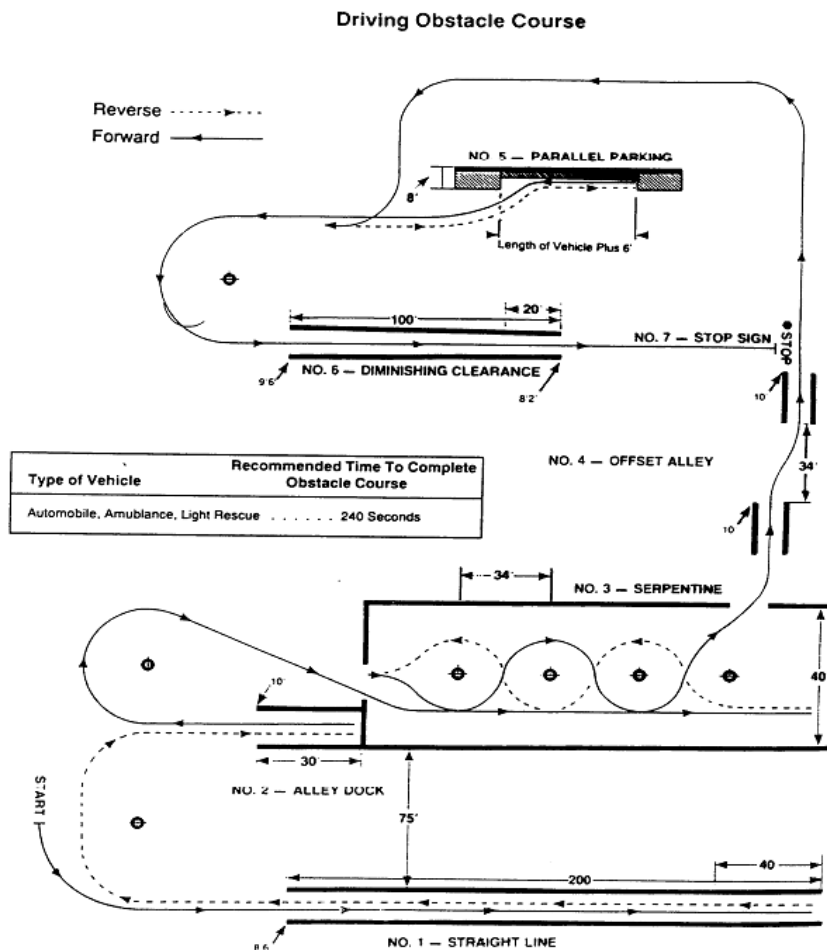


# Comprehensive Driver Training Compliance For An AFG Vehicle Award



## An AFG Vehicle Award - Compliance With Comprehensive Driver Training

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### An AFG Vehicle Award - Compliance With Comprehensive Driver Training

Due to the inherent safety issues surrounding the operations of vehicles, the Assistance to firefighter Grant (AFG) program requires departments to certify that they are using a comprehensive driver-training program meeting NFPA 1002 or equivalent for all individuals that will be expected to operate vehicles awarded in the AFG program.

If you are awarded a vehicle, you must certify that personnel who will drive and operate the awarded vehicle meet or exceed the national standards for drivers/operators (fire vehicles NFPA 1002, EMS DOT or KKK standards). This training may be accomplished via an established in-house training program or with grant funds added to the vehicle request. **If you do not have an established program by the end of your award period, your grant will be ineligible for funding and disqualified. Your department must also assure that only physical fit individuals and trained personnel will operate the apparatus.**

At the end of this document we will provide you with guidance on accomplishing the requirements of a comprehensive program.

#### **Official Definitions.**

In this situation the AFG is the Authority Having Jurisdiction (AHJ). The AFG is the office, or individual responsible for enforcing the requirements of the program guidance, or for approving a procedure.

The purpose of this is not to mandate that all fire apparatus driver/operators meet the requirements of all chapters of the NFPA 1002 standard. Personnel should meet only those provisions that pertain to the types of apparatus they will be expected to drive and operate.

In Minnesota we have three items that in my opinion would satisfy your needs. The NFPA 1002 standard specifies how a FD complies with NFPA 1002, by the following statements; "NFPA 1002 3.2.2\* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure." and that they have to; NFPA 1002 5.1\* General. The requirements of Fire Fighter I as specified in NFPA 1001, and the job performance requirements defined in Sections 5.1 and 5.2 shall be met prior to certification as a fire department driver/operator - pumper.

Many of our departments are doing one of the following. If a FD does one of the following it will satisfy DHS requirements.

- 1.) Fire departments training programs that follow and document training as per NFPA 1001, 1002 and certify their staff.
- 2.) Fire departments that take college offered courses that meet the NFPA 1001, 1002 and test to the standard.
- 3.) Fire departments that participate in the State certification system that verifies training per the NFPA 1001 and 1002 standards.

## **Suggested Training Schedule To Meet Driving Portion**

1<sup>st</sup> session – 3 Hours

- State Laws That Impact Driving Apparatus and Operations
- Physics Of Emergency Vehicle Handling And Breaking

2<sup>nd</sup> Session – 3 hours

- Operations class on the apparatus received from DHS/AFG program

3rd Session – 3 Hours

- Hands-on Driving Course - for the Specified Vehicle received from DHS AFG

Records and Documentation

- Exam
- Document results of the three sessions

Sample outlines and information for the above sessions are at the end of this document.

## **General Requirements Of A Comprehensive Driver Training Program**

Prior to operating fire department vehicles, the fire apparatus driver/operator shall meet the job performance requirements defined as follows;

Perform routine tests, inspections, and servicing functions on the systems and components specified in the following list, given a fire department vehicle and its manufacturer's specifications, so that the operational status of the vehicle is verified:

- (1) Battery(ies)
- (2) Braking system
- (3) Coolant system
- (4) Electrical system
- (5) Fuel
- (6) Hydraulic fluids
- (7) Oil
- (8) Tires
- (9) Steering system
- (10) Belts
- (11) Tools, appliances, and equipment

Document the routine tests, inspections, and servicing functions, given maintenance and inspection forms, so that all items are checked for operation and deficiencies are reported. Routine tests, inspections, and servicing functions should be performed on a daily, weekly,

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monthly, or other periodic basis as determined by departmental policy. The specifications provided by the manufacturer for these functions should be followed.

### **Driving and Operating.**

Operate a fire department vehicle, given a vehicle and a predetermined route on a public way that incorporates the maneuvers and features, specified in the following list, that the driver/operator is expected to encounter during normal operations, so that the vehicle is operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Section 4.2:

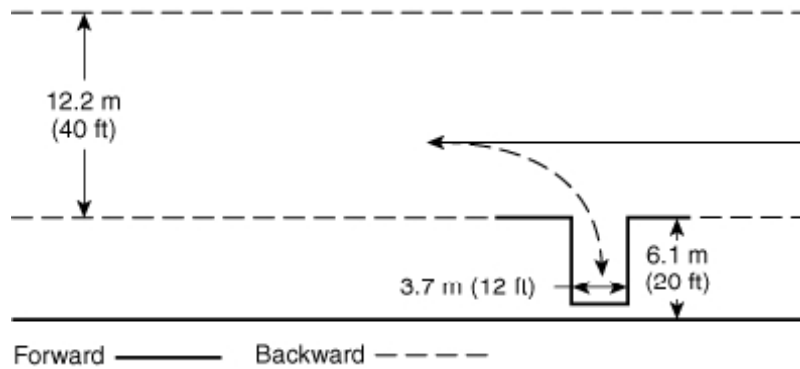
- (1) Four left turns and four right turns
- (2) A straight section of urban business street or a two-lane rural road at least 1.6 km (1 mile) in length
- (3) One through-intersection and two intersections where a stop has to be made
- (4) One railroad crossing
- (5) One curve, either left or right
- (6) A section of limited-access highway that includes a conventional ramp entrance and exit and a section of road long enough to allow two lane changes
- (7) A downgrade steep enough and long enough to require down-shifting and braking
- (8) An upgrade steep enough and long enough to require gear changing to maintain speed
- (9) One underpass or a low clearance or bridge

The maneuvers and features specified for this job performance requirement include driving situations that the committee has determined to be essential. The committee recognizes that each of these situations might not exist in all areas. Where this occurs, those specific requirements can be omitted.

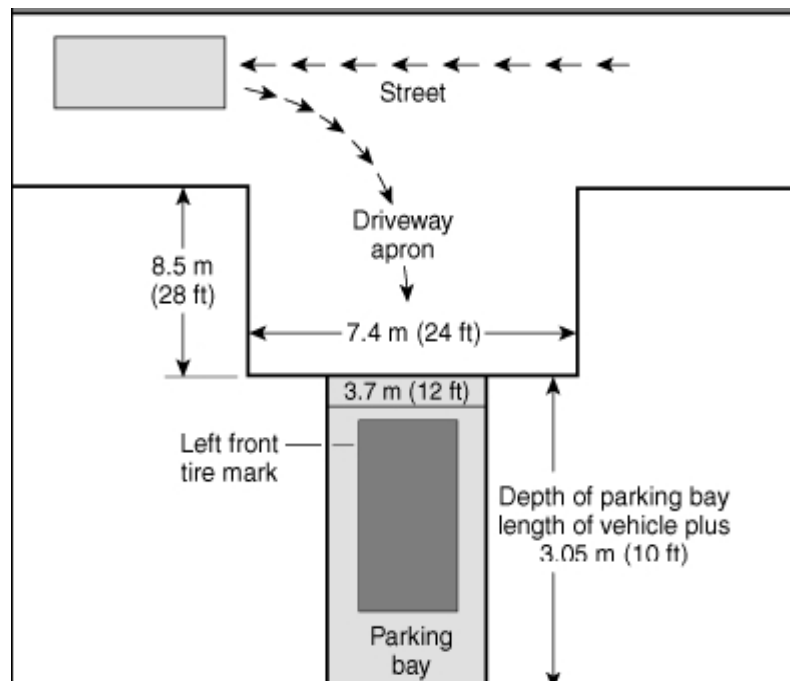
**Back a vehicle from a roadway into restricted spaces** on both the right and left sides of the vehicle, given a fire department vehicle, a spotter, and restricted spaces 3.7 m (12 ft) in width, requiring 90-degree right-hand and left-hand turns from the roadway, so that the vehicle is parked within the restricted areas without having to stop and pull forward and without striking obstructions.

The alley dock exercise can be used as practice for meeting or in the evaluation of this requirement. This exercise measures a driver's ability to drive past a simulated dock or stall, back the apparatus into the space provided, and stop smoothly. A dock or stall can be simulated by arranging barricades 12.2 m (40 ft) from a boundary line. These barricades should be 3.7 m (12 ft) apart, and the length should be approximately 6.1 m (20 ft). The driver should pass the barricades with the dock on the left and then back the apparatus, using a left turn, into the stall. The exercise should then be repeated with the dock on the right side, using a right turn.

## An AFG Vehicle Award - Compliance With Comprehensive Driver Training

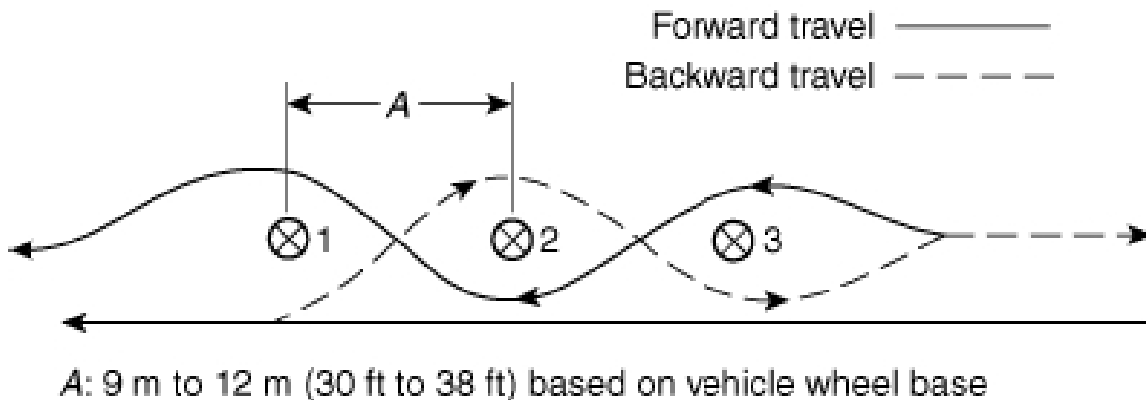


The apparatus station parking maneuver can also be used as practice for meeting or in the evaluation of this requirement. This exercise measures the driver's ability to back the apparatus into a fire station to park or to back the apparatus down a street to reverse the direction of travel. An engine bay can be simulated by allowing for a 6.1-m (20-ft) minimum setback from a street 9 m (30 ft) wide, with a set of barricades at the end of the setback, spaced 3.7 m (12 ft) apart to simulate the garage door. The setback from the street should be determined by the testing agency to ensure that the distances reflect those encountered by the apparatus driver during the normal course of duties. A marker placed on the ground should indicate to the operator the proper position of the left front tire of the vehicle once stopped and parked. A straight line can be provided to assist the operator while backing the apparatus, facilitating the use of vehicle mirrors. The minimum depth distance is determined by the total length of the vehicle. Note that for large vehicles, such as ARFF apparatus, this course might need to be modified.



**Maneuver a vehicle around obstructions** on a roadway while moving forward and in reverse, given a fire department vehicle, a spotter for backing, and a roadway with obstructions, so that the vehicle is maneuvered through the obstructions without stopping to change the direction of travel and without striking the obstructions.

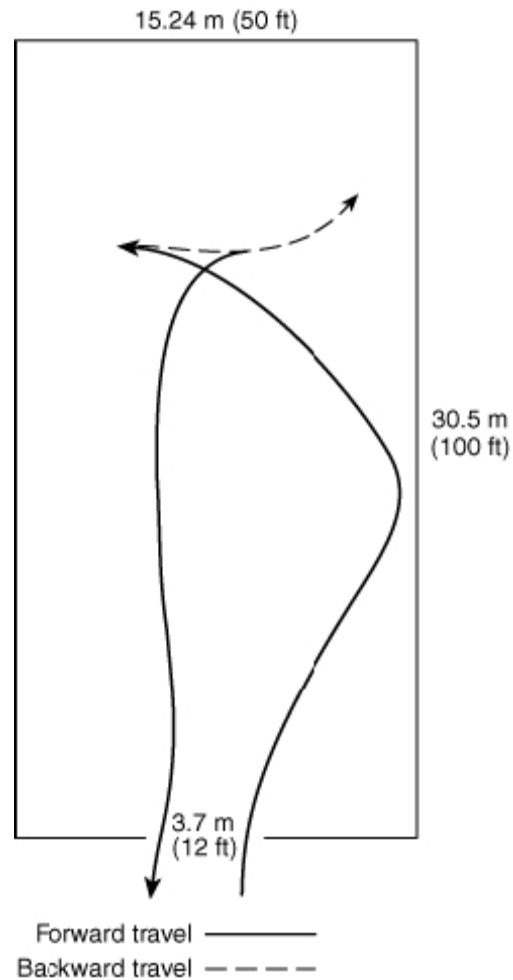
The serpentine exercise can be used as practice for meeting or in the evaluation of this requirement. This exercise measures a driver's ability to steer the apparatus in close limits without stopping. The exercise should be conducted with the apparatus moving first backward, then forward. The course or path of travel for this exercise can be established by placing a minimum of three markers, each spaced between 9 m (30 ft) and 12 m (38 ft) apart, in a line. The spacing of the markers should be based on the wheel base of the vehicle used. Adequate space must be provided on each side of the markers for the apparatus to move freely. The driver should drive the apparatus along the left side of the markers in a straight line and stop just beyond the last marker. The driver then should begin the exercise by backing the apparatus between the markers by passing to the left of marker No. 1, to the right of marker No. 2, and to the left of marker No. 3. At this point, the driver should stop the vehicle and then drive it forward between the markers by passing to the right of marker No. 3, to the left of marker No. 2, and to the right of marker No. 1. Note that for large vehicles, such as ARFF apparatus, this course might need to be modified.



**Turn a fire department vehicle 180 degrees within a confined space**, given a fire department vehicle, a spotter for backing up, and an area in which the vehicle cannot perform a U-turn without stopping and backing up, so that the vehicle is turned 180 degrees without striking obstructions within the given space.

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The confined space turnaround can be used as practice for meeting or in the evaluation of this requirement. This exercise measures the driver's ability to turn the vehicle around in a confined space without striking obstacles. The turn is accomplished within an area 15.24 m 30.5 m (50 ft 100 ft). The driver moves into the area from a 3.7-m (12-ft) opening in the center of one of the 15.24-m (50-ft) legs, turns the vehicle 180 degrees, and returns through the opening. There is no limitation on the number of times the driver has to maneuver the vehicle to accomplish this exercise, but no portion of the vehicle should extend over the boundary lines of the space. Note that for large vehicles, such as ARFF apparatus, this course might need to be modified.



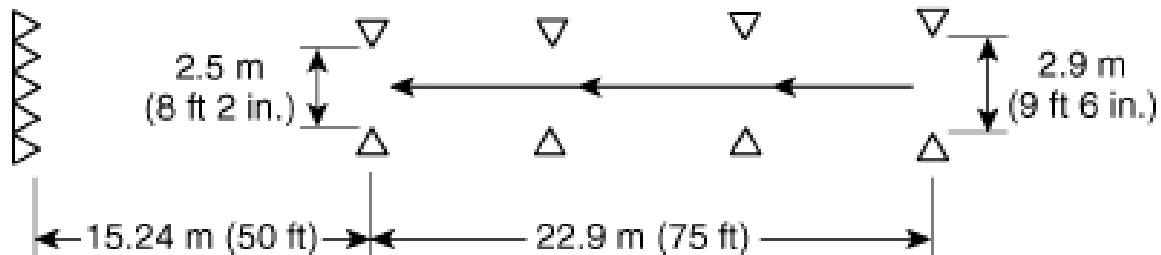
**Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances**, given a fire department vehicle and a course that requires the operator to move through areas of restricted horizontal and vertical clearances, so that the operator accurately judges the ability of the vehicle to pass through the openings and so that no obstructions are struck.

The diminishing clearance exercise can be used as practice for meeting or in the evaluation of this requirement. This exercise measures a driver's ability to steer the apparatus in a straight line, to judge distances from wheel to object, and to stop at a finish line. The speed at which a driver should operate the apparatus is optional, but it should be great enough to necessitate quick judgment. This exercise is to be performed both forward and in reverse with a spotter. The course for this exercise is created by arranging two rows of markers to form a lane 22.9 m (75 ft) long. The lane varies in width from 2.9 m (9 ft 6 in.) to a diminishing clearance of 2.5 m (8 ft 2 in.). The driver should maneuver the apparatus through this lane without touching the markers. The vehicle should be stopped at a finish line 15.24 m (50 ft) beyond the last marker. No portion of the vehicle should protrude beyond this line. Vertical clearance judgment should be evaluated using a prop with a crossbar that is adjustable, based on the vehicle height. During the evaluation, the driver should drive

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forward and back through the prop with the crossbar at several differing heights, including one that is lower than the top of the vehicle. The prop should not be struck. The intent of the vertical clearance judgment is for proper identification of the furthestmost point in the form of the apparatus. In situations where the apparatus is gaining entry to roadways or limited-height areas, the driver/operator must allow appropriate space ahead of the apparatus in order to avoid striking objects or to avoid extending apparatus into traffic lanes. Note that for large vehicles, such as ARFF apparatus, this course might need to be modified.



**Operate a vehicle using defensive driving techniques under emergency conditions**, given a fire department vehicle and emergency conditions, so that control of the vehicle is maintained. Emergency driving simulation should be restricted to a driving track or similar controlled area. Emergency driver training should **not** be conducted on public ways.

**Operate all fixed systems and equipment on the vehicle** not specifically addressed elsewhere in this standard, given systems and equipment, manufacturer's specifications and instructions, and departmental policies and procedures for the systems and equipment, so that each system or piece of equipment is operated in accordance with the applicable instructions and policies. The intent for this job performance requirement is for the driver/operator to be able to operate all major equipment and mechanical systems that are attached to the apparatus, other than those specifically covered in NFPA 1002 Chapters 5 through 10 of the standard. These types of equipment and systems include, but are not limited to, electric generation equipment, floodlighting systems, air compressors, air cascade systems, hydraulic rescue tool systems, power reels for air or hydraulic hose, cranes and stabilizers, and Aframes or other lifting equipment.

### Pumping Apparatus

The requirements of Fire Fighter I as specified in NFPA 1001, and the job performance requirements defined in Sections 5.1 and 5.2 shall be met prior to certification as a fire department driver/operator pumper.

**Perform the routine tests, inspections**, and servicing functions specified in the following list in addition to those in page one (1) above, given a fire department pumper and its manufacturer's specifications, so that the operational status of the pumper is verified:

- (1) Water tank and other extinguishing agent levels (if applicable)

- (2) Pumping systems
- (3) Foam systems

**Produce effective hand or master streams**, given the sources specified in the following list, so that the pump is engaged, all pressure control and vehicle safety devices are set, the rated flow of the nozzle is achieved and maintained, and the apparatus is continuously monitored for potential problems:

- (1) Internal tank
- (2) Pressurized source
- (3) Static source
- (4) Transfer from internal tank to external source

Note: Pressurized sources include the following:

- (1) Connection to a hydrant
- (2) Supply line from another pumping source

**Pump a supply line of 2 inch or larger**, given a relay pumping evolution the length and size of the line and the desired flow and intake pressure, so that the correct pressure and flow are provided to the next pumper in the relay.

**Produce a foam fire stream**, given foam-producing equipment, so that properly proportioned foam is provided.

**Supply water to fire sprinkler and standpipe systems**, given specific system information and a fire department pumper, so that water is supplied to the system at the correct volume and pressure.

## **Aerial Device Apparatus**

The requirements of Fire Fighter I as specified in NFPA 1001, and the job performance requirements defined in Sections 6.1 and 6.2 shall be met prior to certification as a fire department driver/operator aerial.

**Perform the routine tests, inspections**, and servicing functions specified in the following list in addition

to those in page one (1) above, given a fire department aerial apparatus, so that the operational readiness of the aerial apparatus is verified:

- (1) Cable systems (if applicable)
- (2) Aerial device hydraulic systems
- (3) Slides and rollers
- (4) Stabilizing systems
- (5) Aerial device safety systems
- (6) Breathing air systems
- (7) Communication systems

**Maneuver and position an aerial apparatus,** given an aerial apparatus, an incident location, a situation description, and an assignment, so that the apparatus is positioned for correct aerial device deployment.

**Stabilize an aerial apparatus,** given a positioned vehicle and the manufacturer's recommendations, so that power can be transferred to the aerial device hydraulic system and the device can be deployed.

**Maneuver and position the aerial device from each control station,** given an incident location, a situation description, and an assignment, so that the aerial device is positioned to accomplish the assignment.

**Lower an aerial device using the emergency operating system,** given an aerial device, so that the aerial device is lowered to its bedded position.

**Deploy and operate an elevated master stream,** given an aerial device, a master stream device, and a desired flow so that the stream is effective and the aerial and master stream devices are operated correctly.

### **Aerial Device Apparatus Equipped with a Tiller**

The requirements of Fire Fighter I as specified in NFPA 1001, and the job performance requirements defined in Chapter 6 and Section 7.2 shall be met prior to certification as a fire department driver/operator tiller.

**Perform the practical driving exercises specified in page one (1) above from the tiller position,** given a qualified driver, a fire department aerial apparatus equipped with a tiller, and a spotter for backing up, so that each exercise is performed without striking the vehicle or obstructions.

**Operate a fire department aerial apparatus equipped with a tiller from the tiller position over a predetermined route on a public way,** using the maneuvers specified in page one (1) above, given a qualified driver, a fire department aerial apparatus equipped with a tiller, and a spotter for backing up, so that the vehicle is operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Section 4.2.

**Position a fire department aerial apparatus equipped with a tiller from the tiller position,** given the apparatus operating instructions, an incident location, a situation description, and an assignment, so that the aerial device is positioned and stabilized to accomplish the assignment.

## Wildland Fire Apparatus

The job performance requirements defined in sections shall be met prior to certification as a driver/operator wildland fire apparatus.

**Perform the routine tests, inspections, and servicing functions** specified in the following list, in addition to those in page one (1) above given a wildland fire apparatus and its manufacturer's specifications, so that the operational status is verified:

- (1) Water tank and/or other extinguishing agent levels (if applicable)
- (2) Pumping systems
- (3) Foam systems

**Operate a wildland fire apparatus**, given a predetermined route off of a public way that incorporates the maneuvers and features specified in the following list that the driver/operator is expected to encounter during normal operations, so that the vehicle is operated in compliance with all applicable departmental rules and regulations, the requirements of NFPA 1500, Section 6.2, and the design limitations of the vehicle:

- (1) Loose or wet soil
- (2) Steep grades (30 percent fore and aft)
- (3) Limited sight distance
- (4) Blind curve
- (5) Vehicle clearance obstacles (height, width, undercarriage, angle of approach, angle of departure)
- (6) Limited space for turnaround
- (7) Side slopes (20 percent side to side)

**Produce effective fire streams**, utilizing the sources specified in the following list, so that the pump is engaged, all pressure-control and vehicle safety devices are set, the rated flow of the nozzle is achieved, and the apparatus is continuously monitored for potential problems:

- (1) Water tank
- (2) Pressurized source
- (3) Static source

Note: Pressurized sources include the following:

- (1) Connection to a hydrant
- (2) Supply line from another pumping source

**Pump a supply line**, given a relay pumping evolution the length and size of the line and pumping flow and desired intake pressure, so that correct intake pressures and flow are provided to the next pumper in the relay.

**Produce a foam fire stream**, given foam-producing equipment, so that the correct proportion of foam is provided.

## Fire-Fighting Apparatus For Aircraft Rescue

The requirements of Fire Fighter II as specified in NFPA 1001, the requirements of Airport Fire Fighter as specified in NFPA 1003, and the job performance requirements defined in this section shall be met prior to certification as a fire department driver/operator - aircraft rescue and fire-fighting (ARFF) apparatus.

**Perform the routine tests, inspections,** and servicing functions specified in the following list in addition to those in page one (1) above, given an ARFF vehicle and the manufacturer's servicing, testing, and inspection criteria, so that the operational status of the vehicle is verified:

- (1) Agent dispensing systems
- (2) Secondary extinguishing systems
- (3) Vehicle-mounted breathing air systems

**Operate an ARFF vehicle,** given a predetermined route on an airport that includes the maneuvers listed in page one (1) above, and operation in all aircraft movement areas, so that the vehicle is operated in compliance with all applicable federal, state/provincial, and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Section 6.2.

**Operate an ARFF apparatus, given a predetermined route,** off of an improved surface that incorporates the maneuvers and features specified in the following list that the driver/operator is expected to encounter during normal operations, so that the vehicle is operated in compliance with all applicable departmental rules and regulations, the requirements of NFPA 1500, Section 6.2, and the design limitations of the vehicle:

- (1) Loose or wet soil
- (2) Steep grades (30 percent fore and aft)
- (3) Limited sight distance
- (4) Vehicle clearance obstacles (height, width, undercarriage)
- (5) Limited space for turnaround
- (6) Side slopes (20 percent side to side)

The AFG recognizes that each of these situations might not exist in all areas. Where this occurs, those specific requirements can be omitted.

**Maneuver and position an ARFF vehicle,** given an incident location and description that involves the largest aircraft that routinely uses the airport, so that the vehicle is positioned for correct operation at each operational position for the aircraft.

**Produce a fire stream while the vehicle is in both forward and reverse power modulation,** given a discharge rate and intended target, so that the pump is engaged, the turrets are deployed, the agent is delivered to the intended target at the correct rate, and the apparatus is moved and continuously monitored for potential problems.

**Produce a fire stream, given a rate of discharge and water supplied from the sources specified in the following list**, so that the pump is engaged, the turrets are deployed, the agent is delivered to the intended target at the correct rate, and the apparatus is continuously monitored for potential problems:

- (1) The internal tank
- (2) Pressurized source
- (3) Static source

Note: Pressurized sources include the following:

- (1) Connection to a hydrant
- (2) Supply line from another pumping source

## **Mobile (Tender) Water Supply Apparatus**

The requirements of Fire Fighter I as specified in NFPA 1001 and the job performance requirements defined in this section shall be met prior to certification as a fire department driver/operator — mobile water supply apparatus.

**Perform routine tests, inspections**, and servicing functions specified in the following list, in addition to those specified in page one(1) above, given a fire department mobile water supply apparatus, so that the operational readiness of the mobile water supply apparatus is verified:

- (1) Water tank and other extinguishing agent levels (if applicable)
- (2) Pumping system (if applicable)
- (3) Rapid dump system (if applicable)
- (4) Foam system (if applicable)

**Maneuver and position a mobile water supply apparatus at a water shuttle fill site**, given a fill site location and one or more supply hose, so that the apparatus is correctly positioned, supply hose are attached to the intake connections without having to stretch additional hose, and no objects are struck at the fill site. The intent of this requirement is for the driver/operator to be able to quickly and efficiently position the vehicle at a water shuttle fill site that has been established prior to the vehicle's arrival. Most commonly a fire department pumper will connect to a water supply source and lay hose out that can be quickly attached to the mobile water supply apparatus once it arrives at the fill site. If the jurisdiction operates its fill site operations in a different manner, this requirement might need to be adjusted accordingly.

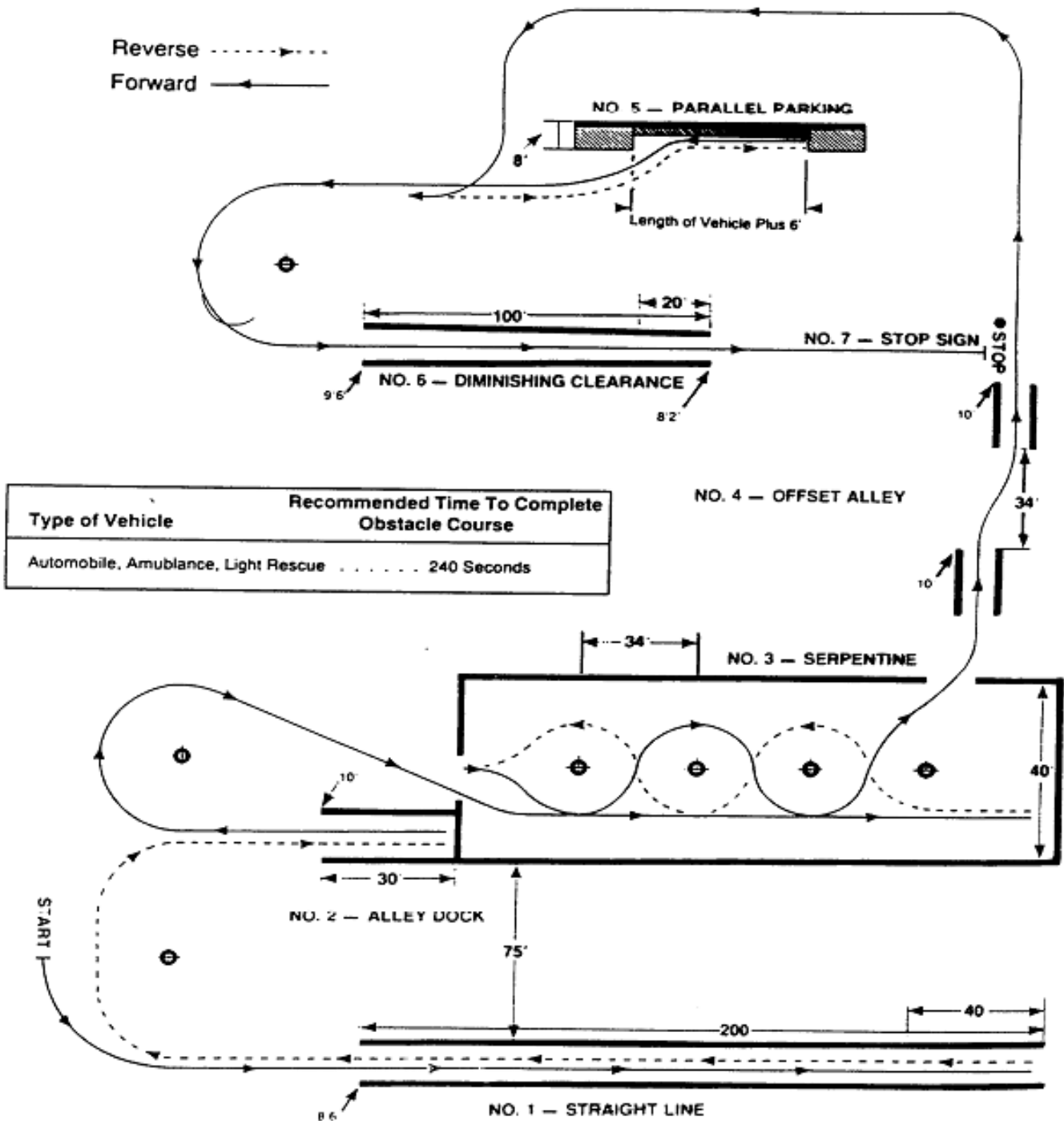
**Maneuver and position a mobile water supply apparatus at a water shuttle dump site**, given a dump site and a portable water tank, so that all of the water being discharged from the apparatus enters the portable tank and no objects are struck at the dump site.

The intent of this requirement is for the driver/operator to be able to quickly and efficiently position the vehicle at a water shuttle dump site that has been established prior to the vehicle's arrival. The dump site will typically consist of one or more portable tanks that have

been deployed on the ground. A fire department pumper drafts water from the portable tanks for use on the incident. The mobile water supply apparatus' function is to quickly dump their load into the portable tank and return to the fill site for another load. Depending on the design of the mobile water supply apparatus, one of three methods can be used to discharge water into the portable water tank. These methods include pumping the water off, using a gravity dump, or using a jet-assisted gravity dump. Depending on the design of the apparatus, water can be discharged from the front, rear, or either side of the vehicle.

**Establish a water shuttle dump site, given two or more portable water tanks,** low-level strainers, water transfer equipment, fire hose, and a fire apparatus equipped with a fire pump, so that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and the water is transferred efficiently from one tank to the next. A proper dump site involves the use of two or more portable tanks that are connected by a series of water transfer equipment. The water transfer equipment can be supplied by hoselines from the pumper that is supplying the fire scene or a second pumper placed at the drafting tank for the sole purpose of transferring water between the tanks. The goal is to keep the tank from which water is being drafted full at all times and the tank from which water is being dumped empty. This will ensure that mobile water supply apparatus that arrive at the dump site can unload their water and return for more in the shortest time possible.

### Driving Obstacle Course



## Comprehensive Driver Proficiency Drill

Different states have different rules for emergency vehicle drivers-some require a commercial driver's license (CDL) while others do not. Despite the laws of your state or your municipality, a review of your drivers' proficiency should be done at the very least yearly. Some recommend that a driver proficiency drill be completed every quarter.

Many companies already have everything in place for a yearly driver proficiency drill, even if they do not conduct such drills on a quarterly or yearly basis. Some of the steps each driver in your company or department goes through to become a qualified driver can be completed in the yearly drill. Every first due has its own tight turns, difficult backups, etc.

The objective of the drill is to develop skills in maneuvering vehicles in close quarters. Keep a list of those who participate. If one of them is involved in an accident later, you can produce the log of driver training. Setup time for this drill is two hours the first time you run it with 30-minute setup times once everyone is acclimated. Materials required include:

- Authorization letter to use the property you've chosen for the drill;
- 75 road cones (minimum 18 inches tall; 24 inches preferred);
- 50- or 100-foot tape measure;
- Pavement marking paint;
- Two portable radios on the same frequency as apparatus radios;
- Reflective clothing for the course workers if training at night;
- Wand-type traffic control flashlights if training at night.

### Drill Preparation

The first step to prepare for this drill is to find a suitable location to conduct it. According to your community, your best bet is a school parking lot, preferably one with lights for potential night use. Be sure to contact the property owners to obtain permission to use the property.

***TIP:** Also, get permission to put small spots of paint on the pavement so you can set up the course again quickly.*

Use the 75 road cones mentioned above to lay out the course. If your department does not have a large supply, you can usually borrow some from your highway department or a local contractor. Lay out the course using the 50- or 100-tape tape measure. Once laid out, mark the area underneath each cone carefully with some paint to aid in setting up the drill next time. This document has provided you with a sample diagram of a drill layout. If you create your own, get it on paper to hand out to the drivers. They'll need some idea of the layout before they start, since the parking lot will be a confusing array of cones until they get an idea of the proper route.

Designate one person as the officer in charge (OIC) of the course. This person assigns drivers to apparatus and starts the apparatus on the course. Assign a different person to be the safety officer (SO). The SO observes apparatus movement and monitors the course area for

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unauthorized persons. Both officers should have a portable radio operating on the same frequency as the apparatus. Either officer can order all apparatus movement to stop at any time. Two or three members should be familiar with the course, and one of those members should ride in the officer's seat of each vehicle. These members will keep the driver on the assigned course and monitor radio traffic. The OIC, SO, and other members operating on the course at night should have reflective clothing and traffic wands.

Ensure that crew members of the apparatus know what to tell the public. This type of drill will draw attention. Crew members should be prepared to keep spectators off the course and out of the line of motion of the training vehicles.

The last step in drill preparation is to read reference material on apparatus operation.

### **Running the Drill**

Set up the course prior to the drill, and then brief the drivers and crews. Post a guard on the course once the cones have been set up so no cones are stolen. Leave someone on guard on the course if your company is called to respond during the drill.

You can record the time it takes for each driver to complete the course, but the focus should be on completing the drill hitting no cones. If a driver needs 15 minutes to complete the course, then he needs practice.

Keep logs of each drivers training to document your training program. Use caution when making notes on driver performance in the log since it can be called into court as evidence in the case of an accident.

### **Debriefing**

At the conclusion of the drill, hold a debriefing. Find out what maneuvers were most difficult for the drivers. Find out what comments were made by the spectators. Take notes on what went right, what went wrong, and what to do differently next time.

**CERTIFICATION**

**FIRE APPARATUS OPERATOR-PUMP**

**OPERATOR**

DRIVER NAME: \_\_\_\_\_

EVALUATOR NAME: \_\_\_\_\_

MEDICALLY FIT TO OPERATE APPARATUS:     YES     NO

APPROVED FOR OPERATING:     YES     NO

APPROVED FOR APPARATUS TYPE:    Vehicle # \_\_\_\_\_ Type: \_\_\_\_\_

Vehicle # \_\_\_\_\_ Type: \_\_\_\_\_

Vehicle # \_\_\_\_\_ Type: \_\_\_\_\_

Vehicle # \_\_\_\_\_ Type: \_\_\_\_\_

Vehicle # \_\_\_\_\_ Type: \_\_\_\_\_

Vehicle # \_\_\_\_\_ Type: \_\_\_\_\_

EVALUATOR SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

## **FIRE PUMPER OPERATOR STATION ONE**

The candidate will complete a fire apparatus inspection given a fire department pumper and an inspection form so that the operational status of the vehicle is verified, noting any deficiencies or corrective actions required to be taken.

### **INSPECTION AND DOCUMENTATION**

Battery(ies)- Water levels if appropriate and tight connections.....	_____	5
Braking system- Pedal pressure, hydraulic leaks, air pressure.....	_____	5
Coolant system- Fluid levels and leaks.....	_____	5
Electrical system- lighting both normal and emergency.....	_____	5
Fuel- Levels .....	_____	10
Hydraulic fluids-Levels and leaks.....	_____	5
Lubrication- .....	_____	5
Oil- Levels and leaks.....	_____	5
Tires- Tread wear and air pressure.....	_____	5
Steering system.....	_____	10
Belts- Worn spots and appropriate tightness.....	_____	5
Tools-equipment checklist .....	_____	5
Uses a vehicle maintenance and inspection forms.....	_____	5
Documents proper operation.....	_____	15
Documents and reports deficiencies.....	_____	10
	_____	(100)

OR

The candidate, given a fire department pumper, will perform routine tests and inspections, so that the operational status of the pumper is verified.

Determines appropriate water tank level .....	_____	20
Determines appropriate foam tank level .....	_____	10
Pump shift operation.....	_____	10
Checks and verifies tank level gauge.....	_____	10
Operates Intake valves.....	_____	10
Operates discharge valves.....	_____	10
Checks and verifies pressure gauges.....	_____	10
Checks and verifies vacuum gauges.....	_____	10
Checks and verifies pump tachometer.....	_____	10
	_____	(100)

## FIRE PUMPER OPERATOR STATION TWO

### HIGHWAY DRIVING

The candidate will, given a fire department pumper and a predetermined route that incorporates the stated maneuvers, so that the vehicle is safely operated in compliance with all applicable laws and fire department procedures.

Make 4 Left and 4 Right turns, ..... (Criteria: Signaling, Mirror Check, Traffic Observation, Speed)	_____ 10
Drive the vehicle on a 1-mile straightaway ..... (Criteria: Speed, Traffic Observation, Intersection Observation)	_____ 10
Drive through an intersection..... (Criteria: Speed, Traffic Observation)	_____ 10
Stop at two intersections with protected by stop signs and or lights.... (Criteria: Speed, Braking, Complete Stop, Traffic Observation, Right of Way)	_____ 10
Stop at a railroad crossing..... (Criteria: Speed, Traffic Observation, Right of Way)	_____ 10
Maneuver the vehicle around 1 curve (left or right)..... (Criteria: Speed, Traffic Observation, Acceleration out of curve)	_____ 10
Drive on a limited access on and off ramp..... (Criteria: Speed, Signaling, Traffic Observation)	_____ 10
Drive on a limited access road with 2 lane changes..... (Criteria: Speed, Lane Change, Signaling, Traffic Observation)	_____ 10
Drive the vehicle up and down a steep grade..... (Criteria: Braking, Down and Up Shifting, Speed, Traffic Observation)	_____ 10
Drive the vehicle under a height-restricted overpass..... (Criteria: Awareness of Vehicle Height)	_____ 10
	_____ (100)

## **FIRE PUMPER OPERATOR STATION THREE**

### **OBSTACLE DRIVING**

The driver will, given a Fire Department pumper, perform three of the following maneuvers in a safe manner and in compliance with all state and local laws:

- 1.) back a vehicle from a roadway into restricted places on both the right and left sides of the vehicle, given a spotter and restricted spaces 12 ft. in width, requiring 90-degree right-hand and left-hand turns from the roadway, so that the vehicle is parked within the restricted areas without having to stop and pull forward and without striking obstacles,
- 2.) maneuver a vehicle around obstructions on a roadway while moving forward and in reverse, given a spotter for backing and a roadway with obstructions, so that the vehicle is maneuvered through the obstructions without stopping to change the direction of traffic and without striking the obstructions,
- 3.) turn a vehicle 180 degrees within a confined space, given a spotter for backing, and an area in which the vehicle cannot perform a u turn without stopping and backing up, so that the vehicle is turned 180 degrees without striking obstructions within the given space,
- 4.) maneuver a vehicle in areas with restricted horizontal and vehicle clearances, given a course with areas of restricted horizontal and vertical clearances, so that the operator accurately judges the ability of the vehicle to pass through the openings and so that no obstructions are struck and
- 5.) operate a fire department pumper using defensive driving techniques, so that control of the vehicle is maintained.

### **Restricted Spaces**

Back the vehicle into an alley dock from the left..... \_\_\_\_\_ Pass/fail  
(Criteria: Traffic Observation, Roadway Observation, Signaling,  
Observation of Spotter, Mirror Usage,  
No stopping until maneuver is complete,  
Does not strike course boundaries)

Back the vehicle into an alley dock from the right ..... \_\_\_\_\_ Pass/fail  
(Criteria: Traffic Observation, Roadway Observation, Signaling,  
Observation of Spotter, Mirror Usage,  
No stopping until maneuver is complete,  
Does not strike course boundaries)

### **Restricted Clearances**

Maneuver the vehicle through a serpentine forward and reverse ..... \_\_\_\_\_ Pass/fail  
(Criteria: Does not hit course boundaries, Appropriate speed,  
Spotter Observation, Mirror Usage)

**Turning in a Confined Space**

Perform an unrestricted area U-turn ..... \_\_\_\_\_ Pass/fail  
(Criteria: Does not hit course boundaries, Stopping,  
Spotter Observation, Acceleration)

**Diminishing Clearances**

Drive the vehicle through a diminishing clearance obstacle..... \_\_\_\_\_ Pass/fail  
(Criteria: Appropriate speed, does not strike boundaries)

Drive the vehicle through an offset lane change obstacle ..... \_\_\_\_\_ Pass/fail  
(Criteria: Appropriate speed, does not strike boundaries)

**Emergency Driving**

Drive the vehicle safely under simulated emergency conditions..... \_\_\_\_\_ Pass/fail  
(Criteria: Appropriate speed, Right of way,  
audible and visual signals activated)

Drive the vehicle safely through controlled intersection..... \_\_\_\_\_ Pass/fail  
(Criteria: Appropriate speed, Right of way,  
audible and visual signals activated)

## FIRE PUMPER OPERATOR STATION FOUR

The candidate given a static water supply and a fire department pumper, will position it and operate off of its internal tank, given a length of intake hose, and appropriate fittings or tools, so that the pump is safely engaged, all pressure control and vehicle safety devices are set, the rated flow of the nozzle is achieved and maintained, and the apparatus is continually monitored for problems. The candidate will demonstrate this competency by providing proper flow through one of the following devices:

- 1.) handline water stream,
- 2.) master stream solid bore,
- 3.) master stream fog nozzle.

The candidate will then be directed to perform one of the following:

- 1.) pump a supply line of 2.5 inch or larger, given a relay pumping evolution the length of the size of the line and the desired flow and intake pressure, so that the proper pressure and flow are provided to the next pumper in the relay, or
- 2.) produce a foam fire stream, given foam-producing equipment, so that properly proportioned foam is provided. or
- 3.) supply water to fire sprinkler or standpipe system, given specific system information, so that water is supplied to the system at the proper volume and pressure.

### Operational Skills

Pass/fail

Positions apparatus properly .....	_____
Sets Parking Brake .....	_____
Chocks Wheels .....	_____
Connects hose to proper outlets .....	_____
Operates power transfer from vehicle engine to pump.....	_____
Operates Pumper pressure control systems to charge line slowly .....	_____
Operates Pumper volume/pressure control system.....	_____
Operates auxiliary cooling system.....	_____

### Switches over to external water source

Pass/fail

Switches from internal to external supply.....	_____
Does not interfere with water flow to hand or master stream device....	_____

### Flows water through:

Pass/fail

Handline water stream.....	_____
Master stream solid bore.....	_____
Master stream fog nozzle.....	_____

### Relay Pumping

Pass/fail

Proper pressure to next Pumper in relay.....	_____
Proper flow to next Pumper in relay.....	_____

**Foam Fire Stream**

**Pass/fail**

- Properly puts foam system into service ..... \_\_\_\_\_
- Selects appropriate type of foam ..... \_\_\_\_\_
- Adjust percentage of foam according to manufacturer's specification.. \_\_\_\_\_
- Produces a properly proportioned foam fire stream..... \_\_\_\_\_
- Shut downs and flushes system properly ..... \_\_\_\_\_

**Supplies water to sprinkler/standpipe system**

**Pass/fail**

- Properly positions apparatus ..... \_\_\_\_\_
- Selects proper hose size (2 ½ inch or larger) ..... \_\_\_\_\_
- Properly connects hose from pumper to system ..... \_\_\_\_\_
- Proper pressure (Maintain 150 PSI) ..... \_\_\_\_\_

**FIRE PUMPER OPERATOR STATION FIVE**

The candidate given a pressurized water supply and a fire department pumper, will position it and operate off of its internal tank, given a length of intake hose, and appropriate fittings or tools, so that the pump is safely engaged, all pressure control and vehicle safety devices are set, the rated flow of the nozzle is achieved and maintained, and the apparatus is continually monitored for problems. The candidate will demonstrate this competency by providing proper flow through one of the following devices:

- 1.) handline water stream,
- 2.) master stream solid bore,
- 3.) master stream fog nozzle.

The candidate will then be directed to perform one of the following:

- 1.) pump a supply line of 2.5 inch or larger, given a relay pumping evolution the length of the size of the line and the desired flow and intake pressure, so that the proper pressure and flow are provided to the next pumper in the relay, or
- 2.) produce a foam fire stream, given foam-producing equipment, so that properly proportioned foam is provided. or
- 3.) supply water to fire sprinkler or standpipe system, given specific system information, so that water is supplied to the system at the proper volume and pressure.

<u>Operational Skills</u>	Pass/fail
Positions apparatus to hydrant for length and to not kink .....	_____
Sets Parking Brakes .....	_____
Chocks Wheels .....	_____
Properly connects discharge lines .....	_____
Properly connects supply line to inlets .....	_____
Engages pump and charges line .....	_____
Properly sets pressure .....	_____
Properly sets pressure regulator .....	_____
Opens hydrant (slowly and completely .....	_____

<u>Switches over to external water source</u>	Pass/fail
Switches from internal to external supply.....	_____
Did not interfere with water flow to hand or master stream device.....	_____

<u>Flows water through:</u>	Pass/fail
Handline water stream.....	_____

Master stream solid bore..... \_\_\_\_\_  
Master stream fog nozzle..... \_\_\_\_\_

**Relay Pumping** **Pass/fail**

Provides proper pressure to next Pumper in relay..... \_\_\_\_\_  
Proper flow to next Pumper in relay..... \_\_\_\_\_

**Foam Fire Stream** **Pass/fail**

Properly puts foam system into service ..... \_\_\_\_\_  
Selects appropriate type of foam ..... \_\_\_\_\_  
Adjust percentage of foam according to manufacturer's specification.. \_\_\_\_\_  
Produces a properly proportioned foam fire stream..... \_\_\_\_\_  
Shut downs and flushes system properly ..... \_\_\_\_\_

**Supplies water to sprinkler/standpipe system** **Pass/fail**

Properly positions apparatus ..... \_\_\_\_\_  
Selects proper hose size (2 ½ inch or larger) ..... \_\_\_\_\_  
Properly connects hose from pumper to system ..... \_\_\_\_\_  
Proper pressure (Maintain 150 PSI) ..... \_\_\_\_\_

## **FIRE PUMPER OPERATOR STATION SIX**

The candidate will operate all fixed systems and equipment on the vehicle not specifically addressed elsewhere in this standard, given systems and equipment, manufacturer's specifications and instructions, and departmental policies and procedures for the equipment, so that each system or piece is operated in accordance with the applicable instructions and policies.

### **OPERATE OTHER EQUIPMENT**

- Properly operate audible vehicle-warning system.....  Pass/fail  
(Criteria: In accord with manufacturer's recommendation  
In accord with Department procedure)
- Properly operate visual vehicle-warning system .....  Pass/fail  
(Criteria: In accord with manufacturer's recommendation  
In accord with Department procedure)
- Properly operate vehicle communications systems .....  Pass/fail  
(Criteria: In accord with manufacturer's recommendation  
In accord with Department procedure)
- Properly operate remote master stream system .....;.....  Pass/fail  
(Criteria: In accord with manufacturer's recommendation  
In accord with Department procedure)
- Properly set up and operate vehicle scene lighting systems .....  Pass/fail  
(Criteria: In accord with manufacturer's recommendation  
In accord with Department procedure)

**This drill is compliant with and supports the Safety Initiatives developed by the National Fallen Firefighters Foundation.**

INSTRUCTOR GUIDE

TOPIC: APPARATUS DRIVING AND OPERATIONS

LEVEL OF INSTRUCTION:

TIME REQUIRED: TWO HOURS

MATERIALS: APPROPRIATE AUDIO-VISUAL MATERIALS

REFERENCES: Fire Department Safety Officer, 1st ed., International Fire Service Training Association; Pumping Apparatus Driver/Operator Handbook, 1<sup>st</sup> ed., International Fire Service Training Association; Emergency Vehicle Driver Training, United States Fire Administration; Minnesota Emergency Vehicle Operations Laws

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PREPARATION:

MOTIVATION: Being the driver of an emergency vehicle places greater responsibility on the shoulders of an individual than those of driving a personal vehicle. Vehicle size and handling, configuration, and special conditions under which the vehicle is operated must be considered by a driver or potential driver. If the driver does not take all of these items seriously, the apparatus will not arrive at the scene safely.

OBJECTIVE (SPO):

The firefighter will demonstrate a general knowledge of the requirements to drive and operate fire apparatus safely.

OVERVIEW:

APPARATUS DRIVING AND OPERATIONS

- \* Qualifications/Screening
- \* Program Outline
- \* Documentation
- \* Re-evaluation

APPARATUS DRIVING AND OPERATIONS

- SPO: The firefighter will demonstrate a general knowledge of the requirements to drive and operate fire apparatus safely.
- EO 1-1 Describe the general requirements and process to become a driver of fire apparatus.
- EO 1-2 Identify the elements of a fire apparatus driver program.
- EO 1-3 Identify the documentation requirements associated with a fire apparatus driver program.
- EO 1-4 Describe the need to re-evaluate fire apparatus drivers.

This drill is not intended to replace an emergency vehicle operation training program. It is designed to provide an overview of a program to manage drivers of emergency vehicles in both an emergency and a non-emergency mode.

**I. QUALIFICATIONS/SCREENING (EO 1-1)**

**A. Introduction**

1. Fire apparatus operators are responsible for safely transporting firefighters, apparatus, and equipment to and from scene of an emergency or other service call
2. When the operator is under the direct supervision of an officer, the officer is accountable for actions of operator
3. Operator guidelines are found in NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, and NFPA 1002, Standard on Fire Apparatus Driver/Operator Professional Qualifications

**B. Skills and Physical Abilities Needed**

**1. Reading Skills**

- a. Read maps
- b. Review manufacturer's operating instructions
- c. Study prefire plans
- d. Review printed computer dispatch instructions
- e. Read and work on a mobile dispatch terminal

**2. Writing Skills**

- a. Maintenance reports
- b. Equipment repair requests
- c. Fire reports
- d. Accident reports

**3. Mathematical Skills**

- a. Hydraulic calculations
- b. Aerial ladder placement and operation

**4. Physical Fitness**

- a. No impairment of the use of foot, leg, arm, or fingertips, or any other structural defect or limitation likely to interfere with safe driving
- b. Not have diabetes mellitus to a degree presently requiring the use of insulin for control
- c. No heart condition likely to cause loss of consciousness or sudden death
- d. No respiratory ailment likely to interfere with safe driving
- e. No arthritic, rheumatic, muscular or vascular condition which interferes with the ability to drive safely

- f. Not have epilepsy or any other condition likely to cause sudden loss of consciousness or loss of ability to control a vehicle
- g. No mental, nervous, organic, or functional disease, or any psychiatric condition likely to interfere with safe driving
- h. Meet the following minimum vision requirements: At least 20/40 (Snellen) in each eye and in both together, with or without glasses; at least 70 degrees side vision in each eye; the ability to distinguish red, green, and yellow (or amber)
- i. Meet hearing requirements by perceiving a forced whisper at five feet with the better ear, or meet specified requirements as measured by a testing device, with or without a hearing aid
- j. Evaluate medication (if taken) to determine if any chemical impairment would result and interfere with their ability to operate an emergency vehicle
- k. Not be diagnosed as an alcoholic

C. Selection

- 1. Required time in service
- 2. Written or performance tests
- 3. Combination of service time and tests
- 4. Based on skill and ability rather than seniority or position

II. PROGRAM OUTLINE (EO 1-2)

A. Driver Training Program

1. Classroom Orientation

- a. Collision statistics and causes
- b. Driving regulations
- c. Starting the vehicle
- d. Operating the road transmission
- e. Cruising with the vehicle
- f. Stopping the apparatus
- g. Engine idling
- h. Engine shutdown
- i. Driver attitude
- j. Apparatus rider safety
- k. Backing the vehicle
- l. Defensive driving techniques including anticipating other drivers' actions, visual lead time, braking and reaction time, weight transfer, and combating skids
- m. Auxiliary braking systems
- n. Warning devices and clearing traffic
- o. Adverse weather
- p. Traffic control devices
- q. Pre-response preventive maintenance inspection
- r. Driver exercises and evaluation

2. Minnesota Emergency Vehicle Motor Vehicle Laws Summary

- a. Park or stand as needed
- b. Pass a red or stop signal, a stop sign, or a yield sign, but only after slowing down, as necessary for safety
- c. Exceed any maximum speed limit, but only so long as the driver does not endanger life and property
- d. Disregard any traffic control device or regulation governing direction of movement or turning in a specific direction
- e. A vehicle is not considered an emergency vehicle unless it is so licensed or authorized, is responding to an emergency, and is utilizing audible and visual warning devices
- f. An emergency vehicle may not overtake a school bus that is stopped and operating warning devices
- g. Drivers of emergency vehicles are expected to operate vehicles in a safe and prudent manner

3. Written test

- a. State and local driving regulations for emergency and non-emergency situations
- b. Departmental regulations
- c. Hydraulic calculations
- d. Specific operational questions regarding fire pump or aerial device
- e. Department standard operating procedures

4. Practical driving range exercises

- a. Serpentine exercise
- b. Stall parking (alley dock) exercise
- c. Lane change (opposite alley) exercise
- d. Turning around (turnabout) exercise
- e. Diminishing lane clearance exercise
- f. Vertical clearance judgment exercise (if prop available)
- g. Left/right lateral evasive maneuvering exercise
- h. Controlled braking exercise

B. Licensing

1. While these are national guidelines, each state has authority to alter them as it deems necessary for its jurisdiction
2. Some states require a fire apparatus operator to obtain a commercial driver's license (CDL)  
NOTE: Minnesota does not require a CDL to drive and operate fire apparatus. They have two different tracks that can be followed. One is based on the CDL program by issuing a specific license based on the weight class of the vehicle but non-commercial. The other is specific licensing authorization that can vary from county to county.
3. If a member should have his license suspended or revoked or have restrictions placed on it, member must not be allowed to operate fire department apparatus

C. Operating Policies and Practices

1. Department emergency response SOPs should include following guidelines:
  - a. Knowing maximum apparatus speed during response
  - b. Approaching and entering intersections safely
  - c. Crossing railroad grade crossings safely
  - d. Operating in school zones or passing school buses properly
  - e. Using audible and visual warning devices properly
  - f. Providing right-of-way for other responding apparatus appropriately
  - g. If situation occurs that requires rearward movement of vehicle, then one and preferably two firefighters with portable radios should be assigned to direct driver/operator
  - h. Knowing policies include safe driving practices, adhering to all local and state traffic laws, and defensive driving techniques
  - i. Being familiar with issues such as correct rearward movement of the apparatus, correct parking techniques, and unsafe practices such as standing while the apparatus is in motion
  - j. In event that a department apparatus is involved in a collision, operator must be familiar with protocol for reporting such an event
2. Apparatus is under the care and control of operator, who is ultimately responsible for its operation
3. Scene Placement Guidelines
  - a. Company officers and apparatus operators must be trained in general guidelines for safe and effective apparatus placement
  - b. Placement guidelines may be in department's standard operating procedures manual or in incident management plan
  - c. Proper positioning of apparatus provides a safety barrier that protects scene, victims, and emergency personnel
  - d. When positioning apparatus, operators must allow for adequate parking of additional fire department apparatus
  - e. Where possible, operators should position apparatus at a 45-degree angle into curb
  - f. At intersections or where incident may be near the middle of street, two or more sides of incident may need to be protected
  - g. During pump operation, pump panel should be positioned at curbside if possible
  - h. When laying hose and positioning at a water source, operator must take necessary steps to warn motorists of these operations
  - i. For safety considerations, operator must not position apparatus under overhead power lines, too close to a potential structural collapse/fire spread, or in access or egress path of other apparatus
  - j. Operator should chock apparatus wheels when vehicle is parked at incident scene
  - k. Operator must ensure that all persons on apparatus are seated and belted
  - l. Visual warning devices must be turned off while returning to quarters

D. Good driving practices

1. Remember that speed is less important than arriving safely at the destination
2. Slow down for intersections and stop when faced with a red light or stop sign; anticipate the worst possible situation

## Compliance Of A Vehicle Award With Respect To Comprehensive Driver Training

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3. Drive defensively and be aware of everything that is happening or likely to happen 360 degrees around the apparatus
4. Expect that some motorists and pedestrians will neither hear nor see the apparatus warning devices
5. Be aware of the route's general road and traffic conditions and adjust this expectation with the season, weather, day of the week, and time of day
6. Remember that icy, wet, or snow-packed roads increase braking distance
7. Do not grind the gears on manual transmission vehicles
8. Do not use the clutch pedal as a footrest
9. Do not exceed 10 mph when leaving the station
10. Do not race the engine when the apparatus is standing still as it is unnecessary and abuses the engine
11. Always use low gear when starting from a standstill because using second or third gear and slipping the clutch damages the clutch and causes unnecessary, rapid wear
12. Keep the apparatus under control at all times
13. Take nothing for granted

### III. DOCUMENTATION (EO 1-3)

#### A. Driving Range Exercise

1. Do not let candidate go on the road until this portion is successfully completed
2. If the candidate does not perform successfully, it should be documented
3. Indicate pass date and instructor signature when each item is successfully completed
4. A separate evaluation should be conducted for each piece of apparatus that the individual is being trained to drive

#### B. Road Test - Have at least 15 miles of driving experience in traffic to demonstrate the following during the road test segment of the training:

##### 1. Road tests

- a. Four left and four right turns
- b. Straight section of urban business street or two-lane rural road at least one mile in length
- c. One through intersection and two intersections where a stop must be made
- d. Railroad crossing
- e. One curve, either left or right
- f. Section of limited access highway that includes a conventional on-ramp, off-ramp, and is long enough to allow for at least two lane changes
- g. Downgrade that is steep enough and long enough to require gear changing to maintain speed
- h. Upgrade that is steep enough and long enough to require gear changing to maintain speed
- i. One underpass, low-clearance bridge

##### 2. Items to consider during the road test

- a. Leaving the curb
- b. Speed control

- c. Smoothness of operation
- d. Shifting gears
- e. Anticipates traffic problems
- f. Obeys traffic laws
- g. Signals properly
- h. Allows sufficient passing room
- i. Passes cautiously and smoothly
- j. Uses mirrors
- k. Signals well in advance
- l. Turns from proper lane
- m. Looks all around before turning
- n. Turns at proper speed
- o. Turns into proper lane
- p. Yields right-of-way
- q. Document any deficiencies and retraining recommendations
- r. Indicate pass date and instructor signature when each items is successfully completed
- s. A separate evaluation should be conducted for each piece of apparatus that the individual is being trained to drive

#### IV. RE-EVALUATION (EO 1-4)

##### A. Why Re-Evaluate

1. Individual may not have driven and/or operated a particular piece of apparatus in a reasonable timeframe
2. Replacement apparatus
3. Individual may have undergone some medical treatment
4. Individual may have been involved in a motor vehicle accident
5. Automatic requirement on a periodic basis
6. May help to control or reduce vehicle insurance rates
7. May be required due to an excessive number of motor vehicle accidents
8. Conducted anytime there is concern about the driver's ability to drive and operate the apparatus

##### B. What Is Involved

1. As a minimum, the individual should be required to demonstrate proficiency in driving and operating the particular piece of apparatus
2. A written test may also be included
3. Hydraulic calculations may be include for engine drivers
4. Aerial device or pump operations may be included
5. Any re-evaluation should be documented
6. A separate evaluation should be conducted for each piece of apparatus that the individual is qualified to drive
7. In addition to re-evaluating apparatus driving and operation, the driver should have a periodic physical examination to make sure that there are no changes that may impact on the ability to drive

REVIEW:

APPARATUS DRIVING AND OPERATIONS

- \* Qualifications/Screening
- \* Program Outline
- \* Documentation
- \* Re-evaluation

REMOTIVATION: While the thrill of driving a piece of apparatus with the lights blaring and the siren whaling may raise the adrenalin level, it also places an extra burden on the driver to keep in mind the responsibility of the driver and the need to arrive at the destination safely. The driver is responsible for the crew on the apparatus as well as the general public and himself or herself and must operate the apparatus accordingly.

ASSIGNMENT:

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EVALUATION: