

CHANHASSEN FIRE DEPARTMENT ENGINEER SKILLS



PRACTICAL STATIONS

CHANHASSEN FIRE DEPARTMENT ENGINEER SKILLS

FAO CERTIFICATION

Practical Station ONE

Candidate #: _____ **Examiner:** _____ **SCORE:** _____

HYDRANT OPERATION

The FAO will properly position the apparatus to the hydrant. FAO will connect two (2) 2 1/2" – 100 foot lines to a 1 3/4" Straight Bore Master Stream and 1 1/2" or 1 3/4" – 150 foot line with Fog Nozzle flowing 100 G.P.M. to outlets on apparatus.

Position apparatus to hydrant as to not kink and for length.	_____ 10
Set parking brakes.	_____ FAIL
Chock wheels.	_____ FAIL
Connect discharge lines to discharge outlet.	_____ 10
Connect supply line to inlets.	_____ 10
Engage pump to manufacture's specifications.	_____ 5
Charge 1 1/2" or 1 3/4" slowly from onboard water.	_____ 5
Set line pressure (1 1/2" 145 psi/ 1 3/4" @ 120 psi + OR – 15 psi).	_____ 5
Set pressure regulator according to manufacturer's specifications.	_____ FAIL
Flush hydrant.	_____ FAIL
Open hydrant (slowly and completely).	_____ 5
Change to hydrant supply.	_____ 5
Maintain pressure on 1 1/2" or 1 3/4".	_____ 10
Change to volume if 2 stage.	_____ 5
Charge Master Stream (slowly).	_____ 5
Set pressure (130 psi + or – 15 psi).	_____ 5
Set pressure regulator if necessary.	_____ FAIL
Shut down lines (slowly).	_____ 5
Valve operation (slowly).	_____ 5
Throttle operation (slowly).	_____ 5
Prepare apparatus to "Back in Service Mode".	_____ 5

DEDUCTIONS _____

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Practical Station TWO

Candidate #: _____ **Examiner:** _____ **SCORE:** _____

DRAFTING

The FAO will properly position the apparatus at a portable water supply (drop tank). Using the given hose lines, the FAO will connect one (1) 1 ½” or 1 ¾” hose line using 200 feet of hose with a fog nozzle, flowing 100 G.P.M. connected to it and one (1) 2 ½” hose line 100 feet in length with a fog nozzle flowing 250 G.P.M.

On board Water Tank Operation:

Position apparatus so that the strainer reaches the bottom of the water source.	_____	10
Set parking brake.	_____	FAIL
Chock wheels.	_____	FAIL
Connect 1 ½” / 1 ¾” hose line to designated outlets.	_____	5
Engage fire pump (according to manufacturer’s instructions).	_____	10
Pressurize the 1 ½” / 1 ¾” hoseline (slowly).	_____	5
Set pump pressure (1 ½” @ 160 / 1 ¾” @ 130 psi + or – 15 psi).	_____	10
Set the pressure regulator device to manufacturer’s instructions.	_____	FAIL
After proper pressure has been obtained and a proper fire stream has been established, the FAO will slowly shut down the hoseline.	_____	5
Connect screen device to end of hard suction hose.	_____	5
Ensure connections are tight to prevent leaks.	_____	5
Operate primer to manufacturer’s specifications (30-45 seconds max).	_____	5
Pressurize the 2 ½” hoseline at the determined pressure (slowly).	_____	5
Set the pressure regulators device (115 psi + or – 15 psi).	_____	FAIL
Pressurize the 1 ½” / 1 ¾” hoseline (slowly) without losing pressure on the 2 ½” hoseline.	_____	5
Adjust the pressure regulator device as needed (1 ½” @ 160 psi + / 1 ¾” @ 130 psi + or – 15 psi).	_____	FAIL
Maintain proper fire streams for 3 minutes.	_____	5
Shut down both hoselines (slowly).	_____	5
Valve operation.	_____	5
Throttle operation.	_____	5
Disengage pump according to manufacturer’s recommendations (No grinding)	_____	5
Prepare apparatus for a “Back in Service” condition.	_____	5

DEDUCTIONS _____

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Practical Station THREE

Candidate #: _____ **Examiner:** _____ **SCORE:** _____

FOAM AND PUMP TEST

Determine water level in onboard tank and secure vehicle for operation:

Gauge observation. _____ **10**
Secure vehicle (chocks) (Set parking brake). _____ **FAIL**

Choose Two (2) of below

1. PUMPING SYSTEM

Explain procedure for:

Vacuum test and one (1) of the following: _____ **20**

- 50% service test
- 70% service test
- 100% service test

2. FOAM SYSTEM

Choose class A or B fire

Explain procedure per available system:

Put into service foam system. _____ **20**
Adjust percentage of foam according to manufacturer's specifications. _____ **10**
Appropriate type of foam. _____ **5**
Shut down system to manufacturer's specifications (flush system). _____ **10**

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FOAM AND PUMP TEST CONTINUED

3. SPRINKLER/STAND PIPE SYSTEMS:

Explain the following:

Position apparatus.	_____	10
Select proper hose size (2 ½" or larger).	_____	5
Connect hose from pumper to sprinkler connection.	_____	5
Proper pump pressure (maintain 150 psi).	_____	5

DEDUCTIONS _____

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Practical Station FOUR

Candidate #: _____ **Examiner:** _____ **SCORE:** _____

DRIVING

Fire Apparatus Driver/Operator shall demonstrate procedures for inspecting the following vehicle fluids:

Engine oil.	_____	2
Battery fluid.	_____	1
Fuel level.	_____	2

Candidate Instructions: The candidate will operate a fire department vehicle, given a predetermined route on a public way that incorporates the maneuvers and features specified below. The driver/operator is expected to drive the vehicle, so that the vehicle is safely operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NPFA 1500 Section 4-2.4.

Driving Turns:

Signaling.	_____	2
Mirror check.	_____	1
Lane change (if necessary).	_____	2
Traffic observation.	_____	FAIL
Speed.	_____	FAIL

Driving Straight & Intersections:

Speed.	_____	FAIL
Traffic observation.	_____	FAIL
Intersection observation.	_____	FAIL

Stopping at intersections:

Speed.	_____	FAIL
Braking.	_____	20
Come to a complete stop.	_____	10
Traffic observation.	_____	FAIL
Right of Way.	_____	FAIL

Railroad Crossings:

Speed.	_____	FAIL
Traffic observation.	_____	FAIL
Clear or obstructed crossing (emergency response).	_____	20

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Ramp Entrance/Exit:

Speed.	___	FAIL
Lane changes.	___	10
Signaling.	___	5
Traffic observation.	___	FAIL

(EXPLAIN OR DESCRIBE PROCEDURES IF ACTUAL DRIVING IS NOT POSSIBLE)

Downgrade/Upgrade driving:

Braking.	___	5
Down shifting.	___	5
Up shifting.	___	5
Speed.	___	FAIL
Traffic observation.	___	FAIL

Bridge Under/Overpass:

Vehicle height.	___	FAIL
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Curves (left and right):

Speed.	___	FAIL
Traffic observation.	___	FAIL
Acceleration out of curve.	___	10

DEDUCTIONS

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Candidate Instructions: The candidate will operate a fire department vehicle, given a fire department vehicle and a predetermined obstacle course layout, so that the following occur:

The vehicle is parked in a restricted space without having to stop and pull forward and not striking any obstructions.

The vehicle is maneuvered through the obstructions without stopping to change the direction of travel and not striking obstructions.

The vehicle is turned 180 degrees without striking obstructions within the given space.

The operator accurately judges the ability of the vehicle to pass through openings and not striking any obstructions.

Care should be exercised during any backing maneuver. A spotter will be provided, primarily for the purpose of avoiding any apparatus striking a fixed object or person. The spotter will not act as a guide or provide direction to the candidate, except where a collision is likely to occur.

LAYOUT ON FIG A-2-3.3(b)

Backing vehicle (90 turn):

Traffic observation.	___	FAIL
Roadway observation.	___	FAIL
Signaling.	___	2
Observe spotter.	___	2
Mirror usage.	___	1
No stopping until maneuver is complete.	___	1
Back to within 5 feet of rear boundary.	___	1
Does not strike course boundaries.	___	FAIL

Maneuvering Around Obstructions: LAYOUT ON FIG. A-2-3.4 (SERPENTINE)

Does not hit course boundaries.	___	FAIL
Appropriate speed.	___	4
Spotter observation.	___	1
Mirror usage.	___	2

Confined Space Maneuvering: LAYOUT FIG. A-2-3.5

Does not hit course boundaries.	___	FAIL
Stopping.	___	1
Spotter observation.	___	2
Acceleration.	___	1

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Diminishing Clearance:

Appropriate speed. 2
Does not strike course boundaries. FAIL

Emergency Driving (Explain):

Appropriate speed. 4
Right of Way. 4
Audible and visual signals activated. 4

DEDUCTIONS _____

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FAO CERTIFICATION

Practical Station FIVE

Candidate #: _____ **Examiner:** _____ **SCORE:** _____

AERIAL OPERATIONS- DRIVING

The objective of this test is to check the drivers knowledge of the apparatus they are operating and demonstrate safe driving procedures and show proper tactical considerations for the use of the apparatus. This test will meet requirements from NFPA 1002, *Standard for Fire Department Driver/Operator Professional Qualifications (1993)*.

The Candidate shall; 2 Pts Each

Pre-Driving Checklist

- Verbalize the GVW of the apparatus. (71,480 lbs). _____ 2
- Complete a 360 walk around to ensure all doors are closed, people are clear, and ladder is secure. _____ FAIL
- Unplug all shore lines connected to the truck. _____ 2
- Properly turn on battery power. _____ 2
- Properly turns on ignition switch and starts truck. _____ 2
- Describe all of the vehicle operation switches and lights on dash board. _____ 2
- Describe all operations of the emergency driving equipment in the vehicle. _____ FAIL
- Properly starts generator. _____ 2
- Ensures all occupants are seatbelted. _____ FAIL
- Activates Jacobs Brakes. _____ FAIL

Driving and Operating

- Able to drive truck on instructors prescribed course. _____ FAIL
- Verbalizes actions for emergency driving. (Obey all posted traffic signs). _____ FAIL
- Demonstrate proper positioning of apparatus for different types of structures. _____ FAIL
- Verbalize considerations for position. (Height, Distance, Debris drop zone). _____ FAIL
- Verbalize types of surfaces apparatus can be driven and set up on. _____ FAIL
- Demonstrate proper set up position for apparatus. _____ 2
- Verbalize role of apparatus on fireground. _____ 2
- Verbalize and shows all equipment on truck and their operations. _____ 2
- Shows all sizes of pike poles and ladders. _____ 2
- Demonstrate how to turn on all scene lights and electrical on apparatus. _____ 2
- Shows where electrical breakers are and their purpose. _____ 2
- Demonstrate how air system works and how to refill bottles. _____ 2
- Ensure all equipment is returned to apparatus after its use. _____ 2
- Shut all operating lights down and any other electrical. _____ 2
- Shut generator down. _____ 2
- Completes a 360 walk around. _____ FAIL
- Ensure all occupants are seat belted. _____ FAIL
- Safely returns parks apparatus in station. _____ FAIL

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Shuts down truck.	_____	2
Returns all radios and switches to operating positions.	_____	2
Completes truck check form.	_____	2
Plugs shore lines into truck.	_____	2

DEDUCTIONS _____

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Practical Station SIX

Candidate #: _____ **Examiner:** _____ **SCORE:** _____

AERIAL OPERATIONS- PUMPING

The objective of this test is to check the apparatus operators knowledge of the pump on the Aerial Truck and demonstrate how to operate and manage pump operations. This test will meet requirements from NFPA 1002, *Standard for Fire Department Driver/ Operator Professional Qualifications (1993)*.

The Candidate Shall; 2 Pts Each

- Verbalize the pump capacity. (1500gpm @ 150psi). _____ 2
- Verbalize the tank capacity. (150 gal). _____ 2
- Engage the pump. _____ FAIL
- Identify the pump intake valves. _____ 2
- Identify the pump discharge valves. _____ 2
- Identify all discharge valves on bucket. _____ 2
- Identify the purpose of the rear intake valve. _____ 2
- Identify all drains. _____ 2
- Identify all pump maintenance valves and switches.
(Engine heater and cooler). _____ 2
- Describe the manual override levers on pump panel. _____ 2
- Acquire water from the tank. _____ 2
- Charge 1 hand line. _____ 2
- Properly set relief valve. _____ FAIL
- Secure water from fixed source. (Hydrant, Drop tank, etc.). _____ FAIL
- Refill internal tank. _____ 2
- Properly charge bucket with water. _____ 2
- Properly opens and operates masterstream. _____ 2
- Verbalize safety considerations of using the masterstream
while ladder is elevated. _____ FAIL
- Identify all gauges in operation and what the pump pressure
should be set at. _____ 2
- Properly use Flow Minder. _____ 2
- Properly set relief valve. _____ FAIL
- Properly shut down all operating lines. _____ 2
- Properly drain lines and pump as needed. _____ 2
- Disengage the pump. _____ 2
- Return all components to pre operating position. _____ 2

DEDUCTIONS _____