponding preservation level in column B. Each item in column B may be used only once.

<i>Column A</i>	<i>Column B</i>
____ (1) Provides adequate protection during shipment and storage for a combined total of approximately 90 days.	a. Level A.
____ (2) Applies to WRM.	b. Level B.
____ (3) Provides adequate protection on NMCS vehicles less than 90 days.	c. Level C.
____ (4) Provides adequate protection during shipment in excess of 90 days.	d. Active storage.

8. What is active storage?
9. Why should you pay special attention to operationally ready vehicles in storage?
10. How often are WRM vehicles exercised?

Answers to Self-Test Questions

208

1. Reduce breakdown, thus reducing cost and vehicle NMC time and to extend the vehicle's service life.
2. AF Form 4354.
3. If a vehicle is under warranty and the manufacturer establishes a *mandatory* interval more stringent than TO 36-1-191 or specifies a specific product to use and deviations would cause damage and void the warranty, follow the manufacturer's recommendations until the warranty expires.
4. Local requirements can differ for PM&I guidance.
5. Increased workload, bench stock expenses, and complicated scheduling.
6. (1) Operational environment.
(2) Operational utilization.
(3) Operational speed.
(4) Intervals that enhance safety and continued operation of a vehicle.
7. To balance the workload of the maintenance shops.
8. Seasonal needs, labor-hour availability, organizational needs, local exercises, and fair apportionment of the total requirement.
9. Static training aids, mobile communication vans that are permanently or semipermanently positioned at a site, and vehicles in long-term storage.

209

1. If a vehicle shows miles traveled, it has consumed fuel; if a vehicle shows fuel consumption, it has been driven or used.

2. (1) Use the average MPG for like vehicles (model, year, engine configuration) assigned to the same organization.
- (2) Use the manufacturer's MPG estimates (city or highway), whichever is more appropriate, when available. For vehicles primarily used on base, use a more conservative estimate.
3. (1) The vehicle may be projected for PM&I sooner than it should or may not receive scheduled services at the proper time.
- (2) Due to the higher miles, the vehicle may move to another replacement category sooner than it should, affecting other management areas.
- (3) Maintenance cost data may be over inflated or understated and could have an effect on resource planning.

210

1. The TO monitor reviews the -36 index to ensure an applicable TCTO series for each type of assigned vehicle is on distribution.
2. Instructions given on the TCTO cover page; to determine action (i.e., affected vehicles, action required, necessary parts, etc.).
3. Date stamp each TCTO once received.
4. 441 VSCOS may direct removal of these vehicles from service until the outstanding TCTO is accomplished.
6. Make the master files in two parts; the first part would identify current TCTOs requiring attention and the second part with TCTOs already accomplished.
5. Until the recession date.
7. It is a way manufactures address malfunctions inherent within a vehicle due to a flawed engineering design or assembly line procedures; essentially, a service bulletin is a notice of necessary repairs.

211

1. To evaluate the current condition of a vehicle or equipment from an operational standpoint.
2. VFM/VMS.
3. Any five of the following:
 - (1) For disposition.
 - (2) Prior to shipping a vehicle to another AF activity.
 - (3) When accepting a newly assigned vehicle.
 - (4) To support depot repair requests and inputs.
 - (5) When loaning or leasing to another government agency or government contractor.
 - (6) When placing a vehicle on special project/application as determined by the appropriate authority.
 - (7) To submit a request for major repair approval.
 - (8) Any other times as directed by appropriate directives.
4. (1) Initial cost of corrosion control treatment.
- (2) Transportation costs, except overseas to the CONUS.
- (3) Fuel, oil, antifreeze, and other fluids or servicing agents.
- (4) Two-way radios, fire extinguishers, tool kits, sirens, flashing lights, and so forth.
- (5) The cost of modification and winterization kits and the initial installation.
- (6) Charges for purchase, installation, and maintenance of special attachments that are not part of the basic vehicle.
5. Any work that exceeds the replacement allowance, regardless of the replacement-code status.
6. VFM/VMS.
7. (1) The VFM/VMS may approve minimum essential repairs, if the vehicle condition does not present a safety hazard to personnel or equipment, until the vehicle or equipment is no longer operable. In this case, place the required major repairs in delayed status code "G" according to 441 VSCOS policies.

- (2) If minimum essential repair is not feasible due to the vehicle condition or other factors, request approval for disposition.
- 8. FM&A has three days to initiate a vehicle load request in the TRT.

212

- 1. The premature deterioration of metals resulting from the action of oxidation.
- 2. To enhance safety and help assure the vehicle reaches its programmed life expectancy.
- 3. Establishes, controls, and upgrades/downgrades the installation's corrosion control program.
- 4. The protective measures the manufacturer applied during production and provides adequate protection for most vehicles in a mild or moderate corrosion susceptibility area.
- 5. Installations designated as severe or very severe corrosion susceptibility areas.
- 6. TO 36-1-191, Chapter 6.
- 7. (1) b.
(2) d.
(3) c.
(4) a.
- 8. Storage that applies to WRM and air shipments of vehicles where the requirement for immediate operational readiness does not permit the delays incident to standard processing and de-processing for storage and shipment.
- 9. Because they are especially subject to pilferage.
- 10. Every 30 days (except the ones stored in plastic bags).

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.

32. (208) Where can you find a detailed guide for the preventive maintenance and inspection (PM&I) program?
 - a. Air Force Instruction (AFI) 24-302.
 - b. Technical order (TO) 36-1-191.
 - c. AFI 24-307.
 - d. TO 36A1-1301.
33. (208) What checklist must mechanics use when performing preventive maintenance and inspections (PM&I)?
 - a. Fleet Management Information System (FMIS)-generated work order.
 - b. Air Force (AF) Form 1827.
 - c. AF Form 4354.
 - d. AF Form 4355.
34. (208) If a manufacturer established a *mandatory* inspection interval more stringent than Air Force guidelines and the vehicle is still under warranty, you should follow the recommendations
 - a. of the established Air Force intervals for that vehicle.
 - b. of the manufacturer until the warranty expires.
 - c. in the serviceability standards technical order.
 - d. in the checklist for that type of vehicle.
35. (208) Vehicle emissions are checked in conjunction with preventive maintenance and inspections (PM&I) unless required more frequently by host nation, state, or local laws to comply with
 - a. Air Force specifications only.
 - b. applicable environmental laws.
 - c. Technical Order (TO) 36-1-191.
 - d. manufacturer specifications only.
36. (208) Who is the approval authority for shortening preventive maintenance and inspection (PM&I) intervals?
 - a. Vehicle fleet manager (VFM).
 - b. Logistics Readiness Squadron (LRS) commander.
 - c. 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - d. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
37. (208) Which is considered a special inspection?
 - a. Dielectric testing.
 - b. Powertrain testing.
 - c. Tire pressure check.
 - d. Scheduled lubrication, oil, and filter change.
38. (208) What is the *main* purpose of a long-range scheduled maintenance plan?
 - a. Ensure availability of the vehicle for preventive maintenance and inspection (PM&I).
 - b. Have the vehicles in the shop for PM&I at any given time.
 - c. Balance the workload of the maintenance shops.
 - d. Have using organizations plan their workload.

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39. (208) Which factor *must* you consider when developing a long-range scheduled maintenance plan?
- a. Equipment availability.
 - b. Seasonal needs.
 - c. Facilities used.
 - d. Overall cost.
40. (208) Vehicles that may be exempted from preventive maintenance and inspections (PM&I) include those that are
- a. static training aids.
 - b. low-mileage vehicles.
 - c. awaiting accident release.
 - d. temporary duty (TDY) vehicles.
41. (208) What is the *last* and *most* important step after developing your long-range scheduled maintenance plan?
- a. Check how many vehicles are listed by organization.
 - b. Always monitor your plan to make sure it is working.
 - c. Determine how many vehicles per month.
 - d. Make a schedule by shop or team.
42. (209) What is the *basic* idea of the mileage estimator concept?
- a. Utilization is incidental to fuel usage.
 - b. Fuel consumption predicts vehicle wear data.
 - c. Utilization measures vehicle efficiency and effectiveness.
 - d. Fuel consumption represents vehicle usage and usage requires fuel consumption.
43. (209) Which could be a consequence of crediting a vehicle with fuel consumption data that it did *not* use?
- a. Preventive maintenance and inspection (PM&I) static data intervals could be affected.
 - b. PM&I projection of the vehicle may show up sooner than it should.
 - c. Vehicle's one-time repair limit (OTRL) may increase.
 - d. Odometer readings may become inaccurate.
44. (210) Where do you file the completed time compliance technical orders (TCTO)?
- a. Permanent side of the vehicle record jacket.
 - b. Temporary side of the vehicle record jacket.
 - c. Materiel control completed parts file.
 - d. Technical order library.
45. (211) What must you stress when conducting a limited technical inspection (LTI)?
- a. Perfection.
 - b. Cleanliness.
 - c. Serviceability.
 - d. Age of vehicle.
46. (211) Written vehicle repair estimates are required on *all*
- a. major and minor repair work orders.
 - b. vehicles coming into the shop.
 - c. accident or abuse damage.
 - d. incident repairs.

47. (211) When exchangeable parts are obtained from normal supply channels, what is the percentage charged of the stock list price?
- a. 40 percent.
 - b. 50 percent.
 - c. 65 percent.
 - d. 75 percent.
48. (211) A major vehicle repair is a repair that
- a. involves a major assembly.
 - b. involves an accident or abuse.
 - c. affects safety and serviceability.
 - d. exceeds the replacement allowance..
49. (211) Who is the approval authority for major vehicle repairs?
- a. Squadron commander.
 - b. 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - c. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - d. Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
50. (211) What document and content are required to request approval for a major vehicle repair?
- a. Fleet Management Information System (FMIS)-generated work order, listing *only* the repairs required for a safe and serviceable condition.
 - b. Air Force Technical Order (AFTO) Form 91, listing *only* the repairs required for a safe and serviceable condition.
 - c. FMIS-generated work order, listing repairs required to return vehicle to a like-new condition.
 - d. AFTO Form 91, listing repairs required to return vehicle to a like-new condition.
51. (211) Economically repairable noncritical vehicles that have become excess to the major command (MAJCOM) are reported to
- a. Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
 - b. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - c. 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - d. Fleet Management & Analysis (FM&A).
52. (211) Within how many duty days *must* acceptance inspections be completed for newly assigned vehicles?
- a. 5.
 - b. 8.
 - c. 10.
 - d. 15
53. (212) Where can you find your installation's corrosion susceptibility rating?
- a. Air Force Manual (AFMAN) 24-301.
 - b. Air Force Instruction (AFI) 24-302.
 - c. Technical Order (TO) 36-1-50.
 - d. TO 36-1-191.
54. (212) What type of inspection do vehicles in level A storage receive every 90 days?
- a. Visual.
 - b. Complete.
 - c. Functional.
 - d. Operational.

Please read the unit menu for unit 3 and continue ➔

Unit 3. Warranty and Deficiency Reporting

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WARRANTIES AND PRODUCT quality deficiencies are two things that are closely related. Pursuing warranties and reporting quality deficiencies benefit consumers and manufacturers alike. For example, reporting deficiencies and pursuing warranties make manufacturers aware of problems so they can improve their products. Better products raise consumer confidence and improve a manufacturer's bottom line.

3-1. Warranty Policies

Pursuing warranties is a potential “money maker” for vehicle management. When you buy a replacement alternator from a commercial vendor, it probably has a warranty. If you take a vehicle to contract maintenance, the contractor probably has some type of guarantee for the work done. When you buy a rebuilt transmission or an engine, more than likely it will have a warranty. As you can see, a part or component in the vehicle is usually under warranty at any given time.

213. Terms and responsibilities

To have a better grasp of the lessons on warranty policies, you need to know and understand certain terms and responsibilities.

Terms

The following table includes the most common terms that you will encounter with warranties:

Term	Explanation
Warranty	A written guarantee stating the product is as good as the manufacturer says it is. When it is not as good as it is represented, then a warranty is a fair and equitable way of compensating an owner for a defect in product design or workmanship.
Action warranty report (AWR)	A report that you submit when a manufacturer or a contractor refuses to make corrections under warranty. Submit this report to the responsible MAJCOM with an information copy to the 441 VSCOS. The report format is the same as a DR.
Info only: warranty satisfactory report (IWR)	A report that you submit when a manufacturer or a contractor satisfactorily corrects a warranty repair valued in excess of \$1,000, or when three or more vehicles of the same type have the same discrepancy satisfactorily corrected regardless of cost. Send the report to the 441 VSCOS with an information copy to the responsible IPT. The report format is the same as a DR.
Parts exhibits	These are the defective parts that you must keep for at least 30 days as proof unless otherwise advised by Robins AFB SE&V.

Responsibilities

The VFM/VMS initiates actions for the correction of warranted items, submits the required warranty reports, and documents warranted actions. FM&A identifies and monitors warranted items, makes sure the warranty program is used, initiates required reports, and documents warranty actions in the historical records.

214. Monitoring warranties

As mentioned earlier, pursuing warranties can be a “money maker” for vehicle management. Manufacturers normally set aside a certain amount of their sale revenues to cover warranty claims. In this sense, when you buy a vehicle, you have paid for the warranty as well. You must make sure that you know all the warranties applicable to your vehicles and take advantage of them when practical. When problems with a manufacturer or a contractor arise, you need to know the steps to take.

Delivery condition

Government vehicles are procured in a “ready-to-run” condition. All necessary pre-delivery inspections are made at the manufacturer’s plant before shipment. In transporting or delivering the vehicle, some systems may not be filled to capacity. When necessary, vehicle management will “top-off” fluid levels or perform some minor adjustments. If the acceptance inspections reveal more serious discrepancies, such as safety or mechanical defects, missing components, incorrect tire size, body leaks, and so forth, then the vehicle is *not* in a “ready-to-run” condition. In this case, report it to the responsible IPT and promptly pursue warranty repairs.

When new vehicles are delivered and show damage, abuse, or missing components or equipment, obtain proof of the discrepancies from the carrier. Immediately arrange for the repairs at the nearest manufacturer’s authorized dealer or such place as authorized by the manufacturer’s zone or district representative. The damaged, abused, or missing components or equipment must be noted on all copies of the waybill or shipping document, signed by the carrier, and a copy given to the dealer. If warranty repairs cannot be arranged with the dealer, district, or zone representative, report the discrepancies to the local DDF for processing.

Warranty coverage

Vehicles are procured from various manufacturers and may include different warranty coverage. Warranties are reviewed or renegotiated every procurement cycle; therefore, they are subject to change from year to year. The written warranties are provided with each vehicle in either a booklet form or decal displayed on the vehicle. If warranty provisions are unclear, contact the responsible IPT.

Basic coverage

New vehicles have a basic warranty of 12 months or 12,000 miles for vehicles in the CONUS, and 15 months or 12,000 miles outside the CONUS, whichever comes first. Warranty begins when a government representative accepts the vehicle from the contractor “freight on board” (FOB) at the point of origin or destination. A Department of Defense (DD) Form 250, Material Inspection and Receiving Report, or the vehicle data plate, shows the acceptance date. In rare instances where the vehicle is shipped directly to you from the “assembly line,” you will act as the government representative and acceptance will be effective the date you receive the vehicle. For vehicles used outside the 50 states, the manufacturer or contractor is obligated to provide replacement of warranted parts or assemblies returned by the government.

Extended coverage

In addition to the basic warranty, the contractor or manufacturer provides a chassis manufacturer’s commercial engine/powertrain component warranty. This coverage is for at least three years from acceptance date or 50,000 miles. This coverage applies only to domestic use. However, General Motors, Ford, and Chrysler have agreed to this extended coverage “*for parts only*” for those vehicles procured by Robins AFB SE&V that are used outside the US.

Corrosion coverage

The contractor or manufacturer provides the chassis manufacturer’s commercial corrosion coverage. Corrosion coverage is for at least five years from acceptance date or 100,000 miles. General Motors, Ford, and Chrysler have agreed to this extended coverage “*for parts only*” for those vehicles procured by Robins AFB SE&V that are used outside the US.

Emission control systems

According to applicable Environmental Protection Agency (EPA) regulations and the California Air Resources Board, the contractor or manufacturer provides warranties on components of the emission control systems. Presently, this coverage is for five years or 50,000 miles, whichever occurs first, from the acceptance date. Some components, such as distributors, spark plugs, ignition wirings, and manifolds, whose primary purpose is not to reduce emissions, are only covered for 24 months or 24,000 miles, or up to the first replacement, whichever occurs first. Some items may require scheduled replacement and are only warranted up to the first replacement interval. This coverage applies to domestic use only.

Warranty extensions

The contractor or manufacturer may receive additional warranty coverage, whether on the vehicle overall, or any component. This warranty may be for a particular time or mileage limit, including prorated arrangements from any supplier or subcontractor. The government will receive the corresponding warranty benefits. If the contractor or manufacturer generally extends to their commercial customers greater or extended warranty coverage, including anti-corrosion benefits, the government receives that also.

AF special-purpose vehicles

Special-purpose vehicles procured under AF specifications have a 12-month warranty from the date of acceptance. Shipping cost for replacement items will be the responsibility of the contractor except to bases outside CONUS.

Warranty for trailers

Basic trailers are normally covered by a one-year warranty against faulty material or workmanship. Normally, components, such as landing gears, suspension systems, and brake systems, are covered by warranty for 90 days and are reported directly to the individual component manufacturer or local dealer. For problems or assistance, contact Robins AFB SE&V.

Tactical vehicles

Military-designed tactical vehicles (M-series) *do not* have a normal commercial warranty. This does not mean you cannot submit claims for correction of deficiencies or faulty workmanship. When premature failures can be attributed to a manufacturing defect, submit a vehicle unsatisfactory report (VUR). In some cases, the applicable TO lists some warranted items.

Warranty exceptions

The basic vehicle warranty does not cover tires and batteries. Tires and batteries have their own warranties provided by the item manufacturer. The normal commercial warranty applies to the original tires and batteries provided with new vehicles as long as they remain with the original vehicle. Tires and batteries procured from base supply do not have a warranty. In addition to tires and batteries, the following maintenance concerns are *not* covered by warranty, regardless of age or mileage:

- Repairs resulting from not using a manufacturer-approved part.
- Abuse, negligence, or alteration of original parts or adjustments.
- Engine tune-up or related cleaning or adjusting.
- Service and parking brake adjustments/lining replacements.
- General tightening, headlight adjustments, wheel aligning, and tire balancing.
- Materials required in servicing, such as oil, grease, brake fluids, antifreeze, and filter elements.
- Labor for installation of accessories not ordered on vehicles.

- Miscellaneous expenses, such as gas, towing, telephone, rental vehicle, lodging, loss of personal property, and sales tax.

To avoid billing by the dealer for nonwarranty items, get a clear understanding (documented in the repair order, if necessary) before the start of repair.

Part warranty

Part warranties are input in the FMIS from contract repairs and commercial parts sales receipts using the correct FMIS transaction(s). When a part warranty ends (days or miles, whichever occurs first), the part will automatically drop from the warranty parts file. This report is invaluable in researching parts and verifying warranty status. Make the report available to supervisors and technicians to ensure provisions are used to the fullest extent possible.

215. How to obtain warranty services

When a vehicle requires repair under warranty, contact the closest manufacturer's dealer. If there are several dealerships in the local area, consider previous level of service, responsiveness, time, and so on, when selecting which one to use.

Reimbursable AF warranty corrections

In locations where the dealer's shop is too far, the manufacturer may agree to reimburse the government for repairs vehicle management makes under warranty. You *must* obtain prior approval from the manufacturer. If this is a recurring or a continuing requirement, you may establish an agreement with the manufacturer to this effect. If you need assistance to establish such an agreement, contact Robins AFB SE&V. The agreement must establish the labor rate agreed upon by the government and the manufacturer, time allowances for each repair based upon the manufacturer's flat rate, and parts prices based on the current factory price list less applicable discounts.

Independent (non-dealer) garage warranty corrections

Like the AF warranty corrections, the manufacturer or its authorized representative must give prior approval before using a non-dealer for warranty repairs. Labor rates and parts prices will be based on the manufacturer's flat rates unless the independent garage rates are cheaper.

Warranty repairs without reimbursement

There are certain repairs that may not be reimbursable. The VFM/VMS may elect to repair the vehicle in the shop if it is more cost effective or because the time needed by the manufacturer to fix the vehicle would result in mission impairment. Choosing or electing to fix a warranted vehicle in the shop (vehicle management) because of the mission or cost effectiveness does not prevent you from filing a claim directly to the manufacturer. To file such a claim, write a claim letter to the manufacturer and send along with it a copy of the original work order and all applicable invoices or receipts. If necessary, obtain guidance from the base legal office.

NOTE: All reimbursements that you receive must be turned in to the base comptroller upon receipt.

Remember, repairs made by the government or an independent dealer without prior approval from the manufacturer or its authorized representative may not be reimbursable.

Warranty procedures outside the CONUS

Warranty corrections for vehicles overseas are normally performed by the vehicle management shop with the manufacturer furnishing replacement parts or assemblies that you return. In some overseas areas, there are dealers or representatives of US manufacturers that honor warranties in the same manner as in the CONUS. Become familiar with these dealers or representatives and take advantage of them. The warranty policy for vehicles used overseas includes buying a new part if transportation costs of returning the part to the manufacturer is more than the cost of purchasing a new part. Further, when parts that will be replaced under warranty would place the vehicle in NMCS and an AF

replacement part can be made available, use the AF part to return the vehicle to service. Parts the manufacturer replaces are for use in replenishing supply stocks.

When pursuing a warranty from an overseas area, submit a claim letter to the appropriate manufacturer's representative with an "info" copy to Robins AFB SE&V. Include in the claim letter an offer to return the failed parts and essential information, such as the following:

- Date the vehicle was received.
- Complete description of the failure.
- Name and address of your point of contact concerning the claim.
- Transportation control number for replacement parts (unless parcel post).
- Manufacturer-requested exhibits; ship them via airmail or airfreight.
- A list of required replacement parts by part number, nomenclature, and quantity.
- Vehicle serial number, model, contract number, manufacturer, and mileage at the time of failure.
- Army Post Office (APO) address for shipment eligible for parcel post. If parts are not eligible for parcel post, give the point of embarkation (POE) address where the part should be shipped.
- A self-addressed DD Form 1387, Military Shipment Label.

Warranty problems

If a manufacturer's dealer refuses to honor a warranty, contact the zone, district, or regional representative and explain the situation. The vehicle's maintenance manual (-1 TO) should list this information. If the zone, district, or regional representative is not responsive to your needs, submit an AWR to the IPT with an "info" copy to 441 VSCOS.

Self-Test Questions

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

213. Terms and responsibilities

1. Define warranty.
2. What are two types of reports that can be accomplished for warranties?
3. State what the VFM/VMS is responsible for in the warranty process.
4. Identify what FM&A is responsible for in the warranty process.

214. Monitoring warranties

1. A vehicle should be in what condition when it is received from the manufacturer?

2. Match the warranty periods in column A with the corresponding type of coverage in column B. Each item in column B may be used more than once.

<i>Column A</i>	<i>Column B</i>
____ (1) At least five years, 100,000 miles.	a. Basic coverage.
____ (2) Five years, 50,000 miles.	b. Corrosion coverage.
____ (3) 12 months, 12,000 miles.	c. Extended coverage.
____ (4) At least three years, 50,000 miles.	d. Emission control systems coverage.
____ (5) 15 months, 12,000 miles.	

3. How do you pursue the correction of a manufacturer defect on tactical vehicles?
4. How can you avoid billing by a dealer for nonwarranted items?

215. How to obtain warranty services

1. Why would the VFM/VMS elect to repair a vehicle in the shop when the vehicle is still under warranty?
2. When overseas, how are warranty repairs normally accomplished?
3. Who do you contact when a manufacturer's dealer refuses to honor a warranty?

3-2. Deficiency Reporting

Many TCTOs result due to somebody reporting a deficiency. A recall of a particular product by the manufacturer usually occurs because of consumer complaints, accidents, litigations, or even a DR you cared to submit. Think of the lives saved because of these reports and complaints. Think how much better and safer products are today. Many of these things are results of people caring enough to file reports.

216. Deficiency reporting overview

There is probably no product man has ever made that is perfect. Many finished products exhibit deficiencies in design, materials used, maintainability, or errors in production, and so on, all of which are a reflection of the quality (or lack of it) of the product. The deficiency-reporting system seeks to identify, report, and resolve deficiencies on vehicles, hardware, software, mission critical computers, clothing, and textiles. Reporting of unsatisfactory conditions for vehicles and equipment is mandatory.

Definitions

The following table includes the most common terms that you will encounter with DRs involving vehicles.

Term	Explanation
DR	A generic term for all deficiency reports—materiel deficiency reports (MDR), VURs, AWRs, IWRs, and DRs are submitted in the Joint Deficiency Reporting System (JDRS).
Materiel improvement project (MIP)	A planned effort to investigate and resolve deficiencies, adverse trends, or to evaluate proposed improvements or enhancements.
MDR exhibit	An exhibit is a failed, deficient, or nonconforming item(s) that you are holding and preserving as evidence.
Certifying official	The VFM/VMS certifies the accuracy of and release of most reports for transmission.
Originator	Formerly referred to as the originating point but now referred to as originator, any individual or section within a vehicle management activity or unit who discovers or identifies a product deficiency and prepares the draft report using a locally designed worksheet. The section supervisors normally serve as originators.
Originating point	An individual within the FM&A office who performs all administrative actions, such as: reviewing the DR for validity; tracking and necessary follow-ups; assigning a report control number (RCN); finalizing the report for the certifying official; processes/tags/secures the exhibits in a designated holding area; and submits the report to the screening point. The originating point will use the JDRS to perform these functions.
Screening point	The focal point for the receipt and processing of DRs. The system program office (SPO) or the single point of contact office (SPOCO) performs this duty. They review the DR for proper categorization, validity, correctness, accuracy and completion of information addresses; determines and transmits the DR to the proper action point within or outside the organization and/or component. The IPT office, which receives reports, assigns MIP numbers and monitors the appropriate action.
Action point	The action point is responsible for all technical administrative actions for resolution of a DR submitted IAW TO 00-35D-54, <i>USAF Deficiency Reporting, Investigation and Resolution</i> . They evaluate and initiate a course of action for DR resolution through coordination with engineers, item managers, and equipment/quality specialists. They also provide status updates, closing actions, and exhibit disposition instructions.

MDR

An MDR is required when conditions occur which may cause death, severe injury, or occupational illness; would cause loss or damage to a vehicle; or directly restrict the combat readiness capability of the using organization. Transmit MDR reports within 72 hours of identification to Robins AFB with an information copy to the 441 VSCOS.

NOTE: If it is a serious safety hazard, report it immediately by telephone, facsimile, or e-mail, followed by a formal report within 72 hours. Supporting data, such as photos, video, and so on, which cannot be submitted electronically, will be sent by mail to the contact point at the earliest possible time.

VUR

This VUR is required when a vehicle does not meet user needs; a vehicle's design, depot repair, or remanufacture is unsatisfactory; or premature materiel failure or equipment malfunction occurs that does not meet the criteria for an MDR. Transmit VUR reports within 15 days of identification to Robins AFB SE&V with an information copy to the 441 VSCOS.

AWR

This AWR is required on all vehicles and equipment when the manufacturer or its representative is not receptive to the problem and refuses to make corrections under warranty. Transmit AWR reports within 15 days of identification (nonsupport) to Robins AFB SE&V with an information copy to the 441

VSCOS. AWR on deficiencies not satisfactorily corrected by the dealer or district representative will contain the following information:

- Date of delivery of the vehicle.
- Contract number on which the vehicle was procured.
- Manufacturer's vehicle identification number, year, model, and mileage.
- Name and address of manufacturer's representative refusing warranty.
- Reason for refusing warranty.
- Definition of exact parts required.

IWR

This IWR is required for all vehicles and equipment when the manufacturer satisfactorily corrects the deficiency in a timely manner and the value of the repairs exceeds \$1,000. An IWR is also required when three or more vehicles have the same deficiency satisfactorily corrected, regardless of cost. Transmit IWR reports within 15 days of identification to the 441 VSCOS with an information copy to SE&V.

217. Deficiency report

All vehicle DRs are processed using the JDRS. You can find additional information concerning JDRS use and access in TO 00-35D-54 and TO 36-1-191. The VFM/VMS will act as the certifying official for the accuracy and release of DRs. Before anyone can use JDRS, a user must log in and complete the required computer-based training. The JDRS website is located at <http://www.jdrs.mil>.

DR format

Use a locally generated worksheet for all DRs. You may print the locally generated worksheet for JDRS and let the shop supervisor or the originating point use it to fill all pertinent information about the deficient product. Log in to the JDRS website and enter the information collected from the worksheet to initiate a DR.

Exhibit processing and handling

As mentioned earlier, exhibit is the failed, deficient, or nonconforming item, held as evidence. Exhibits must be handled properly to preserve the evidence, which is crucial in identifying the proper corrective action and speedy resolution.

Exhibit handling

All exhibits must be conspicuously marked, tagged, and controlled to preclude their use. Exhibit marks or tags should indicate the status concerning the disposition process. In addition, deficiency exhibits should be stored in an area that provides some security to protect it from the environment and prevent unauthorized use. Exhibits should be forwarded to the action or support point in the exact condition it was found.

You must carefully handle and package exhibits, especially those of failed metal parts, to preserve failure evidence. Mishandling prevents accurate metallurgical failure analysis of failed metal parts. Exhibits shipped from overseas installations must be cleaned of dirt or other waste matter only to the extent necessary to satisfy public health requirements. Care must be taken to assure that valuable evidence is not destroyed during cleaning. Other than exhibits shipped from overseas, do not attempt to clean the fracture. When shipping a bent or broken item, use a shipping container the item will fit in without rearranging or redistributing the bent or broken areas.

MATERIAL DEFICIENCY EXHIBIT		
1. REPORT CONTROL NUMBER FJ2379 8510038	2. DATE 13 JUL 83	3. ORIGINATING ACTIVITY 4250 TWAMC Wright Patterson AFB OH
4. NPN 2820-05-8803	5. PART NO.	6. SERIAL NO. 708123450
7. REMARKS (Continue on reverse if necessary)		8. ITEM DESCRIPTION Engine ASSY
		9. NAME
		10. PHONE

DD Form 2332, 04 May

FRONT

MATERIAL DEFICIENCY EXHIBIT	
11. DATE EXHIBIT RELEASED	12. EXHIBIT RELEASED TO:
7. REMARKS (Continue)	

DD Form 2332 Reverse, 04 May

BACK

PN-TQ38-1-191-124

Figure 3-1. Sample, DD Form 2332, Product Quality Deficiency Report Exhibit Tag.

Exhibit processing

Normally, FM&A or the work center will tag the exhibit with a completed DD Form 2332, Product Quality Deficiency Report Exhibit, and DD Form 1575, Suspended Tag-Materiel (figs. 3-1 and 3-2). Do not use the other 1500-series tags (yellow, green, red) because they may result in exhibit misrouting. The originating point (FM&A) determines whether to repair the exhibit locally when conditions warrant and the repair is within the normal capability of the shops.

NOTE: Do not attempt to repair an exhibit unless there is a critical need for the repaired product. Without an exhibit to determine the cause of the deficiency, corrective action may be impossible.

When repair is attempted, describe the repair in the DR. If attempted repair is not successful, the item *does not* qualify as an exhibit. Additionally, FM&A should do the following:

- Ensure the exhibit is properly stored and tagged.
- Check JDRS daily for initial and final disposition or other instructions from the action or support point.
- After shipping exhibit, update the DR record in JDRS with shipment information.
- When shipping an exhibit, complete blocks 7, 11, and 12 of the DD Form 2332 using the information in the disposition instructions received and attach to the exhibit. Further, attach an envelope containing a printed copy of the DR to the DD Form 2332 packed with the exhibit.

- Ship DR exhibits by priority methods within 48 hours after receipt of exhibit disposition instructions and notify the action point by message.
- If instructions to ship, hold, or process the exhibit have not been received within 30 calendar days of the report date, process the exhibit according to its condition (i.e., repairable, condemned, due-in from maintenance [DIFM], etc.).
- For exhibits related to AF mishaps (death or serious injury), the investigating officer or investigation board must approve the disposition. Exhibits involving a mishap must not be disposed until instructed.

<small>WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$100 and imprisonment for not more than one year or both. (18 USC 1361)</small>	FSN, PART NO. AND ITEM DESCRIPTION		SUSPENDED TAG - MATERIEL	
	1485-01-210-1964 P/N 189534 Pump		NEXT INSPECTION DUE	CONDITION CODE q
			INSPECTION ACTIVITY	
			REASON OR AUTHORITY	
	SERIAL NUMBER / LOT NO. 2T3X7	UNIT OF ISSUE		
	CONTRACT OR PURCHASE ORDER NO.	QUANTITY 1	INSPECTOR'S NAME OR STAMP AND DATE	
REMARKS				

DD FORM 1575, 1 OCT 66

Figure 3-2. Sample, DD Form 1575, Suspended Tag-Materiel.

Self-Test Questions

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

216. Deficiency reporting overview

1. State the purpose of the deficiency reporting system.
2. Match the actions in column A with the appropriate responsibility point in column B. Each item in column B may be used more than once or not at all.

Column A

- ____ (1) VFM/VMS responsibility.
- ____ (2) Discovers and identifies a product deficiency.
- ____ (3) Individual within FM&A office who performs all administrative actions for DRs.
- ____ (4) Assigns MIP numbers.
- ____ (5) Uses JDRS to input deficiencies.
- ____ (6) Responsible for all technical administrative actions for resolution of a DR.

Column B

- a. Screening point.
- b. Vehicle improvement working group.
- c. Certifying official.
- d. Originator.
- e. Originating point.
- f. Action point.

3. When is an MDR required?

4. When is an AWR required?

5. When is an IWR required?

217. Deficiency report

1. How are vehicle DRs processed?
2. Why must DR exhibits be carefully handled and packaged?
3. What two forms do you use to tag a DR exhibit?
4. How do you ship DR exhibits?
5. How soon must the exhibits be shipped?

Answers to Self-Test Questions

213

1. A written guarantee stating the product is as good as the manufacturer says it is. When it is not as good as it is represented, then a warranty is a fair and equitable way of compensating an owner for a defect in product design or workmanship.
2. AWR and IWR.
3. Initiates actions for the correction of warranted items, submits the required warranty reports, and documents warranted actions.
4. Identifies and monitors warranted items, makes sure the warranty program is used, initiates required reports, and documents warranty actions in the historical records.

214

1. Ready to run.
2. (1) b.
(2) d.
(3) a.
(4) c.
(5) a.
3. Submit a VUR.
4. Get a clear understanding (documented in the repair order, if necessary) before the start of repair.

215

1. If it is more cost effective or because the time needed by the manufacturer to fix the vehicle would result in mission impairment.
2. Normally performed by vehicle management, with the manufacturer furnishing replacement parts or assemblies that you return. In some overseas areas, there are dealers or representatives of US manufacturers that honor warranties in the same manner as in the CONUS.
3. The zone, district, or regional representative.

216

1. It seeks to identify, report, and resolve deficiencies on vehicles, hardware, software, mission critical computers, clothing, and textiles.
2.
 - (1) c.
 - (2) d.
 - (3) e.
 - (4) a.
 - (5) e.
 - (6) f.
3. When conditions occur that may cause death, severe injury, or occupational illness; would cause loss or damage to a vehicle; or directly restrict the combat readiness capability of the using organization.
4. On all vehicles and equipment when the manufacturer or its representative is not receptive to the problem and refuses to make corrections under warranty.
5. For all vehicles and equipment when the manufacturer satisfactorily corrects the deficiency in a timely manner and the value of the repairs exceeds \$1,000 or when three or more vehicles have the same deficiency satisfactorily corrected, regardless of cost.

217

1. By using the JDRS.
2. To preserve failure evidence.
3. DD Form 2332 and DD Form 1575.
4. By priority methods.
5. Within 48 hours after receipt of exhibit disposition instructions.

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 AFCDA.

55. (213) An equitable way of compensating an owner for a defect in product design or workmanship can be described as a
- a. warranty.
 - b. product liability.
 - c. policy adjustment.
 - d. deficiency allocation.
56. (213) What report is submitted when a manufacturer or a contractor satisfactorily corrects a warranty repair valued in excess of \$1,000?
- a. Deficiency report (DR).
 - b. Action warranty report (AWR).
 - c. Vehicle unsatisfactory report (VUR).
 - d. Info only: warranty satisfactory report (IWR).
57. (213) Parts exhibits are kept *at least* how many days?
- a. 10.
 - b. 30.
 - c. 45.
 - d. 60.
58. (214) Who is notified when a new vehicle is received and is *not* in a ready-to-run condition?
- a. Integrated product team (IPT).
 - b. Traffic management.
 - c. Vehicle operations.
 - d. Transport carrier.
59. (214) Which action should be done when receiving a new vehicle that has damage or is missing components?
- a. Report it immediately to vehicle operations.
 - b. Report it immediately to traffic management.
 - c. Do not accept the vehicle until cleared by the dealer.
 - d. Note on all copies of shipping document and have the carrier sign.
60. (214) Military-designed tactical vehicles (M-series) have
- a. a 6-month warranty.
 - b. a 12-month warranty.
 - c. a 15-month warranty.
 - d. no normal commercial warranty.
61. (215) Vehicle management may receive reimbursement when making warranty repairs
- a. directed by vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
 - b. directed by the logistics readiness squadron (LRS) commander.
 - c. if granted prior approval from the manufacturer.
 - d. if granted prior approval from the local dealer.

62. (215) Warranty corrections for American-made vehicles used overseas are normally performed by
- vehicle management.
 - the manufacturer.
 - contract support.
 - local garages.
63. (215) What action do you take if a local manufacturer's dealership refuses to honor a warranty?
- Submit a claim through Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - Fix the vehicle and inform the 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - Contact the zone, district, or regional representative.
 - Fix the vehicle and send an info only: warranty satisfaction report (IWR).
64. (216) Who certifies the accuracy of and release of most deficiency reports (DR) for transmission?
- Wing safety.
 - Fleet Management & Analysis (FM&A).
 - Logistics Readiness Squadron (LRS) commander.
 - Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
65. (216) Any individual, or section within the vehicle management activity or unit, who discovers and identifies a product deficiency and prepares the draft report is considered the
- originator.
 - action point.
 - support point.
 - screening point.
66. (216) What report is required when a vehicle does *not* meet a user's needs?
- Action warranty report (AWR).
 - Materiel deficiency report (MDR).
 - Vehicle unsatisfactory report (VUR).
 - Info only: warranty satisfactory report (IWR).
67. (216) You must transmit an action warranty report (AWR) within how many days of identification?
- 3.
 - 7.
 - 10.
 - 15.
68. (217) What is used to submit deficiency reports (DR) to the appropriate agency?
- Microsoft Office software.
 - Microsoft Outlook messaging.
 - Joint Deficiency Reporting System (JDRS).
 - Fleet Management Information System (FMIS) Materiel Deficiency Report Program.

69. (217) Exhibits of failed metal parts must be carefully handled and packaged to
- a. prevent corrosion.
 - b. preserve failure evidence.
 - c. prevent metallurgical analysis.
 - d. protect very delicate metal parts.
70. (217) Who must approve the disposition of exhibits related to Air Force mishaps such as injury or death?
- a. Vehicle fleet manager (VFM)/vehicle management superintendent (VMS).
 - b. Robins Air Force Base (AFB) Special Equipment & Vehicles (SE&V).
 - c. 441st Vehicle Support Chain Operations Squadron (VSCOS).
 - d. Investigating officer or investigation board.

Student Notes

Glossary of Abbreviations and Acronyms

AF	Air Force
AFB	Air Force base
AFI	Air Force instruction
AFMC	Air Force Materiel Command
AFMS	Air Force manpower standard
AFSC	Air Force specialty code
AFTO	Air Force technical order
APO	Army Post Office
ASC	allowance source code
AWR	action warranty report
BPA	blanket purchase agreement
CONUS	continental United States
DD	Department of Defense
DDF	deployment & distribution flight
DIFM	due-in from maintenance
DLA-DS	Defense Logistics Agency-Disposition Services
DOD	Department of Defense
DR	deficiency report
EEIC	element of expense/investment code
EPA	Environmental Protection Agency
FAR	Federal Acquisition Regulation
FM&A	fleet management & analysis
FMIS	fleet management information system
FMS	foreign military sales
FOB	freight on board
FWA	fraud, waste, and abuse
GPC	government purchase card
GSA	General Services Administration
IAW	in accordance with
IMT	information management tool
IPT	integrated product team
IWR	info only: warranty satisfactory report
JDRS	Joint Deficiency Reporting System
LIMS-EV	Logistics Installation and Mission Support-Enterprise View
LOG	logistic
LRS	logistics readiness squadron
LTI	limited technical inspection
M/H/K	miles/hours/kilometers

MAF	man-hour availability factor
MAJCOM	major command
MDR	materiel deficiency report
MHE	materiel-handling equipment
MIP	materiel improvement project
MPG	miles per gallon
NMC	non-mission capable
NMCS	non-mission capable supply
O&M	operations and maintenance
OA	obligation authority
OTRL	one-time repair limit
PCN	program control number
PM	preventive maintenance
PM&I	preventive maintenance and inspection
POE	point of embarkation
POV	privately owned vehicle
RC/CC	responsibility center/cost center
RCN	report control number
SE&V	special equipment & vehicles
SPO	system program office
SPOCO	single point of contact office
SWA	Southwest Asia
TCM	technical content manager
TCTO	time compliance technical order
TDY	temporary duty
TO	technical order
TRT	transaction request tool
US	United States
USAF	United States Air Force
V&E	vehicle and equipment
VCO	vehicle control officer
VE	vehicle equivalent
VFM	vehicle fleet manager
VIL	vehicle identification link
VMIF	vehicle management index file
VMS	vehicle management superintendent
VSCOS	vehicle support chain operations squadron
VUR	vehicle unsatisfactory report
WRM	war reserve materiel

Student Notes

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