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

QTP24-3-L130
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Pumper Fire Apparatus

Vehicle Management Codes: L130 & L133

QUALIFICATION TRAINING PACKAGE

CONTENTS

Section 1—OVERVIEW

1.1. Overview.

1.1.1. Send comments and suggested improvements on AF Form 847, *Recommendation for Change of Publication* through Air Force Installation and Mission Support Center (AFIMSC) functional managers via e-mail at AFIMSC.IZLO.GroundTrans@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 required knowledge, **Section 5**.

1.1.2.1.4. Trainer's lesson plan for demonstration, **Section 6**.

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

1.1.2.2. Trainee:

1.1.2.2.1. Reads material entire lesson plan prior to classroom lecture.

1.1.2.2.2. Follows along with lecture using this lesson plan and its attachments.

1.1.2.2.3. Takes required performance tests (**Attachment 5)**.

Section 2—RESPONSIBILITIES

2.1. Responsibilities.

2.1.1. The trainee shall:

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

2.1.1.2. Review the lesson plan with the trainer.

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

2.1.1.4. Complete training hours required for the vehicle.

2.1.1.5. Take the required Performance Tests.

2.1.2. The trainer shall:

2.1.2.1. Be on the unit's approved trainers list for the management codes covered by this QTP.

2.1.2.2. Review the lesson plan with the trainee.

2.1.2.3. Conduct knowledge training with the trainee using the lesson plan and vehicle operator manuals.

2.1.2.4. Conduct performance task explanation and demonstration using the Driver/Operator – Pumper Performance Test Supplement **(Attachment 5)**.

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

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

2.1.2.7. Coordinates with the trainee's supervisor to have vehicle licensing signed-off in the member's training record.

2.1.3. The Evaluator shall:

2.1.3.1. Evaluate the Airman's task performance in accordance with (IAW) the Driver/Operator – Pumper Performance Test Supplement **(Attachment 5)**.

Section 3—INTRODUCTION

3.1. Objectives.

3.1.1. Given lectures, demonstrations and hands-on operations sessions, trainees will be able to complete all Performance Tests required in Attachment 5 with zero instructor assists.

3.1.1.1. Ensure the trainee becomes trained and qualified as a pumper operator; an operator who has the knowledge and skills to execute safe and professional vehicle operations and preventative maintenance requirements.

3.1.1.2. Re-familiarize qualified operators in the safe operation and maintenance requirements of Pumping Apparatus.

3.2. Desired Learning Outcome.

3.2.1. Understand the safety precautions to be followed pre-, during- and post-operation of the vehicle.

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

3.2.3. Know the proper operator maintenance procedures of the vehicle IAW applicable technical orders, manufacturer's operator's manuals and use of AF Form 1800, *Operator's Inspection Guide and Trouble Report*.

3.2.4. Safely and proficiently operate the vehicle.

3.3. Lesson Duration.

3.3.1. Recommended minimum instructional and hands-on training time is 34 hours:

Figure 3.1. Recommended Training Time for Training Activities.

Training Activity	Training Time
Trainer's Instruction & Demonstration	6 Hours
Pre-Operations	9 Hours
Operations	15 Hours
Performance Evaluation	4 Hours

Note: This is a recommended minimum time; training time may be more depending how quickly a trainee learns new tasks and demonstrates competency.

3.4. Instructional References.

3.4.1. DoD 6055.06M, *DoD Fire and Emergency Services Certification Program*

3.4.2. Risk Management (RM) and Safety Principles IAW Air Force Pamphlet (AFPAM) 90-803, *Risk Management (RM) Guidance and Tools*.

3.4.3. Applicable Technical Orders (TOs) or manufacturer's operator's manual(s).

3.4.4. Air Force Manual (AFMAN) 24-306, *Operation of Air Force Government Motor Vehicles*, Chapters 1-5, 7-9 and 12.

3.4.5. AF Form 1800, *Operator's Inspection Guide and Trouble Report*.

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

3.4.7. Driver/Operator - Pumper Performance Test Supplement (**Attachment 5**).

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

3.4.9. United States Department of Transportation, Federal Motor Carrier Safety Administration; on-line at http://www.fmcsa.dot.gov/index.htm.

3.4.10. *IFSTA Pumping and Aerial Apparatus Driver/Operator Handbook,* 3rd Edition.

3.4.11. NFPA 1901, *Standard for Automotive Fire Apparatus.*

3.4.12. NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles.*

3.4.13. NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*.

3.4.14. NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

3.4.15. TO 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance.*

3.5. Instructional Training Aids and Equipment.

3.5.1. This Qualification Training Package.

3.5.2. Structural Pumper.

3.5.3. Applicable TO and/or manufacturer's operator's manual(s).

3.5.4. *IFSTA Pumping and Aerial Apparatus Driver/Operator Handbook,* 3rd Edition.

3.5.5. Fire Department training area with driving course marked IAW with course specifications in the Performance Test Supplement **(Attachment 5)**.

3.5.6. Traffic cones.

Section 4—TRAINEE PREPARATION

4.1. Licensing Requirements.

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

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

4.1.3. Applicable local licensing jurisdiction requirements.

4.2. Required Reading.

4.2.1. Read this Qualification Training Package in its entirety.

4.2.2. Read AFMAN 24-306, Chapters 1-5, 7-9 and 12.

4.2.3. Read manufacturer's operator's manual(s) for the specific vehicle being trained on.

Section 5—KNOWLEDGE LECTURE AND EVALUATION.

5.1. Knowledge Overview (Lecture).

5.1.1. The material below was written using the instructional references listed in **Section 3**.

5.2. Overview of Training and Requirements.

5.2.1. Inspection, maintenance and servicing.

5.2.1.1. Conduct and document routine tests, inspections, and servicing functions.

5.2.1.2. Identify and explain the use of the apparatus' automotive gauges and potential performance problems based upon gauge readings.

5.2.1.3. Explain the operating principles of the agent delivery system and identify its major components.

5.2.1.4. Explain and operate the auxiliary cooling system and winterization system.

5.2.2. Vehicle and equipment operations.

5.2.2.1. Explain in common measurements the basic dimensions and turning radius of the apparatus.

5.2.2.2. Drive a fire department pumper apparatus on a public road/highway.

5.2.2.3. Perform unique or technical vehicle maneuvers.

5.2.3. Firefighting and pump operations.

5.2.3.1. Conduct pump service tests.

5.2.3.2. Produce and maintain effective hand stream from apparatus' internal water tank and transfer to pump operations to an external pressurized water source (hydrant).

5.2.3.3. Produce and maintain an effective master stream from an external pressurized water source (hydrant).

5.2.3.4. Produce and maintain effective hand or master streams from a static water source (draft).

5.2.3.5. Pump a supply line in relay pumper evolution.

5.2.3.6. Pump a supply line to an Airport Rescue Fire Fighting (ARFF) apparatus.

5.2.3.7. Produce a foam fire stream.

5.2.3.8. Supply water to and maintain support of a sprinkler or standpipe system.

5.2.4. Forms and documentation.

5.2.4.1. Required forms to be placed in the vehicle while in use:

5.2.4.1.1. AF Form 1800. Reference AFI 24-302, *Vehicle Management,* for most current guidance on completing AF Form 1800.

5.2.4.1.2. Standard Form 91, *Motor Vehicle Accident Report*.

5.2.4.1.3. DD Form 518, *Accident Identification Card*.

5.3. Vehicle specifications, design overview.

5.3.1. Air Force Fire Emergency Services (FES) has a variety of Pumping Apparatus assigned. NFPA 1901, *Standard for Automotive Fire Apparatus*, specifies the minimum design, performance, and acceptance criteria for pumpers designed to be used under emergency conditions to transport personnel and equipment and to support the suppression of fires and mitigation of other hazardous situations.

5.3.2. General characteristics.

5.3.2.1. For general design characteristics and requirements for Automotive Fire Apparatus, refer to NFPA 1901, *Standard for Automotive Fire Apparatus,* Chapter 4.

5.3.2.2. For general design characteristics and requirements for Pumper Fire Apparatus, refer to NFPA 1901, *Standard for Automotive Fire Apparatus*, Chapter 5.

5.3.3. Specific characteristics.

5.3.3.1. For design characteristics of specific make/model of pumper, refer to the manufacturer's operator's manual(s) or applicable TO.

5.4. Vehicle Inspection.

5.4.1. Perform all pre-start servicing and inspections prior to operating the vehicle or at the beginning of each personnel change and after each use. Inspections cover the vehicle and its firefighting systems. The inspection enables the operator and crew personnel to detect discrepancies before they lead to vehicle malfunctions. Refer to the TO and manufacturer's operator's manual(s) for all items that need to be inspected and the required frequency.

Note: If discrepancies are found they must be reported to Vehicle Control Official, the supervisor, and/or vehicle maintenance:

5.4.2. Pre-trip inspection – find items/problems that could cause accident or breakdown. Use "systematic" or "walk around" method.

5.4.3. 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 3** for the Seven-Step Inspection Method.

5.5. Vehicle Safety and Equipment.

5.5.1. General. It is imperative that safety be considered at all times while driving the vehicle and that the operator reads and understand the manufacturer's operator's manual before driving the vehicle. The operator must become accustomed to the "feel" of the vehicle and learn its capabilities and limitations in order to maintain control while responding to an emergency.

5.5.2. Hazards and human factors:

5.5.2.1. Traffic due to size and weight.

5.5.2.2. Jerky starts and stops.

5.5.2.3. Traveling too fast and turning too sharply.

5.5.2.4. Cutting corners too sharply.

5.5.3. Safety requirements and PPE:

5.5.3.1. All jewelry removed.

5.5.3.2. Safety-toe boots.

5.5.3.3. Gloves will be worn when required.

5.5.3.4. Inclement and/or cold weather gear when required.

5.5.3.5. Hearing protection when required.

5.5.3.6. First Aid Kit.

5.6. Driving Safety and Precautions.

5.6.1. Before driving.

5.6.1.1. Tire pressure can be adjusted to increase handling on poor-weather and off-road surfaces. The driver must determine the tire pressure that provides the desired balance between off-road mobility, poor weather handling, and on-road performance.

5.6.1.2. Upon entering the vehicle cab, adjust the seat position. Make sure there is sufficient clearance between the head and the cab roof at the seat's maximum upward travel. Serious injury may occur if head clearance is not adequate.

5.6.1.3. Fasten seat belts immediately after adjusting the seat height and before moving the vehicle. All persons riding in the vehicle cab must be seated in approved riding positions and secured by seat belts any time the vehicle is in motion. Failure to use seat belts can result in serious injury or death.

5.6.1.4. Before starting the vehicle engine, completely understand the function of all gauges and know their normal readings. The operator must also understand the operation of all switches and vehicle controls.

5.6.1.5. Make sure to read and follow the start-up and shut-down procedures before starting the vehicle engine. Failure to follow proper start-up and shut-down procedures may result in severe engine damage.

5.6.2. General Safe Driving Procedures. Safety considerations are covered in detail in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, Chapter 6.

5.6.2.1. Operators of fire apparatus shall be directly responsible for the safe and prudent operation of the vehicle under all conditions.

5.6.2.2. Fire department vehicles shall be operated in compliance with all applicable traffic laws, including special provisions pertaining to emergency vehicles as established by the AHJ, as well as specific rules, regulations, and procedures adopted by the fire department.

Note: Procedures for all responses shall emphasize that the safe arrival of fire apparatus to the incident scene is the first priority.

5.6.2.3. During emergency response, drivers of fire apparatus shall bring the vehicle to a complete stop under any of the following circumstances:

5.6.2.3.1. When directed by a law enforcement officer.

5.6.2.3.2. At red traffic lights.

5.6.2.3.3. At stop signs.

5.6.2.3.4. At negative right-of-way intersections.

5.6.2.3.5. At blind intersections.

5.6.2.3.6. When the driver cannot account for all lanes of traffic in an intersection.

5.6.2.3.7. When other intersection hazards are present.

5.6.2.3.8. When encountering a stopped school bus with flashing warning lights.

5.6.2.4. Drivers shall proceed through intersections only when the driver can account for all lanes of traffic in the intersection.

5.6.2.5. During emergency response or non-emergency travel, drivers of fire apparatus shall come to a complete stop at all unguarded railroad grade crossing and ensure that it is safe to proceed before crossing the railroad track(s).

5.6.2.6. Drivers shall use caution when approaching and crossing any guarded railroad grade crossing.

5.7. Vehicle 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. Do not race the motor to warm up the vehicle.

5.7.1.3. Check the instrument panel for proper readings.

5.7.2. Steering.

5.7.2.1. Proper hand position on the steering wheel.

5.7.2.2. Wider turning radius due to length of the vehicle.

5.7.3. Turning.

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

5.7.3.2. Check all mirrors, and be aware of vehicle blind spots.

5.7.3.3. Reduce vehicle's speed before beginning the turn.

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

5.7.4. Braking.

5.7.4.1. Controlling speed.

5.7.4.2. Normal stopping effected by:

5.7.4.2.1. Reaction time.

5.7.4.2.2. Speed.

5.7.4.2.3. Inclement weather.

5.7.4.2.4. Conditions of tires and brakes.

5.7.4.2.5. Type and condition of road surface.

5.7.4.2.6. Weight of vehicle and weight of equipment and agent.

5.7.4.3. Backing.

5.7.4.3.1. Minimize the need for backing.

5.7.4.3.2. If backing is required, ensure the use of spotters.

5.7.4.3.3. Stop immediately is the spotter moves out of view of the mirror.

5.7.4.3.4. Ensure back-up alarms are working properly.

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

5.7.4.4. Firefighting Systems. Engage and operate vehicle firefighting systems IAW applicable TOs and manufacturer's operator's manuals.

Section 6—EXPLANATION AND DEMONSTRATION

6.1. Instructor's Preparation.

6.1.1. Establish a training location.

6.1.2. Obtain appropriate manufacturer's operating manual.

6.1.3. Schedule/reserve a vehicle.

6.1.4. Ensure trainee has properly completed AF Form 171 on person.

6.2. Safety Procedures and Equipment.

6.2.1. The following safety items should be followed by both the instructor and trainee.

6.2.1.1. Chock wheel(s) when vehicle is parked.

6.2.1.2. Remove all jewelry and identification tags.

6.2.1.3. Personal protective equipment and equipment items.

6.2.1.3.1. Safety steel-toed boots must be worn.

6.2.1.3.2. Gloves will be worn during cargo loading and unloading.

6.2.1.3.3. First aid kit.

6.2.1.3.4. Inclement weather gear, if required.

6.2.1.3.5. Hearing protection, if required.

6.2.1.4. Walk around vehicle 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 driver's seat and all mirrors.

6.2.1.7. Throughout demonstration, practice vehicle safety.

6.2.2. Practice AF risk management 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.

6.3.1. With trainee, accomplish vehicle inspection using AF Form 1800. The vehicle inspection will follow the seven-step method as described in **Attachment 3**. An inspection guide (**Attachment 2**) can also be used to ensure all areas of the vehicle are covered in addition to the "Operation Demonstration" guidelines provided below.

6.4. Operation Demonstration.

6.4.1. Throughout demonstration.

6.4.1.1. Allow for questions.

6.4.1.2. Repeat demonstrations as needed.

6.4.2. For the vehicle, within the training area, demonstrate and explain the following:

6.4.2.1. Vehicle specifications.

6.4.2.2. Vehicle controls.

6.4.2.3. Vehicle inspection, maintenance and servicing.

6.4.2.4. Use of the apparatus automotive gauges, and address potential performance problems based on gauge readings.

6.4.2.5. Operating principles of the agent delivery system and identify its major components.

6.4.2.6. Auxiliary cooling system and winterization system, if equipped.

6.4.3. Vehicle equipment and operations demonstration.

6.4.3.1. Demonstrate and explain, in common measurements, the basic dimensions and turning radius of the apparatus.

6.4.3.2. Demonstrate and perform driving a fire department pumper apparatus on a public road/highway.

6.4.3.3. Demonstrate and perform unique or technical vehicle maneuvers.

6.4.4. Firefighting and pump operations.

6.4.4.1. Demonstrate and perform pump service tests.

6.4.4.2. Demonstrate and perform producing and maintaining effective hand streams from apparatus' internal water tank and transfer pump operations to an external pressurized water source (hydrant).

6.4.4.3. Demonstrate and perform producing and maintaining an effective master stream from an external pressurized water source (hydrant).

6.4.4.4. Demonstrate and perform producing and maintaining effective hand or master streams from a static water source (draft).

6.4.4.5. Demonstrate and perform pumping a supply line in a relay pumper evolution.

6.4.4.6. Demonstrate and perform pumping a supply line to an ARFF apparatus.

6.4.4.7. Demonstrate and perform producing a foam fire stream.

6.4.4.8. Demonstrate and perform supplying water to and maintaining support of a sprinkler or standpipe system.

6.4.5. Show trainee the after-operation inspection and report.

6.4.5.1. Following manufacturer's shut-down procedures.

6.4.5.2. Ensure vehicle is cleaned.

6.4.5.3. Perform a walk around inspection.

6.4.5.4. Annotate any discrepancies found on AF Form 1800.

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

Section 7—TRAINEE PERFORMANCE AND EVALUATION

7.1. Trainee Performance Evaluation.

7.1.1. All Performance Evaluations will be conducted IAW the Driver/Operator - Pumper Performance Test Supplement (**Attachment 5)**.

7.1.2. All personnel who operate assigned FES vehicles must have a valid/current U.S Air Force Motor Vehicle License and a valid State issued driver's license.

7.1.3. All trainees are required to have in their possession a valid AF Form 171, *Request for Driver's Training and Addition to U.S. Government Driver's License,* listing the type of vehicle, whenever training on a vehicle and must be accompanied by a fully qualified and licensed trainer.

7.1.4. Trainees shall have training hours completed and documented on the Driver's Training Qualification Form **(Attachment 4)** completed prior to performance testing.

7.1.5. Evaluators:

7.1.5.1. The trainer and evaluator may not be the same individual IAW DoD 6055.06-M.

7.1.5.2. 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).

7.1.5.3. Ensure wheels are chocked when vehicle is parked.

7.1.5.4. Ensure all jewelry and identification tags are removed.

7.1.5.5. Ensure required personal protective equipment is used.

7.1.5.5.1. Safety-toe boots.

7.1.5.5.2. Gloves when required.

7.1.5.5.3. Inclement/cold weather gear, if required.

7.1.5.5.4. Hearing protection, if required.

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

7.1.5.7. Ensure trainee wears seat belt.

7.1.5.8. Properly adjust driver's seat and all mirrors.

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

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 24-301, *Ground Transportation*, 1 November 2018

AFI 24-302, *Vehicle Management*, 26 June 2012

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

AFPAM 90-803, *Risk Management (RM) Guidance and Tools*, 11 February 2013

ASTM D4956, *Standard Specification for Retroreflective Sheeting for Traffic Control*, 15 July 2005

DoD 6055.06-M, *DoD Fire and Emergency Services Certification Program,* 16 September 2010

IFSTA Pumping Apparatus Driver/ Operator Handbook, *3rd Edition*

NFPA 1901, *Standard for Automotive Fire Apparatus*

NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles*

NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*

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

Adopted Forms

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

AF Form 847, *Recommendation for Change of Publication*

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

DD Form 518, *Accident Identification Card*

Standard Form 91, *Motor Vehicle Accident Report*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFIMSC—Air Force Installation and Mission Support Center

AFMAN—Air Force Manual

AFPAM—Air Force Pamphlet

AHJ—Authority Having Jurisdiction

ARFF – Aircraft Rescue Fire Fighting

ASTM—American Standard for Testing Materials

CDC—Career Development Course

CFR—Code of Federal Regulations

DOT—Department of Transportation

FES—Fire Emergency Services

FMCSA—Federal Motor Carrier Safety Administration

IFSTA—International Fire Service Training Association

IAW—In Accordance With

KPH—Kilometers per Hour

MPH—Miles per Hour

NFPA—National Fire Protection Association

RM—Risk Management

TO—Technical Order

Attachment 2

PUMPER FIRE APPARATUS VEHICLE INSPECTION GUIDE

GENERAL

STEP 1. VEHICLE OVERVIEW

☐ Paperwork
- AF Form 1800
- Discrepancy Correction Complete (VM Annotation)

☐ Vehicle Approach
- Damage (to include light covers)
- Vehicle Leaning?
- Fresh Leakage of Fluids
- Inspect Winch
- Hazards Surrounding Vehicle

INTERNAL

STEP 2. ENGINE COMPARTMENT

☐ Leaks/Hoses/Electrical Wiring Insulation
☐ Oil Level
☐ Coolant Level
☐ Power Steering Fluid
☐ Brake Fluid
☐ Windshield Washer Fluid
☐ Battery Fluid Level (Both), Connections & Tie Downs
☐ Automatic Transmission Fluid Level
☐ Engine Compartment Belts
☐ Under Hood Light Operation
☐ Check Air Cleaner Element

STEP 3. ENGINE START/CAB CHECK (LEFT/FRONT/RIGHT)

☐ Safe Start
☐ Gauges
- Oil Pressure Gauge
- Air Pressure Gauge
- Temperature Gauge (Coolant/Engine Oil)
- Ammeter/Voltmeter

☐ Siren
☐ Communications System
☐ Windows
☐ Seat Adjustment
☐ Mirrors & Windshield
☐ Wipers/Washers
☐ Removable Firefighting Equipment (missing/damaged)

☐ Winch Controller
☐ Water Level
☐ Foam Level
☐ Emergency & Safety Equipment
- Spare Electrical Fuses
- Red Reflective Triangles
- 6 Fuses or 3 Liquid Burning Flares
- Properly Charged & Rated Fire Extinguisher
- Optional (Chains/Tire Changing Equip, Emergency Phone List)

☐ Operate Pump
- Ensure Proper PSI
- Ensure Proper Water Flow
- Check Discharge Patterns
- Check Pump Pressure Gauge

☐ Ensure Smooth Oscillation of Turrets with Joystick
☐ Ensure "DO NOT MOVE APPARATUS" Light is Operational
☐ Ensure Back-Up Camera is Operational
☐ **3B** – Lights/Reflectors/Reflector Tape Condition (Front/Sides/Rear)

(Dash Indicators for:)
- Left Turn Signal
- Right Turn Signal
- Four-Way Emergency Flashers
- High Beam Headlight
- ABS Indicator
- Clearance Lights
- Telescoping Lights

(Reflective Clean & Functional Light & Reflector Checks Include:)
- Headlights
- Taillights
- Backing Lights
- Turn Signals
- Four-Way Flashers
- Brake Lights
- Red Reflectors & Amber Reflectors
- Reflective Tape Condition

☐ Horn
☐ Heater/Defroster
☐ Brakes
- Parking Brake Check
- Hydraulic Brake Check
- Service Brake Check
- Safety Belt

(TURN-OFF ENGINE/TURN-ON HEADLIGHTS *LOW BEAM* AND FOUR-WAY FLASHERS)

STEP 4. WALK-AROUND INSPECTION

☐ **4A** – Steering
- Steering Box/Hoses
- Steering Linkages

☐ **4B** – Suspension
- Springs/Air/Torque
- Mounts
- Shock Absorbers

☐ **4C** – Brakes
- Slack Adjustors & Pushrods
- Brake Chambers
- Brake Hoses/Lines
- Drum Brake
- Brake Linings

☐ **4D** – Wheels
- Rims
- Tires
- Hub Oil Seals/Axle Seals
- Lug Nuts
- Spacers & Budd Spacing

LEFT SIDE/DRIVER SIDE

☐ **4E** – Body Panels
☐ **4E** – Doors
☐ **4E** – Mirrors
☐ **4E** – Fuel Tank

RIGHTSIDE/PASSENGER SIDE

☐ **4E** – Body Panels
☐ **4E** – Doors
☐ **4E** – Mirrors
☐ **4E** – Fuel Tank
☐ **4E** – Diesel Exhaust Fluid (DEF) Reservoir

UNDER VEHICLE

☐ **4F** – Drive Shaft
☐ **4F** – Exhaust
☐ **4F** – Frame

TOP

☐ **4F** – Water Fill Dome
☐ **4F** – Foam Fill Dome
☐ **4F** – Hydraulic Fluid

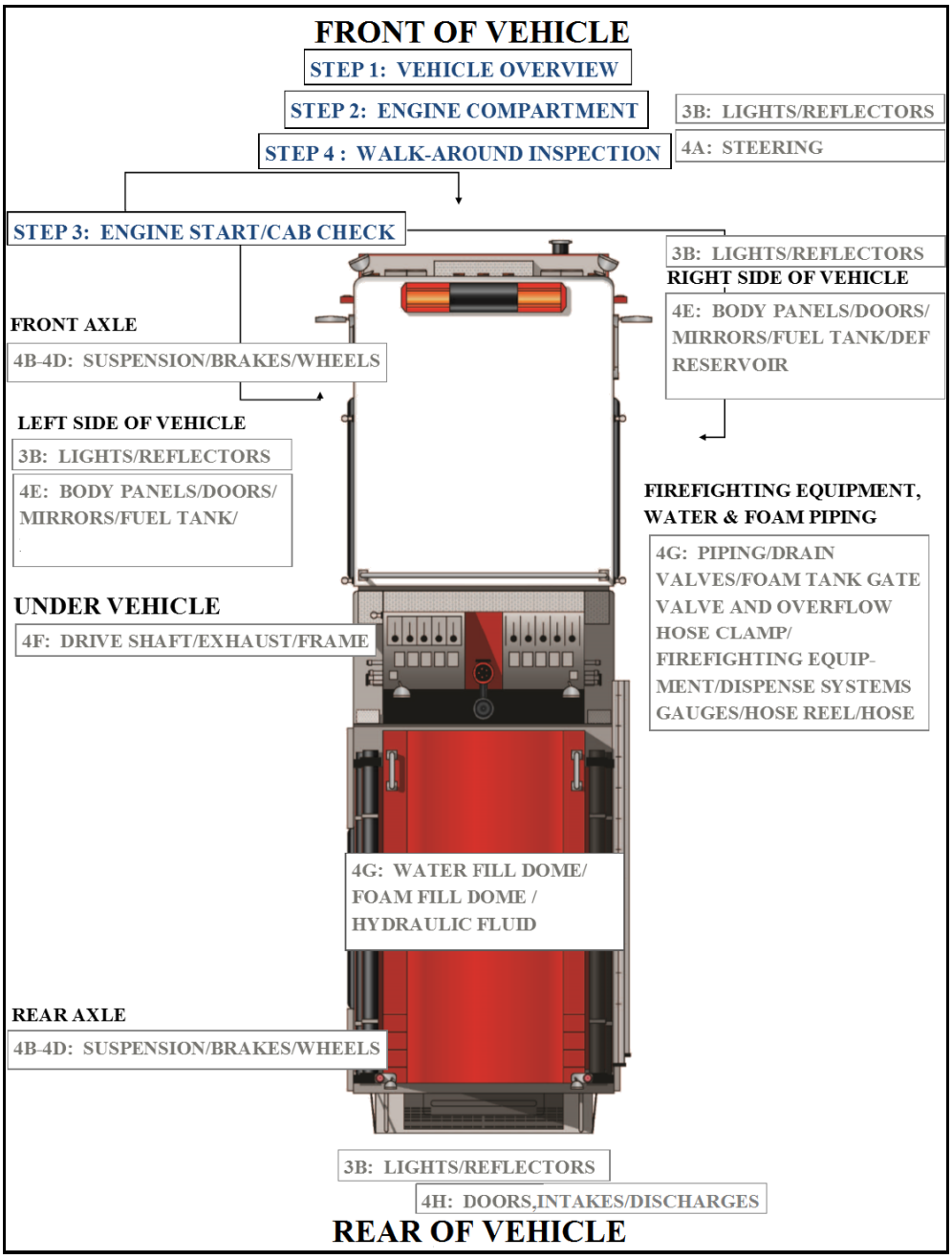
FIREFIGHTING EQUIPMENT, WATER & FOAM PIPING

- ☐ **4G** – Piping/Drain Valves (Underside)
- ☐ **4G** – Foam Tank Gate Valve
- ☐ **4G** – Foam Tank Overflow Hose Clamp
- ☐ **4G** – Firefighting Equipment
- ☐ **4G** – Dispense Systems Gauge Readings
- ☐ **4G** – Hose

REAR

- ☐ **4H** – Doors
- ☐ **4H** – Discharges/Intakes

Figure A2.1. Pumper Fire Apparatus Vehicle Inspection Guide.



Attachment 3

SEVEN-STEP INSPECTION PROCESS

Figure A3.1. Seven-Step Inspection Process (Universal).

Seven-Step Inspection Process (Universal)	
Step	**Procedure**
1. Vehicle Overview	• Review the AF Form 1800. o Ensure any discrepancy has been corrected. o Vehicle Management annotated the discrepancy was completed. o Approaching the vehicle. ▪ Damage or vehicle leaning to one side. ▪ Fresh leakage of fluids. ▪ Hazards around vehicle.
2. Check Engine Compartment	• **Note:** Check that the parking brakes are on and/or wheels chocked. The operator may have to raise the hood, tilt the cab (secure loose things so they don't fall and break something), or open the engine compartment door. • Check the following: o Engine oil level. o Coolant level in radiator; condition of hoses. o Power steering fluid level; hose condition (if so equipped). o Windshield washer fluid level. o Battery fluid level, connections and tie-downs (battery may be located elsewhere). o Automatic transmission fluid level (may require engine to be running).

	o Check belts for tightness and excessive wear (alternator, water pump, air compressor)--learn how much "give" the belts should have when adjusted right. o Leaks in the engine compartment (fuel, coolant, oil, power steering fluid, hydraulic fluid, battery fluid). Cracked, worn electrical wiring insulation.
3. Start Engine and Inspect Inside the Cab (Get in and Start Engine)	• Make sure parking brake is on. • Put gearshift in neutral (or park if automatic). Start engine; listen for unusual noises. • If equipped, check the Anti-lock Braking System (ABS) indicator lights. Light on dash should come on and then turn-off. If it stays on the ABS is not working properly. • Look at the gauges. o Oil pressure. Should come up to normal within seconds after engine is started. o Air pressure. Pressure should build from 50 to 90 psi within 3 minutes. Build air pressure to governor cut-out (usually around 120 – 140 psi. Know the vehicle's requirements. o Ammeter and/or voltmeter. Should be in normal range(s). o Coolant temperature. Should begin gradual rise to normal operating range. o Engine oil temperature. Should begin gradual rise to normal operating range. o Warning lights and buzzers. Oil, coolant, charging circuit warning, and antilock brake system lights should go out right away.

	o Check Condition of Controls. Check all of the following for looseness, sticking, damage, or improper setting: ▪ Steering wheel. ▪ Clutch. ▪ Accelerator (gas pedal). ▪ Brake controls. ▪ Foot brake. ▪ Trailer brake (if vehicle has one). ▪ Parking brake. ▪ Transmission controls. ▪ Interaxle differential lock (if vehicle has one). ▪ Horn(s). ▪ Windshield wiper/washer. ▪ Lights. ▪ Headlights. ▪ Dimmer switch. ▪ Turn signal. ▪ Four-way flashers. ▪ Parking – clearance – identification – marker switch (switches). • Check mirrors and windshield. o Inspect mirrors and windshield for cracks, dirt, illegal stickers, or other obstructions to seeing clearly. Clean and adjust as necessary. • Check emergency equipment. o Check for safety equipment: ▪ Spare electrical fuses (unless vehicle has circuit breakers). ▪ Three red reflective triangles, 6 fuses or 3 liquid burning flares. ▪ Properly charged and rated fire extinguisher. Check for optional items such as: ▪ List of emergency phone numbers Accident reporting kit (packet).

	o Check safety belt. Check that the safety belt is securely mounted, adjusts; latches properly and is not ripped or frayed.
4. Turn-off Engine	• Make sure the parking brake is set, turn-off the engine, and take the key with. • Turn-on headlights (low beams) and four-way emergency flashers, and get out of the vehicle.
5. Do Walk-Around Inspection	• General. o Go to front of vehicle and check that low beams are on and both of the four-way flashers are working. o Push dimmer switch and check that high beams work. o Turn-off headlights and four-way emergency flashers. o Turn-on parking, clearance, side-marker, and identification lights. o Turn-on right turn signal, and start walk-around inspection. o Walk around and inspect. ▪ Clean all lights, reflectors, and glass as while doing the walk-around inspection. • Left front side. o Driver's door glass should be clean. o Door latches or locks should work properly. • Left front wheel. o Condition of wheel and rim--missing, bent, broken studs, clamps, lugs, or any signs of misalignment. o Condition of tires--properly inflated, valve stem and cap OK, no serious cuts, bulges, or tread wear. o Use wrench to test rust-streaked lug nuts, indicating looseness.

	o Hub oil level OK, no leaks. Left front suspension. o Condition of spring, spring hangers, shackles, o U-bolts. o Shock absorber condition. • Left front brake. o Condition of brake drum or disc. o Condition of hoses. • Front. o Condition of front axle. Condition of steering system. o No loose, worn, bent, damaged or missing parts. o Must grab steering mechanism to test for looseness. o Condition of windshield. o Check for damage and clean if dirty. o Check windshield wiper arms for proper spring tension. o Check wiper blades for damage, "stiff" rubber, and securement. o Lights and reflectors. o Parking, clearance, and identification lights clean, operating, and proper color (amber at front). o Reflectors clean and proper color (amber at front). o Right front turn signal light clean, operating, and proper color (amber or white on signals facing forward). • Right side o Right front: check all items as done on left front. o Primary and secondary safety cab locks engaged (if cab-over-engine design). o Right fuel tank(s). o Securely mounted, not damaged, or leaking. Fuel crossover line secure.

	o Tank(s) contain enough fuel. Cap(s) on and secure. o Condition of visible parts. Rear of engine--not leaking. Transmission--not leaking. o Exhaust system--secure, not leaking, not touching wires, fuel, or air-lines. o Frame and cross members--no bends or cracks. o Air-lines and electrical wiring--secured against snagging, rubbing, wearing. o Spare tire carrier or rack not damaged (if so equipped). o Spare tire and/or wheel securely mounted in rack. o Spare tire and wheel adequate (proper size, properly inflated). o Cargo securement (trucks). o Side boards, stakes strong enough, free of damage, properly set in place (if so equipped). o Curbside cargo compartment doors in good condition, securely closed, latched/locked and required security seals in place. • Right rear. o Condition of wheels and rims--no missing, bent, or broken spacers, studs, clamps, or lugs. o 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. o Tires same type, e.g., not mixed radial and bias types. o Tires evenly matched (same sizes). Wheel bearing/seals not leaking. o Suspension.

	o Condition of spring(s), spring hangers, shackles, and u-bolts. o Axle secure. o Powered axle(s) not leaking lube (gear oil). Condition of torque rod arms, bushings. o Condition of shock absorber(s). o If retractable axle equipped, check condition of lift mechanism. If air powered, check for leaks. o Condition of air ride components. o Brakes. o Brake adjustment. o Condition of brake drum(s) or discs. o Condition of hoses--look for any wear due to rubbing. o Lights and reflectors. o Side-marker lights clean, operating, and proper color (red at rear, others amber). o Side-marker reflectors clean and proper color (red at rear, others amber). • Rear. o Lights and reflectors. o Rear clearance and identification lights clean, operating, and proper color (red at rear). o Reflectors clean and proper color (red at rear). o Taillights clean, operating, and proper color (red at rear). o Right rear turn signal operating, and proper color (red, yellow, or amber at rear). o License plate(s) present, clean, and secured. o Splash guards present, not damaged, properly fastened, not dragging on ground, or rubbing tires.

	o Rear doors securely closed, latched/locked. • Left side. o Check all items as done on right side, plus: o Battery (batteries) (if not mounted in engine compartment). o Battery box (boxes) securely mounted to vehicle. Box has secure cover. o Battery (batteries) secured against movement. Battery (batteries) not broken or leaking. o Fluid in battery (batteries) at proper level (except maintenance-free type). o Cell caps present and securely tightened (except maintenance-free type). o Vents in cell caps free of foreign material (except maintenance-free type).
6. Check Signal Lights	• Get in and turn-off all lights. • Turn-on stop lights (apply trailer hand brake or have a helper put on the brake pedal). • Turn-on left turn signal lights. • Get out and check lights. • Left front turn signal light clean, operating and proper color (amber or white on signals facing the front). • Left rear turn signal light and both stop lights clean operating, and proper color (red, yellow, or amber). • Get in vehicle. o Turn-off lights not needed for driving. o Check for all required papers, trip manifests, permits, etc.

	o Secure all loose articles in cab (they might interfere with operation of the controls or hit the operator in a crash). o Start the engine.
7. Start the Engine and Check Test for Hydraulic Leaks	• Test for hydraulic leaks. o If the vehicle has hydraulic brakes, pump the brake pedal three times. o Then apply firm pressure to the pedal and hold for five seconds. o The pedal should not move. If it does, there may be a leak or other problem. • Brake system. • Test parking brake. o Fasten safety belt. o Set parking brake (power unit only). Release trailer parking brake (if applicable). Place vehicle into a low gear. o Gently pull forward against parking brake to make sure the parking brake holds. o Repeat the same steps for the trailer with trailer parking brake set and power unit parking brakes released (if applicable). o If it doesn't hold vehicle, it is faulty; get it fixed. • Test service brake stopping action. o Go about 5 miles per hour. o Push brake pedal firmly. o "Pulling" to one side or the other can mean brake trouble. o Any unusual brake pedal "feel" or delayed stopping action can mean trouble.

	o If the trainee finds anything unsafe during the Vehicle inspection, get it fixed. Federal and state laws forbid operating an unsafe vehicle. • Check vehicle operation regularly: o Instruments. o Air pressure gauge (if the vehicle has air brakes). Temperature gauges. o Pressure gauges. Ammeter/voltmeter. o Mirrors. o Tires. o If the trainee sees, hears, smells, or feels anything that might mean trouble, he/she should check it out. • Safety inspection. • Document any discrepancy on AF Form 1800. Sign-off AF Form 1800 to signify accomplishment of inspection.

Figure A3.2. Additional Steps for Inspecting Air Brakes System (Universal).

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

	o Shut the engine off when the vehicle has enough air pressure so that the low pressure warning signal is not on. o Turn the electrical power on. o Step on and off the brake pedal to reduce air tank pressure. o Low air pressure warning signal should come on before the pressure drops to less than 60 psi in the air tank with lowest pressure. • Check that the spring brakes come on automatically. o Chock the wheels. o Release the parking brakes when enough air pressure is built up. o Shut the engine off. o Step on and off the brake pedal to reduce the air tank pressure. o "Parking brake" knob should pop out when the air pressure falls to the manufacturer's specification. • Check rate of air pressure buildup o Refer to manufacturer's recommendation for average buildup time. o If not within recommended time, the air pressure may drop too low during driving operations. • Test air leakage rate. o With a fully-charged air system (typically 125 psi). o Turn-off the engine. o Release the service brake and time the air pressure drop. o The loss rate should be less than 2 psi in one minute for single vehicles. o Not less than 3 psi in 1 minute for combination vehicles. • Then apply 90 psi or more with the brake pedal. o After the initial pressure drop, if the air pressure falls more than 3 psi in 1 minute for single vehicles. o Not more than 4 psi for combination vehicles. • Check air compressor governor cut-in and cut-out pressures.

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

Attachment 4

Driver's Training Qualification Form

Vehicle Type: Pumper Fire Apparatus

Trainee's Name: _____ Trainer's Name: _____

Pre Operations Station							
Required Training	Hours	In each block, enter date of training, number of hours, training initials.					
Manufacture Data Self-Study	**4**						
Pre-operation Daily Checkout (Includes, Vehicle Gauges and Agent System Delivery)	**5**						
Operations Station							
Apparatus Maneuvering / Positioning (Must include 1 hour of night operations)	**4**						
Pump Operations (Must include 1 hour of night operations)	**4**						
Vehicle Backing	**1**						
Re-Supply Operations (Aircraft Ramp, Taxiways, Runways)	**3**						
Predetermined Driving Course (Installation Familiarization & Obstacle)	**3**						

Note: The hours specified above are recommended and may be increased or decreased depending on how quickly a trainee learns new tasks and demonstrates competency.

Note: Once all training requirements are completed, the Trainee and Supervisor must sign.

Trainee Signature: _____ Supervisor's Signature: _____

Attachment 5

Driver/Operator - Pumper Performance Test Supplement

*****NOTE*** Completion of these Performance Tests for vehicle licensing purposes does not constitute completion of the Performance Tests for the Driver/Operator-Pumper Certification unless the trainee is completing the licensing requirements and Career Development Course in tandem.**