

**Bus**

Vehicle Management Codes: B 111, B113, B118, B119, B121, B130 – B132,  
B134, B139, B140, B141, B184, F121, F130, F184



**QUALIFICATION TRAINING PACKAGE**

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## 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.VehicleOps@us.af.mil.

1.1.2. How to use this plan:

1.1.2.1. Trainer:

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

1.1.2.1.2. Trainer's lesson plan for trainee preparation, give classroom lecture, **Section 4**.

1.1.2.1.3. Trainer's lesson plan for knowledge test, **Section 5** and the **American Association of Motor Vehicle Administrators (AAMVA) Commercial Driver's License (CDL) Manual**.

1.1.2.1.4. Trainer's lesson plan for air brakes, **Section 5** and the **AAMVA CDL Manual**.

1.1.2.1.5. Trainer's lesson plan for demonstration, **Section 6** and the **AAMVA CDL Manual**.

1.1.2.1.6. Trainer's lesson plan for performance and evaluation, **Section 7**.

1.1.2.2. Trainee:

1.1.2.2.1. Reads entire lesson plan and the **AAMVA CDL Manual** prior to starting lecture.

1.1.2.2.2. Follows along with lecture using this lesson plan, its attachments and the AAMVA CDL Manual.

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

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

1.1.2.2.3.2. Take the Air Force Performance Test (following completion of required written test(s)) consisting of three parts: Vehicle Inspection Test, Basic Control Skills Test and Road Test.

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

1.1.2.2.4.1. Complete written tests developed and administered IAW AFI 24-301, *Ground Transportation*.

1.1.2.2.4.2. Complete the Performance Test developed and administered by Training, Validation and Operations (TVO) staff IAW AFI 24-301 and this lesson plan (See **Section 7** and **Attachment 3** for criteria).

## **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 trainee's responsibilities.

2.1.1.2. Review the Bus Lesson Plan 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 recommended for the bus.

2.1.1.6. Take the required written test(s) and performance test for the bus.

2.1.2. The trainer shall:

2.1.2.1. Review this AFQTP and the AAMVA *CDL Manual* with the trainee.

2.1.2.2. Conduct knowledge training with the trainee using the Bus Lesson Plan and the AAMVA *CDL Manual*.

2.1.2.3. Conduct performance task explanation and demonstration using the Bus Lesson Plan and the AAMVA *CDL Manual*.

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

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

2.1.2.6. Document and signs-off the task(s) in Training Business Area (TBA) On-the-Job Training (OJT) for 2T1X1 personnel. For all personnel, this information will be documented on a TVO log and in OLVIMS Dispatch.

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 bus will only be conducted by trained TVO Examiners. Members with a valid Class B CDL and Passenger Transport endorsement do not require further TVO certification to be licensed on the bus.

### **Section 3—INTRODUCTION**

#### **3.1. Objectives.**

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

3.1.1.1. Achieve an 80% or higher on all written tests.

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

3.1.2. 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.

3.1.3. Ensure the trainee becomes trained and qualified as a bus operator; an operator who has the knowledge and skills for safe and professional bus operation and preventative maintenance of various buses.

#### **3.2. Desired Learning Outcome.**

3.2.1. Understand the safety precautions to be followed pre-, during-, and post-operation of the bus and the air brake system.

3.2.2. Understand the purpose of the bus and its role in the mission.

3.2.3. Know the proper operator maintenance procedures of the bus, IAW the manufacturer's operator's manual, the seven-step inspection process and the vehicle inspection guide.

3.2.4. Safely and proficiently operate the bus.

### 3.3. Lesson Duration.

3.3.1. Recommended instructional and hands on training time is 52.75 hours:

**Figure 3.1. Recommended Training Time for Training Activities.**

<b>Training Activity</b>	<b>Training Time</b>
Trainee's Preparation	5 Hours
Instructor's Lecture	5 Hours
Trainee's Written Evaluation	4 Hours
Instructor's Demonstration	5 Hours
Trainee's Personal Experience (to build confidence and proficiency): <ul style="list-style-type: none"><li>▪ Perform Operator Maintenance</li><li>▪ Operate the Vehicle</li></ul>	30 Hours
Trainee's Performance Evaluation	3.75 Hours

### 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. Bus Lesson Plan.

3.4.4. **AAMVA CDL Manual**. Contact the TVO Section to obtain a copy.

**Note:** The material found in this lesson plan was written using resources developed by AAMVA including AAMVA's *CDL Manual*, in order to provide all Air Force bus 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.

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

3.4.6. Applicable Technical Orders (TOs) or Manufacturer's Operator's Manual(s) (see Vehicle Management for TO number for vehicle being used in training).

3.4.7. 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 (DoT), Parts 300-399; on-line at <http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>.

3.4.8. United States DoT, FMCSA; on-line at <http://www.fmcsa.dot.gov/index.htm>.

3.4.9. AAMVA website; on-line at <http://www.aamva.org/>.

### **3.5. Instructional Training Aids and Equipment.**

3.5.1. Bus Lesson Plan.

**3.5.2. AAMVA CDL Manual.**

3.5.3. Bus.

3.5.4. Applicable TO or manufacturer's operator's manual.

3.5.5. Suitable training area.

3.5.6. Traffic cones.

## **Section 4—TRAINEE PREPARATION**

### **4.1. Licensing Requirements.**

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

4.1.2. AF Form 171 IAW AFI 24-301, *Ground Transportation*.

4.1.3. Applicable local licensing jurisdiction requirements.

### **4.2. Required Reading.**

4.2.1. Bus Lesson Plan.

4.2.2. AAMVA's *CDL Manual*.

4.2.3. AFMAN 24-306.

4.2.4. Manufacturer's operator's manual and applicable TOs for the vehicle being trained on.

## **Section 5—KNOWLEDGE LECTURE AND EVALUATION**

### **5.1. Knowledge Overview (Lecture).**

5.1.1. Trainees will pass the written test(s), with a minimum score of 80%, IAW AFI 24-301 prior to taking the performance test for the bus.

5.1.1.1. Written tests will be developed using this vehicle lesson plan and the AAMVA *CDL Manual* as source documents.

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

5.1.1.3. Trainees who fail the written 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 test(s).

5.2.1.1.2. Complete all 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 a bus operator; an operator who has the knowledge and skills for safe and professional bus operation and preventative maintenance of various buses.

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 bus and the air brake system.

5.2.2.2. Understand the purpose of the bus and its role in the mission.

5.2.2.2.1. The purpose of the bus is to transport passengers.



- 5.2.2.2.2. Role in the mission (Unit/Base/Community (during natural disasters)/Air Force).
- 5.2.2.3. Know the proper operator maintenance procedures of the bus, 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 bus 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. Demonstrates 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 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*, Appendix 1 to Enclosure 5, paragraph 4a:

“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 Code of Federal Regulations (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**).

### **5.3. Bus Service and Design Overview.**

#### 5.3.1. Types of bus services:

5.3.1.1. General passenger movements.

5.3.1.2. Group transportation service.

5.3.1.3. Military mass transit service.

5.3.1.4. Emergency bus service.

5.3.1.5. Shuttle bus service.

5.3.1.6. Services support.

5.3.1.7. Transporting dependent school children in the United States.

5.3.1.8. Transporting dependent school children in overseas areas.

#### 5.3.2. Operator Responsibilities:

5.3.2.1. Pre-operation (pre-trip) vehicle inspection (and servicing/maintenance).

5.3.2.2. Safety and comfort of the passengers.

5.3.2.3. Maintaining passenger discipline.

5.3.2.4. In an emergency: Passengers evacuated, accountability of passengers, care for injured, and reporting.

5.3.2.5. Passengers should know the evacuation procedures, and the location of emergency equipment and emergency exits.

5.3.3. Bus design.

5.3.3.1. The term “bus” will be used throughout this text in reference to any vehicle designed to transport passengers. Buses are designed to be the safest means of ground transportation in the United States of America. Buses are built so that they sit above the crash line, are compartmentalized with 28” high seat backs with padding to absorb full body impact, and have emergency exits to provide added safety.

5.3.3.2. The Air Force has a variety of buses used to accomplish its passenger movement mission. Refer to the manufacturer’s operator’s manual and vehicle data plate for additional information on the bus being operated. The bus normally can be identified by the following characteristics:

5.3.3.3. Basic bus types:

5.3.3.3.1. Type A: Surrey (Mini-bus) with gross vehicle weight rating (GVWR) < 10,000 lbs.

5.3.3.3.2. Type C: Conventional (School bus) with GVWR > 10,000 lbs.

5.3.3.3.3. Type D: Transit (Cab Over) with GVWR > 10,000 lbs.

**Figure 5.1. Type A – Surrey.**



**Figure 5.2. Type C – Conventional.**



**Figure 5.3. Type D – Transit.**



5.3.3.4. Characteristics of common Air Force bus types.

**Table 5.1. Characteristics of Common Air Force Bus Types.**

<b>Characteristics of Common Air Force Bus Types</b>		
<b>Characteristic</b>	<b>28 Passenger Bus</b>	<b>44 Passenger Bus</b>
Height	10-11'	10-11'
Width	8'	8'
Length	27'	36'
Fuel Type	Diesel	Diesel
Fuel Capacity	35 Gallons	50 Gallons
Passenger Capability	28 Passengers	44 Passengers
Curb Weight	15,340 lbs.	16,000 lbs.
Maximum Payload	8,600 lbs.	11,350 lbs.
GVWR	24,000 lbs.	26,000 lbs.
GAWR (Front/Rear)	7,500/15,800 lbs.	9,000/17,000 lbs.

5.3.3.5. Bus components.

5.3.3.5.1. Truck (engine/chassis and cab).

5.3.3.5.1.1. Air brakes: brake-lock switch, gauge, warning buzzer.

**Note:** Never operate a bus if the air pressure is not within the recommended pounds per square inch (psi).

5.3.3.6. Body (common components).

5.3.3.6.1. Each handhold and railing.

5.3.3.6.2. Floor covering.

5.3.3.6.3. Signaling devices.

5.3.3.6.4. Emergency exit handles.

**Note:** The seats must be safe for riders. All seats must be securely fastened to the bus. Never drive with an open emergency exit door or window. The “Emergency Exit” sign on an emergency door must be clearly visible. If there is a red emergency door light, it must work. Turn it on at night or any other time that the outside lights are used.

## 5.4. Vehicle Inspection.

### 5.4.1. Documentation.

5.4.1.1. The AAMVA *CDL Manual* is the primary source for vehicle inspection scoring criteria.

5.4.1.2. Use **Attachment 2** 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 Bus CDL Vehicle Inspection Memory Aid (**Attachment 2**).

5.4.1.3. 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 5** for the Seven-Step Inspection Method. **Note:** The trainee will NOT be permitted to use the Seven-Step Inspection Method guide (**Attachment 5**) during the performance test.

5.4.1.4. Fill out and sign the AF Form 1800, *Operator’s Inspection Guide and Trouble Report*. If repairs are needed, follow the base policy on repairs, and/or request a replacement bus to accomplish the scheduled run.

5.4.1.5. 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.

5.4.2. 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.

#### 5.4.2.1. Interior of the bus.

##### 5.4.2.1.1. Emergency devices.

5.4.2.1.1.1. Fire extinguisher(s) (ensure they are properly charged, the inspection date is current, and they are proper secured).

5.4.2.1.1.2. Warning devices (warning triangles and flares).

5.4.2.1.1.3. First aid kit (ensure contents are sealed/secured, restocked, and not expired).

5.4.2.1.1.4. Body fluid cleanup kit. **Note:** Do not open the body fluid cleanup kit, unless there is an emergency.

5.4.2.1.1.5. Spare electrical fuses (unless equipped with circuit breakers).

5.4.2.1.2. Check the condition of the steps: Clean, free of dirt, trash, snow and ice.

5.4.2.1.3. The handrail must be tight and secure.

5.4.2.1.4. The aisle floor mats for any damage or rips.

5.4.2.1.5. Ensure door opens and closes freely, no obstructions.

5.4.2.1.6. Warning buzzer works.

5.4.2.1.7. Close and secure the door.

5.4.2.1.8. Slap the seat backs (ensuring they are secure).

5.4.2.1.9. Ensure windows and roof hatches are secure.

5.4.2.1.10. Check emergency doors and windows: Not locked; open and close freely; no obstruction; warning buzzers operational.

#### 5.4.2.2. Exterior of the bus.

##### 5.4.2.2.1. Tire condition:

5.4.2.2.1.1. Even wear of tread, no cracks, splits, bulges or cords showing, properly inflated, no recaps.

- 5.4.2.2.1.2. Re-grooved, recapped, or retread tires are prohibited on the front axle of the bus.
- 5.4.2.2.1.3. Tread depth: at least 4/32" (government motor vehicle (GMV)) 2/32" (some locations may require greater tread depth) commercial design.
- 5.4.2.2.1.4. Valve stems – 180 degrees from each other on dual wheels.
- 5.4.2.2.2. Stop arm (if equipped). **Note:** Most Air Force “school” buses are modified to be unequipped with a stop arm.
  - 5.4.2.2.2.1. Not damaged or bound on anything.
  - 5.4.2.2.2.2. Lens intact and not damaged.
  - 5.4.2.2.2.3. Lights operating properly.
- 5.4.2.2.3. Side emergency door (if equipped).
  - 5.4.2.2.3.1. Not locked.
  - 5.4.2.2.3.2. Fully opens freely.
  - 5.4.2.2.3.3. No obstructions.
  - 5.4.2.2.3.4. Latches properly.
  - 5.4.2.2.3.5. Buzzer is working.
- 5.4.2.2.4. Airbrakes tests.
  - 5.4.2.2.4.1. Locate and verbally identify air brake operating controls and monitoring devices.
  - 5.4.2.2.4.2. Determine the motor vehicle’s brake system condition for proper adjustments and that air system connections between motor vehicles have been properly made and secured.
  - 5.4.2.2.4.3. Inspect the low pressure warning device(s) to ensure that they will activate in emergency situations; ascertain, with the engine running, that the system maintains an adequate supply of compressed air.
  - 5.4.2.2.4.4. Determine that required minimum air pressure build up time is within acceptable limits and that required alarms and emergency devices automatically deactivate at the proper pressure level. See *AAMVA CDL Manual*.

5.4.2.2.4.5. Operationally check the brake system for proper performance.

5.4.2.2.4.5.1. Turn the electrical power on.

5.4.2.2.4.5.2. 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.

5.4.2.2.4.5.3. Ensure the spring brakes come on automatically:

5.4.2.2.4.5.4. Release the parking brakes when enough air pressure is built up.

5.4.2.2.4.5.5. Shut the engine off.

5.4.2.2.4.5.6. Step on and off the brake pedal to reduce the air tank pressure.

5.4.2.2.4.5.7. "Parking brake" knob should pop out when the air pressure falls below the manufacturer's specification.

5.4.2.2.4.5.8. Check rate of air pressure buildup.

5.4.2.2.4.5.9. Refer to manufacturer's recommendation for average buildup time.

5.4.2.2.4.6. Test air leakage rate.

5.4.2.2.4.6.1. With a fully-charged air system (typically 125 psi)

5.4.2.2.4.6.2. Turn-off the engine.

5.4.2.2.4.6.3. Release the service brake and time the air pressure drop.

5.4.2.2.4.6.4. The loss rate should be less than two psi in one minute.

5.4.2.2.4.6.5. Then apply 90 psi or more with the brake pedal.

5.4.2.2.4.6.6. After the initial pressure drop, if the air pressure falls more than 3 psi in one minute

5.4.2.2.5. Check air compressor governor cut-in and cut-out pressures:

5.4.2.2.5.1. Air compressor should start at about 100 psi and stop at about 125 psi.

5.4.2.2.5.2. Run the engine at a fast idle.



5.4.2.2.5.3. Air governor should cut-out the air compressor at about the manufacturer's specified pressure.

5.4.2.2.5.4. Engine idling, step on and off brake to reduce air tank pressure.

5.4.2.2.5.5. Compressor should cut-in at manufacturer's specified cut-in pressure.

5.4.2.2.6. Test parking brake.

5.4.2.2.6.1. Stop the vehicle.

5.4.2.2.6.2. Put the parking brake on.

5.4.2.2.6.3. Gently pull against it in low gear to determine if parking brake will hold.

5.4.2.2.7. Test service brakes.

5.4.2.2.7.1. Wait for normal air pressure.

5.4.2.2.7.2. Release the parking brake.

5.4.2.2.7.3. Move the vehicle forward slowly (about 5 miles per hour (mph)).

5.4.2.2.7.4. Apply the brakes firmly using the brake pedal.

5.4.2.2.7.5. Note any vehicle "pulling" to one side, unusual feel, or delayed stopping action.

5.4.3. During-operation inspection:

5.4.3.1. All gauges and warning lights for proper operations:

5.4.3.1.1. Warning lights.

5.4.3.1.2. Gauges.

5.4.3.1.3. Indicators.

5.4.3.2. Unusual noises.

5.4.3.3. Listen for exhaust and air leaks.

5.4.4. Post-operation inspection:

5.4.4.1. Ensure the bus interior is cleaned: Sweep; use wet mop (if necessary); NEVER spray interior with water hose or steam wand.

5.4.4.2. Bus is refueled.

5.4.4.3. Perform a walk-around inspection.

5.4.4.4. Drain air tanks if, applicable.

**Figure 5.4. What to Look for During an Inspection.**

What to Look for During an Inspection	
Inspection Location	Problem
Tires	<ul style="list-style-type: none"> <li>• Too much or too little air pressure.</li> <li>• Bad wear (contact VM for proper tread depth).</li> <li>• No fabric should show through the tread or sidewall.</li> <li>• Cuts or other damage.</li> <li>• Tread separation.</li> <li>• Dual tires that come in contact with each other or other parts of the vehicle.</li> <li>• Mismatched sizes.</li> <li>• Radial and bias-ply tires used together.</li> <li>• Cut or cracked valve stems.</li> <li>• Re-grooved, recapped, or retreated tires on the front wheels of a bus are prohibited.</li> </ul>
Wheels and Rims	<ul style="list-style-type: none"> <li>• Damaged rims.</li> <li>• Rust around wheel nuts; may mean the nuts are loose—check tightness.</li> </ul> <p><b>Note:</b> After a tire has been changed, stop a short while later and re-check tightness of nuts.</p> <ul style="list-style-type: none"> <li>• Missing clamps, spacers, studs, or lugs; means danger, mismatched, bent, or cracked lock rings are dangerous.</li> <li>• Wheels or rims that have had welding repairs are not safe.</li> <li>• Large rocks stuck between wheels.</li> </ul>

<p style="text-align: center;">Bad Brake Drums</p>	<ul style="list-style-type: none"> <li>• Cracked drums.</li> <li>• Shoes or pads with oil, grease, or brake fluid on them.</li> <li>• Shoes worn dangerously thin, missing, or broken.</li> </ul>
<p style="text-align: center;">Steering System Defects</p>	<ul style="list-style-type: none"> <li>• Missing nuts, bolts, cotter keys, or other parts.</li> <li>• Bent, loose, or broken parts, such as steering column.</li> <li>• Steering gear box, or tie rods.</li> <li>• (If power steering equipped) Hoses, pumps, and fluid level. Check for leaks.</li> <li>• Steering wheel play of more than 10 degrees (approximately 2-inches movement at the rim of a 20-inch steering wheel) can make it hard to steer.</li> </ul>
<p style="text-align: center;">Suspension System Defects</p>	<ul style="list-style-type: none"> <li>• Spring hangers that allow movement.</li> <li>• Cracked or broken spring hangers.</li> <li>• Missing or broken leaves in any leaf spring.</li> <li>• Broken leaves that have shifted.</li> <li>• Leaking shock absorbers.</li> <li>• Torque rod or arm, U-bolts, spring hangers, or other axle positioning parts.</li> <li>• Air suspension systems damaged and/or leaking.</li> <li>• Any loose, cracked, broken, or missing frame members.</li> </ul>
<p style="text-align: center;">Exhaust System Defects</p>	<ul style="list-style-type: none"> <li>• Loose, broken, or missing exhaust pipes, mufflers, tailpipes, or vertical stacks.</li> <li>• Loose, broken, or missing mounting brackets, clamps, bolts, or nuts.</li> <li>• Exhaust system parts rubbing against fuel system parts, tires, or other moving parts of vehicle.</li> <li>• Exhaust system parts that are leaking.</li> </ul>

Emergency Equipment	<ul style="list-style-type: none"> <li>• Fire extinguishers. <b>Note:</b> Additional external fire extinguishers will be required to transport some hazardous materials</li> <li>• Spare electrical fuses (unless equipped with circuit breakers).</li> <li>• Warning devices for parked vehicles.</li> <li>• Spare tire, jack and lug wrench.</li> </ul>
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## 5.5. Vehicle Safety and Equipment.

### 5.5.1. Hazards and human factors:

5.5.1.1. Types of hazards include: Traffic during passenger loading/unloading operations and danger zone around bus (blind spots).

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

### 5.5.2. Safety clothing and personal protective equipment (PPE):

5.5.2.1. Safety steel-toed boots must be worn.

5.5.2.2. First aid kit.

5.5.2.3. Hearing protection, if required.

5.5.2.4. Reflective belt, if required.

5.5.2.5. Body fluid cleanup kit, if required.

5.5.2.6. Warning triangles or flares.

5.5.2.7. Inclement weather gear.

5.5.2.8. AF Form 1800.

**Note:** For day-to-day operations and normal use, the AF Form 1800 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 1800 when accomplishing the walk-around inspection. The trainee will only be allowed to reference the vehicle inspection guide (**Attachment 2**).

## **5.6. Driving Safety and Precautions.**

### 5.6.1. Bus operating principles.

5.6.1.1. Must be aware of federal, state, and local laws.

5.6.1.2. Provide safe transportation for passengers.

### 5.6.2. Prohibited practices:

5.6.2.1. Avoid fueling with passenger(s) on board.

5.6.2.2. Never refuel in a closed building with passengers.

5.6.2.3. Do not allow bus to be towed with passengers on board.

### 5.6.3. Prepare to take control:

5.6.3.1. Adjust the operator's seat before operating the vehicle.

5.6.3.2. Check/adjust all mirrors for maximum visibility before operating vehicle.

5.6.3.3. Know the reference point (discussed later).

5.6.3.4. Noise levels on the bus must be controlled:

5.6.3.4.1. Wearing any headset receiver is prohibited.

5.6.3.4.2. Radio at reasonable level.

5.6.3.5. Must be in control of the vehicle at all times.

5.6.3.6. Parking brake to be set whenever stopped for prolonged period of time.

### 5.6.4. Reference-point driving, steps to determining reference points:

5.6.4.1. Position comfortably in the operator's seat.

5.6.4.2. Pick an easily observable point on the hood or windshield of the bus.

5.6.4.3. With the help of someone outside the bus (if possible).

5.6.4.4. Conventional style bus - find point on ground where edge of hood lines up with point on the ground directly in front of it.

5.6.4.5. Transit style bus - use some point on the windshield to mark the point on the ground in front of bus.

5.6.4.5.1. Note that point for future reference. Remember this point may change on different makes and models.

5.6.4.5.2. This point will help determining proper distance to any fixed point:

5.6.4.6. For determining reference points to the side or rear of the bus.

5.6.4.6.1. Mark points on various outside rear view mirrors on either side of bus.

5.6.4.7. To determine the point directly below the rear bumper:

5.6.4.7.1. Use a point in left (or right) rear view mirror that lines up directly over bottom of left rear wheel well and rear bumper.

5.6.4.7.2. Measure distance from this point on ground to edge of rear bumper.

5.6.4.7.3. Remember to allow extra distance at any railroad grade crossing since trains overlap the track by about 3 feet.

5.6.5. Overhead clearance.

5.6.5.1. Common error by operators in not keeping overhead clearance in mind.

5.6.5.2. Especially when getting off major routes (i.e. parking garages, entrances to motels/hotels, etc.).

5.6.5.3. Loaded bus, overhead height is less than when bus empty.

5.6.6. Tire changing safety:

5.6.6.1. Consider the location of the vehicle. If on a bridge, curve or road without a shoulder, etc.; move the vehicle on a flat tire to a safe location.

5.6.6.2. Ensure that there is a firm and level surface for the jack.

5.6.6.3. Turn-on the four-way flashers, place warning triangles or flares prior to changing the tire.

5.6.6.4. Block the front tires if changing a rear tire, or rear wheels if changing a front tire.

5.6.6.5. Place the vehicle in "Park" if an automatic transmission, or low gear if a standard shift. Apply the parking brake.

5.6.6.6. Ensure the jack is rated for the weight of the vehicle, and ensure the proper placement of the jack (see manufacturer's operator's manual).

5.6.6.7. If available, use jack stands after lifting the vehicle. Once vehicle is lifted, never (at any time) get under the vehicle.

5.6.6.8. Before removing lug nuts, ensure lug wedges are loose (double-check).

5.6.6.9. After changing the tire, return the jack and lug wrench to the manufacturer's operator's manual recommended location. Secure the damaged tire, and once the damaged tire is repaired, return the spare tire to the proper location.

## **5.7. Bus Operation.**

5.7.1. Start the engine:

5.7.1.1. Do not pump the accelerator prior to starting a diesel engine.

5.7.1.2. While engaging the starter, the trainee may use the accelerator pedal sparingly.

5.7.1.3. Do not race the motor to warm up the vehicle.

5.7.1.4. Check the instrument panel.

5.7.1.5. Ensure that the vehicle is seen:

5.7.1.6. Excellent safety practice is to turn-on the headlights when operating bus.

5.7.1.7. If the bus is equipped with a strobe light, it will only be lighted when bus is being used as school bus.

5.7.1.8. Use the hazard lights.

5.7.1.8.1. When stopping at railroad crossings.

5.7.1.8.2. Presence of a road hazard.

5.7.1.8.3. When backing up the bus.

5.7.1.8.4. Approaching a stop, touch brake pedal lightly before actually making stop.

5.7.2. Warning lights:

5.7.2.1. At passenger pick-up and drop-off stops.

5.7.2.2. At railroad crossings.

5.7.3. Shifting gears.

5.7.3.1. Using engine speed.

5.7.3.2. Use road speed.

5.7.3.3. Knowing where/why to shift: Steep grades/curves.

5.7.4. Steering.

5.7.4.1. Proper hand position on steering wheel.

5.7.4.2. Wider turning radius due to length of vehicle.

5.7.5. Turning.

5.7.5.1. Check traffic to the front, rear, and sides.

5.7.5.2. Check all mirrors, especially on the side next to the lane that the vehicle is moving into.

**Note:** Check any blind spots for vehicles and/or pedestrians.

5.7.5.3. Activate the proper turn signal at least 100 feet before the turn in an urban area and 200 feet before the turn in all other areas.

5.7.5.4. Reduce the vehicle's speed and downshift before beginning to turn.

5.7.5.5. Never shift gears while making a turn.

5.7.5.6. Always yield the right of way to pedestrians and other vehicles.

5.7.5.7. When children are in the area, always use extreme caution.

5.7.6. Right turns.

5.7.6.1. Keep an eye on the right mirror while turning.

5.7.6.2. Enter the right-most lane available:



5.7.6.2.1. Leave enough room to make the turn.

5.7.6.2.2. If the trainee must cross into another lane in order to make the turn, he/she should make lane crossover into the road that he/she is entering.

5.7.6.2.3. Ensure that the turn signal is canceled.

5.7.6.2.4. Steer the vehicle back into position.

5.7.7. Left turns.

5.7.7.1. Follow the same safety precautions as right turns.

5.7.7.2. Refer to the left mirror while turning.

5.7.7.3. Enter the left-most lane available.

5.7.7.4. If multiple left-turn lanes exist, be mindful of proper lane usage.

5.7.7.5. Ensure the turn signal is canceled.

**Note:** Rear of the bus will swing out when turning.

5.7.8. Braking.

5.7.8.1. Controlling speed.

5.7.8.2. Normal stopping effected by:

5.7.8.2.1. Reaction time.

5.7.8.2.2. Speed.

5.7.8.2.3. Inclement weather.

5.7.8.2.4. Condition of tires and brakes.

5.7.8.2.5. Type and condition of road surface.

5.7.8.2.6. Weight of bus.

### 5.7.9. Backing.

5.7.9.1. Minimize or eliminate the need for backing.

5.7.9.2. Backing of any bus is strongly discouraged; however, if a vehicle must be backed, use a spotter.

5.7.9.3. Stop immediately if the spotter moves out of the view of the mirror.

5.7.9.4. Ensure back-up alarms are working properly.

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

5.7.10. Speed limit. Adjust speed based on time of day, size and passenger load, weather and road conditions. Never exceed the posted speed limit.

5.7.11. Do not leave equipment unattended with the engine running. Shut-off the engine and set the parking brake.

5.7.12. Transporting passengers.

**Note:** The trainee will not be required to perform a passenger/student discharge during the Performance Test, however, the trainee should demonstrate he is knowledgeable and competent in performing a passenger student discharge to unload/load passengers. See **Section 7**.

5.7.12.1. Overview loading/unloading passengers:

5.7.12.1.1. Load/ unload passengers from curb side to the maximum extent possible.

5.7.12.1.2. Be aware of personnel in the loading/unloading zone.

5.7.12.1.3. Never exceed load/passenger limit. Passengers should only be seated in the cab of the bus.

5.7.12.1.4. Do not travel with the door(s) open.

5.7.12.2. The bus must be in safe working condition, especially the following:

5.7.12.2.1. Each handhold and railing.

5.7.12.2.2. Floor covering.

5.7.12.2.3. Signaling devices.

5.7.12.2.4. Emergency exit handles.

5.7.12.2.5. The seats must be safe for riders.

5.7.13. Approaching the stop to load passengers:

5.7.13.1. Approach cautiously at a slow rate of speed.

5.7.13.2. Look for pedestrians, traffic, or other objects before-, during-, and after-coming to a stop.

5.7.13.3. Continuously check all mirrors.

5.7.13.4. If the bus is so equipped, activate alternating flashing amber warning lights at least 200 feet or approximately 5-10 seconds before the school bus stop or in accordance with state law.

5.7.13.5. Turn on right turn signal indicator about 100-300 feet or approximately 3-5 seconds before pulling over.

5.7.13.6. Continuously check mirrors to monitor the danger zones for students, traffic, and other objects.

5.7.13.7. Move as far as possible to the right on the traveled portion of the roadway.

5.7.14. When stopping:

5.7.14.1. Approach passengers with extreme care.

5.7.14.2. Bring bus to a full stop with the front bumper at least 10 feet away from passengers at the designated stop. This forces the passengers to walk to the bus so that there is a better view of their movements.

5.7.14.3. Stop the bus parallel to and within 12 inches of the curb, if one exists.

5.7.14.4. Place transmission in Park, or if there is no Park shift point, in Neutral and set the parking brake at each stop.

5.7.14.5. If equipped, when transporting school children, activate alternating red lights when traffic is a safe distance from the school bus and ensure stop arm is extended. Use hazard lights, if not equipped with alternating red lights.

5.7.14.6. Make a final check to see that all traffic has stopped before completely opening the door and signaling passengers to approach.

5.7.15. Loading procedures:

5.7.15.1. Check the position of all passengers and others in the area traffic.

5.7.15.2. Passenger should not move until bus is at a complete stop.

5.7.15.3. Do not allow passengers to cross a two-lane roadway until confident that all traffic is stopped.

5.7.15.3.1. He/she should be aware that other motorists might not stop.

5.7.15.3.2. Check vehicles behind the first vehicle stopped.

5.7.15.3.3. Direct waiting passengers (or trainees).

5.7.15.3.4. Ensure that the directions are clear.

5.7.15.3.5. Take a mental inventory of passengers as they cross the roadway.

5.7.15.3.6. Passengers are to use the handrail when boarding.

5.7.15.3.7. Close service door to deactivate stop signal system as soon as possible.

**Note:** Automatic/electric side doors can be misleading (fast and powerful compared to manual types). Ensure all passengers clear of doors when shutting to prevent injuries.

5.7.15.4. Check all mirrors: Pay particular attention to areas close to the bus. Ensure other pedestrians are out of the “danger zones.”

5.7.15.5. All passengers must be properly seated.

5.7.15.6. Account for all passengers.

5.7.15.7. Never exceed the legal passenger capacity of the vehicle.

5.7.15.8. Passengers load from back to front to help reduce accident and injury risks.

5.7.16. Unloading passengers.

5.7.16.1. Perform a safe stop as described above.

5.7.16.2. Have passengers remain seated until told to exit.

5.7.16.3. Check all mirrors.

5.7.16.4. Account for all passengers while unloading.

5.7.16.5. When the trainee is at the destination the following should be told to the passengers:

5.7.16.5.1. The location.

5.7.16.5.2. Reason for stopping.

5.7.16.5.3. Next departure time.

5.7.16.5.4. Bus number.

5.7.16.5.5. Remind riders to take carry-ons and trash with them.

5.7.16.5.6. Remind riders of the step-down.

5.7.16.6. At stops:

5.7.16.6.1. Ensure the rider's safety as well as that of others.

5.7.16.6.2. Activate amber lamps of the eight-lamp flashing signal system.

5.7.16.6.3. Activate turn signals only to indicate a lane change.

5.7.16.6.4. Come to complete stop before cracking the service door enough to activate stop arm and flashing red signal lamps.

**Note:** Never open the service door fully to allow passengers off the bus until certain that motorists from all directions have stopped. Check the right rear view mirrors to ensure no vehicle is attempting to pass the stopped bus on the right side.

5.7.16.7. Check traffic again.

5.7.16.7.1. When sure situation is safe, allow passengers to cross roadway.

5.7.16.7.2. Instruct the passengers to constantly check for themselves.

5.7.16.7.3. Determine where all passengers have moved once they leave the bus.

5.7.16.7.4. Ensure that no person has moved back in front, or to the side of bus.

5.7.16.8. Prepare to move by: Closing the door, engaging transmission, releasing the parking brake, turning off alternating flashing red lights or hazards, turning on signal, checking all mirrors, and allowing congested traffic to disperse.

**Note:** Ensure no passenger's backpack, drawstring, loose clothing, etc. has become hooked on the handrail or in the door. Do NOT move the bus until all passengers are safe.

5.7.17. Passenger supervision.

5.7.17.1. Explain rules to the passengers prior to operation, once passengers are seated to avoid trouble later on.

5.7.17.2. While driving, scan the interior of the bus.

5.7.17.3. The trainee may have to remind riders about rules.

5.7.17.4. If passengers become unruly:

5.7.17.4.1. Ask for assistance from senior ranking passenger.

5.7.17.4.2. Contact Vehicle Control Official (VCO) for assistance.

5.7.17.4.3. As a last resort, contact the nearest security forces personnel.

5.7.18. Force Protection Condition (FPCON).

5.7.18.1. May be required to check identification cards as threat level increases.

5.7.18.2. May be required to conduct a check of the bus to ensure it is secure.

5.7.18.3. If the trainee finds any suspect items, do not touch or remove, notify the proper authorities.

5.7.19. Cargo baggage guidelines:

5.7.19.1. Watch for cargo or baggage containing hazardous material:

5.7.19.1.1. Most hazardous materials cannot be carried on a bus.

5.7.19.1.2. These items are NEVER to be transported on a bus:

5.7.19.1.2.1. Class A poison, liquid Class B poison, tear gas, or irritating materials.

5.7.19.1.2.2. More than 100 pounds of solid Class B poisons.

5.7.19.1.2.3. Explosives in the space occupied by people, except small arms ammunition.

5.7.19.1.2.4. Radioactive materials.

5.7.19.1.2.5. More than 500 pounds total of allowed hazardous materials.

5.7.19.1.3. Few exceptions:

5.7.19.1.3.1. Small-arms ammunition labeled ORM-D.

5.7.19.1.3.2. Emergency hospital supplies and drugs.

5.7.19.2. Additional guidelines to follow:

5.7.19.2.1. No items or personnel in a doorway or aisle.

5.7.19.2.2. Secure baggage and freight in ways that avoid damage.

5.7.19.2.3. Allow the operator to move freely and easily.

5.7.19.2.4. Protect riders from injury if carry-ons fall or shift.

**Note:** Bags should not be stacked over backs of seats to prevent forward movement during hard stops or stacked so high they obstruct the view.

5.7.19.3. Spare tire, jack and lug wrench. If located in interior of bus must be securely fastened down. This eliminates any possible projectiles.

5.7.20. Railroad crossings.

5.7.20.1. Trains always have the right of way.

5.7.20.2. Stop at all railroad crossings. Stop the bus between 15 and 50 feet before unmarked railroad crossings.

**Note:** All buses MUST STOP at highway/rail grade crossing—whether carrying passengers or not.

5.7.20.2.1. Open the forward door if it improves the ability to see or hear an approaching train.

5.7.20.2.2. Ensure another train is not coming in other direction on other tracks.

5.7.20.2.3. Manual transmission - never change gears while crossing the tracks.

5.7.20.2.4. First and foremost, know the height, length, width and overall size of the bus in relation to any railroad crossing encountered.

5.7.20.2.5. Look for the following situation indicating railroad crossings.

5.7.20.2.5.1. A clearly visible electric or mechanical signal device.

5.7.20.2.5.2. A crossing gate is lowered or a human flagman.

5.7.20.2.5.3. A railroad train approaching a highway crossing emits a warning signal.

5.7.20.2.5.4. An approaching railroad train is plainly visible.

5.7.20.2.6. Operator procedures when approaching a highway/rail grade crossing. Know specific state laws concerning railroad crossings.

5.7.20.2.6.1. Slow down.

5.7.20.2.6.2. Require silence when approaching a highway/rail grade crossing.

5.7.20.2.6.3. All radios, tape players, etc. must be turned off.

5.7.20.2.6.4. Turn-off/down heaters and fans to hear adequately.

5.7.20.2.6.5. Activate the hazard lights prior to the tracks:

5.7.20.2.6.6. 100 feet in an urban area.

5.7.20.2.6.7. 200 feet in a rural area.

5.7.20.2.7. Scanning surroundings. Scan the surroundings for information that may indicate danger:

5.7.20.2.7.1. Visibility of crossing, tracks, terrain, and roadways on either side of the tracks.

5.7.20.2.7.2. The volume, type, and position of traffic that is present.

5.7.20.2.7.3. Distance that can be seen clearly in either direction down the tracks.

5.7.20.2.7.4. Type of warning devices in use at the crossing.

5.7.20.2.7.5. Stop within 50 feet, but not closer than 15 feet from nearest rail.

5.7.20.2.8. Look and listen for any indication of an approaching train:

5.7.20.2.8.1. Open the operator's window and the service door.

5.7.20.2.8.2. NEVER allow a passenger to leave the bus to check the tracks.

5.7.20.2.8.3. NEVER leave the bus to check for a train.

5.7.20.2.9. If there is any indication of an approaching train:



- 5.7.20.2.9.1. Hold bus a safe distance from the tracks until the train passes.
- 5.7.20.2.9.2. Place transmission in "neutral" position and set parking brake.
- 5.7.20.2.9.3. DO NOT creep toward the tracks.
- 5.7.20.2.9.4. DO NOT foul the crossing gate.
- 5.7.20.2.9.5. DO NOT stop less than 15 feet from the nearest rail.
- 5.7.20.2.10. Extra attention is needed for multiple tracks being cross.
  - 5.7.20.2.10.1. Take a mental inventory of number of tracks being cross.
  - 5.7.20.2.10.2. At a multiple-track crossing, only one stop should be made.
  - 5.7.20.2.10.3. Various types of highway/rail grade crossing warning devices.
  - 5.7.20.2.10.4. The "cross buck" is a passive or "non-active" sign.
  - 5.7.20.2.10.5. Cross the tracks only after the train has cleared a position to cancel any warning devices activated.
- 5.7.20.2.11. Ensure the ENTIRE vehicle clears the tracks completely.
  - 5.7.20.2.11.1. Know the length of the bus.
  - 5.7.20.2.11.2. Never stop and back the bus while crossing the tracks.
  - 5.7.20.2.11.3. Cancel the hazard lights when the tracks have been completely cleared.
  - 5.7.20.2.11.4. After traveling 200 feet in a rural area.
  - 5.7.20.2.11.5. After traveling 100 feet in urban areas.
- 5.7.20.3. Bus is stalled on track and an approaching train:
  - 5.7.20.3.1. IMMEDIATELY EVACUATE.
  - 5.7.20.3.2. The quickest methods of evacuation are front and rear-doors.
  - 5.7.20.3.3. Operator should assign a responsible person in each group.

- 5.7.20.3.4. Passengers should be instructed to move away from the bus as far away from the bus at an angle.
- 5.7.20.4. If bus is stalled and no train:
  - 5.7.20.4.1. Evacuate from the front or back of the bus.
  - 5.7.20.4.2. Move to a safe place at least 200 feet away from the bus.
  - 5.7.20.4.3. They must not cross the tracks.
- 5.7.21. Drawbridges.
  - 5.7.21.1. Stop at drawbridges with no signal light or traffic control attendant.
    - 5.7.21.1.1. Stop at least 50 feet before the draw of the bridge.
    - 5.7.21.1.2. Look to ensure the draw is completely closed before crossing.
  - 5.7.21.2. Drawbridges with signal light.
    - 5.7.21.2.1. The trainee does not need to stop, but must slow down and ensure it's safe.
    - 5.7.21.2.2. There is a traffic light showing green.
    - 5.7.21.2.3. The bridge has an attendant or traffic officer that controls traffic whenever the bridge opens.
- 5.7.22. Bus evacuation. See the *AAMVA CDL Manual* for additional information regarding procedures for bus evacuation. The trainee will not be tested on bus evacuation during the Performance test, but the trainee will demonstrate to the trainer that he/she is knowledgeable and competent in performing a bus evacuation. See **Section 7**.
- 5.7.23. Additional training.
  - 5.7.23.1. Flightline rules and regulations (when applicable), See AFMAN 24-306 and AFI 13-213, *Airfield Driving*.
  - 5.7.23.2. Fire extinguisher training (scheduled by supervisor or VCO).
  - 5.7.23.3. Local/TDY location workplace policies and procedures:

## 5.8. Air Brakes.

### 5.8.1. Safe operation of a bus with an air brake system.

5.8.1.1. 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.

5.8.1.2. 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 5**.

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

**Figure 5.5. Air Brakes Inspection.**

<b>Additional Steps for Inspecting Air Brakes</b>	
<b>Step</b>	<b>Procedure</b>
2. Engine Compartment Checks	<ul style="list-style-type: none"> <li>• Check air compressor drive belt condition and tightness (if compressor is belt driven).</li> </ul>
5. Walk-Around Inspecting	<ul style="list-style-type: none"> <li>• Check manual slack adjusters on S-cam brakes. <b>Note:</b> Vehicles with automatic slack adjusters still must be checked.               <ul style="list-style-type: none"> <li>○ Park on level ground and chock the wheels.</li> <li>○ Release the parking brakes in order to move the slack adjusters.</li> <li>○ Use gloves and pull hard on each slack adjuster that can be reached.</li> <li>○ 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.</li> </ul> </li> <li>• Check brake drums (or discs), linings, and hoses.</li> </ul>
7. Final Air Brake Check	<ul style="list-style-type: none"> <li>• Test low pressure warning signal.               <ul style="list-style-type: none"> <li>○ Shut the engine off when the vehicle has enough air pressure so that the low pressure warning signal is not on.</li> <li>○ Turn the electrical power on.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Step on and off the brake pedal to reduce air tank pressure.</li> <li>○ Low air pressure warning signal should come on before the pressure drops to less than 60 psi in the air tank with lowest pressure.</li> <li>● Check that the spring brakes come on automatically.</li> <li>○ Chock the wheels.</li> <li>○ Release the parking brakes when enough air pressure is built up.</li> <li>○ Shut the engine off.</li> <li>○ Step on and off the brake pedal to reduce the air tank pressure.</li> <li>○ "Parking brake" knob should pop out when the air pressure falls to the manufacturer's specification.</li> <li>● Check rate of air pressure buildup</li> <li>○ Refer to manufacturer's recommendation for average buildup time.</li> <li>○ If not within recommended time, the air pressure may drop too low during driving operations.</li> <li>● Test air leakage rate.</li> <li>○ With a fully-charged air system (typically 125 psi).</li> <li>○ Turn-off the engine.</li> <li>○ Release the service brake and time the air pressure drop.</li> <li>○ The loss rate should be less than 2 psi in one minute for single vehicles.</li> <li>○ Not less than 3 psi in 1 minute for combination vehicles.</li> <li>● Then apply 90 psi or more with the brake pedal.</li> <li>○ After the initial pressure drop, if the air pressure falls more than 3 psi in 1 minute for single vehicles.</li> <li>○ Not more than 4 psi for combination vehicles.</li> <li>● Check air compressor governor cut-in and cut-out pressures.</li> <li>○ Air compressor should start at about 100 psi and stop at about 125 psi.</li> <li>○ Run the engine at a fast idle.</li> <li>○ Air governor should cut-out the air compressor at about the manufacturer's specified pressure.</li> </ul>
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	<ul style="list-style-type: none"> <li>○ Engine idling, step on and off brake to reduce air tank pressure.</li> <li>○ Compressor should cut-in at manufacturer's specified cut-in pressure.</li> <li>○ 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. <ul style="list-style-type: none"> <li>▪ Test service brakes.</li> <li>▪ Wait for normal air pressure.</li> <li>• Release the parking brake.</li> <li>• Move the vehicle forward slowly (about 5 mph).</li> <li>• Apply the brakes firmly using the brake pedal.</li> <li>• Note any vehicle "pulling" to one side, unusual feel, or delayed stopping action.</li> </ul> </li> </ul>
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## **Section 6—TRAINER EXPLANATION AND DEMONSTRATION**

### **6.1. Trainer's Preparation.**

- 6.1.1. Establish a training location.
- 6.1.2. Obtain appropriate vehicle operator's manual.
- 6.1.3. Schedule/reserve a vehicle.
- 6.1.4. Ensure trainee completes AF Form 171.

### **6.2. Safety Procedures and Equipment:**

- 6.2.1. The following safety items should be followed by both the trainer and trainee:
  - 6.2.1.1. Chock wheel (if required) when bus is parked.
  - 6.2.1.2. Remove all jewelry and identification tags.
  - 6.2.1.3. PPE and equipment items.
    - 6.2.1.3.1. Safety steel-toed boots must be worn.
    - 6.2.1.3.2. Reflective belt, if required.
    - 6.2.1.3.3. Hearing protection, if required.
    - 6.2.1.3.4. First aid kit.

6.2.1.3.5. Warning triangles.

6.2.1.3.6. Inclement weather gear, if required.

6.2.1.4. Walk-around vehicle to become familiar and to familiarize the trainee with all warning labels and signs.

6.2.1.5. Ensure trainee wears seat belt.

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

6.2.1.7. Throughout demonstration, practice bus safety.

6.2.1.8. Keep loads within the rated capacity of the bus.

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

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

6.2.2. Practice basic AF RM process during demonstration:

6.2.2.1. Identify hazards.

6.2.2.2. Assess hazards.

6.2.2.3. Develop controls and make decisions.

6.2.2.4. Implement controls.

6.2.2.5. Supervise and evaluate.

### **6.3. Operator Maintenance Demonstration (Vehicle Pre-trip Inspection).**

6.3.1. With trainee, accomplish vehicle inspection. Document the inspection on an AF Form 1800. The vehicle inspection will follow the seven-step method as described in **Attachment 5**. An inspection guide/memory aid (**Attachment 2**) can be used to ensure all areas of the bus are covered. The trainee will be able to utilize **Attachment 2** 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 1800 during the Air Force Performance Test, however, it will be used in daily inspections.

## 6.4. Trainer Operation Demonstration.

6.4.1. Demonstration overview. The trainer will spend time demonstrating the following material to assist the trainee in becoming a proficient bus operator. The trainee will NOT be evaluated on the entirety of the material below during the performance test. See **Section 7, Attachments 3 and Attachment 4** for a description of performance test components. Throughout demonstration:

6.4.1.1. Allow for questions.

6.4.1.2. Repeat demonstrations as needed.

6.4.2. For designated buses, within the training area, demonstrate and explain the following. **Note:** Use information contained on the vehicle data plate and/or the operator's manual:

6.4.2.1. Bus capacities.

6.4.2.2. Explain parking brake as they apply to bus being used.

6.4.2.3. Bus controls.

6.4.2.4. Warning lights.

6.4.3. Within the training area, demonstrate and explain the following:

6.4.3.1. Reference-point driving (front/side/rear).

6.4.3.2. Explain the following safety items in regards to transporting passengers.

6.4.3.2.1. Handhold and railing.

6.4.3.2.2. Floor covering.

6.4.3.2.3. Signaling devices.

6.4.3.2.4. Emergency exits:

6.4.3.2.4.1. Front door evacuation.

6.4.3.2.4.2. Rear door evacuation.

6.4.3.2.4.3. Front and rear door evacuation.

6.4.3.2.4.4. Side door evacuation (if equipped).

6.4.3.2.4.5. Roof evacuation (if equipped).

6.4.4. Demonstrate the following bus operations:

6.4.4.1. Backing.

6.4.4.1.1. 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.

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

6.4.4.1.2. Straight line backing. Back vehicle in a straight line between two rows.

6.4.4.1.2.1. Bring vehicle to a complete stop as close to the boundary.

6.4.4.1.3. Offset back – Left.

6.4.4.1.4. Offset back – Right.

6.4.4.2. Sight Side parallel parking (Operator's Side).

6.4.4.2.1. Drive past the parking space on the left.

6.4.4.2.2. Back rear of vehicle as close as possible to the rear of the space without crossing side or rear boundaries.

6.4.4.3. Conventional parallel parking.

6.4.4.3.1. Drive past the parking space on the right.

6.4.4.3.2. Back rear of vehicle as close as possible to the rear of the space without crossing side or rear boundaries.

6.4.5. With bus, demonstrate driving on a road course:

6.4.5.1. Turns (Left/Right).

6.4.5.2. Intersections.

6.4.5.3. Urban/rural straight.

6.4.5.4. Expressway.

6.4.5.5. Start/stop.



6.4.5.6. Curves (Left/Right).

6.4.5.7. Upgrades.

6.4.5.8. Downgrades.

6.4.5.9. Railroad crossing/simulated railroad crossing.

6.4.5.10. Student/passenger discharge. **Note:** Not tested during Performance Test.

6.4.5.11. Bridge/overpass.

6.4.6. Transporting passengers (if not performed, the trainer should explain the proper procedures):

6.4.6.1. Ensures safe condition of handrails and railings, floor coverings, signaling devices, emergency exits.

6.4.6.2. Loading and unloading (Student/Passenger Discharge). Activates warning lights, communicates safety procedures to passengers.

6.4.6.3. Evacuation of passengers (Front/Rear/Front and Rear/Side/Roof).

6.4.7. Show trainee the post-operation inspection and report:

6.4.7.1. Perform walk-around inspection. Fill out AF Form 1800.

6.4.7.2. Ensure vehicle cleaned.

6.4.7.3. Cargo straps and chains are properly stowed.

6.4.7.4. Refuel vehicle.

6.4.7.5. Following manufacturer's shut-down procedures.

6.4.7.6. Park.

6.4.7.6.1. Apply brakes.

6.4.7.6.2. Place transmission in neutral (park or an automatic).

6.4.7.7. Drain air tanks (if applicable).

6.4.8. Conclude by allowing time for questions and any requested re-demonstrations.

## **Section 7—TRAINEE PERFORMANCE DEMONSTRATION AND PERFORMANCE TEST**

### **7.1. Trainee Performance Demonstration.**

7.1.1. Following the trainer demonstration, the trainee will accomplish the required behind-the-wheel time. The trainer will evaluate the proficiency of the trainee for the objectives found in **Section 7** and the bus performance test checklist in **Attachment 3** as a guide for what to expect for the performance test.

7.1.1.1. The bus 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 bus.

7.1.1.2. For installations that have not transitioned to the AAMVA model, **Attachment 3** should be used as a framework to develop a performance test.

7.1.1.3. For installations that have transitioned to the AAMVA model, the Air Force Performance Test, administered by the TVO Examiner, (in addition to the required written test(s)) is the only official evaluation used to license the individual on the bus.

### **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 bus 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 must be worn.

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 bus safety.
- 7.3.1.7. Keep loads and passenger capacity within the rated capacity of the bus.
- 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 1800. The vehicle inspection will follow the seven-step method as described in **Attachment 5**. An inspection guide/memory aid (**Attachment 2**) can be used to ensure all areas of the bus are covered.

7.4.1.1. The trainee will be able to utilize **Attachment 2** 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 1800 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 bus 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 bus being operated.

**Note:** Use information contained on the vehicle data plate and/or the operator's manual:

7.5.2.1. Bus capacities.

7.5.2.2. Explain parking brake as it applies to the bus being used.

7.5.2.3. Bus controls.

7.5.2.4. Warning lights.

7.5.3. Using the bus within the training area, the trainee will demonstrate and/or explain the following:

7.5.3.1. Reference-point driving (front/side/rear).

7.5.3.2. Explain the following safety items IRT transporting passengers.

7.5.3.2.1. Handhold and railing.

7.5.3.2.2. Floor covering.

7.5.3.2.3. Signaling devices.

7.5.3.2.4. Emergency exits:

7.5.3.2.4.1. Front door evacuation.

7.5.3.2.4.2. Rear door evacuation.

7.5.3.2.4.3. Front and rear door evacuation.

7.5.3.2.4.4. Side door evacuation (if equipped).

7.5.3.2.4.5. Roof evacuation (if equipped).

7.5.4. The trainee will demonstrate the following bus operations. See **Attachment 4** for additional guidance:

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

7.5.4.1.1. Straight line backing.

7.5.4.1.2. Offset back – Left.

7.5.4.1.3. Offset back – Right.

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

7.5.4.3. Conventional parallel parking.

7.5.5. With bus, trainee will demonstrate driving on a road course:

7.5.5.1. Turns (Left/Right).

7.5.5.2. Intersections.

7.5.5.3. Urban/rural straight.

7.5.5.4. Expressway.

7.5.5.5. Start/stop.

7.5.5.6. Curves (Left/Right).

7.5.5.7. Upgrades.

7.5.5.8. Downgrades.

7.5.5.9. Railroad crossing/simulated railroad crossing.

7.5.5.10. Student/passenger discharge. **Note:** Not tested during Air Force Performance Test.

7.5.5.11. Bridge/overpass.

7.5.6. Explain the proper procedures for transporting passengers.

7.5.6.1. Ensures safe condition of handrails and railings, floor coverings, signaling devices, emergency exits.

7.5.6.2. Loading and unloading (Student/Passenger Discharge). Activates warning lights, communicates safety procedures to passengers.

7.5.6.3. Evacuation of passengers (Front/Rear/Front and Rear/Side/Roof).

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

7.5.7.1. Walk-around inspection.

7.5.7.2. Fill out AF Form 1800.

7.5.7.3. Ensure vehicle is clean.

7.5.7.4. Cargo straps and chains are properly stowed.

7.5.7.5. Ensure vehicle is refueled.

7.5.7.6. Park.

7.5.7.6.1. Apply brakes.

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

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

7.5.7.8. Drain air tanks (if applicable).

7.5.8. Conclude by allowing time for questions.

## **7.6. Performance Test Overview.**

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

7.6.1.1. The performance test, administered by the TVO Examiner, (in addition to the required written test(s)) is the only official evaluation used to license the individual on the bus.

7.6.1.2. 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.

7.6.1.3. The trainee must first pass required written tests. See **Section 5** for additional information.

7.6.2. In order to be licensed on the bus:

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 lesson plan and will include, at a minimum, evaluation of the checklist items found in **Attachment 3**.

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.

7.6.2.2.1. The Air Force Performance Test consists of three parts: The Vehicle Inspection Test, Basic Control Skills Test and the Road Test.

7.6.2.2.1.1. 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.

7.6.2.2.1.2. The vehicle inspection test includes an air brakes test, engine start, an in-cab inspection, and a walk-around inspection. See **Attachment 4** of this AFQTP and Section 11 of the AAMVA *CDL Manual* for additional guidance.

7.6.2.2.1.3. The trainee is permitted to use the bus vehicle inspection memory aid (**Attachment 2**) during the Performance Test. The examiner will provide a clean copy.

7.6.2.2.2. Automatic Failures. Automatic failures will result in the immediate termination of the Air Force Performance Test. See **Attachment 4** for a list of automatic failures applicable to the Air Force Performance Test, Vehicle Inspection Test.

7.6.2.2.2.1. 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.

7.6.2.2.3. 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.

7.6.2.3. 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 within 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 4** of this AFQTP and Section 12 of the AAMVA *CDL Manual* for additional guidance and for descriptions of the required maneuvers.

7.6.2.3.1. Required Basic Control Skills Test maneuvers:

7.6.2.3.1.1. Straight line backing.

7.6.2.3.1.2. Offset back/right or offset back left.

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

7.6.2.3.2. Basic Control Skills Test Scoring.

7.6.2.3.2.1. 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.

7.6.2.3.2.2. 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.

7.6.2.3.2.3. 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 (when exiting a bus, maintain a firm grasp on the handrail 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.

7.6.2.3.2.3.1. 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; or on a bus walks to the back of the bus to get a better view, it is scored as a “look”.

7.6.2.3.2.4. 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.

7.6.2.3.3. Automatic failures. Automatic failures will result in the immediate termination of the Air Force Performance Test. See **Attachment 4** 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.

7.6.2.4. 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.

7.6.2.4.1. The following maneuvers will be demonstrated on the on the road test (See the Section 13 of the *AAMVA CDL Manual* and **Attachment 4** of this AFQTP for additional guidance and detailed descriptions of each maneuver.):

7.6.2.4.1.1. Turns (Left/Right).

7.6.2.4.1.2. Intersections.

7.6.2.4.1.3. Urban/rural straight.

7.6.2.4.1.4. Expressway.

7.6.2.4.1.5. Start/stop.

7.6.2.4.1.6. Curves (Left/Right).

7.6.2.4.1.7. Upgrades.

7.6.2.4.1.8. Downgrades.

7.6.2.4.1.9. Railroad crossing/simulated.

7.6.2.4.1.10. Bridge/overpass.

7.6.2.4.2. Road Test scoring. For detailed descriptions and scoring expectations of each maneuver, see the Section 13 of the *AAMVA CDL Manual* and **Attachment 4** of this lesson plan.

7.6.2.4.3. Automatic failures. Automatic failures will result in the immediate termination of the Air Force Performance Test. See **Attachment 4** 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.

7.6.3. During the performance test, the examiner will:

7.6.3.1. 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).

- 7.6.3.1.1. Chock wheel (if required) when bus is parked.
  - 7.6.3.1.2. Remove all jewelry and identification tags.
  - 7.6.3.1.3. Personal protective equipment and safety equipment.
  - 7.6.3.1.4. First aid kit.
  - 7.6.3.1.5. Warning triangles.
  - 7.6.3.1.6. Inclement weather gear, etc.
- 7.6.3.2. Pay particular attention to the cautions and warnings listed in the operator's manual.
- 7.6.3.3. Ensure trainee wears seat belt.
- 7.6.3.4. Properly adjust operator's seat and all mirrors.
- 7.6.3.5. Follow bus safety items/procedures.
- 7.6.3.6. Ensure the operator is aware of driving situations he/she is to perform.
- 7.6.3.7. 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*, 1 November 2018

**AFI 13-213**, *Airfield Driving*, 1 June 2011

**AFMAN 24-306**, *Operation of Air Force Government Motor Vehicles*, 9 December 2016

**AFQTP 24-3-200**, *Training, Validation and Operations Examiner's Guide*, 1 November 2018

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

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

**DoDM 4500.36**, *Acquisition, Management, and Use of DoD Non-Tactical Vehicles*, 7 July 2015

#### *Adopted Forms*

**AF Form 171**, *Request for Driver's Training and Addition to U.S. Government Driver's License*, 1 November 2018

**AF Form 847**, *Recommendation for Change of Publication*, 22 September 2009

**AF Form 1800**, *Operator's Inspection Guide and Trouble Report*, 1 April 2010

**DD Form 518**, *Accident Identification Card*, October 1978

**SF 91**, *Motor Vehicle Accident Report*, February 2004

#### *Abbreviations and Acronyms*

**AAMVA**—American Association of Motor Vehicle Administrators

**ABS**—Anti-lock Brake System

**AFI**—Air Force Instruction

**AFIMSC**—Air Force Installation Mission and Support Center

**AFMAN**—Air Force Manual

**AFQTP**—Air Force Qualification Training Package

**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

**FMCSA**—Federal Motor Carrier Safety Administration

**FMCSR**—Federal Motor Carrier Safety Regulation

**FPCON**—Force Protection Condition

**GMV**—Government Motor Vehicle

**GVWR**—Gross Vehicle Weight Rating

**IAW**—In Accordance With  
**IRT**—In Regards To  
**MPH**—Miles per Hour  
**PSI**—Pounds per Square Inch  
**RM**—Risk Management  
**TBA**—Training Business Area  
**TDY**—Temporary Duty  
**TO**—Technical Order  
**TVO**—Training Validation and Operations  
**USAF**—United States Air Force  
**VCO**—Vehicle Control Official

## Attachment 2

### BUS INSPECTION MEMORY AID

### CDL VEHICLE INSPECTION MEMORY AID

#### Straight Truck or Bus

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 Bus/Truck &  
Lights/Reflectors

## Attachment 3

### BUS OPERATION TRAINEE PERFORMANCE TEST FRAMEWORK

#### A3.1. Desired Learning Outcome.

A3.1.1. Understand the safety precautions to be followed pre-, during-, and post-operation of the bus.

A3.1.2. Understand the purpose of the bus and their role in the mission.

A3.1.3. Know the proper operator maintenance procedures of the bus, IAW applicable technical orders and use of AF Form 1800.

A3.1.4. Safely and proficiently operate the bus.

**Note:** The performance test (in addition to the required written test(s)) is the only official evaluation used to license the individual on the bus. This checklist provides the minimum required items that will be tested during the performance test for installations that have not transitioned to the AAMVA model. This checklist also is a training tool intended to assist the trainer in preparing the trainee for being evaluated and licensed to operate the bus through the Air Force Performance Test administered by the TVO Examiner.

**A3.2. Instructions.** Before the examiner begins the bus performance test, the examiner will brief the trainee on the scenario the trainee will need to accomplish. The trainee will be given additional directions and instructions as needed as the trainee proceeds through the scenario.

#### A3.3. Scoring.

A3.3.1. The examiner will be scoring the trainee on bus operations and also the general safe driving practices. The examiner will give directions and instructions to the trainee in sufficient time for the trainee to execute a driving maneuver. The trainee will not be asked to drive in an unsafe manner.

A3.3.2. The examiner will be making various marks on the bus performance test checklist. This does not necessarily mean that the trainee has done anything wrong. It is in the trainee's best interest to concentrate on the operation of the bus. The examiner will explain the evaluation results to the trainee at the conclusion of the bus performance test.

A3.3.3. Tasks being evaluated are listed on the following page.

A3.3.4. The examiner will stop the performance test at any time safe bus operations are not being followed or as deemed necessary for safety concerns.

**Figure A3.1. Bus Operation Performance Test Framework (Non-AAMVA Model Installations):**

<b>BUS PERFORMANCE TEST (Minimum Requirements)</b>			
<b>Trainees Name:</b>		<b>Date:</b>	
<b>Event</b>	<b>Go</b>	<b>No Go</b>	<b>Notes</b>
<b>1. PRE, DURING, AND POST- OPERATION INSPECTION</b>			
1.1. Operator has required Personal Protective Equipment			
1.2. Follows general pattern of pre-trip checklist			
1.3. Performs brake component check			
1.4. Signs AF Form 1800 to signify accomplishment of complete inspection			
1.5. Cleans windshield, windows, mirrors, lights and reflectors			
1.6. Continues during operations inspection checks			
1.7. Knows use of jacks, tools, emergency devices, tire chains, fire extinguishers, etc.			
1.8. Performs post trip inspection and reports malfunctions to Vehicle Management			
<b>Event</b>	<b>Go</b>	<b>No Go</b>	<b>Notes</b>
<b>2. ON-ROAD DRIVING TEST</b>			
2.1. General - safety belt is used; obeys all traffic signs, signals, and laws; completes test without an accident or moving violation			
2.2. Turns - checks traffic in all directions; uses turn signals and safely get into the lane needed for the turn; slows down smoothly, changes gears as needed to keep power; checks mirrors to ensure proper clearance; vehicle should not move into oncoming traffic			

2.3. Intersections - checks traffic in all directions; decelerate gently, brakes smoothly and, if necessary, changes gears; if necessary, comes to a complete stop (no coasting) behind any stop signs, signals, sidewalks, or stop lines			
2.4. Urban/Rural Straight - makes regular traffic checks and maintains a safe following distance; makes necessary traffic checks, uses proper signals, safely and smoothly changes lanes			
2.5. Expressway - checks traffic, uses proper signals; merges smoothly into the proper lane of traffic; maintains proper lane positioning, vehicle spacing, and vehicle speed; continue to check traffic thoroughly in all directions; exits using proper signals, decelerates smoothly			
2.6. Stopping - decelerates smoothly, brakes evenly, changes gears as necessary; brings vehicle to a full stop without coasting			
2.7. Starting - checks traffic, avoids jerky starts			
2.8. Curves - before entering the curve, reduces speed and is in proper gear; keeps vehicle in the lane; continues checking traffic in all directions			
2.9. Upgrade - selects proper gear to maintain speed and does not lug the engine; checks traffic in all directions and moves to the right-most or curb lane; if legal to do so, uses four-way flashers if traveling too slowly for the flow of traffic			
2.10. Downgrade - downshifts as needed to help control engine speed and test brakes; does not ride the clutch, race the engine, change gears, or coast			



2.11. Railroad Crossing – Turns on 4-way warning light prior to approaching RR Crossing Stops 15-50 feet in front of RR Crossing and proceeds only after ensuring it is safe to cross. Does not stop on track or backup on tracks			
2.12. Bridge/Overpass/Sign -can identify the posted clearance or height, the posted weight limit when going over bridge and explains any traffic sign which may appear on the route			
<b>Event</b>	<b>Go</b>	<b>No Go</b>	<b>Notes</b>
<b>3. KNOWLEDGE OF VEHICLE AND USE OF CONTROLS</b>			
3.1. Engine			
Uses proper starting procedures			
Allows proper warm-up			
Understands all gauges			
Uses proper shutdown procedures			
Basic knowledge of engines			
3.2. Clutch and Transmission			
Understands proper clutching techniques			
Uses clutch properly through all gears			
Shifts smoothly			
Time shifts properly			
Avoids riding the clutch			
Proper use of tachometer and shifting range			
Avoids bumping the governor			
3.3. Brakes and Braking Techniques			
Understands the principles of an air brake system			
Knows proper use of hand valve			
Understands the low air warning			
Uses proper techniques on downgrades			
Understands the principle of front wheel limiting switch.			
Proper use of parking brake			
Ensures air tank is at full tank pressure prior to moving the vehicle			
Performs air brake check			

<b>Event:</b>	<b>Go</b>	<b>No Go</b>	<b>Notes</b>
<b>4. TRANSPORTING PASSENGERS</b>			
4.1. Ensures safe condition of handrails and railings, floor coverings, signaling devices, emergency exits			
4.2. Loading and Unloading. Activates warning lights, communicates safety procedures to passengers			
4.3. Evacuation of passengers (have Trainee explain front, rear, front and rear, side and roof evacuation procedures)			
<b>Event</b>	<b>Go</b>	<b>No Go</b>	<b>Notes</b>
<b>5. BACKING/PARKING</b>			
5.1. Backing			
Positions bus properly			
Post guide before backing and uses spotters properly			
Controls speed			
5.2. Parking			
Checks traffic position before parking			
Secures bus properly			
Parks illegally or unsafely			
Pulls completely off pavement when possible			
Knows proper use of emergency warning devices			
Uses emergency warning devices			
<b>EXAMINER COMMENTS:</b>			

## Attachment 4

### AIR FORCE PERFORMANCE TEST GUIDE

**A4.1. Performance Test Overview.** For installations that have transitioned to the AAMVA model, the trainee 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.

**A4.2. Time Limit:** Class B/C Vehicles: 4 Hours.

#### VEHICLE INSPECTION TEST

**A4.3. 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 trainee is permitted to use the Bus Inspection Memory Aid found in **Attachment 2**. 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 trainee to return at a later date approved by the trainer and examiner IAW AFI 24-301 and AFQTP 24-3-200.

**Note:** During the Basic Control Skills Test (ONLY), a spotter is not required during backing exercises. The TVO Examiner will ensure safety during each maneuver. If, at any time during the test, the TVO Examiner feels the operator or external factors could cause a safety mishap, he or she will immediately direct the operator to stop the vehicle. The operator will not continue until the TVO Examiner permits.

**A4.4. Air Brake System 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 5**.

**A4.5. Time Limit:** Class B/C Vehicles: 1 Hour.

**Table A4.1. Vehicle Inspection Test Automatic Failures.** **Note:** The Vehicle Inspection Test will be terminated and the trainee 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 trainee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the trainee again fails to adhere to the instructions given by the Examiner, the Vehicle Inspection Test will be terminated and the trainee will receive an automatic failure.

## **BASIC CONTROL SKILLS TEST**

**A4.6. 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 trainee to return at a later date approved by the trainer and examiner IAW AFI 24-301 and AFQTP 24-3-200.

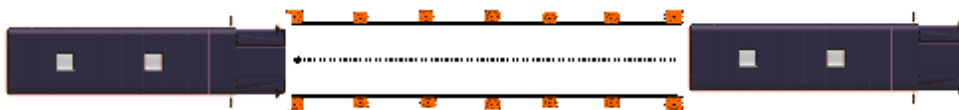
**A4.7. Time Limit:** Class B/C Vehicles: 1 Hour.

**Table A4.2. Basic Control Skills Test Automatic Failures.** **Note:** The Basic Controls Skills Test will be terminated and the trainee 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 trainee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the trainee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the trainee again fails to adhere to the instructions given by the Examiner, the Basic Control Skills Test will be terminated and the trainee will receive an automatic failure.

**A4.8. Straight Line Backing (Required).** The trainee 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 A4.1.**

**Figure A4.1. Straight Line Backing.**



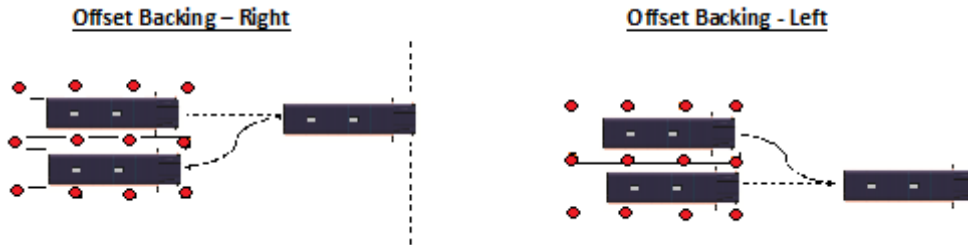
**A4.9. Offset Backing (One of the following maneuvers required).**

A4.9.1. Offset Backing – Right. The trainee will be asked to back the vehicle into a space that is to the right rear of the vehicle. The trainee will drive straight forward the outer boundary. From that position, the trainee 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 A4.2.**

A4.9.2. Offset Backing – Left. The trainee will be asked to back the vehicle into a space that is to the left rear of the vehicle. The trainee will drive straight forward the outer boundary. From that position, the trainee 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 A4.2**.

**Figure A4.2. Offset Backing – Left/Right.**

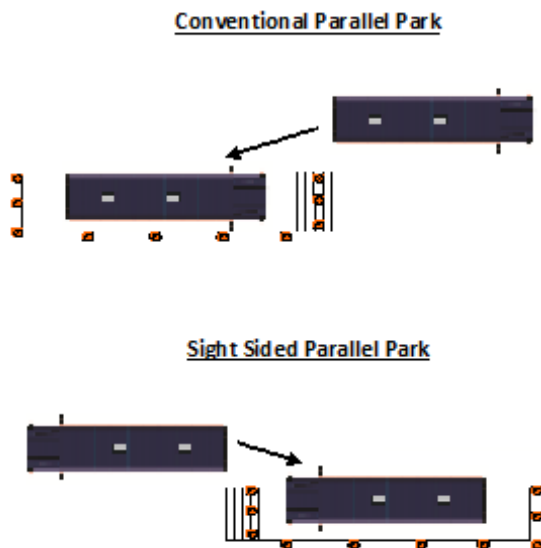


**A4.10. Parallel Parking (One of the following maneuvers required).**

A4.10.1. Parallel Parking – Operator Side. The trainee will be asked to park in a parallel parking space that is on the left. 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 into the space. See **Figure A4.3**.

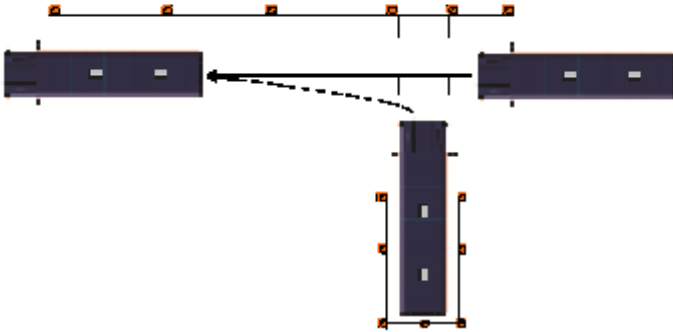
A4.10.2. Parallel Parking – Conventional. The trainee will be asked to park in a parallel parking space that is on the right. The trainee will drive past the entrance to the parallel parking space with the vehicle parallel to the parking area; and back into the space without crossing front, side or rear boundaries marked by cones. The trainee is required to get the entire vehicle completely in the space. See **Figure A4.3**.

**Figure A4.3. Parallel Parking.**



A4.10.3. Alley Dock. The trainee will be asked to sight-side back the vehicle into an alley. The trainee will drive past the alley and position the vehicle parallel to the outer boundary. From that position, the trainee 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 trainee has completed the maneuver. See **Figure A4.4.**

**Figure A4.4. Alley Dock.**



## ROAD TEST

**A4.11. 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 trainee to return at a later date approved by the trainer and examiner IAW AFI 24-301 and AFQTP 24-3-200.

A4.11.1. During the Road Test, the trainee will drive over a test route that has a variety of traffic situations. At all times during the test, the trainee 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.

A4.11.2. During the Road Test, the examiner will be scoring the trainee on specific driving maneuvers as well as on general driving behavior. The trainee must follow directions of the examiner. Directions will be given to the trainee so that he/she will have ample time to complete each direction. The trainee will not be asked to drive in an unsafe manner.

A4.11.3. If the test route does not have certain traffic situations, the trainee 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.

**A4.12. Time Limit:** Class A/B/C Vehicles: 2 Hours.

**Table A4.3. Road Test Automatic Failures. Note:** The Road Test will be terminated and the trainee 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 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 trainee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the trainee fails to adhere to the instructions given by the Examiner, he/she will be given one warning. If the trainee again fails to adhere to the instructions given by the Examiner, the Road Test will be terminated and the trainee will receive an automatic failure.

**A4.13. General Driving Behaviors.** The trainee will be scored on his/her overall performance in the following general driving behavior categories:

A4.13.1. Clutch Usage (for Manual Transmission).

A4.13.1.1. Always use clutch to shift.

A4.13.1.2. Must double-clutch when shifting. Do not rev or lug the engine.

A4.13.1.3. Do not ride clutch to control speed, coast with the clutch depressed, or “pop” the clutch.

A4.13.2. Gear Usage (for Manual Transmission).

A4.13.2.1. Do not grind or clash gears.

A4.13.2.2. Select gear that does not rev or lug engine.



A4.13.2.3. Do not shift in turns and intersections.

A4.13.3. Brake Usage.

A4.13.3.1. Do not ride or pump brake.

A4.13.3.2. Do not brake harshly. Brake smoothly using steady pressure.

A4.13.4. Lane Usage.

A4.13.4.1. Do not put vehicle over curbs, sidewalks, or lane markings.

A4.13.4.2. Stop behind stop lines, crosswalks, or stop signs.

A4.13.4.3. 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).

A4.13.4.4. Finish a right turn in the right-most (curb) lane.

A4.13.4.5. Move to or remain in right-most lane unless lane is blocked.

A4.13.5. Steering.

A4.13.5.1. Do not over or under steer the vehicle.

A4.13.5.2. 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.

A4.13.6. Regular Traffic Checks.

A4.13.6.1. Check traffic regularly.

A4.13.6.2. Check mirrors regularly.

A4.13.6.3. Check mirrors and traffic before, while in and after an intersection.

A4.13.6.4. Scan and check traffic in high volume areas and areas where pedestrians are expected to be present.

A4.13.7. Use of Turn Signals.

A4.13.7.1. Use turn signals properly.

A4.13.7.2. Activate turn signals when required.

A4.13.7.3. Activate turn signals at appropriate times.

A4.13.7.4. Cancel turn signals upon completion of a turn or lane change.

**A4.14. Left/Right Turn.** Once the trainee has been asked to make a turn, he/she will do the following:

A4.14.1. Check traffic in all directions.

A4.14.2. Use turn signals and safely get into the lane needed for the turn.

A4.14.3. As the trainee approaches the turn he/she will:

A4.14.3.1. Use turn signals to warn others of his/her turn.

A4.14.3.2. 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.

A4.14.4. If the trainee must stop before making the turn, he/she will:

A4.14.4.1. Come to a smooth stop without skidding.

A4.14.4.2. Come to a complete stop behind the stop line, crosswalk, or stop sign.

A4.14.4.3. If stopping behind another vehicle, the trainee will stop where he/she can see the rear tires on the vehicle ahead. (safe gap).

A4.14.4.4. Not let the vehicle roll.

A4.14.4.5. Keep the front wheels aimed straight ahead.

A4.14.5. When ready to turn, the trainee will:

A4.14.5.1. Check traffic in all directions.

A4.14.5.2. Keep both hands on the steering wheel during the turn.

A4.14.5.3. Keep checking the mirror to make sure the vehicle does not hit anything on the inside of the turn.

A4.14.5.4. Keep the vehicle from moving into oncoming traffic.

A4.14.5.5. Finish turn with the vehicle in the correct lane.

A4.14.6. After turn, the trainee will:

A4.14.6.1. Make sure turn signal is off.

A4.14.6.2. Get up to speed of traffic, use turn signal, and move into right-most lane when safe to do so (if not already there).

A4.14.6.3. Check mirrors and traffic.

**A4.15. Lane Change.** 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.

**A4.16. 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.

**A4.17. Intersections.** During this part of the test, the trainee should observe the following criteria:

A4.17.1. As the trainee approaches an intersection, he/she will:

A4.17.1.1. Check traffic thoroughly in all directions.

A4.17.1.2. Decelerate gently.

A4.17.1.3. Brake smoothly and, if necessary, change gears.

A4.17.1.4. 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.

A4.17.1.5. Not let the vehicle roll forward or backward.

A4.17.2. When driving through an intersection, the trainee will:

A4.17.2.1. Check traffic thoroughly in all directions.

A4.17.2.2. Decelerate and yield to any pedestrians and traffic in the intersection.

A4.17.2.3. No change lanes while proceeding through the intersection.

A4.17.2.4. Keep his/her hands on the wheel.

A4.17.3. Once the trainee is through the intersection, he/she will:

A4.17.3.1. Continue checking mirrors and traffic.

A4.17.3.2. Accelerate smoothly and change gears as necessary.

**A4.18. 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.

A4.18.1. Before reaching the crossing, all vehicle operators will:

A4.18.1.1. Decelerate, brake smoothly, and shift gears as necessary.

A4.18.1.2. Look and listen for the presence of trains.

A4.18.1.3. Check traffic in all directions.

A4.18.1.4. Not stop, change gears, pass another vehicle, or change lanes while any part of the vehicle is in the crossing.

A4.18.2. 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:

A4.18.2.1. As the vehicle approaches a railroad crossing, activate the four-way flashers.

A4.18.2.2. Stop the vehicle within 50 feet but not less than 15 feet from the nearest rail.

A4.18.2.3. Listen and look in both directions along the track for an approaching train and for signals indicating the approach of a train.

A4.18.2.4. Keep hands on the steering wheel as the vehicle crosses the tracks.

A4.18.2.5. Do not stop, change gears, or change lanes while any part of the vehicle is proceeding across the tracks.

A4.18.2.6. Four-way flashers should be deactivated after the vehicle crosses the tracks.

A4.18.2.7. Continue to check mirrors and traffic.

**A4.19. Curves.** When the trainee approaches a curve, he/she should:

A4.19.1. Check traffic thoroughly in all directions.

A4.19.2. Before entering the curve, reduce speed so further braking or shifting is not required in the curve.

A4.19.3. Keep the vehicle in the lane.

A4.19.4. Continue checking traffic in all directions.

**A4.20. Expressway.** For this section of the test the trainee should observe the following:

A4.20.1. Before entering the expressway:

A4.20.1.1. Check traffic.

A4.20.1.2. Use proper signals.

A4.20.1.3. Merge smoothly into the proper lane of traffic.

A4.20.2. Once on the expressway:

A4.20.2.1. Maintain proper lane positioning, vehicle spacing, and vehicle speed.

A4.20.2.2. Continue to check traffic thoroughly in all directions.

A4.20.3. When exiting the expressway:

A4.20.3.1. Make necessary traffic checks.

A4.20.3.2. Use proper signals.

A4.20.3.3. Decelerate smoothly in the exit lane.

A4.20.3.4. 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.

**A4.21. 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.

A4.21.1. As the trainee prepares for the stop:

A4.21.1.1. Check traffic.

A4.21.1.2. Activate the right turn signal.

A4.21.1.3. Decelerate smoothly, brake evenly, change gears as necessary.

A4.21.1.4. Bring the vehicle to a full stop without coasting.

A4.21.2. Once stopped:

A4.21.2.1. Vehicle must be parallel to the curb or shoulder of the road and safely out of the traffic flow.

A4.21.2.2. Vehicle should not be blocking driveways, fire hydrants, intersections, signs, etc.

A4.21.2.3. Cancel the turn signal.

A4.21.2.4. Activate the four-way emergency flashers.

A4.21.2.5. Apply the parking brake.

A4.21.2.6. Move the gear shift to neutral or park.

A4.21.2.7. Remove feet from the brake and clutch pedals.

A4.21.3. When the trainee is told to resume, he/she should:

A4.21.3.1. Check traffic and mirrors thoroughly in all directions.

A4.21.3.2. Turn-off the four-way flashers.

A4.21.3.3. Activate the left turn signal.

A4.21.3.4. When traffic permits, the trainee should release the parking brake and pull straight ahead.

A4.21.3.5. Not turn the wheel before the vehicle moves.

A4.21.3.6. Check traffic from all directions especially to the left.

A4.21.3.7. Steer and accelerate smoothly into the proper lane when safe to do so.

A4.21.3.8. Once the vehicle is back into the flow of traffic, cancel the left turn signal.

**A4.22. 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.

## Attachment 5

### SEVEN-STEP INSPECTION PROCESS

**Figure A5.1. Seven-Step Inspection Process.**

<b>Seven-Step Inspection Process</b>	
<b>Step</b>	<b>Procedure</b>
1. Vehicle Overview	<ul style="list-style-type: none"> <li>● Review the AF Form 1800.</li> <li>○ Ensure any discrepancy has been corrected.</li> <li>○ Vehicle Management annotated the discrepancy was completed.</li> <li>○ Approaching the vehicle.               <ul style="list-style-type: none"> <li>▪ Damage or vehicle leaning to one side.</li> <li>▪ Fresh leakage of fluids.</li> <li>▪ Hazards around vehicle.</li> </ul> </li> </ul>
2. Check Engine Compartment	<ul style="list-style-type: none"> <li>● <b>Note:</b> Check that the parking brakes are on and/or wheels chocked. The operator may have to raise the hood, tilt the cab (secure loose things so they do not fall and break something), or open the engine compartment door.</li> <li>● Check the following:               <ul style="list-style-type: none"> <li>○ Engine oil level.</li> <li>○ Coolant level in radiator; condition of hoses.</li> <li>○ Power steering fluid level; hose condition (if so equipped).</li> <li>○ Windshield washer fluid level.</li> <li>○ Battery fluid level, connections and tie downs (battery may be located elsewhere).</li> <li>○ Automatic transmission fluid level (may require engine to be running).</li> <li>○ Check belts for tightness and excessive wear (alternator, water pump, air compressor)--learn how much "give" the belts should have when adjusted right.</li> </ul> </li> </ul>



	<ul style="list-style-type: none"> <li>○ Leaks in the engine compartment (fuel, coolant, oil, power steering fluid, hydraulic fluid, battery fluid).</li> <li>○ Cracked, worn electrical wiring insulation.</li> </ul>
<p>3. Start Engine and Inspect Inside the Cab (Get in and Start Engine)</p>	<ul style="list-style-type: none"> <li>● Make sure parking brake is on.</li> <li>● Put gearshift in neutral (or "park" if automatic). Start engine; listen for unusual noises.</li> <li>● 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.</li> <li>● Look at the Gauges <ul style="list-style-type: none"> <li>○ <u>Oil pressure</u>. Should come up to normal within seconds after engine is started.</li> <li>○ <u>Air pressure</u>. 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.</li> <li>○ <u>Ammeter and/or voltmeter</u>. Should be in normal range(s).</li> <li>○ <u>Coolant temperature</u>. Should begin gradual rise to normal operating range.</li> <li>○ <u>Engine oil temperature</u>. Should begin gradual rise to normal operating range.</li> <li>○ <u>Warning lights and buzzers</u>. Oil, coolant, charging circuit warning, and antilock brake system lights should go out right away.</li> <li>○ Check Condition of Controls. Check all of the following for looseness, sticking, damage, or improper setting: <ul style="list-style-type: none"> <li>▪ Steering wheel.</li> <li>▪ Clutch.</li> <li>▪ Accelerator (gas pedal).</li> <li>▪ Brake controls.</li> <li>▪ Foot brake.</li> <li>▪ Parking brake.</li> <li>▪ Transmission controls.</li> <li>▪ Interaxle differential lock (if vehicle has one).</li> </ul> </li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>▪ Horn(s).</li> <li>▪ Windshield wiper/washer.</li> <li>▪ Lights.</li> <li>▪ Headlights.</li> <li>▪ Dimmer switch.</li> <li>▪ Turn signal,</li> <li>▪ Four-way flashers.</li> <li>▪ Parking – clearance – identification – marker switch (switches).</li> <li>• Check mirrors and windshield.</li> <li>○ Inspect mirrors and windshield for cracks, dirt, illegal stickers, or other obstructions to seeing clearly. Clean and adjust as necessary.</li> <li>• Check emergency equipment.</li> <li>○ Check for safety equipment: <ul style="list-style-type: none"> <li>▪ Spare electrical fuses (unless vehicle has circuit breakers).</li> <li>▪ Three red reflective triangles, 6 fuses or 3 liquid burning flares.</li> <li>▪ Properly charged and rated fire extinguisher. Check for optional items such as: <ul style="list-style-type: none"> <li>▪ Chains (where winter conditions require).</li> <li>▪ Tire changing equipment.</li> <li>▪ List of emergency phone numbers</li> </ul> </li> </ul> </li> <li>○ Check Safety Belt. Check that the safety belt is securely mounted, adjusts; latches properly and is not ripped or frayed.</li> </ul>
4. Turn-off Engine	<ul style="list-style-type: none"> <li>• Make sure the parking brake is set, turn-off the engine, and take the key.</li> <li>• Turn-on headlights (low beams) and four-way emergency flashers, and get out of the vehicle.</li> </ul>

<p>5. Do Walk-Around Inspection</p>	<ul style="list-style-type: none"> <li>● General. <ul style="list-style-type: none"> <li>○ Go to front of vehicle and check that low beams are on and both of the four-way flashers are working.</li> <li>○ Push dimmer switch and check that high beams work.</li> <li>○ Turn-off headlights and four-way emergency flashers.</li> <li>○ Turn-on parking, clearance, side-marker, and identification lights.</li> <li>○ Turn-on right turn signal, and start walk-around inspection.</li> <li>○ Walk around and inspect.</li> <li>○ Clean all lights, reflectors, and glass as the operator walks-around.</li> </ul> </li> <li>● Left Front Side <ul style="list-style-type: none"> <li>○ Operator's door glass should be clean.</li> <li>○ Door latches or locks should work properly.</li> </ul> </li> <li>● Left front wheel <ul style="list-style-type: none"> <li>○ Condition of wheel and rim--missing, bent, broken studs, clamps, lugs, or any signs of misalignment.</li> <li>○ Condition of tires--properly inflated, valve stem and cap OK, no serious cuts, bulges, or tread wear.</li> <li>○ Use wrench to test rust-streaked lug nuts, indicating looseness.</li> <li>○ Hub oil level OK, no leaks. Left front suspension.</li> <li>○ Condition of spring, spring hangers, shackles,</li> <li>○ U-bolts.</li> <li>○ Shock absorber condition.</li> </ul> </li> <li>● Left front brake. <ul style="list-style-type: none"> <li>○ Condition of brake drum or disc.</li> <li>○ Condition of hoses.</li> </ul> </li> <li>● Front <ul style="list-style-type: none"> <li>○ Condition of front axle. Condition of steering system.</li> <li>○ No loose, worn, bent, damaged, or missing parts.</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>○ Must grab steering mechanism to test for looseness.</li> <li>○ Condition of windshield.</li> <li>○ Check for damage and clean if dirty.</li> <li>○ Check windshield wiper arms for proper spring tension.</li> <li>○ Check wiper blades for damage, "stiff" rubber, and securement.</li> <li>○ Lights and reflectors.</li> <li>○ Parking, clearance, and identification lights clean, operating, and proper color (amber at front).</li> <li>○ Reflectors clean and proper color (amber at front).</li> <li>○ Right front turn signal light clean, operating, and proper color (amber or white on signals facing forward).</li> <li>● Right side</li> <li>○ Right front: check all items as done on left front.</li> <li>○ Primary and secondary safety cab locks engaged (if cab-over-engine design).</li> <li>○ Right fuel tank(s).</li> <li>○ Securely mounted, not damaged, or leaking. Fuel crossover line secure.</li> <li>○ Tank(s) contain enough fuel. Cap(s) on and secure.</li> <li>○ Condition of visible parts. Rear of engine--not leaking. Transmission--not leaking.</li> <li>○ Exhaust system--secure, not leaking, not touching wires, fuel, or air-lines.</li> <li>○ Frame and cross members--no bends or cracks.</li> <li>○ Spare tire and/or wheel securely mounted</li> <li>○ Spare tire and wheel adequate (proper size, properly inflated).</li> <li>● Right rear.</li> </ul>
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	<ul style="list-style-type: none"> <li>○ Condition of wheels and rims--no missing, bent, or broken spacers, studs, clamps, or lugs.</li> <li>○ 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.</li> <li>○ Tires same type, e.g., not mixed radial and bias types.</li> <li>○ Tires evenly matched (same sizes). Wheel bearing/seals not leaking.</li> <li>○ Suspension.</li> <li>○ Condition of spring(s), spring hangers, shackles, and u-bolts.</li> <li>○ Axle secure.</li> <li>○ Powered axle(s) not leaking lube (gear oil). Condition of torque rod arms, bushings.</li> <li>○ Condition of shock absorber(s).</li> <li>○ If retractable axle equipped, check condition of lift mechanism. If air powered, check for leaks.</li> <li>○ Condition of air ride components.</li> <li>○ Brakes.</li> <li>○ Brake adjustment.</li> <li>○ Condition of brake drum(s) or discs.</li> <li>○ Condition of hoses--look for any wear due to rubbing.</li> <li>○ Lights and reflectors.</li> <li>○ Side-marker lights clean, operating, and proper color (red at rear, others amber).</li> <li>○ Side-marker reflectors clean and proper color (red at rear, others amber).</li> <li>● Rear. <ul style="list-style-type: none"> <li>○ Lights and reflectors.</li> <li>○ Rear clearance and identification lights clean, operating, and proper color (red at rear).</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>○ Reflectors clean and proper color (red at rear).</li> <li>○ Taillights clean, operating, and proper color (red at rear).</li> <li>○ Right rear turn signal operating, and proper color (red, yellow, or amber at rear).</li> <li>○ License plate(s) present, clean, and secured.</li> <li>○ Splash guards present, not damaged, properly fastened, not dragging on ground, or rubbing tires.</li> <li>○ Rear doors securely closed, latched/locked.</li> <li>● Left Side</li> <li>○ Check all items as done on right side, plus:</li> <li>○ Battery(ies) (if not mounted in engine compartment).</li> <li>○ Battery box(es) securely mounted to vehicle. Box has secure cover.</li> <li>○ Battery(ies) secured against movement. Battery(ies) not broken or leaking.</li> <li>○ Fluid in battery(ies) at proper level (except maintenance-free type).</li> <li>○ Cell caps present and securely tightened (except maintenance-free type).</li> <li>○ Vents in cell caps free of foreign material (except maintenance-free type).</li> </ul>
6. Check Signal Lights	<ul style="list-style-type: none"> <li>● Get in and turn-off all lights.</li> <li>● Turn-on stop lights.</li> <li>● Turn-on left turn signal lights.</li> <li>● Get out and check lights.</li> <li>● Left front turn signal light clean, operating and proper color (amber or white on signals facing the front).</li> <li>● Left rear turn signal light and both stop lights clean operating, and proper color (red, yellow, or amber).</li> <li>● Get in vehicle.</li> </ul>

	<ul style="list-style-type: none"> <li>○ Turn-off lights not needed for driving.</li> <li>○ Check for all required papers, trip manifests, permits, etc.</li> <li>○ Secure all loose articles in cab (they might interfere with operation of the controls or hit the operator in a crash).</li> <li>○ Start the engine.</li> </ul>
<p>7. Start the Engine and Check Test for Hydraulic Leaks</p>	<ul style="list-style-type: none"> <li>● Test for hydraulic leaks. <ul style="list-style-type: none"> <li>○ If the vehicle has hydraulic brakes, pump the brake pedal three times.</li> <li>○ Then apply firm pressure to the pedal and hold for 5 seconds.</li> <li>○ The pedal should not move. If it does, there may be a leak or other problem.</li> </ul> </li> <li>● Brake system. <ul style="list-style-type: none"> <li>● Test parking brake. <ul style="list-style-type: none"> <li>○ Fasten safety belt.</li> <li>○ Gently pull forward against parking brake to make sure the parking brake holds.</li> <li>○ If it doesn't hold vehicle, it is faulty; get it fixed.</li> </ul> </li> <li>● Test service brake stopping action <ul style="list-style-type: none"> <li>○ Go about 5 miles per hour.</li> <li>○ Push brake pedal firmly</li> <li>○ "Pulling" to one side or the other can mean brake trouble.</li> <li>○ Any unusual brake pedal "feel" or delayed stopping action can mean trouble.</li> </ul> </li> <li>○ If the trainee finds anything unsafe during the Vehicle inspection, get it fixed. Federal and state laws forbid operating an unsafe vehicle.</li> </ul> </li> <li>● Check vehicle operation regularly: <ul style="list-style-type: none"> <li>○ Instruments.</li> <li>○ Air pressure gauge (if the vehicle has air brakes). Temperature gauges.</li> <li>○ Pressure gauges. Ammeter/voltmeter.</li> <li>○ Mirrors.</li> <li>○ Tires.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ If the operator sees, hears, smells, or feels anything that might mean trouble, he/she should check it out.</li> <li>● Safety Inspection.</li> <li>● Document any discrepancy on AF Form 1800. Sign-off AF Form 1800 to signify accomplishment of inspection.</li> </ul>
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**Figure A6.2. Additional Steps for Inspecting Air Brakes System.**

<b>Additional Steps for Inspecting Air Brakes</b>	
<b>Step</b>	<b>Procedure</b>
2. Engine Compartment Checks	<ul style="list-style-type: none"> <li>● Check air compressor drive belt condition and tightness (if compressor is belt driven).</li> </ul>
5. Walk-Around Inspecting	<ul style="list-style-type: none"> <li>● Check manual slack adjusters on S-cam brakes. <b>Note:</b> Vehicles with automatic slack adjusters still must be checked. <ul style="list-style-type: none"> <li>○ Park on level ground and chock the wheels.</li> <li>○ Release the parking brakes so the operator can move the slack adjusters.</li> <li>○ Use gloves and pull hard on each slack adjuster that it can be reached.</li> <li>○ 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.</li> </ul> </li> <li>● Check brake drums (or discs), linings, and hoses.</li> </ul>
7. Final Air Brake Check	<ul style="list-style-type: none"> <li>● Test low pressure warning signal. <ul style="list-style-type: none"> <li>○ Shut the engine off when the vehicle has enough air pressure so that the low pressure warning signal is not on.</li> <li>○ Turn the electrical power on.</li> <li>○ Step on and off the brake pedal to reduce air tank pressure.</li> <li>○ Low air pressure warning signal should come on before the pressure drops to less than 60 psi in the air tank with lowest pressure.</li> </ul> </li> <li>● Check that the spring brakes come on automatically. <ul style="list-style-type: none"> <li>○ Chock the wheels.</li> <li>○ Release the parking brakes when enough air pressure is built up.</li> <li>○ Shut the engine off.</li> </ul> </li> </ul>



	<ul style="list-style-type: none"> <li>○ Step on and off the brake pedal to reduce the air tank pressure.</li> <li>○ "Parking brake" knob should pop out when the air pressure falls to the manufacturer's specification.</li> <li>● Check rate of air pressure buildup</li> <li>○ Refer to manufacturer's recommendation for average buildup time.</li> <li>○ If not within recommended time, the air pressure may drop too low during driving operations.</li> <li>● Test air leakage rate.</li> <li>○ With a fully-charged air system (typically 125 psi).</li> <li>○ Turn-off the engine.</li> <li>○ Release the service brake and time the air pressure drop.</li> <li>○ The loss rate should be less than 2 psi in one minute for single vehicles.</li> <li>○ Not less than 3 psi in 1 minute for combination vehicles.</li> <li>● Then apply 90 psi or more with the brake pedal.</li> <li>○ After the initial pressure drop, if the air pressure falls more than 3 psi in 1 minute for single vehicles.</li> <li>○ Not more than 4 psi for combination vehicles.</li> <li>● Check air compressor governor cut-in and cut-out pressures.</li> <li>○ Air compressor should start at about 100 psi and stop at about 125 psi.</li> <li>○ Run the engine at a fast idle.</li> <li>○ Air governor should cut-out the air compressor at about the manufacturer's specified pressure.</li> <li>○ Engine idling, step on and off brake to reduce air tank pressure.</li> <li>○ Compressor should cut-in at manufacturer's specified cut-in pressure.</li> <li>○ 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.</li> <li>▪ Test service brakes.</li> <li>▪ Wait for normal air pressure.</li> <li>● Release the parking brake.</li> </ul>
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	<ul style="list-style-type: none"><li>• Move the vehicle forward slowly (about 5 mph).</li><li>• Apply the brakes firmly using the brake pedal.</li><li>• Note any vehicle "pulling" to one side, unusual feel, or delayed stopping action.</li></ul>
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