DEPARTMENT OF THE AIR FORCE
Headquarters United States Air Force
Washington, D.C. 20330-1030

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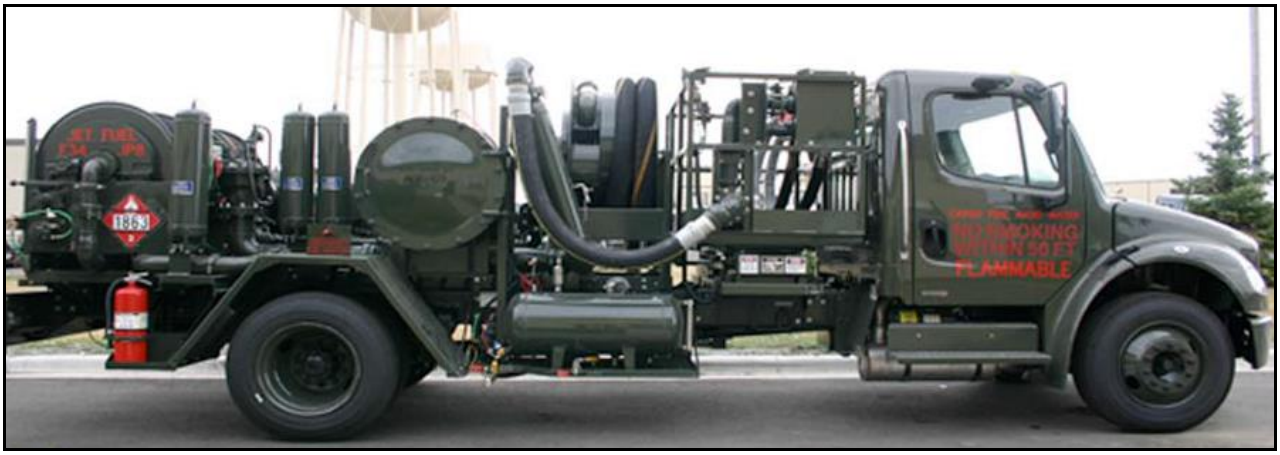
A/S 32 R-12 Mobile Fuel Vehicles
Hydrant Servicing Vehicles (HSV)

Management Code: L271



QUALIFICATION TRAINING PACKAGE

CONTENTS

Section 1—OVERVIEW

1.1. Overview.

1.1.1. Send comments and suggested improvements on AF Form 847, *Recommendation for Change of Publication* through Air Force Installation and Mission Support Center (AFIMSC) functional managers via e-mail at AFIMSC.IZSL.GroundTrans@us.af.mil.

1.1.2. The following Air Force Qualification Training Package (AFQTP) is designed to assist trainees, trainers and examiners in the task of certifying individuals to operate a mobile fuel vehicle as well as perform required tasks with the equipment. Objectives provide a lesson structure and task evaluations ensure the trainer adequately qualifies the trainee for task certification. Upon completion, trainees will be prepared for certification and licensing.

1.1.3. How to use this plan:

1.1.3.1. Trainer.

1.1.3.1.1. Provide overview of training, **Section 2** and **Section 3**.

1.1.3.1.2. Trainer's qualification training package for trainee preparation, give classroom lecture, **Section 4**.

1.1.3.1.3. Trainer's qualification training package for knowledge evaluation, **Section 5** and the American Association of Motor Vehicle Administrators (AAMVA) *Commercial Driver's License (CDL) Manual*.

1.1.3.1.4. Trainer's qualification training package for demonstration, **Section 6** and the AAMVA *CDL Manual*.

1.1.3.1.5. Trainer's qualification training package for performance and evaluation, **Section 7**.

1.1.3.1.6. Trainer's qualification training package for air brakes, **Section 5** and the AAMVA *CDL Manual*.

1.1.3.2. Trainee.

1.1.3.2.1. Reads entire qualification training package and the **AAMVA *CDL Manual*** prior to starting lecture.

1.1.3.2.2. Follows along with lecture using this qualification training package, its attachments and the **AAMVA *CDL Manual***.

1.1.3.2.3. Trainees assigned to an installation identified by AF/A4LR that have transitioned to the AAMVA model, will:

1.1.3.2.3.1. Test at the Ground Transportation office to accomplish the following knowledge and endorsement tests: General Knowledge Test, Air Brakes Knowledge Test, Tank Vehicles Knowledge Test and Hazardous Materials Knowledge Test.

1.1.3.2.3.2. Take the Air Force Performance Test, following completion of required knowledge and endorsement tests, consisting of three parts: Vehicle Inspection Test, Basic Control Skills Test and Road Test.

1.1.3.2.4. Trainees assigned to an installation that has not transitioned to the AAMVA model, will:

1.1.3.2.4.1. Complete written tests developed and administered in accordance with (IAW) Air Force Instruction (AFI) 24-301, *Ground Transportation*.

1.1.3.2.4.2. Complete the performance test developed and administered by Training, Validation and Operations (TVO) staff IAW AFI 24-301.

Section 2—RESPONSIBILITIES

2.1. Responsibilities.

2.1.1. The trainee shall:

2.1.1.1. Ensure the trainer explains the Air Force Qualification Training Package (AFQTP) process and the trainee's responsibilities.

2.1.1.2. Review the R-12/HSV Qualification Training Package with the trainer.

2.1.1.3. Review the AAMVA *CDL Manual* with the trainer.

2.1.1.4. Ask questions if he/she does not understand the objectives for each unit.

2.1.1.5. Complete training hours required for the R-12/HSV.

2.1.1.6. Review events and material when defined acceptable quality levels (AQLs) are not met.

2.1.1.7. Complete training hours recommended for the R-12/HSV.

2.1.1.8. Take the required knowledge and endorsement exams and performance test for the R-12/HSV.

2.1.2. The trainer shall:

2.1.2.1. Review this qualification training package and the AAMVA *CDL Manual* with the trainee.

2.1.2.2. Conduct knowledge training with the trainee using the R-12/HSV Qualification Training Package and the AAMVA *CDL Manual*.

2.1.2.3. Conduct performance task explanation and demonstration using the R-12/HSV Qualification Training Package and the AAMVA *CDL Manual*.

2.1.2.4. Review questions with the trainee to ensure the required task knowledge has been gained to complete the task.

2.1.2.5. Document total hours trained on AF Form 171, *Request for Driver's Training and Addition to U.S. Government Driver's License*.

2.1.2.6. Coordinate with the trainee and Vehicle Control Official (VCO) to schedule the required written test(s) and performance test.

2.1.2.7. Document and sign-off the task(s) in Training Business Area (TBA) On-the-Job Training (OJT) for Fuels personnel.

2.1.3. The Examiner shall:

2.1.3.1. Provide certification support in accordance with (IAW) AFQTP 24-3-200, *TVO Examiner's Guide*.

Note: Certification for the R-12/HSV will only be conducted by trained TVO Examiners. Members with a Class B CDL, Hazardous Material endorsement and Tank Vehicle endorsement do not require further TVO certification.

Section 3—INTRODUCTION

3.1. Objective.

3.1.1. Develop sound operational competencies within the trainees and provide them the knowledge and tools to operate a mobile fuel vehicle. The trainer(s) will accomplish this task using reference material (written and visual aids), demonstration and hand-on training. To receive certification the trainee will be able to perform the required tasks without trainer assistance and meet all defined acceptable quality levels AQLs.

3.1.1.1. Qualification using this qualification training package and the AAMVA *CDL Manual* is required for first time operators, previously qualified operators (validation of qualification), as well as those operators disqualified for Unsatisfactory Condition Reports (UCRs), Technical Data Violations (TDVs) or Detected Safety Violations (DSVs).

3.1.1.1.1. Detected Safety Violations, Technical Data Violations, and Unsatisfactory Condition Reports (DSV, TDV and UCR). This category represents observed events or conditions with safety implications or technical violations not related to an inspection or evaluation and are considered unsafe, not in accordance with (IAW) established procedures, or in the case of equipment unfit to operate.

3.1.2. Given lectures, demonstrations, hands-on driving sessions, trainees will be able to:

3.1.2.1. Achieve an 80% or higher on all written tests and/or knowledge and endorsement tests.

3.1.2.2. Complete all components of the performance test with zero instructor assists.

3.1.3. Cover mobile fuel vehicle fundamentals specifically designed to teach the trainee driving skills and provide him/her with spatial and situational awareness training.

3.1.4. Include knowledge and training for performing specialized operations with the mobile fuel vehicle. Vehicle components required to complete these tasks are included and the trainee's comprehension will be evaluated.

3.1.5. Ensure the trainee becomes qualified in the maintenance and operation of the air brake system, an operator who has the knowledge and skills to operate the air brake system in a safe and professional manner.

3.2. Desired Learning Outcome.

3.2.1. Understand the safety precautions to be followed pre-, during-, and post-operation of the R-12/HSV fuel truck and the air brake system.

3.2.2. Understand the purpose of the R-12/HSV fuel truck and its role in the mission.

3.2.2.1. The R-12/HSV is a mobile platform that connects to an in-ground fuel hydrant refueling system.

3.2.2.2. The R-12/HSV is equipped with two ground-servicing hoses and two lift platform hoses and can pump at rates of up to 1,000 gallons per minute (gpm) through the lift platform or 750 gpm through the ground servicing hoses when used in conjunction with the Type III hydrant system.

3.2.2.3. The R-12/HSV defuel pump can defuel at a maximum rate of 300 gpm.

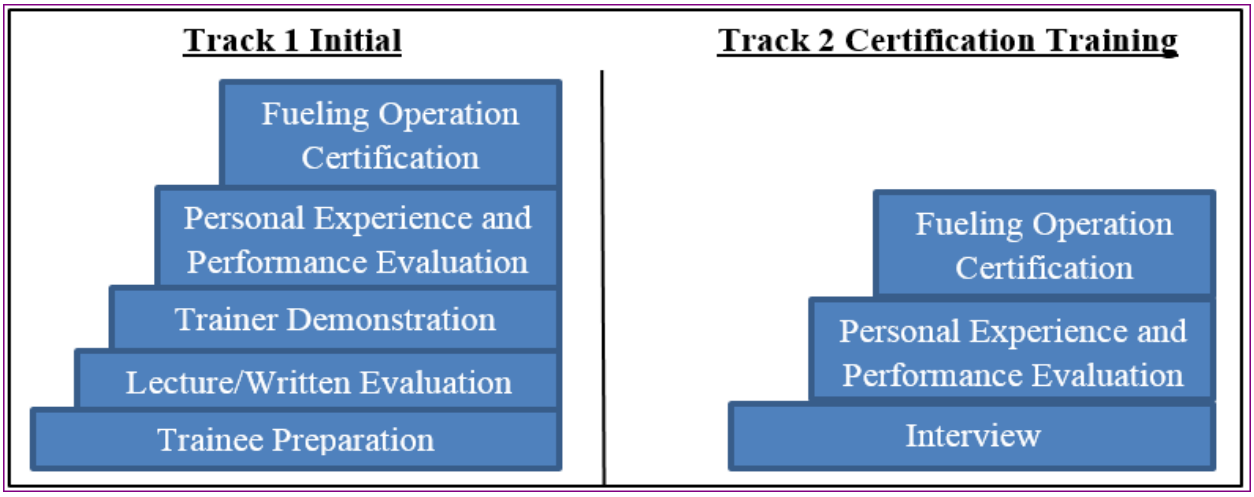
3.2.3. Know the proper operator maintenance procedures of the R-12/HSV fuel truck IAW the manufacturer's operator's manual, applicable technical orders, the seven-step inspection process and the vehicle inspection guide.

3.2.4. Safely and proficiently operate the R-12/HSV fuel truck.

3.3. Lesson Duration.

3.3.1. The lesson establishes a dual track certification. The first track focuses on developing foundational skills, confidence and proficiency of trainees seeking initial qualifications and certifications as well as those who have been decertified as a result of a UCR, DSV or TDV. The second track seeks to gauge the performance and skills a trainee has already developed as a result of extensive experience operating a mobile fuel vehicle.

Figure 3.1. Dual Track Certification.



3.3.2. Use an interview and practical equipment operational assessment when certifying operators with previous experience. If portions of Track 1 need to be included to ensure operator receives necessary training, implement as required.

3.3.3. Recommended instructional and hands on training time 36 hours:

Figure 3.2. Recommended Training Time for Training Activities.

Training Activity	QTP Location	Initial/ Recertification Training Time	Certification Training Time
Trainee's Preparation	**Section 4**	1 Hour	See Para. 3.2.2.
Trainer's Lecture/Explanation	**Section 5**	5 Hours	See Para. 3.2.2.
Trainee's Written Evaluation	**Attachment 3** (4) Knowledge Exams (officially proctored)	5 Hour	See Para. 3.2.2.
Trainer's Demonstration	**Sections 5.4 – 5.6.** (w/out AQL)	3 Hours	See Para. 3.2.2.
Trainee's Personal Experience (to build confidence and proficiency)		20 Hours	As required to assess previously qualified proficiency
▪ Perform Operator Maintenance ▪ Operate the Vehicle Recommended 20 hrs. driving experience ▪ 6 x Off-set Backing ▪ 6 x Parallel Park ▪ 4 x Hardened Aircraft Shelter Backing ▪ 8 x proximity exercise (10/25/50 ft) ▪ 4 x 3-Point Turns			
Trainee's Performance Evaluation	**Section 5.6.** (w/AQL)		
Fueling Operation Certification			
Vehicle Components	**Section 6.1.**		
Refueling Operation	**Section 6.2.**		
Defueling Operation	**Section 6.3.**		
As Required: CBRN TQT		2 Hours	2 Hours

3.3.3.1. 36 Hour Equation. Operators earn 30 minutes for each servicing trip or for one rotation through the driving experience maneuvers. This equation is based solely on driving time. The total number of maneuvers listed above in the personal experience column should completed to ensure training qualification proficiency.

3.3.3.2. Each activity requires a minimum amount of time to complete the various phases of training. Trainees completing initial training may require more training time based on the needs and progress of the trainee.

3.4. Instructional References.

3.4.1. AFI 24-301, *Ground Transportation*

3.4.2. Air Force Manual (AFMAN) 24-306, *Operation of Air Force Government Motor Vehicles.*

3.4.3. R-12/HSV Qualification Training Package.

3.4.4. Hazardous Material qualification training package.

3.4.5. AAMVA *CDL Manual*.

Note: The material found in this qualification training package was written using resources developed by the AAMVA including AAMVA's *CDL Manual* in order to provide all Air Force R-12/HSV fuel truck operators with content in-line with the standards of knowledge equivalent to national standards met by Class B CDL holders. It has been expanded upon and modified to address the mission and standards required by the Department of Defense (DoD) and the United States Air Force.

3.4.6. Risk Management (RM) and Safety Principles IAW Air Force Pamphlet 90-803, *Risk Management (RM) Guidelines and Tools*.

3.4.7. Applicable Technical Orders (T.O.s) or Manufacturer's Operations Manual (see vehicle maintenance for T.O. number for vehicle being used in training).

3.4.8. T.O. 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance.*

3.4.9. AF Form 4427, *Operator's Inspection Guide and Trouble Report (Fuels Servicing vehicles and Equipment).*

3.4.10. Applicable state's CDL Manual (access via the Internet).

3.4.11. Code of Federal Regulations (CFR), Title 49—Transportation, Subtitle B—Other Regulations Relating to Transportation (Continued), Chapter III—Federal Motor Carrier Safety Administration (FMCSA), Department of Transportation, parts 300-399; on-line at http://www.access.gpo.gov/nara/cfr/cfr-table-search.html.

3.4.12. AAMVA website; on-line at http://www.aamva.org/.

3.5. Instructional Training Aids and Equipment.

3.5.1. R-12/HSV Qualification Training Package.

3.5.2. AAMVA *CDL Manual*.

3.5.3. R-12/HSV vehicle.

3.5.4. Applicable T.O. or manufacturer's operator's manual.

3.5.5. AF Form 4427.

3.5.6. Suitable training area.

3.5.7. Traffic cones.

Section 4—TRAINEE PREPARATION

4.1. Licensing Requirements.

4.1.1. Trainee must have in his/her possession a valid state driver's license.

4.1.2. AF Form 171, *Request for Driver's Training and Addition to U.S. Government Drivers* IAW Air Force Instruction (AFI) 24-301, *Ground Transportation*.

4.1.3. Applicable local licensing jurisdiction requirements

4.2. Required Reading (Testable Material).

4.2.1. R-12/HSV Qualification Training Package.

4.2.2. **AAMVA's *CDL Manual***.

Note: Once the installation has transitioned to the AAMVA model, the required written tests will be developed solely from the material found in the AAMVA *CDL Manual*. Trainees at installations that have transitioned to the AAMVA model should study the AAMVA *CDL Manual* to prepare for achieving a minimum of an 80% on each required knowledge and endorsement test. Refer to Section 1 of the AAMVA *CDL Manual* for guidance on applicable sections for each test.

4.2.3. AFMAN 24-306.

4.2.4. Manufacturer's operator's manual for the applicable mobile fuel vehicle.

Section 5—KNOWLEDGE LECTURE AND EVALUATION/MOBILE FUELS VEHICLE FUNDAMENTALS

5.1. Knowledge Overview (Lecture).

5.1.1. Trainees assigned to an installation that has not transitioned to the AAMVA model:

5.1.1.1. Will pass the written tests, with a minimum score of 80%, IAW AFI 24-301 prior to taking the performance test for the R-12/HSV.

5.1.1.2. Written tests will be developed using this vehicle qualification training package and the AAMVA *CDL Manua*l as source documents.

5.1.1.3. The trainer will schedule the trainee's written test(s) through the VCO.

5.1.2. Trainees assigned to an installation that has transitioned to the AAMVA model:

5.1.2.1. Will be required to pass the following knowledge and endorsements tests, with a minimum score of an 80%, prior to taking the Air Force Performance for the R-12/HSV:

5.1.2.1.1. General Knowledge Test. This test samples basic driver knowledge related to the safe operation of any commercial vehicle required for all R-12/HSV fuel truck operators to know. This test is not dependent on the type of vehicle driven or the cargo transported. It consists of 50 multiple choice questions.

5.1.2.1.2. Air Brakes Knowledge Test. This test measures knowledge required to drive vehicles equipped with air brakes. It consists of 20 to 30 multiple choice questions.

5.1.2.1.3. Tank Vehicle Knowledge Test. This test measures the knowledge required to operate vehicles used to haul any liquid or gaseous materials in a tank or tanks having an individual rated capacity of more than 119 gallons and an aggregate rated capacity of 1,000 gallons or more that is either permanently or temporarily attached to the vehicle or chassis. It consists of 20 to 30 multiple choice questions.

5.1.2.1.4. Hazardous Materials Knowledge Test. This test is required to operate a vehicle used to haul hazardous material as defined in 49 CFR 383.5. It consists of 20 to 30 multiple choice questions.

5.1.2.2. Required knowledge and endorsement tests will be administered through the Ground Transportation office.

5.1.2.3. The trainer will schedule the trainee's required knowledge/endorsement test(s) through the VCO.

5.1.2.4. The trainee will not be required or expected to take all four exams in one sitting. However, the trainee will need to pass all required tests, and provide verification of successful completion to his/her trainer and the VCO prior to being administered the Air Force Performance Test.

5.1.3. Trainees who fail the written test or knowledge/endorsement test(s), will be rescheduled to accomplish the test(s) following remedial training at the discretion and approval of the VCO and trainer.

Note: Refer to AFI 24-301 and local SOP for remediation and retake policy.

5.2. Overview of Training and Requirements.

5.2.1. Training objectives:

5.2.1.1. Given lectures, demonstrations, and hands-on driving sessions, trainees will be able to:

5.2.1.1.1. Achieve an 80% or higher on all written tests and/or electronic knowledge and endorsement tests.

5.2.1.1.2. Complete all three components of the performance test with zero instructor assists and a passing score.

5.2.1.1.3. Ensure the trainee becomes trained and qualified as an R-12/HSV operator, an operator who has the knowledge and skills for safe and professional R-12/HSV operation and preventative maintenance of various mobile fuels vehicles.

5.2.1.1.4. Ensure the trainee becomes qualified in the maintenance and operation of the air brake system, an operator who has the knowledge and skills to operate the air brake system in a safe and professional manner.

5.2.2. Desired learning outcome.

5.2.2.1. Understand the safety precautions to be followed pre-, during-, and post-operation of the R-12/HSV and the air brake system.

5.2.2.2. Understand the purpose of the R-12/HSV and its role in the mission.

5.2.2.3. Know the proper operator maintenance procedures of the R-12/HSV, IAW applicable technical orders, the seven-step inspection process, and the vehicle inspection guide.

5.2.2.4. Be able to safely and proficiently operate the R-12/HSV and air brake system.

5.2.2.5. Why is this important?

5.2.2.5.1. Meet mission requirements.

5.2.2.5.2. Demonstrate a qualified trained professional operator.

5.2.3. CDL Overview.

5.2.3.1. Military members are not required to obtain a CDL IAW 49 CFR Part 383.3.

"Each State must exempt from the requirements of this part individuals who operate commercial motor vehicles (CMVs) for military purposes. This exception is applicable to active duty military personnel; members of the military reserves; member of the national guard on active duty, including personnel on full-time national guard duty, personnel on part-time national guard training, and national guard military technicians (civilians who are required to wear military uniforms); and active duty U.S. Coast Guard personnel. This exception is not applicable to U.S. Reserve technicians."

5.2.3.2. The Air Force The Air Force is, however, required to develop and provide training meeting or exceeding national requirements for CMV operation IAW Department of Defense Manual (DoDM) 4500.36, *Acquisition, Management, and Use of DoD Non-Tactical Vehicles*:

"DoD Components will prescribe licensing requirements for its military and civilian drivers that meet or exceed the minimum national requirements issued by the Secretary of Transportation"

5.2.3.3. Federal Motor Carrier Safety Administration (FMCSA), under the Department of Transportation (DOT), serves as the administrator for CDL requirements.

5.2.3.3.1. AAMVA, on behalf of FMCSA, develops, provides and maintains the minimum national standards through its CDL Test System model, standards and resources IAW the CFR and the Commercial Motor Vehicle Safety Act of 1986.

5.2.3.3.2. CDL knowledge requirements include:

5.2.3.3.2.1. Safe operations regulations. Motor vehicle inspection, repair, and maintenance; safe vehicle operations procedures (proper visual search methods, appropriate use of signals, speed control for weather and traffic conditions, safe lane changing and turning); effects of fatigue, poor vision, hearing, and general health, alcohol and drug use upon safe CMV operation; types of motor vehicles and cargo subject to the requirements.

5.2.3.3.2.2. Basic vehicle control skills. Ability to start, to stop, and to move the vehicle forward and backward in a safe manner.

5.2.3.3.2.3. Proper use of CMV safety control systems. Lights, horns, side and rear-view mirrors, mirror adjustments, fire extinguishers, symptoms of improper operation revealed through instruments, motor vehicle operation characteristics, and diagnosing malfunctions. Knowledge on the correct procedures needed to use these safety systems in an emergency situation, e.g., skids and loss of brakes.

5.2.3.3.2.4. Air brake equipped. IAW DoT standards and the AAMVA model CDL program, the Air Force requires additional training and evaluation to operate a CMV with air brakes (See **Section 5**).

5.2.3.3.2.5. Transportation of Hazardous Materials endorsement requires additional knowledge and skill sets in accordance with AAMVA requirements. **Note:** For information on the knowledge and skill sets required for the AF vehicle operator transporting hazardous material, see AFMAN 24-306, the Hazardous Materials qualification training package and the AAMVA *CDL Manual*.

5.3. Vehicle Inspection.

5.3.1. Documentation.

5.3.1.1. A walk-around inspection must be completed prior to entering the vehicle for operation.

5.3.1.2. Use **Attachment 4** as a walk-around guide. The performance test will include a vehicle and air brakes inspection. **Note:** During the performance test, the trainee will be permitted to use the R-12/HSV Vehicle Inspection Memory Aid (**Attachment 4**).

5.3.1.3. A Seven-Step Inspection Method will help ensure the inspection is the same each time it is conducted, and that nothing is left out. See **Attachment 7** for the Seven-Step Inspection Method. **Note:** The trainee will NOT be permitted to use the Seven-Step Inspection Method guide (**Attachment 7**) during the performance test.

5.3.1.4. Fill out and sign the AF Form 4427. If repairs are needed, follow the base policy on repairs, and/or request a replacement R-12/HSV to accomplish the scheduled run.

5.3.1.5. The operator should verify Standard Form (SF) 91, Motor Vehicle Accident Report and Department of Defense (DD) Form 518, Accident Identification Card are on-hand.

5.3.1.6. Pre-operation inspection (pre-trip inspection) – find items/problems that could cause accident or breakdown.

Note: If discrepancies are found the operator must report them to the VCO, the supervisor, and/or vehicle maintenance.

5.4. Vehicle Safety and Equipment.

5.4.1. Hazards and human factors:

5.4.1.1. Types of hazards include:

5.4.1.1.1. Inadequate space management (spatial/situational awareness). Operator should:

5.4.1.1.1.1. Ensure adequate space around vehicle while operating and performing movements.

5.4.1.1.1.2. Recognize blind spots.

5.4.1.1.2. Improper adjustment and use of mirrors (flat/curved). See **Figure 5.1.**

5.4.2. Safety clothing and personal protective equipment (PPE):

5.4.2.1. Safety steel-toed boots must be worn.

5.4.2.2. First aid kit.

5.4.2.3. Hearing protection, if required.

5.4.2.4. Reflective belt, if required.

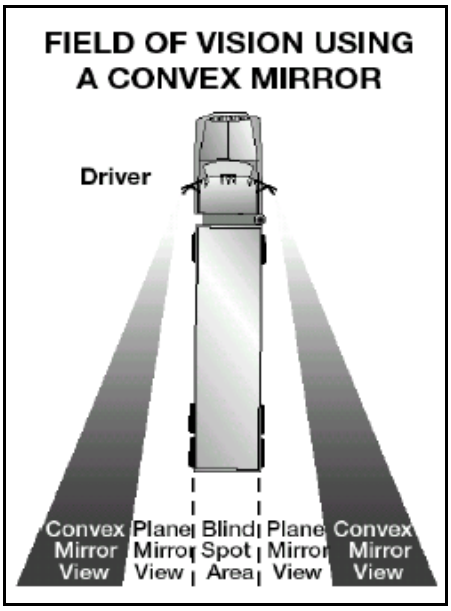
5.4.2.5. Warning triangles or flares, if required.

5.4.2.6. Inclement weather gear.

5.4.2.7. AF Form 4427.

Note: For day-to-day operations and normal use, the AF Form 4427 will be used to document any discrepancies found during the vehicle pre-inspection, during-use inspection and post-operation inspection. As a part of the certification process, during the performance test, the trainee will not use the AF Form 4427 when accomplishing the walk-around inspection. The trainee will only be allowed to reference the vehicle inspection guide (**Attachment 4**).

Figure 5.1. Field of Vision Using a Convex Mirror.



5.4.2.8. Common operator mishaps: Jerky starts and stops, traveling too fast, and cutting corners too sharply.

5.4.3. Understanding driving emergencies.

5.4.3.1. Skid control and recovery/anti-lock braking systems.

5.4.3.2. Accident procedures.

5.4.3.3. Safety/fire hazards.

5.4.3.4. Hazardous material/cargo rules.

5.5. Driving Safety and Precautions.

5.5.1. Basic vehicle control skills (hands-on training).

5.5.1.1. Basic maneuvers.

5.5.1.2. Backing.

5.5.1.2.1. Always use a spotter when backing. The operator must maintain visual contact with the spotter at all times. If visual contact is lost, the operator must immediately stop the vehicle.

5.5.1.2.2. See AFMAN 24-306 for additional information on spotter safety and standard AF spotter hand signals.

5.5.1.3. Flightline fundamentals.

5.5.2. Unique local conditions.

5.6. Air Brakes.

5.6.1. Safe operation of an R-12/HSV with an air brake system.

5.6.1.1. Safe operation of a CMV with an air brake system, requires knowledge of: Air Brake System nomenclature; the dangers of contaminated air supply; implications of low air pressure readings; procedures to conduct safe and accurate pre-trip inspections; procedures for conducting en route and post-trip inspections of air actuated brake systems (ability to detect defects, which may cause the system to fail). See the AAMVA *CDL Manual* for detailed, testable information on the Air Brake System needed to operate the Air Brake System and to pass the required Air Brakes (endorsement) Test.

5.6.1.2. In addition to the Air Brakes Knowledge Test, the operator will be required to inspect the Air Brake System as a part of the performance test and as a part of the walk-around inspection, for daily operations, once licensed on the vehicle. When inspecting air brakes, the following are added items to be included in Step 2 "Engine Compartment Checks", Step 5 "Walk-Around Inspecting", and Step 7 "Final Air Brake Check" of the Seven-Step Inspection Process. See **Attachment 4**.

Note: If any of the below tests fail, the trainee must report them to VCO, the supervisor, and or vehicle maintenance.

Figure 5.2. Air Brakes Inspection.

Additional Steps for Inspecting Air Brakes	
Step	**Procedure**
2. Engine Compartment Checks	• Check air compressor drive belt condition and tightness (if compressor is belt driven).
5. Walk-Around Inspecting	• Check manual slack adjusters on S-cam brakes. **Note:** Vehicles with automatic slack adjustors still must be checked. ○ Park on level ground and chock the wheels. ○ Release the parking brakes in order to move the slack adjusters. ○ Use gloves and pull hard on each slack adjuster that can be reached. ○ Check slack adjuster, more than 1-inch indicates adjustments required (vehicles with too much brake slack can be very hard to stop). Adjust it or have it adjusted.

	• Check brake drums (or discs), linings, and hoses.
7. Final Air Brake Check	• Test low pressure warning signal. ○ Shut the engine off when the vehicle has enough air pressure so that the low pressure warning signal is not on. ○ Turn the electrical power on. ○ Step on and off the brake pedal to reduce air tank pressure. ○ Low air pressure warning signal should come on before the pressure drops to less than 60 psi in the air tank with lowest pressure. • Check that the spring brakes come on automatically. ○ Chock the wheels. ○ Release the parking brakes when enough air pressure is built up. ○ Shut the engine off. ○ Step on and off the brake pedal to reduce the air tank pressure. ○ "Parking brake" knob should pop out when the air pressure falls to the manufacturer's specification. • Check rate of air pressure buildup ○ Refer to manufacturer’s recommendation for average buildup time. ○ If not within recommended time, the air pressure may drop too low during driving operations. • Test air leakage rate. ○ With a fully-charged air system (typically 125 psi). ○ Turn-off the engine. ○ Release the service brake and time the air pressure drop. ○ The loss rate should be less than 2 psi in one minute for single vehicles. ○ Not less than 3 psi in 1 minute for combination vehicles. • Then apply 90 psi or more with the brake pedal. ○ After the initial pressure drop, if the air pressure falls more than 3 psi in 1 minute for single vehicles. • Check air compressor governor cut-in and cut-out pressures.

	○ Air compressor should start at about 100 psi and stop at about 125 psi. ○ Run the engine at a fast idle. ○ Air governor should cut-out the air compressor at about the manufacturer's specified pressure. ○ Engine idling, step on and off brake to reduce air tank pressure. ○ Compressor should cut-in at manufacturer's specified cut-in pressure. ○ Test parking brake: Stop the vehicle; put the parking brake on; gently pull against it in low gear to determine if parking brake will hold. • Test service brakes. • Wait for normal air pressure. • Release the parking brake. • Move the vehicle forward slowly (about 5 mph). • Apply the brakes firmly using the brake pedal. • Note any vehicle "pulling" to one side, unusual feel, or delayed stopping action.

5.7. R-12/HSV Operation Training.

5.7.1. Task Training Guide.

Figure 5.3. Task Training Guide – Hydrant Servicing Unit.

Specialty Training Standards Reference Number/Title:	5.1.2.2. Drive Hydrant Servicing Unit.
Training References:	Vehicle specific 36-series T.O.s, AFMAN 24-306, local State's CDL Manual, **Attachment 6** of this AFQTP.
Prerequisites:	1. Possess, as a minimum, AFSC 2F031 or approved waiver from the Fuels Career Field Manager. 2. Review the references. 3. Complete **Section 5** of this AFQTP MFVF.
Equipment Required:	R-12/HSV Mobile Fueling Vehicle and Personal Protective Equipment.
Learning Objective:	Trainee will be able to drive an R-12/HSV and perform a series of driving maneuvers.
Samples of Behavior:	Read additional information on driving an R-12/HSV. Master knowledge on operating the vehicle. Ask questions about driving the R-12/HSV mobile fuel vehicle.
Note: Any safety violations will result in immediate failure.	

5.7.2. Performance checklist.

5.7.2.1. Instructions: The trainee must satisfactorily perform all parts of the task without assistance. Evaluate the trainee's performance using this checklist. Ensure a review is conducted coving all items missed or incorrectly identified during the evaluation.

5.7.2.2. AQL Application. AQLs will only be applied during the Trainee Performance Evaluation phase and not the Trainer Demonstration phase. The total number of corrections for each standard task performance will not exceed the established AQL. If a zero (0) AQL is assigned to a standard performance task demonstration, the trainee is expected to demonstrate the task without correcting, missing or incorrectly negotiating the task. Examples include pulling forward to restart a backing operation or hitting a cone positioned on the driving course.

Table 5.1. Standard Performance Task.

STANDARD PERFORMANCE TASK		**YES**	**NO**	**AQL**
1	Operator has required PPE, inspected & serviceable			0
2	Review vehicle forms for discrepancies & signed off for the day.			0
3	Perform walk around inspection and stow chock			0
4	Adjust seat and fasten safety belt			0
5	Verify and adjust mirrors			0
6	Observe speed limits (observe vehicle spacing if available)			0
8	Turns: checks traffic in all directions, uses turn signals and safely gets into turning lane. Slows down and checks mirrors for clearance.			0
9	Intersections: checks traffic in all directions; decelerates properly, brakes smoothly and if necessary comes to a complete stop.			0
10	Stopping: decelerates smoothly, brakes evenly and brings vehicle to a full stop without coasting.			0
11	Starting: checks traffic, avoids jerky starts.			0
Attachment 6 Maneuvers				
12	Straight line backing			1
13	Basic turns (signaling, smooth operation, uses mirrors)			0
14	Offset backing (left and right)			1
15	Turn w/ backing maneuver (Hardened Aircraft Shelter Simulation)			0
16	Proximity exercises – cone course			1
17	Parallel parking			1
18	Three point turn			1
11	Local condition requirements			0
12	Vehicle parking (include walk around and chock)			0

5.7.3. Evaluator Comments. Provide the trainee constructive feedback regarding the driving evaluation.

Section 6—A/S R-12/HSV TASK TRAINING

6.1. Vehicle Components.

6.1.1. Overview: Teach the components and their functions on R-12/HSV mobile fueling vehicle. Use **Attachment 2** to identify R-12/HSV components and also as a study guide. Practice evaluations will be conducted prior to the evaluation. The trainee will be evaluated on their ability to correctly identify the fueling vehicle components and their function without assistance from the evaluator. The trainee must complete the identification of the components and their functions within 15 minutes. A score of at least 90% is required to satisfactory progress.

6.1.2. Task Training Guide.

Figure 6.1. Task Training Guide – Mobile Fueling Vehicle Components.

STS Reference Number/Title:	5.1.1.1. Hydrant Servicing Vehicle Components.
Training References:	Vehicle specific 36-series T.O.s, T.O. 36-1-191, T.O. 00-25-172CL-4
Prerequisites:	1. Possess, as a minimum, AFSC 2F031 or approved waiver from the Fuels Career Field Manager. 2. Review the references. 3. Complete **Section 5** of this AFQTP MFVF Fundamentals.
Equipment Required:	R-12/HSV and Personal Protective Equipment.
Learning Objective:	Trainee will be able to identify R-12/HSV components.
Samples of Behavior:	Trainees will know operational concepts behind issue/defuel operations and understand how to apply them in conjunction with AF safety policy. Safety violations result in an immediate failure.

6.1.3. Performance checklist:

6.1.3.1. Instructions: The trainee must satisfactorily perform all parts of the task without assistance. Evaluate the trainee's performance using this checklist. Ensure a review is conducted of any item missed or incorrectly identified during the evaluation.

6.1.3.2. AQL definitions: Trainee may incorrectly identify or ask for assistance during the performance evaluation on a MAXIMUM of 10% of the components to be identified.

Figure 6.2. Standards.

STANDARDS		**YES**	**NO**	**AQL**
1	Correctly identify the R-12/HSV components?			10
2	Explain the function of the components?			10
3	Complete the assessment within 15 minutes?			N/A

6.1.3.3. Evaluator comments. Provide the trainee constructive feedback regarding the driving evaluation.

6.2. Refueling Operation.

6.2.1. Overview: Teach the refueling operation (issue aviation fuel) using an R-12/HSV. NOTE: The information contained in this QTP is the basic necessary knowledge. Using the references and performance checklist, explain the steps needed to perform the operation. Once the operation has been explained and demonstrated, the trainee will perform the operation under close supervision. Based on level of demonstration, the trainee will perform the operation under evaluation conditions, which means no assistance from the task list or the evaluator. Questions should be asked by the trainee at any point during the instruction and the lesson should not move on until all questions have been answered and comprehension of the material has been achieved. Make sure trainee has a clear view during the operations and are able to explain operational concepts prior to being evaluated.

6.2.2. Task Training Guide.

Figure 6.3. Task Training Guide – Issue Aviation Fuel.

STS Reference Number/Title:	5.1.3.1.1. Issue Aviation Fuel.
Training References:	Vehicle specific 36-series T.O.s, T.O. 36-1-191, T.O. 36A12-13-31-1CL-1
Prerequisites:	1. Possess, as a minimum, AFSC 2F031 or an approved waiver from the Fuels Career Field Manager. 2. Review the references. 3. Complete **Section 5** of this AFQTP MFV Fundamentals.
Equipment Required:	R-12/HSV Mobile Fuel Vehicle and Personal Protective Equipment.
Learning Objective:	Trainee will be able to issue fuel for the required operation.
Samples of Behavior:	Read additional information on refueling with the R-12/HSV. Master knowledge on the refueling operation. Ask questions about refueling with the R-12/HSV.
Note: Any safety violation results in immediate failure.	

6.2.2.1. Performance checklist.

6.2.2.1.1. Instructions: Review task steps and standards. Trainers must continue to encourage the trainee to ask questions. Trainers must monitor the trainee so that he/she can identify and correct any potential problems. Allow trainee to practice as much as needed to gain adequate proficiency. The final practice will be a practice evaluation, performed under *exactly* the same conditions as the actual evaluation.

6.2.2.1.2. AQL Definitions: Trainee must be able to complete the refuel operation in a timely manner. Trainee has to accomplish no less than 100% correct to receive a satisfactory completion.

Figure 6.4. Standards (continued).

STANDARDS		YES	NO	AQL
1	Inspect forms/documentation prior to operation?			0
2	Operator has required PPE/vehicle forms are inspected			0
3	Walk around inspection performed, chock stored			0
4	Safety belt, seat adjustment			0
5	Operate vehicle safely to include FOD check and all airfield regulations?			
6	Speed limits are observed (observe vehicle spacing if available)			0
7	Approach aircraft & follow crew chief's guidance?			0
8	Engage the PTO?			0
9	Emergency Shutdown Procedures			0
10	Set up the R-12/HSV for refuel? a. Chock, ground/bond b. Clear meters c. Open tank vent (if necessary) d. Position HYDRANT/DEFUEL selector valve to Hydrant e. Connect moosehead to hydrant outlet-check strainer coupling quick disconnect for positive locking f. Connect sensing lines to hydrant outlet g. Position the hi-lift for underwing operations (if required) h. Connect nozzle to receptacle – check strainer coupling quick disconnect for positive locking			0
11	Monitor control panel/FSSZ a. Do not exceed 55 psi on the nozzle pressure gauge b. Convert observed differential pressure (DP) to corrected DP			1
12	Return truck to driving conditions			0
13	Stow all equipment and do a walk around inspection			0
14	Exit the area properly			0
15	Vehicle parked (include walk around and chocking vehicle)			0
Note: A walk-around inspection must be completed prior to entering the vehicle for operation.				

6.2.2.2. Evaluator Comments. Provide the trainee constructive feedback regarding the driving evaluation.

6.3. Defueling Operation.

6.3.1. Overview: Teach the defueling operation (defuel aviation fuel) using an R-12/HSV. Using the references and performance checklist, explain the steps needed to perform the operation. Once the operation has been explained and demonstrated the trainee will perform the operation under close supervision. Based on level of demonstration the trainee will perform the operation under evaluation conditions which means no assistance from the task list or the evaluator. Questions should be asked by the trainee at any point during the instruction and the lesson should not move on until they have been answered and comprehension of the material has been achieved. Make sure trainees have a clear view during the operations and are able to explain operational concepts prior to being evaluated.

6.3.2. Task Training Guide.

Figure 6.5. Task Training Guide – Defuel Aviation Fuel.

STS Reference Number/Title:	5.1.3.2. Defuel Aviation Fuel.
Training References:	Vehicle specific 36-series T.O.s, T.O. 36-1-191, T.O. 36A12-13-31-1CL-1
Prerequisites:	1. Possess, as a minimum, AFSC 2F031 or approved waiver from Fuels Career Field Manager. 2. Review the references. 3. Complete **Section 5** of this AFQTP MFV Fundamentals.
Equipment Required:	R-12/HSV and Personal Protective Equipment.
Learning Objective:	Trainee will be able to perform required defuel operation.
Samples of Behavior:	Read additional information on defueling with the R-12/HSV. Master knowledge on the defueling operation. Ask questions about defueling with the R-12/HSV.
Note: Any safety violation results in immediate failure.	

6.3.2.1. Performance checklist.

6.3.2.1.1. Instructions: Review task steps and standards. Trainers must continue to encourage the trainee to ask questions. The trainer must monitor the trainee so that he/she can identify and correct any potential problems. Allow trainee to practice as much as needed to gain proficiency. The final practice will be a practice evaluation, performed under *exactly* the same conditions as the actual evaluation.

6.3.2.1.2. AQL Definitions: Trainees must be able to complete the defuel operation in a timely manner. Trainees have to get no less than 100% correct to receive a satisfactory completion.

Figure 6.6. Standards (continued).

STANDARDS		YES	NO	AQL
1	Inspect forms/documentation prior to operation?			0
2	Confirm visual inspection of the product has been performed?			0
3	Operator has required PPE/vehicle forms are inspected			0
4	Walk around inspection performed, chock stored			0
5	Safety belt, seat adjustment			0
6	Perform a walk around inspection of the vehicle?			0
7	Operate vehicle safely to include FOD check and all airfield regulations?			0
8	Follow the crew chief's instructions and/or guidance?			0
9	Engage the PTO?			0
10	Set up the R-12/HSV for defuel? a. Chock, ground/bond b. Clear meters c. Open tank vent (if necessary) d. Position HYDRANT/DEFUEL selector valve to Defuel e. Connect moosehead to hydrant valve – check strainer coupling quick disconnect for positive locking f. If equipped, check the Strainer Ball Valve to ensure it is placed in the defuel position g. Position the hi-lift for underwing operations (if required) f. Connect nozzle to receptacle – check strainer coupling quick disconnect for positive locking. 300 GPM (system limit)			0
11	Monitor control panel/FSSZ			1
12	Return truck to driving conditions			0
13	Stow all equipment and do a walk around inspection			0
14	Exit the area properly			0
Note: Servicing crew members shall use no more than one aircraft transfer/booster pump when defueling aircraft. Failure to follow this guidance may result in overfilling the cargo tank.				

6.3.2.2. Evaluator comments. Provide the trainee constructive feedback regarding the driving evaluation.

Section 7—TRAINEE PERFORMANCE DEMONSTRATION AND EVALUATION

7.1. Trainee Performance.

7.1.1. Following the trainer demonstration, the trainee will accomplish the required behind-the wheel time. The trainer will evaluate the trainee for the objectives found in **Section 6**, **Section 7** and **Attachment 6**.

7.1.1.1. The R-12/HSV operation demonstration evaluation checklist is a training tool intended to assist the trainer in preparing the trainee for being evaluated and licensed to operate the R-12/HSV.

7.1.1.2. The performance test, administered by the TVO Examiner, (in addition to the required written test or knowledge/endorsement test(s)) is the only official evaluation used to license the individual on the R-12/HSV.

7.2. Instructor's Preparation.

7.2.1. Establish a training location.

7.2.2. Obtain appropriate manufacturer's operator's manual.

7.2.3. Schedule/reserve a vehicle.

7.2.4. Ensure trainee completes AF Form 171.

7.3. Safety Procedures and Equipment.

7.3.1. The following safety items should be followed by the trainee and trainer:

7.3.1.1. Chock wheel (if required) when the vehicle is parked.

7.3.1.2. Remove all jewelry and identification tags.

7.3.1.3. PPE items.

7.3.1.3.1. Safety steel-toed boots.

7.3.1.3.2. Reflective belt, if required.

7.3.1.3.3. Hearing protection, if required.

7.3.1.3.4. First aid kit.

7.3.1.3.5. Warning triangles.

7.3.1.3.6. Inclement weather gear, if required.

7.3.1.4. Ensure operator and passenger wear seatbelt.

7.3.1.5. Properly adjust operator's seat and all mirrors.

7.3.1.6. Throughout demonstration, practice R-12/HSV safety.

7.3.1.7. Keep loads and passenger capacity within the rated capacity of the vehicle.

7.3.1.8. Do not jump from vehicle; use handholds provided.

7.3.1.9. Conduct passenger loading/unloading operations from curb side to the maximum extent possible.

7.3.1.10. Practice basic AF RM process during demonstration:

7.3.1.10.1. Identify hazards.

7.3.1.10.2. Assess hazards.

7.3.1.10.3. Develop controls and make decisions.

7.3.1.10.4. Implement controls.

7.3.1.10.5. Supervise and evaluate.

7.4. Trainee Vehicle (Pre-trip) Inspection.

7.4.1. Have the trainee accomplish the vehicle inspection. The trainee will document the inspection on an AF Form 4427. The vehicle inspection will follow the seven-step method as described in **Attachment 7**. An inspection guide/memory aid (**Attachment 4**) can be used to ensure all areas of the R-12/HSV are covered.

7.4.1.1. The trainee will be able to utilize **Attachment 4** during the performance test. If desired, the TVO Examiner will provide the trainee with a clean copy at the time of the performance test.

Note: The trainee will not need to accomplish an AF Form 4427 during the performance test, however, it will be used for daily inspections.

7.5. Trainee Operation Demonstration.

7.5.1. Demonstration overview. The trainee will demonstrate the following material to gain experience in becoming a proficient R-12/HSV operator.

7.5.1.1. Allow for questions during demonstration.

7.5.1.2. Have the trainee repeat objectives, as needed.

7.5.2. The trainee will demonstrate and explain the following for the R-12/HSV being operated. **Note:** Use information contained on the vehicle data plate and/or the operator's manual.

7.5.2.1. R-12/HSV capacities.

7.5.2.2. Explain the parking brake as it applies to the R-12/HSV being used.

7.5.2.3. R-12/HSV controls.

7.5.3. The trainee will demonstrate the following R-12/HSV vehicle operations. See **Attachment 6** for additional guidance:

7.5.3.1. Backing. (Use a spotter when backing).

7.5.3.1.1. Straight line backing.

7.5.3.1.2. Offset back – Left.

7.5.3.1.3. Offset back – Right.

7.5.3.2. Sight side parallel parking (operator's side).

7.5.3.3. Conventional parallel parking.

7.5.4. With R-12/HSV, trainee will demonstrate driving on a road course:

7.5.4.1. Turns (4 Left/4 Right).

7.5.4.2. Intersections.

7.5.4.3. Urban/rural straight.

7.5.4.4. Expressway.

7.5.4.5. Start/stop.

7.5.4.6. Curves (1 Left/1 Right).

7.5.4.7. Upgrades.

7.5.4.8. Downgrades.

7.5.4.9. Railroad crossing (1).

7.5.4.10. Bridge/overpass.

7.5.5. Trainee will perform the post-operation inspection and report:

7.5.5.1. Walk-around inspection. Fill out AF Form 4427.

7.5.5.2. Ensure vehicle is clean.

7.5.5.3. Ensure vehicle is refueled.

7.5.5.4. Park.

7.5.5.4.1. Apply brakes.

7.5.5.4.2. Place transmission in neutral (park on an automatic).

7.5.5.5. Follow manufacturer's operator's manual for shutdown procedures.

7.5.6. Conclude by allowing time for questions.

7.6. Performance Test Overview.

7.6.1. The examiner provided by the Ground Transportation TVO activity will administer the performance test for the R-12/HSV IAW AFI 24-301 and AFQTP 24-3-200.

7.6.1.1. The trainer will ensure that the trainee is familiar with the components and structure of the test, the items being evaluated and the minimum standards needed to pass the exam.

7.6.1.2. The trainee must first pass required written or knowledge/endorsement tests. See **Section 5** for additional information.

7.6.2. In order to be licensed on the R-12/HSV:

7.6.2.1. Trainees assigned to an installation that has not transitioned to the AAMVA model will successfully accomplish the performance test developed and administered by TVO staff IAW AFI 24-301. **Note:** The performance test will be developed using this qualification training package plan and will include evaluation components from **Section 6**, **Section 7** and **Attachment 6**.

7.6.2.2. Trainees assigned to an installation that has transitioned to the AAMVA model will successfully accomplish the Air Force Performance Test administered by a TVO Examiner IAW AFI 24-301 and AFQTP 24-3-200.

7.6.3. The Air Force Performance Test consists of three parts: The Vehicle Inspection Test, Basic Control Skills Test and the Road Test. **Note:** Prior to starting a Performance Test with a tank vehicle, the operator will verify that hazardous materials have been removed.

7.6.3.1. Vehicle Inspection. The trainee will be tested to see if he/she knows whether the vehicle is safe to drive. The trainee will walk around the vehicle and point to or touch each item and explain to the examiner what he/she is inspecting and why. The trainee will NOT have to crawl under the hood or under the vehicle.

7.6.3.1.1. The vehicle inspection test includes an air brakes test, engine start, an in-cab inspection, and a walk-around inspection. See **Attachment 6** of this AFQTP and Section 11 of the AAMVA *CDL Manual* for additional guidance.

7.6.3.1.2. The trainee is permitted to use the R-12/HSV vehicle inspection memory aid (**Attachment 4**) during the Performance Test. The examiner will provide a clean copy.

7.6.3.1.3. Automatic Failures. Automatic failures will result in the immediate termination of the Air Force Performance Test. See **Attachment 6** for a list of automatic failures applicable to the Air Force Performance Test, Vehicle Inspection Test.

7.6.3.1.3.1. If the trainee fails the Vehicle Inspection Test, the remainder of the test will be terminated. Retraining and reexamination will be conducted IAW AFI 24-301 and AFQTP 24-3-200.

7.6.3.1.4. If a trainee fails any component of the Air Force Performance Test, he/she will be required to retake the Air Force Performance Test, in its entirety.

7.6.3.2. Basic Control Skills Test. The trainee will be tested on his/her skill to control the vehicle. The trainee will be asked to move the vehicle forward, backward, and turn it with a defined area. These areas may be marked with traffic lanes, cones, barriers or something similar. The examiner will explain how to complete each control test. See **Attachment 6** of this AFQTP and Section 12 of the AAMVA *CDL Manual* for additional guidance and for descriptions of the required maneuvers.

7.6.3.2.1. Required Basic Control Skills Test maneuvers:

7.6.3.2.1.1. Straight line backing.

7.6.3.2.1.2. Offset back/right or offset back left.

7.6.3.2.1.3. Parallel park (operator side), parallel park (conventional) or alley dock.

7.6.3.2.2. Basic Control Skills Test Scoring.

7.6.3.2.2.1. Encroachments. The examiner will score the number of times that the trainee touches or crosses over an exercise boundary line or cone with any portion of the vehicle. Each encroachment will count as an error.

7.6.3.2.2.2. Pull-ups. When an operator stops and pulls forward to clear an encroachment or to get a better position, it is scored as a pull-up. Stopping without changing directions does not count as a pull-up. The trainee will not be penalized for initial pull-ups. However, an excessive number of pull-ups, will count as errors.

7.6.3.2.2.3. Outside Vehicle Observations (Looks). The trainee may be permitted to safely stop and exit the vehicle to check the external position of the vehicle (look). When doing so, the trainee must place the vehicle in neutral and set the parking brake(s). The trainee is permitted to perform the "Look" inside the vehicle. If exiting the vehicle, the trainee must do so safely by facing the vehicle and maintaining three points of contact with the vehicle at all times. If the trainee does not safely secure the vehicle or safely exit the vehicle may result in an automatic failure of the basic control skills test.

7.6.3.2.2.3.1. The maximum number of times that the trainee may look to check the position of the vehicle is two (2) except for the Straight Line Backing exercise, which allows one look. Each time the operator opens the door, moves from a seated position where in physical control of the vehicle, it is scored as a "look".

7.6.3.2.2.4. Final Position/Inside Parallel. It is important that the trainee finish each exercise exactly as the examiner has instructed. If the trainee does not maneuver the vehicle into its final position as described by the examiner, the trainee will be penalized and could fail the basic skills test.

7.6.3.2.3. Automatic Failures. Automatic failures will result in the immediate termination of the Air Force Performance Test. See **Attachment 6** for a list of automatic failures applicable to the Basic Control Skills Test. If a trainee fails any component of the Air Force Performance Test, he/she will be required to retake the Air Force Performance Test, in its entirety.

7.6.3.3. Road Test. The trainee will be tested on his/her skill to safely operate the vehicle in a variety of traffic situations. The situations will include left and right turns, intersections, railroad crossings, curves, up and down grades, single and multi-lane roads, streets and highways. The examiner will tell the trainee where to drive.

7.6.3.3.1. The following maneuvers will be demonstrated on the on the road test (See the Section 13 of the AAMVA *CDL Manual* and **Attachment 6** of this AFQTP for additional guidance and detailed descriptions of each maneuver.):

7.6.3.3.1.1. Turns (4 Left/4 Right).

7.6.3.3.1.2. Intersections.

7.6.3.3.1.3. Urban/rural straight.

7.6.3.3.1.4. Expressway.

7.6.3.3.1.5. Start/stop.

7.6.3.3.1.6. Curves (1 Left/1 Right).

7.6.3.3.1.7. Upgrades.

7.6.3.3.1.8. Downgrades.

7.6.3.3.1.9. Railroad crossing (1).

7.6.3.3.1.10. Bridge/overpass.

7.6.3.3.2. Road Test scoring. For detailed descriptions and scoring expectations of each maneuver, see the Section 13 of the AAMVA *CDL Manual* and **Attachment 6** of this qualification training package.

7.6.3.3.3. Automatic Failures. Automatic failures will result in the immediate termination of the Air Force Performance Test. See **Attachment 6** for a list of automatic failures applicable to the Road Test. If a trainee fails any component of the Performance Test, he/she will be required to retake the Performance Test, in its entirety.

7.6.4. During the performance test, the examiner will:

7.6.4.1. Ensure safety at all times. **Note:** Stop training when safety items are violated. Proceed only when the trainee fully understands how to avoid repeating the safety infraction(s).

7.6.4.1.1. Chock wheel (if required) when R-12/HSV is parked.

7.6.4.1.2. Remove all jewelry and identification tags.

7.6.4.1.3. Personal protective equipment and safety equipment.

7.6.4.1.4. First aid kit.

7.6.4.1.5. Warning triangles.

7.6.4.1.6. Inclement weather gear, etc.

7.6.4.2. Pay particular attention to the cautions and warnings listed in the operator's manual.

7.6.4.3. Ensure trainee wears seat belt.

7.6.4.4. Properly adjust operator’s seat and all mirrors.

7.6.4.5. Follow R-12/HSV safety items/procedures.

7.6.4.6. Ensure the operator is aware of driving situations he/she is to perform.

7.6.4.7. Conduct during/after-action reviews with the trainee (demonstration may need to be re-accomplished).

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 24-301, *Ground Transportation*, 22 October 2019

AFI 91-207, *The U.S. Air Force Traffic Safety Program*, 26 July 2019

AFI 10-401, *Air Force Operations Planning and Execution*, 7 December 2006

AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, 5 April 2019

AFMAN 24-306, *Vehicle Operator Fundamentals*, 9 December 2016

AAMVA, *Commercial Driver's License (CDL) Manual*

Title 49 CFR Parts 300-399, *Federal Motor Carriers*, 23 August 2013

T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 25 December 2014

T.O. 00-25-172CL-4, *Aircraft Fuel Servicing Checklist*, 23 October 2015

T.O. 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance*, 12 September 2014

Adopted Forms

AF Form 171, *Request for Driver Training and Addition to U.S. Government Driver's License*

AF Form 4427, *Operator's Inspection Guide and Trouble Report (Fuels Servicing Vehicles and Equipment)*

Abbreviations and Acronyms

AAMVA—American Association of Motor Vehicle Administrators

ABS—Antilock Brake System

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFSC—Air Force Specialty Code

AFQTP—Air Force Qualification Training Plan

AQL—Acceptable Quality Limit

CDL—Commercial Driver's License

CFR—Code of Federal Regulations

CMV—Commercial Motor Vehicle

DOD—Department of Defense

DODM—Department of Defense Manual

DOT—Department of Transportation

DSV—Detected Safety Violation

FMCSA—Federal Motor Carrier Safety Administration
FOD—Foreign Object Damage
IAW—In Accordance With
MFVF—Mobile Fuels Vehicle Fundamentals
MPH—Miles Per Hour
PPE—Personal Protective Equipment
PTO—Power Take-Off
TDV—Technical Data Violation
TO—Technical Order
TVO—Training Validation Operations
USAF—United States Air Force
UCR—Unsatisfactory Condition Report
VCO—Vehicle Control Official

Terms

Accountable Forms—Forms that the Air Force stringently controls and which cannot be released to unauthorized personnel, since their misuse could jeopardize DOD security or result in fraudulent financial gain or claims against the government.

Acceptable Quality Level—An AQL denotes the maximum allowable number of minor findings that a process or product may be charged for the task to be rated ―Pass.‖ It must be strict enough that the task, process or product meets an acceptable level of quality, but isn't so strict that a pass rating is unattainable. The AQL is derived/revised from QA performance-based data.

Detected Safety Violation—An observed unsafe act by an individual, the unsafe act must be stopped immediately.

Technical Data Violation—An observation of any person performing maintenance or another process inconsistent, contradictory of without the required technical data present at the job site when mandatory use is required.

Unsatisfactory Condition Report—An unsafe or unsatisfactory condition, other than a DSV.

Attachment 2

R-12/HSV MOBILE FUEL VEHICLE COMPONENTS

A2.1. Component List. The list below is not all inclusive, but contains key components that will be identified during instruction to aid the trainee in the function and operation of the vehicle. Due to the variations between manufacturers of the R-12/HSV mobile fuel vehicle, trainers should refer to vehicle specific technical data for specific nomenclature and specific operation.

A2.2. Cab Components. This is a list of cab components and their definitions:

A2.2.1. Ignition: Ignition has three positions off, on and accessory.

A2.2.2. Transmission Panel: Automatic with reverse, neutral and 4 forward gears (1-3, D). The transmission has a Neutral Safety Switch feature that does not allow the R-12/HSV to be started in any gear but Neutral (N).

A2.2.3. Power Take-Off (PTO): Three-position lever designed to divert power from the R-12/HSV transmission to the pump transmission. The "Road" position is used for driving the R-12/HSV. The "Pump" position is used to operate the pump. The PTO will not engage unless the engine is at idle, the parking break is engaged, and the transmission is in neutral. The PTO has an interlock feature that does not allow the PTO to engage unless the engine is at idle, the parking brake is engaged, and the transmission is in neutral.

A2.2.4. PTO indicator light: Illuminates when the PTO is engaged.

A2.3. Safety Components. This is a list of safety components and their definitions. It is not all inclusive; vehicle specific components covered in the vehicle tech data can be included.

A2.3.1. Deadman Control Valve: This component controls the entire operation. In the event of an emergency it will be released to stop fuel flow.

A2.3.2. Safety Interlock System: Six air operated switches designed to lock the brakes to prevent vehicle movement during servicing if any of the following switches is in the "UP" (locked) position: four switches one for each single-point nozzle lock down point, one switch under the lift mast (platform) assembly, one switch under to moosehead (hydrant adapter) lock down point.

A2.3.3. Emergency Parking Brake Override System/Safety Interlock Override: This two-position toggle switch will override the vent Safety Interlock System if there is an emergency.

A2.3.4. Emergency Engine Shutdown Switch/Air Inlet Butterfly Valve: (2) switches that stop the engine during an emergency by interrupting air flow.

A2.3.5. Emergency Fuel Shutoff Switch (3): This two-position toggle switch will shut off air pressure to the dead man causing it to close. Fuel flow should stop within 8 seconds. There are two switches: one on the main control panel, one on the right side of the R-12/HSV, and the third on the lift platform control panel.

A2.3.6. Fire Extinguishers: Attached to the R-12/HSV frame on both sides of the R-12/HSV.

A2.3.7. Side markers/control panel lights/spot lights: Used for night servicing convenience and safely identifies the R-12/HSV during low light situations. The R-12/HSV has marker lights on each top corner of the unit.

A2.3.8. Warning signs: These include the type of fuel, no open flame warnings, and NATO symbols located throughout the R-12/HSV.

A2.3.9. Lift platform override valve: Releases the hydraulic pressure in the lift mast (platform) allowing it to descend in the event of an emergency.

A2.3.10. Ground/Bond Reels: 100’ of 3/32” stainless steel cable per reel with attached bonding plug/ grounding clamp. Both reels are bolted to the left side of the R-12 frame.

A2.4. Pumping Control Panel. This is a list of pump control panel components and their definitions:

A2.4.1. Engine Throttle Control: Used to control engine speed during Defuel operations. Maximum speed is 1800rpm.

A2.4.2. Tachometer- Monitors engine speed.

A2.4.3. Hydrant/Defuel Selector Valve- Two-position selector valve used to select mode of operation.

A2.4.4. Primary Pressure Gauge- Indicates system air pressure used to open the hydrant control valve. Normal pressure is 45psi. These regulator adjusted gauges are set by RFM.

A2.4.5. Secondary Pressure Gauge- Indicates system air pressure used to open the Fuel Control Valve. The Fuel Control Valve is an internal valve opened by air pressure supplied by the Deadman. Normal air pressure is 50psi .These regulator adjusted gauges are set by RFM.

A2.4.6. Defuel Pump Pressure Gauge- Monitors the outlet pressure of the defuel pump

A2.5. Pumping System Components. This is a list of pumping system components and their definitions:

A2.5.1. Hydrant Reel Assembly: Contains a 4" by 30' hard hose with a hydrant hose coupler used to allow fuel to enter the HSV from the hydrant outlet. It also contains a reel brake and manual hand crank connection point.

A2.5.2. Filter Separator: Utilizes filter elements designed to filter fine sediments and coalesce water. The elements will be changed when the DP gauge reaches 15. Check specific tech guidance for canister rating.

A2.5.3. Meter and Register: The meter monitors the amount of fuel passing through the system. The register displays the recordable amount. The Reset Knob located on the right side of the register resets the meter register.

A2.5.4. Surge Suppressors (2): Each suppressor utilizes dry-nitrogen to dampen the effects of fuel surges on the system during servicing. Each must be charged to 90+/-5psi.

A2.5.5. Sense Reel and Lines: Sense lines provide fuel and air pressure to the hydrant allowing the Hydrant Control Valve to open when the Deadman Control Valve is activated. Each line has a different connection adapter ensuring correct connection to the hydrant sense line connection points.

A2.5.6. Sump/Recovery Tank: Tank equipped with a sight glass that holds excess fuel from pressure relief lines positioned throughout the system. A pump should cycle on during servicing if the level reaches approximately 2/3 capacity. When the tank is full the system will stop fuel flow and shut down.

A2.6. Lift Platform and Control Panel. This is a list of pumping system components and their definitions:

A2.6.1. Lift Platform: Servicing platform with a walking area for the crew chiefs, hose racks for the servicing hoses, and lights for night servicing.

A2.6.2. Lift Platform Control Buttons: Used to raise and lower the Lift Platform

A2.6.3. Nozzle Pressure Gauge- Monitors nozzle pressure during servicing. Since the nozzle itself has no pressure sensing equipment attached, the pressure reading is taken at the venturi, a calibrated simulation of nozzle pressure. Maximum psi is 50+/-5 psi but may be less depending on the A/C being serviced.

A2.6.4. Lift mast Servicing Hoses: Two 2 ½" by 6' hard or semi-hard fuel hoses used for high-wing servicing operations.

Attachment 3

CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR (CBRN) TASK QUALIFICATION TRAINING (TQT)

A3.1. CBRN Operations TQT.

A3.2. Overview. Teach the performance of operations using an R-12/HSV while in a CBRN environment. Using the references and performance checklist, explain the steps needed to perform the operation. Once the operation has been explained and demonstrated the trainee will perform the operation under close supervision. Based on level of demonstration the trainee will perform the operation under evaluation conditions which means no assistance from the task list or the evaluator. Questions should be asked by the trainee at any point during the instruction and the lesson should not move on until they have been answered and comprehension of the material has been achieved. Make sure trainees have a clear view during the operations and are able to explain operational concepts prior to being evaluated.

A3.3. Task Qualification Training.

Figure A3.1. Task Qualification Training.

STS Reference Number/Title:	5.1.6.7. CBRN TQT.
Training References:	Vehicle specific 36-series T.O.s, 36-1-191, 36A12-13-31-1CL-1, AFI 10-401, *Air Force Operations Planning and Execution*.
Prerequisites:	1. Possess, as a minimum, AFSC 2F031 or approved waiver from the Fuels Career Field Manager. 2. Review the references. 3. Complete **Section 5** of this AFQTP MFV Fundamentals.
Equipment Required:	R-12 Mobile Fuel Vehicle and Personal Protective Equipment.
Learning Objective:	Trainees will be able to perform operations using an R-12/HSV while in a CBRN environment.
Samples of Behavior:	Trainees will know operational concepts behind issuing fuel and understand how to apply them in conjunction with AF Safety policy.
Note: Any safety violation results in immediate failure.	

A3.4. Performance Checklist.

A3.4.1. Instructions: Review task steps and standards. Trainers must continue to encourage the trainees to ask questions. Monitor all trainees so trainers can identify and correct any potential problems. Allow trainees to practice as much as they need. The final practice will be a practice evaluation, performed under exactly the same conditions as the actual evaluation.

A3.4.2. AQL Definitions: The trainee must be able to complete the fuel operation in a timely manner. The trainee has to score no less than 100% correct to receive a satisfactory completion.

Figure A3.2. Performance Checklist.

STANDARDS		**YES**	**NO**	**AQL**
1	Inspect forms/documentation prior to operation?			
2	Operator has required PPE/vehicle forms are inspected			
3	Don Chemical Warfare Defense Ensemble properly?			
4	Walk around inspection performed, chock stored			
5	Safety belt, seat adjustment			
6	Speed limits are observed (observe vehicle spacing if available)			
7	Follow the crew chief's instructions and/or guidance?			
8	Engage the PTO?			
9	Set up the R-12/HSV for refuel? a. Chock, ground and bond b. Clear meters c. Open tank vent (if necessary) d. Position selector valve to Hydrant e. Position the hi-lift for underwing operations (if required) f. Connect nozzle to receptacle – check strainer coupling quick disconnect for positive locking			
10	Monitor control panel/FSSZ – *Do not exceed 55 on the nozzle pressure gauge*			
11	Return truck to driving conditions			
12	Stow all equipment and do a walk around inspection			
13	Exit the area properly			
14	Vehicle parked (include walk around and chocking vehicle)			

A3.5. Evaluator's Comments. Provide the trainee constructive feedback regarding the driving evaluation.

Attachment 4

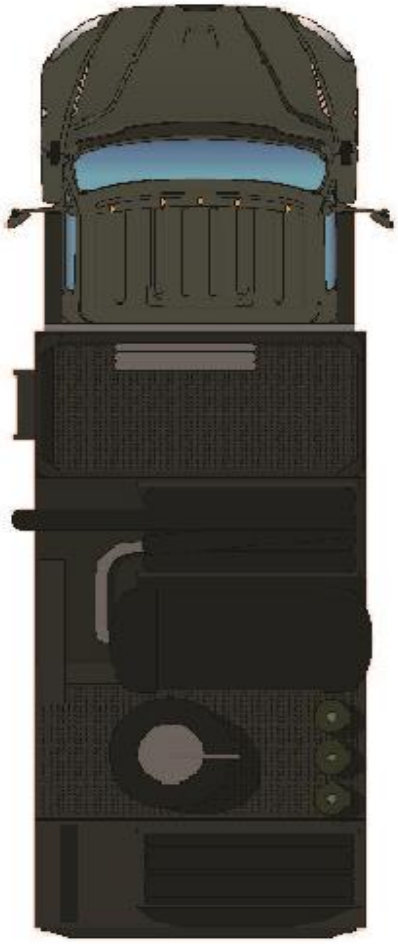
R-12/HSV FUEL TRUCK INSPECTION MEMORY AID

A4.1. R-12/HSV Inspection Guide. This AFQTP was designed for use with multiple R-12/HSV models. Use the AF Form 4427 and applicable technical orders or manufacturer's guide to identify differences in nomenclature and components. They may also ask as a guide during inspection.

CDL VEHICLE INSPECTION MEMORY AID
R-12 Fuel Truck

Front of Vehicle, Lights/Reflectors, Engine Compartment & Steering Components

Steering Axle:
- Suspension
- Brakes
- Tires



Passenger Door Fuel Area

Driver Door Fuel Area *(Truck)*

Under Vehicle:
- Drive Shaft
- Exhaust
- Frame

Drive Axle(s):
- Suspension
- Brakes
- Tires

Rear of Truck & Lights/Reflectors

Table A4.1. List of Applicable References.

T.O. 36A12-13-2CL-1	AF Refueling Vehicle Checkpoint Checklist
T.O. 36-1-191	Technical Managerial Ref for Motor Vehicle Maintenance
T.O. 36A12-13-31-1, -2, -4	Operations/Maintenance Instructions R-12 (Tri-State)
T.O. 36A12-13-17-101, 104	Operations/Maintenance Instructions R-12 (Beta System 1st Gen)
T.O. 36A12-13-36-1	Operations/Maintenance Instructions R-12 (Kovatch 1st Gen)
T.O. 36A12-13-37-1, -4	Operations/Maintenance Instructions R-12 Beta (Beta System 2nd Gen)
T.O. 36A12-13-46-1, -4	Operations/Maintenance Instructions R-12 (Kovatch 2nd Gen)

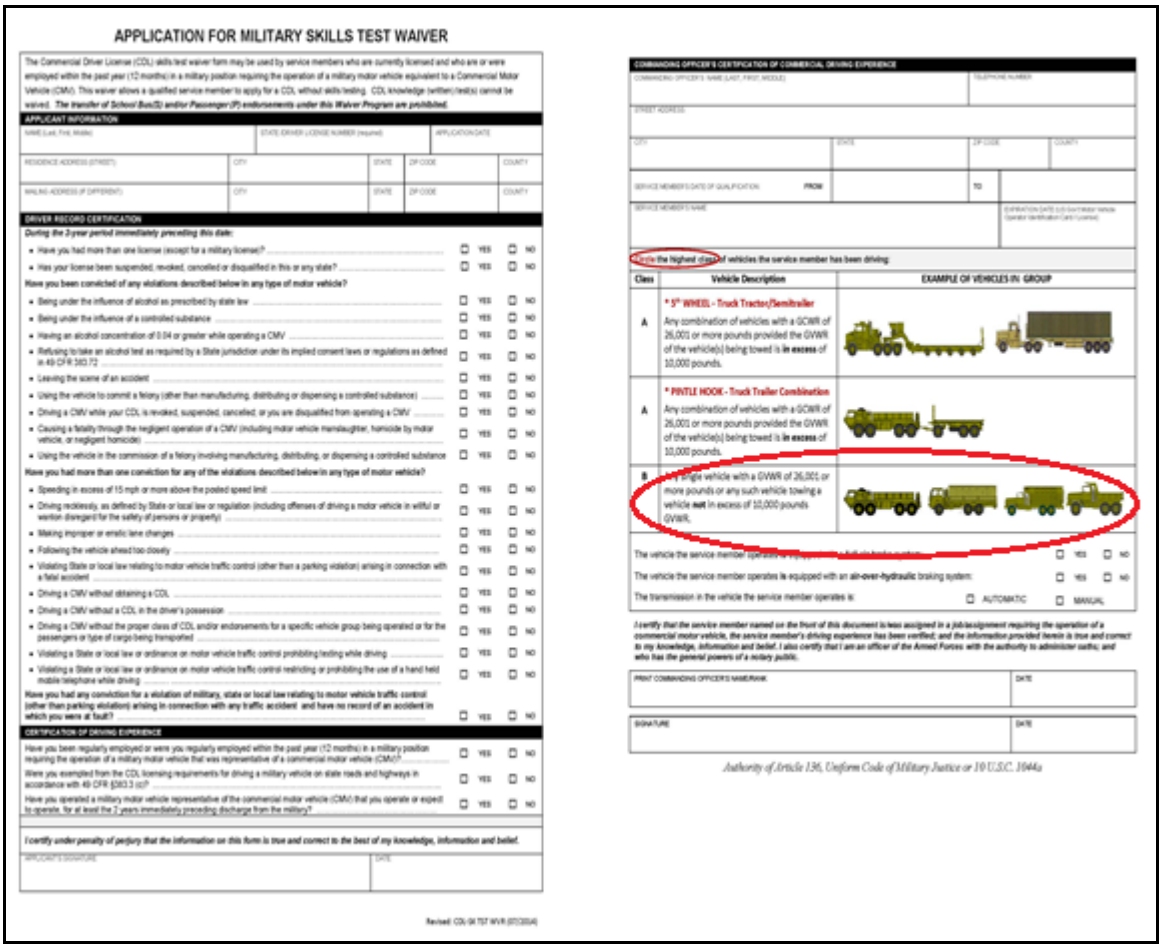
Attachment 5

MILITARY WAIVER EXAMPLE

A5.1. Military Skills Waiver. The Commercial Driver License (CDL) skills test waiver may be used by service members who are currently licensed and who are or were employed within the past year (12 months) in a military position requiring the operation of a military motor vehicle equivalent to a Commercial Motor Vehicle (CMV). A copy of this waiver allows a qualified service member to apply for a CDL without skill testing. CDL knowledge tests cannot be waived. This waiver can be found in State's CDL manuals and skills transferability should be included in a member's out brief prior to exiting military service.

A5.2. R-12/HSV Waiver. The R-12/HSV mobile fueling vehicle weighs 26,400 lbs. unloaded which qualifies certified operators for a Class "C" CDL license with HAZMAT endorsement. The waiver should be filled out correctly and reflect the type of equipment used and level of certification earned.

Figure A5.1. Application for Military Skills Test Waiver Example.



APPLICATION FOR MILITARY SKILLS TEST WAIVER

The Commercial Driver License (CDL) skills test waiver form may be used by service members who are currently licensed and who are or were employed within the past year (12 months) in a military position requiring the operation of a military motor vehicle equivalent to a Commercial Motor Vehicle (CMV). This waiver allows a qualified service member to apply for a CDL without skills testing. CDL knowledge (written) test(s) cannot be waived. ***The transfer of School Bus(S) and/or Passenger (P) endorsements under this Waiver Program are prohibited.***

APPLICANT INFORMATION

NAME (Last, First, Middle) | STATE DRIVER LICENSE NUMBER (required) | APPLICATION DATE

RESIDENCE ADDRESS (STREET) | CITY | STATE | ZIP CODE | COUNTY

MAILING ADDRESS (IF DIFFERENT) | CITY | STATE | ZIP CODE | COUNTY

DRIVER RECORD CERTIFICATION

During the 2-year period immediately preceding this date:

- Have you had more than one license (except for a military license)? ☐ YES ☐ NO
- Has your license been suspended, revoked, cancelled or disqualified in this or any state? ☐ YES ☐ NO

Have you been convicted of any violations described below in any type of motor vehicle?

- Being under the influence of alcohol as prescribed by state law ☐ YES ☐ NO
- Being under the influence of a controlled substance ☐ YES ☐ NO
- Having an alcohol concentration of 0.04 or greater while operating a CMV ☐ YES ☐ NO
- Refusing to take an alcohol test as required by a State jurisdiction under its implied consent laws or regulations as defined in 49 CFR 383.72 ☐ YES ☐ NO
- Leaving the scene of an accident ☐ YES ☐ NO
- Using the vehicle to commit a felony (other than manufacturing, distributing or dispensing a controlled substance) ☐ YES ☐ NO
- Driving a CMV while your CDL is revoked, suspended, cancelled, or you are disqualified from operating a CMV ☐ YES ☐ NO
- Causing a fatality through the negligent operation of a CMV (including motor vehicle manslaughter, homicide by motor vehicle, or negligent homicide) ☐ YES ☐ NO
- Using the vehicle in the commission of a felony involving manufacturing, distributing, or dispensing a controlled substance ☐ YES ☐ NO

Have you had more than one conviction for any of the violations described below in any type of motor vehicle?

- Speeding in excess of 15 mph or more above the posted speed limit ☐ YES ☐ NO
- Driving recklessly, as defined by State or local law or regulation (including offenses of driving a motor vehicle in willful or wanton disregard for the safety of persons or property) ☐ YES ☐ NO
- Making improper or erratic lane changes ☐ YES ☐ NO
- Following the vehicle ahead too closely ☐ YES ☐ NO
- Violating State or local law relating to motor vehicle traffic control (other than a parking violation) arising in connection with a fatal accident ☐ YES ☐ NO
- Driving a CMV without obtaining a CDL ☐ YES ☐ NO
- Driving a CMV without a CDL in the driver's possession ☐ YES ☐ NO
- Driving a CMV without the proper class of CDL and/or endorsements for a specific vehicle group being operated or for the passengers or type of cargo being transported ☐ YES ☐ NO
- Violating a State or local law or ordinance on motor vehicle traffic control prohibiting texting while driving ☐ YES ☐ NO
- Violating a State or local law or ordinance on motor vehicle traffic control restricting or prohibiting the use of a hand held mobile telephone while driving ☐ YES ☐ NO

Have you had any conviction for a violation of military, state or local law relating to motor vehicle traffic control (other than parking violation) arising in connection with any traffic accident and have no record of an accident in which you were at fault? ☐ YES ☐ NO

CERTIFICATION OF DRIVING EXPERIENCE

Have you been regularly employed or were you regularly employed within the past year (12 months) in a military position requiring the operation of a military motor vehicle that was representative of a commercial motor vehicle (CMV)? ☐ YES ☐ NO

Were you exempted from the CDL licensing requirements for driving a military vehicle on state roads and highways in accordance with 49 CFR §383.3 (c)? ☐ YES ☐ NO

Have you operated a military motor vehicle representative of the commercial motor vehicle (CMV) that you operate or expect to operate, for at least the 2 years immediately preceding discharge from the military? ☐ YES ☐ NO

I certify under penalty of perjury that the information on this form is true and correct to the best of my knowledge, information and belief.

APPLICANT'S SIGNATURE | DATE

Revised: CDL-SK TST WVR (07/2004)

COMMANDING OFFICER'S CERTIFICATION OF COMMERCIAL DRIVING EXPERIENCE

COMMANDING OFFICER'S NAME (LAST, FIRST, MIDDLE) | TELEPHONE NUMBER

STREET ADDRESS

CITY | STATE | ZIP CODE | COUNTY

SERVICE MEMBER'S DATE OF QUALIFICATION: FROM | TO

SERVICE MEMBER'S NAME | EXPIRATION DATE (US DoD Driver Vehicle Operator Identification Card / License)

Circle the highest class of vehicles the service member has been driving:

Class	Vehicle Description	EXAMPLE OF VEHICLES IN GROUP
A	* 5th WHEEL - Truck Tractor/Semitrailer Any combination of vehicles with a GCWR of 26,001 or more pounds provided the GVWR of the vehicle(s) being towed is **in excess** of 10,000 pounds.	
A	* PINTLE HOOK - Truck Trailer Combination Any combination of vehicles with a GCWR of 26,001 or more pounds provided the GVWR of the vehicle(s) being towed is **in excess** of 10,000 pounds.	
B	* Single vehicle with a GVWR of 26,001 or more pounds or any such vehicle towing a vehicle **not** in excess of 10,000 pounds GVWR.	

The vehicle the service member operates is equipped with ☐ YES ☐ NO

The vehicle the service member operates is equipped with an **air-over-hydraulic** braking system: ☐ YES ☐ NO

The transmission in the vehicle the service member operates is: ☐ AUTOMATIC ☐ MANUAL

I certify that the service member named on the front of this document is/was assigned in a job/assignment requiring the operation of a commercial motor vehicle, the service member's driving experience has been verified, and the information provided herein is true and correct to my knowledge, information and belief. I also certify that I am an officer of the Armed Forces with the authority to administer oaths; and who has the general powers of a notary public.

PRINT COMMANDING OFFICER'S NAME/RANK | DATE

SIGNATURE | DATE

Authority of Article 136, Uniform Code of Military Justice or 10 U.S.C. 1044a

Attachment 6

AIR FORCE PERFORMANCE TEST GUIDE

A6.1. Performance Test Overview. The trainee/examinee should be able to demonstrate the following maneuvers (See **Section 7**). This guide should be used as a tool to prepare the trainee for his/her Air Force Performance Test.

A6.2. Time Limit: Class B/C Vehicles: 3 Hours 45 Minutes.

VEHICLE INSPECTION TEST

A6.3. Vehicle Inspection Test Overview (Required). The Vehicle Inspection Test (including Air Brakes test) must be successfully completed prior to being administered the remainder of the Air Force Performance Test (Basic Control Skills Test/Road Test). The examinee is permitted to use the R-12/HSV Fuel Truck Inspection Memory Aid found in **Attachment 4**. Additional guidance for the Vehicle Inspection Test requirements can be found in **Section 7** and in the AAMVA *CDL Manual* (Sections 5 and 11). Failure of the Vehicle Inspection Test will terminate the test, requiring the examinee to return at a later date approved by the trainer and examiner IAW AFI 24-301 and AFQTP 24-3-200.

A6.4. Time Limit: Class B/C Vehicles: 1 Hour.

Table A6.1. Vehicle Inspection Test Automatic Failures. Note: The Vehicle Inspection Test will be terminated and the examinee will receive an automatic failure for any item listed below.

Automatic Failure		Description
1	Air brakes test	The operator must demonstrate and verbalize all three air brake checks correctly to receive credit in the scoring box. If the operator fails to do all three parts of the check correctly, it is scored as an automatic failure for the Vehicle Inspection Test.
2	Violates law	The operator has a moving traffic violation or disobeys signs and signals.
3	Commits an unsafe act	The operator commits any act that creates a dangerous or unsafe traffic environment.
4	Failure to follow instructions.	If the examinee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the examinee again fails to adhere to the instructions given by the Examiner, the Vehicle Inspection Test will be terminated and the examinee will receive an automatic failure.

BASIC CONTROL SKILLS TEST

A6.5. Basic Control Skills Test Overview (Required). The Basic Control Skills Test must be successfully completed prior to being administered the Road Test component of the Air Force Performance Test. Additional guidance for the Basic Control Skills Test requirements can be found in Section 12 in the AAMVA *CDL Manual*. Failure of the Basic Control Skills Test will terminate the test, requiring the examinee to return at a later date approved by the trainer and examiner IAW AFI 24-301 and AFQTP 24-3-200.

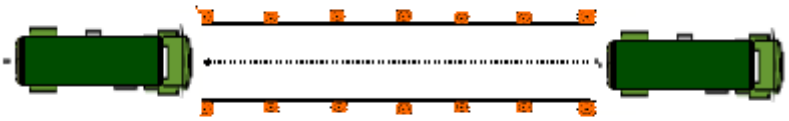
A6.6. Time Limit: Class B/C Vehicles: 45 Minutes.

Table A6.2. Basic Control Skills Test Automatic Failures. Note: The Basic Controls Skills Test will be terminated and the examinee will receive an automatic failure for any item listed below.

Automatic Failure		**Description**
1	Violates law	The operator has a moving traffic violation or disobeys signs and signals.
2	Fails to use seatbelt.	The operator fails to use his/her seatbelt during the Basic Controls Skills Test.
3	Fails to secure the vehicle when not in the operator's seat.	During components when the operator is permitted "Look(s)" to check the vehicle position, the operator fails to safely secure the vehicle.
4	Commits an unsafe act	The operator commits any act that creates a dangerous or unsafe traffic environment (i.e. near accident).
5	Failure to follow instructions.	If the examinee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the examinee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the examinee again fails to adhere to the instructions given by the Examiner, the Basic Control Skills Test will be terminated and the examinee will receive an automatic failure.

A6.7. Straight Line Backing (Required). The examinee will be asked to back the vehicle in a straight line between two rows of cones without touching or crossing over the exercise boundaries. See **Figure A6.1.**

Figure A6.1. Straight Line Backing.

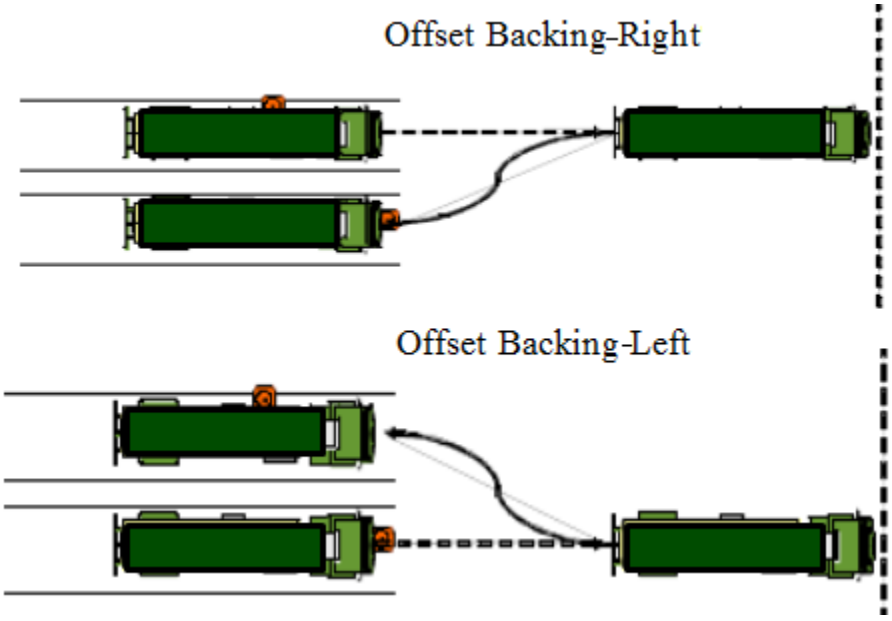


A6.8. Offset Backing (<u>One</u> of the following maneuvers required).

A6.8.1. Offset Backing – Right. The examinee will be asked to back the vehicle into a space that is to the right rear of the vehicle. The examinee will drive straight forward the outer boundary. From that position, the examinee must back the vehicle into the opposite lane until the front of the vehicle has passed the first set of cones without striking boundary lines or cones. See **Figure A6.2.**

A6.8.2. Offset Backing – Left. The examinee will be asked to back the vehicle into a space that is to the left rear of the vehicle. The examinee will drive straight forward the outer boundary. From that position, the examinee must back the vehicle into the opposite lane until the front of the vehicle has passed the first set of cones without striking boundary lines or cones. See **Figure A6.2.**

Figure A6.2. Offset Backing – Left/Right.

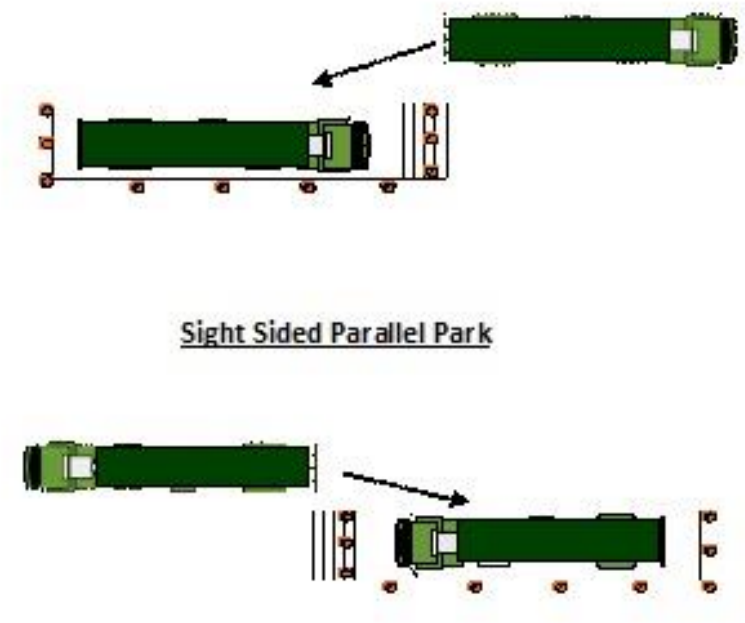


A6.9. Parallel Parking (<u>One</u> of the following maneuvers required).

A6.9.1. Parallel Parking – Operator Side. The examinee will be asked to park in a parallel parking space that is on the left. The examinee will drive past the entrance to the parallel parking space with the vehicle parallel to the parking area; and back into the space without crossing front, side or rear boundaries marked by cones. The examinee is required to get the entire vehicle completely into the space. See **Figure A6.3.**

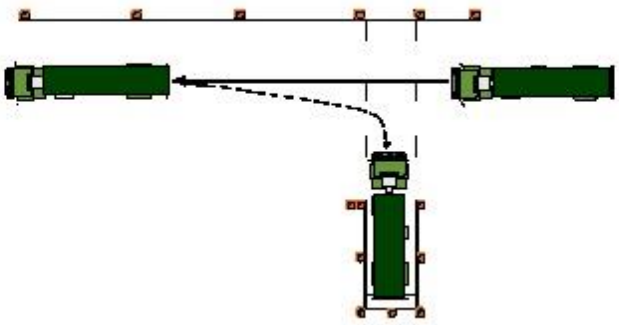
A6.9.2. Parallel Parking – Conventional. The trainee will be asked to park in a parallel parking space that is on the right. The trainee will drive past the entrance to the parallel parking space with the vehicle parallel to the parking area; and back into the space without crossing front, side or rear boundaries marked by cones. The trainee is required to get the entire vehicle completely in the space. See **Figure A6.3.**

Figure A6.3. Parallel Parking.



A6.9.3. Alley Dock. The examinee will be asked to sight-side back the vehicle into an alley. The examinee will drive past the alley and position the vehicle parallel to the outer boundary. From that position, the examinee will back into the alley bringing the rear of the vehicle within three feet of the rear of the alley without touching boundary lines or cones. The vehicle must be straight within the alley/lane when the examinee has completed the maneuver. See **Figure A6.4.**

Figure A6.4. Alley Dock.



ROAD TEST

A6.10. Road Test Overview (Required). The Road Test must be successfully completed prior to being licensed on the vehicle. Additional guidance for the Road Test requirements can be found in Section 13 in the AAMVA CDL Manual. Failure of the Road Test will terminate the Air Force Performance Test, requiring the examinee to return at a later date approved by the trainer and examiner IAW AFI 24-301 and AFQTP 24-3-200.

A6.10.1. During the Road Test, the examinee will drive over a test route that has a variety of traffic situations. At all times during the test, the examinee must drive in a safe and responsible manner, wear his/her seatbelt, abide by local, state and federal law, obey all traffic signs and signals and complete the test without an accident or moving violation.

A6.10.2. During the Road Test, the examiner will be scoring the examinee on specific driving maneuvers as well as on general driving behavior. The examinee must follow directions of the examiner. Directions will be given to the examinee so that he/she will have ample time to complete each direction. The examinee will not be asked to drive in an unsafe manner.

A6.10.3. If the test route does not have certain traffic situations, the examinee may be asked to simulate a traffic situation by telling the examiner what he/she are or would be doing if in the traffic situation identified.

A6.11. Time Limit: Class A/B/C Vehicles: 2 Hours.

Table A6.3. Road Test Automatic Failures. Note: The Road Test will be terminated and the examinee will failure for any item listed below.

Automatic Failure		Description
1	Violates law	The operator has a moving traffic violation or disobeys signs and signals.
2	Fails to use seatbelt.	The operator fails to use his/her seatbelt during the Road Test.
3	Commits an unsafe act	The operator commits any act that creates a dangerous or unsafe traffic environment (i.e. near accident).
4	Examiner takes control	The operator forces the examiner to take verbal or physical control of the vehicle.
5	Drives over curb	The operator puts the vehicle over sidewalk/curb.
6	Does not yield to others	The operator does not give right-of-way to pedestrians or other vehicles during operator maneuvers. The operator makes physical contact with other vehicles, objects, pedestrians, etc. Drivers of other vehicles or pedestrians were forced to take evasive actions.
7	Failure to follow instructions.	If the examinee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the examinee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the examinee again fails to adhere to the instructions given by the Examiner, the Road Test will be terminated and the examinee will receive an automatic failure.

A6.12. General Driving Behaviors. The trainee will be scored on his/her overall performance in the following general driving behavior categories:

A6.12.1. Brake Usage.

A6.12.1.1. Do not ride or pump brake.

A6.12.1.2. Do not brake harshly. Brake smoothly using steady pressure.

A6.12.2. Lane Usage.

A6.12.2.1. Do not put vehicle over curbs, sidewalks, or lane markings.

A6.12.2.2. Stop behind stop lines, crosswalks, or stop signs.

A6.12.2.3. Complete a turn in the proper lane on a multiple lane road (vehicle should finish a left turn in the lane directly to the right of the center line).

A6.12.2.4. Finish a right turn in the right-most (curb) lane.

A6.12.2.5. Move to or remain in right-most lane unless lane is blocked.

A6.12.3. Steering.

A6.12.3.1. Do not over or under steer the vehicle.

A6.12.3.2. Keep both hands on the steering wheel at all times unless shifting. Once the trainee has completed shift, return both hands to the steering wheel.

A6.12.4. Regular Traffic Checks.

A6.12.4.1. Check traffic regularly.

A6.12.4.2. Check mirrors regularly.

A6.12.4.3. Check mirrors and traffic before, while in and after an intersection.

A6.12.4.4. Scan and check traffic in high volume areas and areas where pedestrians are expected to be present.

A6.12.5. Use of Turn Signals.

A6.12.5.1. Use turn signals properly.

A6.12.5.2. Activate turn signals when required.

A6.12.5.3. Activate turn signals at appropriate times.

A6.12.5.4. Cancel turn signals upon completion of a turn or lane change.

A6.13. Left/Right Turn (4). Once the trainee has been asked to make a turn, he/she will do the following:

A6.13.1. Check traffic in all directions.

A6.13.2. Use turn signals and safely get into the lane needed for the turn.

A6.13.3. As the trainee approaches the turn he/she will:

A6.13.3.1. Use turn signals to warn others of his/her turn.

A6.13.3.2. Slow down smoothly, change gears as needed to keep power, but will not coast unsafely. Unsafe coasting occurs when the vehicle is out of gear (clutch depressed or gearshift in neutral) for more than the length of the vehicle.

A6.13.4. If the trainee must stop before making the turn, he/she will:

A6.13.4.1. Come to a smooth stop without skidding.

A6.13.4.2. Come to a complete stop behind the stop line, crosswalk, or stop sign.

A6.13.4.3. If stopping behind another vehicle, the trainee will stop where he/she can see the rear tires on the vehicle ahead (maintain a safe distance).

A6.13.4.4. Not let the vehicle roll.

A6.13.4.5. Keep the front wheels aimed straight ahead.

A6.13.5. When ready to turn, the trainee will:

A6.13.5.1. Check traffic in all directions.

A6.13.5.2. Keep both hands on the steering wheel during the turn.

A6.13.5.3. Keep checking the mirror to make sure the vehicle does not hit anything on the inside of the turn.

A6.13.5.4. Keep the vehicle from moving into oncoming traffic.

A6.13.5.5. Finish turn with the vehicle in the correct lane.

A6.13.6. After turn, the trainee will:

A6.13.6.1. Make sure turn signal is off.

A6.13.6.2. Get up to speed of traffic, use turn signal, and move into right-most lane when safe to do so (if not already there).

A6.13.6.3. Check mirrors and traffic.

A6.14. Lane Change (2). During multiple lane portions of the test, the trainee will be asked to change lanes to the left, and then back to the right. The trainee should make the necessary traffic checks first, then use the proper signals and smoothly change lanes when it is safe to do so.

A6.15. Urban Highway. During this part of the test, the trainee is expected to make regular traffic checks and maintain a safe following distance. The vehicle should be centered in the proper lane (right-most lane) and the trainee should keep up with the flow of traffic but not exceed the posted speed limit.

A6.16. Intersections. During this part of the test, the trainee should observe the following criteria:

A6.16.1. As the trainee approaches an intersection, he/she will:

A6.16.1.1. Check traffic thoroughly in all directions.

A6.16.1.2. Decelerate gently.

A6.16.1.3. Brake smoothly and, if necessary, change gears.

A6.16.1.4. If necessary, come to a complete stop (no coasting) behind any stop signs, signals, sidewalks, or stop lines maintaining a safe gap behind any other vehicle in front of his/her vehicle.

A6.16.1.5. Not let the vehicle roll forward or backward.

A6.16.2. When driving through an intersection, the trainee will:

A6.16.2.1. Check traffic thoroughly in all directions.

A6.16.2.2. Decelerate and yield to any pedestrians and traffic in the intersection.

A6.16.2.3. No change lanes while proceeding through the intersection.

A6.16.2.4. Keep his/her hands on the wheel.

A6.16.3. Once the trainee is through the intersection, he/she will:

A6.16.3.1. Continue checking mirrors and traffic.

A6.16.3.2. Accelerate smoothly and change gears as necessary.

A6.17. Railroad Crossing. Not all driving road tests will have a railroad crossing. Instead, the trainee may be asked to explain and demonstrate the proper railroad crossing procedures to the examiner at a simulated location.

A6.17.1. Before reaching the crossing, all vehicle operators will:

A6.17.1.1. Decelerate, brake smoothly, and shift gears as necessary.

A6.17.1.2. Look and listen for the presence of trains.

A6.17.1.3. Check traffic in all directions.

A6.17.1.4. Not stop, change gears, pass another vehicle, or change lanes while any part of the vehicle is in the crossing.

A6.17.2. If the trainee is driving a vehicle displaying placards, the trainee should be prepared to observe the following procedures at every railroad crossing, unless the crossing is exempt:

A6.17.2.1. As the vehicle approaches a railroad crossing, activate the four-way flashers.

A6.17.2.2. Stop the vehicle within 50 feet but not less than 15 feet from the nearest rail.

A6.17.2.3. Listen and look in both directions along the track for an approaching train and for signals indicating the approach of a train.

A6.17.2.4. Keep hands on the steering wheel as the vehicle crosses the tracks.

A6.17.2.5. Do not stop, change gears, or change lanes while any part of the vehicle is proceeding across the tracks.

A6.17.2.6. Four-way flashers should be deactivated after the vehicle crosses the tracks.

A6.17.2.7. Continue to check mirrors and traffic.

A6.18. Curves (2). When the trainee approaches a curve, he/she should:

A6.18.1. Check traffic thoroughly in all directions.

A6.18.2. Before entering the curve, reduce speed so further braking or shifting is not required in the curve.

A6.18.3. Keep the vehicle in the lane.

A6.18.4. Continue checking traffic in all directions.

A6.19. Expressway. For this section of the test the trainee should observe the following:

A6.19.1. Before entering the expressway:

A6.19.1.1. Check traffic.

A6.19.1.2. Use proper signals.

A6.19.1.3. Merge smoothly into the proper lane of traffic.

A6.19.2. Once on the expressway:

A6.19.2.1. Maintain proper lane positioning, vehicle spacing, and vehicle speed.

A6.19.2.2. Continue to check traffic thoroughly in all directions.

A6.19.3. When exiting the expressway:

A6.19.3.1. Make necessary traffic checks.

A6.19.3.2. Use proper signals.

A6.19.3.3. Decelerate smoothly in the exit lane.

A6.19.3.4. Once on the exit ramp, the trainee must continue to decelerate within the lane markings and maintain adequate spacing between his/her vehicle and other vehicles.

A6.20. Roadside Stop/Start. For this maneuver, the trainee will be asked to pull the vehicle over to the side of the road and stop as if the trainee were going to get out and check something on the vehicle. The trainee must check traffic thoroughly in all directions and move to the right-most lane or shoulder of the road.

A6.20.1. As the trainee prepares for the stop:

A6.20.1.1. Check traffic.

A6.20.1.2. Activate the right turn signal.

A6.20.1.3. Decelerate smoothly, brake evenly, change gears as necessary.

A6.20.1.4. Bring the vehicle to a full stop without coasting.

A6.20.2. Once stopped:

A6.20.2.1. Vehicle must be parallel to the curb or shoulder of the road and safely out of the traffic flow.

A6.20.2.2. Vehicle should not be blocking driveways, fire hydrants, intersections, signs, etc.

A6.20.2.3. Cancel the turn signal.

A6.20.2.4. Activate the four-way emergency flashers.

A6.20.2.5. Apply the parking brake.

A6.20.2.6. Move the gear shift to neutral or park.

A6.20.2.7. Remove feet from the brake and clutch pedals.

A6.20.3. When the trainee is told to resume, he/she should:

A6.20.3.1. Check traffic and mirrors thoroughly in all directions.

A6.20.3.2. Turn-off the four-way flashers.

A6.20.3.3. Activate the left turn signal.

A6.20.4. When traffic permits, the trainee should release the parking brake and pull straight ahead.

A6.20.4.1. Not turn the wheel before the vehicle moves.

A6.20.4.2. Check traffic from all directions especially to the left.

A6.20.4.3. Steer and accelerate smoothly into the proper lane when safe to do so.

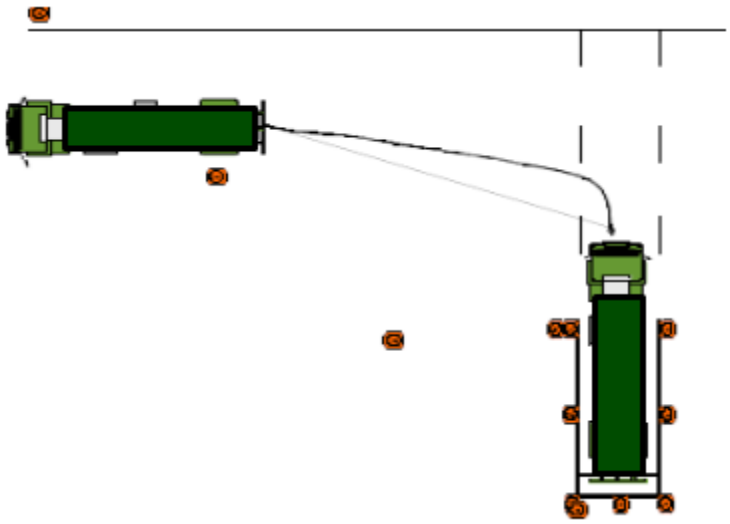
A6.20.4.4. Once the vehicle is back into the flow of traffic, cancel the left turn signal.

A6.21. Low Clearance, Weight Restriction, or Traffic Sign. After driving under an overpass, the trainee may be asked to tell the examiner what the posted clearance or height was. After going over a bridge, the trainee may be asked to tell the examiner what the posted weight limit was. If the test route does not have a bridge or overpass, the trainee may be asked about another traffic sign. When asked, the trainee should be prepared to identify and explain to the examiner any traffic sign which may appear on the route.

A6.22. Hardened Aircraft Shelter (HAS) Backing. The trainee will be asked to sight-side back the vehicle into a HAS, bringing the rear of the vehicle as close as possible to the side of the structure without encroaching on the exercise boundary marked by a row of cones. The trainee is required to get the vehicle completely into the space with the entire vehicle straight with the entrance. See **Figure A6.5.**

Note: This maneuver is not required for the CDL equivalent Air Force Performance Test.

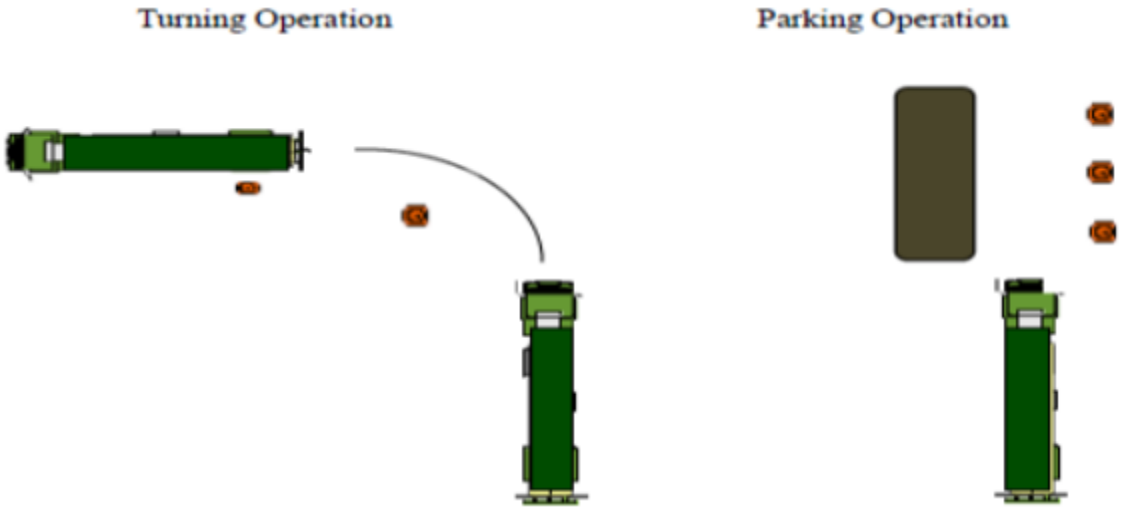
Figure A6.5. Hardened Aircraft Shelter (HAS) Backing.



A6.23. Turning and Proximity Exercises. The trainee will be asked to operate the vehicle through a course with a series of turns and simulated parking operations created at the discretion of the trainer. Keep in mind that the pivot point of the vehicle is the rear axle when navigating the course. He/she is required to complete the course and the parking operations without encroaching upon the exercise boundary. See **Figure A6.6.**

Note: This maneuver is not required for the CDL equivalent Air Force Performance Test.

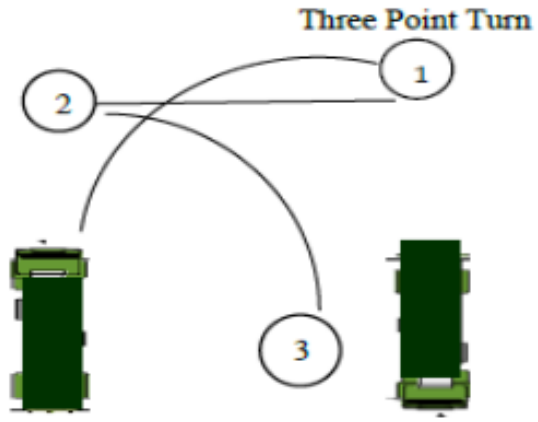
Figure A6.6. Turning and Proximity Exercises.



A6.24. Three Point Turn. The trainee will be asked to perform a three point turn. It is a method of turning a vehicle around in a narrow space by moving forward, backward, and forward again in a sequence of arcs. See **Figure A6.7.**

Note: This maneuver is not required for the CDL equivalent Air Force Performance Test.

Figure A6.7. Three Point Turn.



Attachment 7

SEVEN-STEP INSPECTION PROCESS

Figure A7.1. Seven-Step Inspection Process.

Seven-Step Inspection Process	
Step	**Procedure**
1. Vehicle Overview	• Review the AF Form 4427. ○ Ensure any discrepancy has been corrected. ○ Vehicle Management annotated the discrepancy was completed. ○ Approaching the vehicle. • Damage or vehicle leaning to one side. • Fresh leakage of fluids. • Hazards around vehicle.
2. Check Engine Compartment	**Note:** Check that the parking brakes are on and/or wheels chocked. • Check the following: ○ Engine oil level. ○ Coolant level in radiator; condition of hoses. ○ Power steering fluid level; hose condition (if so equipped). ○ Windshield washer fluid level. ○ Battery fluid level, connections and tie-downs (battery may be located elsewhere). ○ Automatic transmission fluid level (may require engine to be running). ○ Check belts for tightness and excessive wear (alternator, water pump, air compressor)--learn how much "give" the belts should have when adjusted right. ○ Leaks in the engine compartment (fuel, coolant, oil, power steering fluid, hydraulic fluid, battery fluid).

	○ Cracked, worn electrical wiring insulation.
3. Start Engine and Inspect Inside the Cab (Get in and Start Engine)	• Make sure parking brake is on. • Put gearshift in neutral (or park if automatic). Start engine; listen for unusual noises. • If equipped, check the Anti-lock Braking System (ABS) indicator lights. Light on dash should come on and then turn-off. If it stays on the ABS is not working properly. • Look at the gauges. ○ Oil pressure. Should come up to normal within seconds after engine is started. ○ Air pressure. Pressure should build from 50 to 90 psi within 3 minutes. Build air pressure to governor cut-out (usually around 120 – 140 psi. Know the vehicle's requirements. ○ Ammeter and/or voltmeter. Should be in normal range(s). ○ Coolant temperature. Should begin gradual rise to normal operating range. ○ Engine oil temperature. Should begin gradual rise to normal operating range. ○ Warning lights and buzzers. Oil, coolant, charging circuit warning, and antilock brake system lights should go out right away. ○ Check Condition of Controls. Check all of the following for looseness, sticking, damage, or improper setting: • Steering wheel. • Accelerator (gas pedal). • Brake controls. • Foot brake. • Transmission controls. • Interaxle differential lock (if vehicle has one).

	• Horn(s). • Windshield wiper/washer. • Lights. • Headlights. • Dimmer switch. • Turn signal. • Four-way flashers. • Parking – clearance – identification – marker switch (switches). • Check mirrors and windshield. ○ Inspect mirrors and windshield for cracks, dirt, illegal stickers, or other obstructions to seeing clearly. Clean and adjust as necessary. • Check emergency equipment. ○ Check for safety equipment: • Spare electrical fuses (unless vehicle has circuit breakers). • Three red reflective triangles, 6 fuses • Properly charged and rated fire extinguisher. Check for optional items such as: • Chains (where winter conditions require). • List of emergency phone numbers Accident reporting kit (packet). ○ Check safety belt. Check that the safety belt is securely mounted, adjusts; latches properly and is not ripped or frayed.
4. Turn-off Engine	• Make sure the parking brake is set, turn-off the engine, and take the key with. • Turn-on headlights (low beams) and four-way emergency flashers, and get out of the vehicle.
5. Do Walk-Around Inspection	• General. ○ Go to front of vehicle and check that low beams are on and both of the four-way flashers are working.

	○ Push dimmer switch and check that high beams work. ○ Turn-off headlights and four-way emergency flashers. ○ Turn-on parking, clearance, side-marker, and identification lights. ○ Turn-on right turn signal, and start walk-around inspection. ○ Walk around and inspect. • Clean all lights, reflectors, and glass as while doing the walk-around inspection. • Left front side. ○ Driver's door glass should be clean. ○ Door latches or locks should work properly. • Left front wheel. ○ Condition of wheel and rim--missing, bent, broken studs, clamps, lugs, or any signs of misalignment. ○ Condition of tires--properly inflated, valve stem and cap OK, no serious cuts, bulges, or tread wear. ○ Use wrench to test rust-streaked lug nuts, indicating looseness. ○ Hub oil level OK, no leaks. Left front suspension. ○ Condition of spring, spring hangers, shackles, ○ U-bolts. ○ Shock absorber condition. • Left front brake. ○ Condition of brake drum or disc. ○ Condition of hoses. • Front. ○ Condition of front axle. Condition of steering system. ○ No loose, worn, bent, damaged or missing parts. ○ Must grab steering mechanism to test for looseness.

	○ Condition of windshield. ○ Check for damage and clean if dirty. ○ Check windshield wiper arms for proper spring tension. ○ Check wiper blades for damage, "stiff" rubber, and securement. ○ Lights and reflectors. ○ Parking, clearance, and identification lights clean, operating, and proper color (amber at front). ○ Reflectors clean and proper color (amber at front). ○ Right front turn signal light clean, operating, and proper color (amber or white on signals facing forward). • Right side ○ Right front: check all items as done on left front. ○ Right fuel tank(s). ○ Securely mounted, not damaged, or leaking. Fuel crossover line secure. ○ Tank(s) contain enough fuel. Cap(s) on and secure. ○ Condition of visible parts. Rear of engine--not leaking. Transmission--not leaking. ○ Exhaust system--secure, not leaking, not touching wires, fuel, or air-lines. ○ Frame and cross members--no bends or cracks. ○ Air-lines and electrical wiring--secured against snagging, rubbing, wearing. ○ Spare tire carrier or rack not damaged (if so equipped). ○ Spare tire and/or wheel securely mounted in rack. ○ Spare tire and wheel adequate (proper size, properly inflated). ○ Curbside cargo compartment doors in good condition, securely closed,

	latched/locked and required security seals in place. • Right rear. ○ Condition of wheels and rims--no missing, bent, or broken spacers, studs, clamps, or lugs. ○ Condition of tires--properly inflated, valve stems and caps OK, no serious cuts, bulges, tread wear, tires not rubbing each other, and nothing stuck between them. ○ Tires same type, e.g., not mixed radial and bias types. ○ Tires evenly matched (same sizes). Wheel bearing/seals not leaking. ○ Suspension. ○ Condition of spring(s), spring hangers, shackles, and u-bolts. ○ Axle secure. ○ Powered axle(s) not leaking lube (gear oil). Condition of torque rod arms, bushings. ○ Condition of shock absorber(s). ○ If retractable axle equipped, check condition of lift mechanism. If air powered, check for leaks. ○ Condition of air ride components. ○ Brakes. ○ Brake adjustment. ○ Condition of brake drum(s) or discs. ○ Condition of hoses--look for any wear due to rubbing. ○ Lights and reflectors. ○ Side-marker lights clean, operating, and proper color (red at rear, others amber). ○ Side-marker reflectors clean and proper color (red at rear, others amber). • Rear. ○ Lights and reflectors.

	○ Rear clearance and identification lights clean, operating, and proper color (red at rear). ○ Reflectors clean and proper color (red at rear). ○ Taillights clean, operating, and proper color (red at rear). ○ Right rear turn signal operating, and proper color (red, yellow, or amber at rear). ○ License plate(s) present, clean, and secured. ○ Splash guards present, not damaged, properly fastened, not dragging on ground, or rubbing tires. • Left side. ○ Check all items as done on right side, plus: ○ Battery (batteries) (if not mounted in engine compartment). ○ Battery box (boxes) securely mounted to vehicle. Box has secure cover. ○ Battery (batteries) secured against movement. Battery (batteries) not broken or leaking. ○ Fluid in battery (batteries) at proper level (except maintenance-free type). ○ Cell caps present and securely tightened (except maintenance-free type). ○ Vents in cell caps free of foreign material (except maintenance-free type).
6. Check Signal Lights	• Get in and turn-off all lights. • Turn-on stop lights (apply trailer hand brake or have a helper put on the brake pedal). • Turn-on left turn signal lights. • Get out and check lights.

	• Left front turn signal light clean, operating and proper color (amber or white on signals facing the front). • Left rear turn signal light and both stop lights clean operating, and proper color (red, yellow, or amber). • Get in vehicle. ○ Turn-off lights not needed for driving. ○ Secure all loose articles in cab (they might interfere with operation of the controls or hit the operator in a crash). ○ Start the engine.
7. Start the Engine and Check Test for Hydraulic Leaks	• Test for hydraulic leaks. ○ If the vehicle has hydraulic brakes, pump the brake pedal three times. ○ Then apply firm pressure to the pedal and hold for five seconds. ○ The pedal should not move. If it does, there may be a leak or other problem. • Brake system. • Test parking brake. ○ Fasten safety belt. ○ Gently pull forward against parking brake to make sure the parking brake holds. ○ If it doesn't hold vehicle, it is faulty; get it fixed. • Test service brake stopping action. ○ Go about 5 miles per hour. ○ Push brake pedal firmly. ○ "Pulling" to one side or the other can mean brake trouble. ○ Any unusual brake pedal "feel" or delayed stopping action can mean trouble. ○ If the trainee finds anything unsafe during the Vehicle inspection, get it fixed. Federal and state laws forbid operating an unsafe vehicle. • Check vehicle operation regularly:

	○ Instruments. ○ Air pressure gauge (if the vehicle has air brakes). Temperature gauges. ○ Pressure gauges. Ammeter/voltmeter. ○ Mirrors. ○ Tires. ○ If the trainee sees, hears, smells, or feels anything that might mean trouble, he/she should check it out. • Safety inspection. • Document any discrepancy on AF Form 4427. Sign-off AF Form 4427 to signify accomplishment of inspection.

Figure A7.2. Additional Steps for Inspecting Air Brakes System.

Additional Steps for Inspecting Air Brakes	
Step	**Procedure**
2. Engine Compartment Checks	• Check air compressor drive belt condition and tightness (if compressor is belt driven).
5. Walk-Around Inspecting	• Check manual slack adjusters on S-cam brakes. **Note:** Vehicles with automatic slack adjustors still must be checked. o Park on level ground and chock the wheels. o Release the parking brakes so the operator can move the slack adjusters. o Use gloves and pull hard on each slack adjuster that it can be reached. o Check slack adjuster, more than 1-inch indicates adjustments required (vehicles with too much brake slack can be very hard to stop). Adjust it or have it adjusted. • Check brake drums (or discs), linings, and hoses.
7. Final Air Brake Check	• Test low pressure warning signal. o Shut the engine off when the vehicle has enough air pressure so that the low pressure warning signal is not on. o Turn the electrical power on. o Step on and off the brake pedal to reduce air tank pressure. o Low air pressure warning signal should come on before the pressure drops to less than 60 psi in the air tank with lowest pressure. • Check that the spring brakes come on automatically. o Chock the wheels. o Release the parking brakes when enough air pressure is built up. o Shut the engine off. o Step on and off the brake pedal to reduce the air tank pressure. o "Parking brake" knob should pop out when the air pressure falls to the manufacturer's specification. • Check rate of air pressure buildup o Refer to manufacturer’s recommendation for average buildup time. o If not within recommended time, the air pressure may drop too low during driving operations. • Test air leakage rate.

	○ With a fully-charged air system (typically 125 psi). ○ Turn-off the engine. ○ Release the service brake and time the air pressure drop. ○ The loss rate should be less than 2 psi in one minute for single vehicles. ○ Not less than 3 psi in 1 minute for combination vehicles. • Then apply 90 psi or more with the brake pedal. ○ After the initial pressure drop, if the air pressure falls more than 3 psi in 1 minute for single vehicles. ○ Not more than 4 psi for combination vehicles. • Check air compressor governor cut-in and cut-out pressures. ○ Air compressor should start at about 100 psi and stop at about 125 psi. ○ Run the engine at a fast idle. ○ Air governor should cut-out the air compressor at about the manufacturer's specified pressure. ○ Engine idling, step on and off brake to reduce air tank pressure. ○ Compressor should cut-in at manufacturer's specified cut-in pressure. ○ Test parking brake: Stop the vehicle; put the parking brake on; gently pull against it in low gear to determine if parking brake will hold. • Test service brakes. • Wait for normal air pressure. • Release the parking brake. • Move the vehicle forward slowly (about 5 mph). • Apply the brakes firmly using the brake pedal. • Note any vehicle "pulling" to one side, unusual feel, or delayed stopping action.