

National Certification Program Study Guide

March 2009



Driver/Operator – Pumper

**NFPA 1002,
Standard for Fire Apparatus Driver/Operator Professional
Qualifications,
2009 Edition**

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Introduction to Driver/Operator - Pumper Certification

Each individual seeking certification within the Kansas Fire & Rescue Training Institute, the University of Kansas, Certification System must submit an application and the appropriate fee to secure entrance into the system. **Candidates are given one year in which to complete the certification process.** Application forms may be downloaded at: <http://www.continuinged.ku.edu/fire/certification.php>.

A list of current fees may be obtained by calling 785-864-4790 or toll free 1-866-804-8841 or may be downloaded from <http://www.continuinged.ku.edu/fire/certification.php>. Purchase orders from cities or organizations will be accepted. Kansas Fire & Rescue Training Institute will not "bill" individuals for the certification fee. Checks or credit cards are accepted from individuals. Upon receipt of the application and fee, the candidate will be scheduled into a specific exam site as requested or the candidate may select an exam site from the schedule on the KUCE website.

Applicants may register for an exam site at the time of application by completing the appropriate block on the application form. Candidates requesting a specific test site should contact the Kansas Fire & Rescue Training Institute at 785-864-4790 or toll free 1-866-804-8841 to confirm that they have a reserved place at the exam.

Certification candidates are given two (2) attempts at each component, written and practical, **within the twelve month certification period.** If the candidate takes either component of the exam twice without passing, the candidate is required to resubmit a certification application form as well as an additional certification fee before being scheduled to retest a third time.

Candidates failing the written exam are responsible for notifying Kansas Fire & Rescue Training Institute of their desire to retest and enroll at the next scheduled exam that has available space or they may come to the Kansas Fire & Rescue Training Institute in Lawrence, Kansas to take a retest. Written exams will **not** be graded at the test site. Candidates may not take the written exam more than once per day.

Candidates are responsible for **all of the skills** required by the NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2009 edition, during the practical exam. An exact list of specific skills is included in the study guide. **Candidates should be prepared to test on any skill listed in the standard.** The intent of this process is to insure that candidates are prepared to test on skills required by the NFPA 1002 – 2009 standard.

Candidates will test one maintenance skill, one driving skill, and two pumping skills. One of the pumping skills will use a pressurized water source (hydrant) and the other will use a non-pressurized water source (draft tank.)

Practical skill exams are graded on a pass/fail basis. Candidates must successfully complete all skill stations at an exam site to receive a passing grade for the practical exam. Each candidate is allowed two (2) attempts at each station.

Candidates failing the practical exam are responsible for notifying Kansas Fire & Rescue Training Institute of their desire to retest by preregistering for another regularly scheduled exam. Candidates may not take the practical exam more than once per exam day.

An official picture ID (e.g., driver's license, military ID, etc.) must be shown for admittance to written and practical exams.

Certification Examination Instructions Driver/Operator - Pumper NFPA 1002 – 2009

Prerequisites:

Candidates seeking certification for Driver/Operator - Pumper within the Kansas Fire & Rescue Training Institute (KFRTI), the University of Kansas, must meet the following:

1. Residency and membership requirements as stated in Section 12, "Certification Policies" of the KFRTI National Certification Program Criteria and Procedures document published by Kansas Fire & Rescue Training Institute (available for download at <http://www.continuinged.ku.edu/fire/certification.php>.)
 2. Verification of the following requirements by the Fire Chief (or designated representative) or employer. For those candidates enrolled in Kansas Community College Driver/Operator Pumper programs, this verification will be executed by the professor or chief instructor. Verification of these requirements will be executed with the completion of the **Driver/Operator – Pumper Local Verification Form** found at the end of this Study Guide (page 21).
 - a. Valid state driver's license.
 - b. Approval by Chief of Department to drive all vehicles the candidate is expected to drive.
 - c. Demonstrated ability to document routine tests, inspections, and servicing functions per department protocols and procedures.
 - d. Demonstrated ability to operate a fire department pumper under adverse environmental conditions.
 - e. Demonstrated ability to operate a department pumper using defensive driving techniques under emergency conditions (i.e., "lights and sirens").
 2. Candidate must be competent in all objectives listed in NFPA 1002, *Standard for Driver/Operator - Pumper Professional Qualifications*, 2009 edition, Chapters 4 and 5.
 3. Candidate must be previously nationally certified NFPA 1001 Fire Fighter I.
 4. Successful completion of all parts of the Driver/Operator - Pumper certification exam will result in national certification in Driver/Operator - Pumper.
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Part I - Written Examination:

5. The Driver/Operator - Pumper written certification exam is based on **Requisite Knowledge** objectives listed in the NFPA 1002, *Standard for Driver/Operator - Pumper Professional Qualifications*, 2009 edition.

1. Candidates are required to score a minimum of 70%.
 2. The certification exam contains one hundred (100) true/false and multiple choice questions covering Driver/Operator - Pumper level knowledge requirements as stated in NFPA 1002-2009. The candidate will be allowed two (2) hours to complete this portion of the exam.
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Part II - Practical Skills Examination:

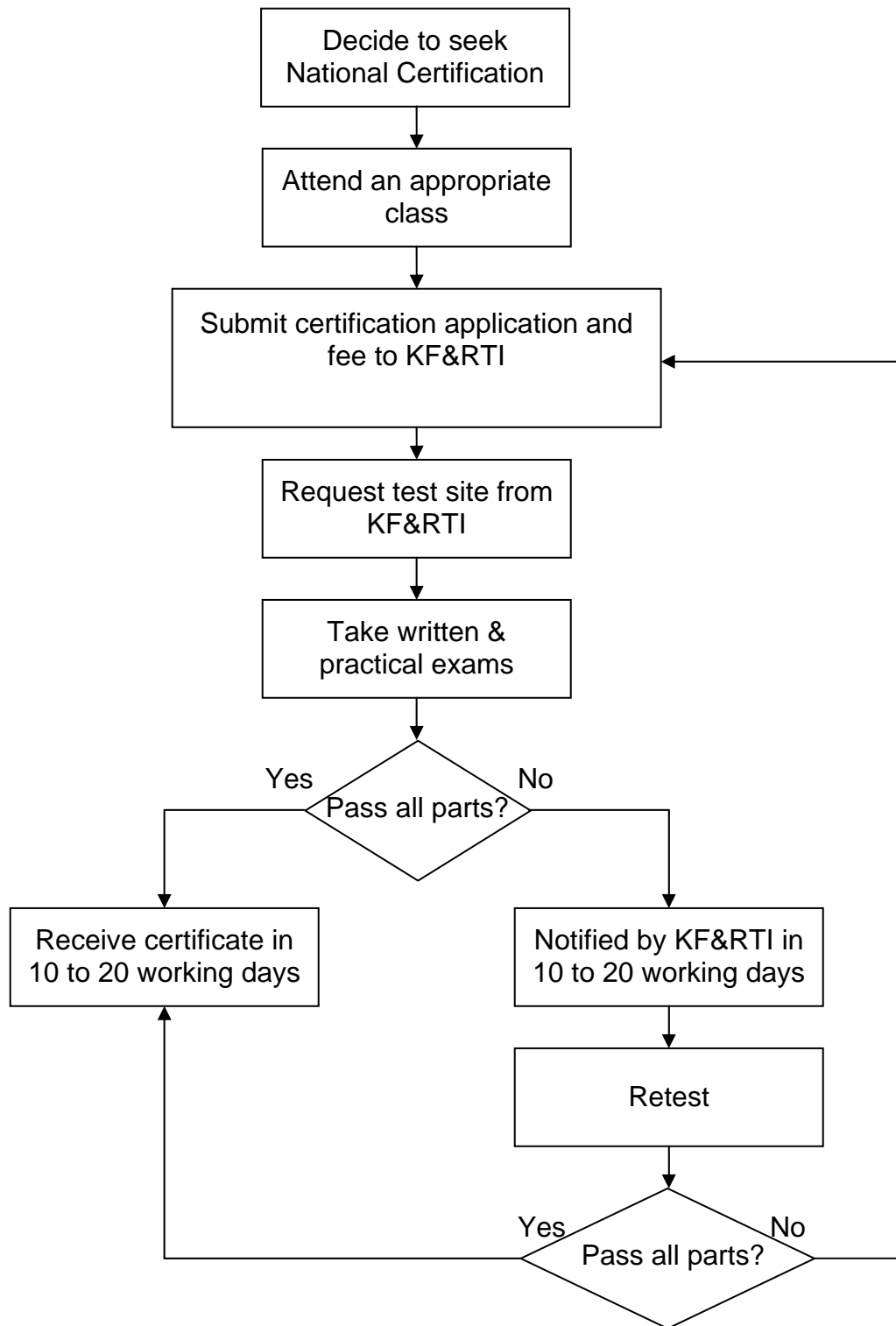
The Fire Fighter II practical skills portion of the certification exam is based on **Requisite Knowledge** and **Requisite Skills** objectives listed in NFPA 1002, *Standard for Driver/Operator - Pumper Professional Qualifications*, 2009 edition.

1. Candidates will be required to score 100% on all evaluated skills, which are graded on a Pass/Fail basis.
2. The skills evaluation forms are available as part of this study guide.

References & Textbooks:

IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.
NFPA 1002, *Standard for Driver/Operator - Pumper Professional Qualifications*, 2009 edition.
NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2007 edition.
KFRTI, *Pumping Apparatus Driver/Operator Student Manual*, June 2008.

Certification Flow Chart for Driver/Operator - Pumper



Driver/Operator - Pumper Written Exam Study Guidesheet

Standard: NFPA 1002, *Standard for Driver/Operator - Pumper Professional Qualifications*, 2009 edition.

Reference: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.

The reading and study references listed below represent published references from which certification exam questions are taken.

Section Subject & NFPA Objective Number	Reading/Study Reference
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Perform Routine Tests, Inspections, and Servicing Functions.

4.2.1 pp. 31 – 51

Document Routine Tests, Inspections, and Servicing Functions.

4.2.2 pp. 32, 484, 513 – 532, 565 – 568

Operate a Fire Department Vehicle.

4.3.1 pp. 9 – 10, 60 – 87, 92 – 93

Back a Fire Department Vehicle Into a Restricted Area.

4.3.2 pp. 76, 90 – 91

Maneuver a Fire Department Vehicle Around Obstructions.

4.3.3 pp. 76 – 78, 91

Turn a Fire Department Vehicle 180 Degrees Within a Confined Space.

4.3.4 pp. 76 – 78, 91 – 92

Maneuver a Fire Department Vehicle in Areas With Restricted Horizontal and Vertical Clearances.

4.3.5 pp. 76 – 78, 91 – 92

Operate a Fire Department Vehicle Using Defensive Driving Techniques Under Emergency Conditions.

4.3.6 pp. 76 – 83, 85 – 89

Operate All Fixed Systems and Equipment on the Fire Department Vehicle.

4.3.7 pp. 24 – 28

Perform Routine Tests, Inspections, and Servicing Functions on Pumper-Specific Equipment.

5.1.1 pp. 38 – 42, 51 – 54, 483 – 502

Produce Effective Hand or Master Streams.

5.2.1 pp. 99 – 115, 135 – 160, 165 – 179, 184 – 213, 251 – 261, 266 – 309, 315 – 346, 377 – 392

Pump a Supply Line to a Second Pumper in a Relay Pumping Evolution.

5.2.2 pp. 395 – 413

Produce a Foam Fire Stream.

5.2.3 pp. 451 – 480, 502 – 504

Supply Water to Fire Sprinkler and Standpipe Systems.

5.2.4 pp. 199 – 200, 347 – 350

Driver/Operator - Pumper Practical Skills Exam Study Guidesheet

Standard: NFPA 1002, *Standard for Driver/Operator - Pumper Professional Qualifications*, 2009 edition.

Reference: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.
KFRTI, *Pumping Apparatus Driver/Operator Student Manual*, June 2008.

The reading and study references listed below represent published references from which certification exam skill sheets are derived. These referenced skill sheets (marked **SM**) are provided in the KFRTI Pumping Apparatus Driver/Operator student manual.

Section Subject & NFPA Objective Number	Referenced Skill Sheets
Perform Routine Tests, Inspections, and Servicing Functions. (<i>SM</i> 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8)	
4.2.1 Use hand tools.	KFRTI 1
Recognize system problems.	KFRTI 1
Correct deficiencies noted.	KFRTI 1
Document Routine Tests, Inspections, and Servicing Functions. (<i>SM</i> 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8)	
4.2.2 Use tools and equipment.	KFRTI 1
Complete all related departmental forms.	Local Verification
Operate a Fire Department Vehicle. (<i>SM</i> 4-1, 4-2a, 4-2b, 4-5)	
4.3.1 Operate passenger restraint devices.	KFRTI 2
Maintain safe following distances.	KFRTI 2
Maintain control of vehicle while accelerating, decelerating, and turning.	KFRTI 2
Operate under adverse environmental or driving surface conditions.	Local Verification
Use automotive gauges and controls.	KFRTI 2
Back a Fire Department Vehicle Into a Restricted Area. (<i>SM</i> 4-3, 4-4)	
4.3.2 Use mirrors and judge vehicle clearance.	KFRTI 3
Maneuver a Fire Department Vehicle Around Obstructions. (<i>SM</i> 4-3, 4-4)	
4.3.3 Use mirrors and judge vehicle clearance.	KFRTI 3
Turn a Fire Department Vehicle 180 Degrees Within a Confined Space. (<i>SM</i> 4-3, 4-4)	
4.3.4 Use mirrors and judge vehicle clearance.	KFRTI 3
Maneuver a Fire Department Vehicle in Areas with Restricted Horizontal and Vertical Clearances. (<i>SM</i> 4-3, 4-4)	
4.3.5 Use mirrors and judge vehicle clearance.	KFRTI 3
Operate a Fire Department Vehicle Using Defensive Driving Techniques Under Emergency Conditions.	
4.3.6 Operate passenger restraint devices.	Local Verification
Maintain safe following distances.	Local Verification
Maintain control of vehicle while accelerating, decelerating, and turning.	Local Verification

Operate under adverse environmental or surface conditions. Local Verification
Use automotive gauges and controls. Local Verification

Operate All Fixed Systems and Equipment on the Fire Department Vehicle.

4.3.7 Deploy, energize, & monitor system or equipment. KFRTI 2
Recognize & correct system problems. KFRTI 2

Perform Routine Tests, Inspections, and Servicing Functions on Pumper-Specific Equipment.

(SM 16-1, 16-2, 16-3, 16-4, 16-5, 16-6, 16-7, 16-8)

5.1.1 Use hand tools. KFRTI 1
Recognize system problems. KFRTI 1
Correct deficiencies noted. KFRTI 1

Produce Effective Hand or Master Streams.

(SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8)

5.2.1 Position a pumper to operate at a hydrant. KFRTI 4
Position a pumper to operate at a static water source. KFRTI 4
Power transfer from vehicle engine to pump. KFRTI 4
Draft. KFRTI 4
Operate pumper pressure control systems. KFRTI 4
Operate the volume/pressure transfer valve. (Multistage pumps only.) KFRTI 4
Operate auxiliary cooling systems. KFRTI 4
Transition between internal and external water sources. KFRTI 4
Assemble hoselines, nozzles, valves, and appliances. KFRTI 4

Pump a Supply Line to a Second Pumper in a Relay Pumping Evolution.

(SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8, 13-1, 13-2, 13-3)

5.2.2 Position a pumper to operate at a hydrant. KFRTI 5
Position a pumper to operate at a static water source. KFRTI 5
Power transfer from vehicle engine to pump. KFRTI 5
Draft. KFRTI 5
Operate pumper pressure control systems. KFRTI 5
Operate the volume/pressure transfer valve. (Multistage pumps only.) KFRTI 5
Operate auxiliary cooling systems. KFRTI 5
Transition between internal and external water sources. KFRTI 5
Assemble hoselines, nozzles, valves, and appliances. KFRTI 5

Produce a Foam Fire Stream.

(SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8, 15-1)

5.2.3 Operate foam proportioning equipment. KFRTI 6
Connect foam stream equipment. KFRTI 6

Supply Water to Fire Sprinkler and Standpipe Systems.

(SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8, 11-9, 11-10)

5.2.4 Position a pumper to operate at a hydrant. KFRTI 7
Position a pumper to operate at a static water source. KFRTI 7
Power transfer from vehicle engine to pump. KFRTI 7
Draft. KFRTI 7
Operate pumper pressure control systems. KFRTI 7
Operate the volume/pressure transfer valve. (Multistage pumps only.) KFRTI 7
Operate auxiliary cooling systems. KFRTI 7
Transition between internal and external water sources. KFRTI 7
Assemble hoselines, nozzles, valves, and appliances. KFRTI 7

Skill Set: Maintenance

OBJECTIVE: NFPA 1002-2009, Chapter 4, Sections 4.2.1 and 4.2.2 and Chapter 5, Section 5.1.1.

REFERENCE: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.

KNOWLEDGE: pp. 31 – 54, 483 – 502, 513 – 532, 565 - 568.

SKILLS: KFRTI SM 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 16-1, 16-2, 16-3, 16-4, 16-5, 16-6, 16-7, 16-8.

Candidate Equipment Required: Station uniform, fire department pumper, inspection checklist, hand tools.

Evaluator Equipment Required: Inspection checklist, departmental maintenance SOPs.

Read To Candidate

At this station, you will be required to inspect a fire department pumper and all its on-board, integral sub-systems. You will use the provided checklist and whatever hand tools which may be required to perform those checks. You should correct any deficiencies noted that are allowed by your departmental maintenance SOPs. You must appropriately annotate the inspection checklist. This is **not** a timed event, but you should complete the assignment as expeditiously as possible.

To pass this station, you must **successfully complete 100% of the steps.**

1st Attempt 2nd Attempt
P F P F

Skill Steps

Section 4.2.1 – Perform Routine Tests, Inspections, and Servicing Functions.

Section 4.2.2 – Document Routine Tests, Inspections, and Servicing Functions.

___ ___ ___ ___ 1. Use hand tools and equipment.

___ ___ ___ ___ 2. Recognize system problems.

___ ___ ___ ___ 3. Correct deficiencies noted.

Section 5.1.1 – Perform Routine Tests, Inspections, and Servicing Functions on Pumper-Specific Equipment.

___ ___ ___ ___ 4. Use hand tools.

___ ___ ___ ___ 5. Recognize system problems.

___ ___ ___ ___ 6. Correct deficiencies noted.

Candidate's Name: _____ **Station:** P ___ F ___

Evaluator's Signature: _____ **Date:** _____

If the candidate FAILS this station after both attempts, provide comments on the back of this sheet and turn it in to the Exam Site Coordinator.

Fire Department Pumper Maintenance Checklist

OK	Needs Service	Item or System	Comments
<i>Automotive Systems</i>			
___	___	Battery or batteries	
___	___	Braking system	
___	___	Coolant system	
___	___	Electrical system	
___	___	Fuel	
___	___	Hydraulic fluids (cab raising pump, etc.)	
___	___	Transmission fluid	
___	___	Lubrication	
___	___	Oil	
___	___	Tires	
___	___	Steering system	
___	___	Belts	
___	___	Lights (headlights, parking lights, brake lights, back-up lights, turn signals)	
___	___	Emergency lights & siren	
<i>Pumper-Specific Systems</i>			
___	___	Exercised all valves	
___	___	Pump primer oil	
___	___	Hydraulic fluids (ladder rack, etc.)	
___	___	Generator fluids	
___	___	Extrication power unit fluids	
___	___	Gas-powered saws fluids	
___	___	Gas-powered ventilation fan fluids	
___	___	All on-board equipment properly secured	
Truck Number _____ Verified By _____ Date _____ Time _____			

Skill Set: Driving – Road Course

OBJECTIVE: NFPA 1002-2009, Chapter 4, Section 4.3.1 & 4.3.7.

REFERENCE: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.
KNOWLEDGE: pp. 9 – 10, 24 – 28, 60 – 87, 92 – 93.
SKILLS: KFRTI SM 4-1, 4-2a, 4-2b, 4-5.

Candidate Equipment Required: Station uniform, valid driver's license, fire department pumper.

Evaluator Equipment Required: Specified road course.

Read To Candidate

At this station, you will be required to safely operate a fire department pumper over a predetermined route on public roads. I will ride with you and give you verbal directions. Be sure to observe and obey all applicable traffic laws and department regulations while operating the vehicle. There will **NOT** be any emergency driving during the course of this skill station.

Upon completion of the road driving portion of this skill set, you will operate all fixed systems on this apparatus. This is **not** a timed event, but you should complete the assignment as expeditiously as possible, **without** breaking any speed limits.

To pass this station, you must **successfully complete 100% of the steps.**

1st Attempt 2nd Attempt
P F P F

Skill Steps

Section 4.3.1 – Operate a Fire Department Vehicle

- ___ ___ ___ ___ 1. Possessed valid driver's license in accordance with department SOP.
- ___ ___ ___ ___ 2. Operated passenger restraint devices.
- ___ ___ ___ ___ 3. Ensured all occupants were seated and restrained.
- ___ ___ ___ ___ 4. Maintained safe following distances.
- ___ ___ ___ ___ 5. Maintained control of vehicle while accelerating, decelerating, and turning.
- ___ ___ ___ ___ 6. Used automotive gauges and controls.
- ___ ___ ___ ___ 7. Used turn signals.
- ___ ___ ___ ___ 8. Operated within all traffic laws and department SOPs.
- ___ ___ ___ ___ 9. Performed all required maneuvers on predetermined route.
 - a. Four left turns.
 - b. Four right turns.
 - c. Straight section of business street or two-lane rural road at least 1 mile long.
 - d. One through intersection.
 - e. Two intersections where a stop has to be made.
 - f. One railroad crossing (*may be simulated/designated if no track in district*)
 - g. One curve, either left or right.

(Continued)

- h. Section of limited-access highway with conventional entrance/exit ramps.
- i. Two lane changes on highway.
- j. Downgrade steep enough to require down-shifting and braking.
- k. Upgrade steep enough and long enough to require gear changing.
- l. Underpass or a low clearance or bridge.

Section 4.3.7 – Operate All Fixed Systems & Equipment on a Fire Department Vehicle

10. Deployed, energized, & monitored system or equipment. **(Test all that apply.)**

- a. Generator.
- b. Floodlights.
- c. Air compressor.
- d. Air cascade system.
- e. Hydraulic rescue tools & power unit.
- f. Power reels for air, hydraulic, or electrical lines.
- g. Hydraulic ladder racks.
- 11. Recognize & correct system problems.

Candidate's Name: _____ **Station: P** ____ **F** ____

Evaluator's Signature: _____ **Date:** _____

If the candidate FAILS this station after both attempts, provide comments on the back of this sheet and turn it in to the Exam Site Coordinator.

Sample of Predetermined Route for the Driver/Operator – Pumper Road Course (Used with permission from Ottawa Fire Department)

Instructions to Driver/Operator:

When determining the route for the Driver/Operator Road Course, it is advisable that you indicate the **task** from the skill sheet provided by KFRTI with the directions in the course. Keying the task with directions will give you the opportunity to cross check the directions with the skill sheet, thereby ensuring each task has been covered. It will also assist the evaluator as he checks off the items on the skill sheet during the exam. Candidates should practice driving the exact route prior to the exam date. Allow approximately 30 minutes per candidate for the street course.

Sample predetermined route for the driver/operator road course:

Off the bay floor across the street to 68 Hwy.

Turn right on 68 Hwy **(9.b)** go over bridge. On the down-hill side of the bridge, down shift and brake. **(9.j)**

Take off ramp to Tecumseh. **(9.b)**

Turn right on Tecumseh, **(9.b)** go under the bridge and north on locust. **(9.g & 9.l)**

Take Locust north to Wilson. Turn right on Wilson. **(9.b)**

Proceed to railroad crossing, stop at crossing per department protocol. **(9.f)**

Continue on to Main Street, cross Main on Wilson to Hickory. Turn right on Hickory. **(9.b & 9.e)** South to Blackhawk, **(9.d)** turn right from Blackhawk onto Main Street. **(9.b)**

Turn left on Main Street going south. **(9.a)**

South on Main to 68 Hwy. **(9.c)** Once on 68 Hwy, execute two lane changes. **(9.i)**

Turn left on Fifth, **(9.a)** turn left on Hickory, **(9.a & 9.e)** turn left on Fourth **(9.a & 9.e)** turn left on Main **(9.a)** and proceed south.

Take Princeton Circle Drive to I-35.

Go south on I-35. **(9.h)** Exit I-35 at Old Fifty Hwy **(9.h)** and turn right. **(9.b)**

Take Old Fifty Hwy back into town on Main. On incline to Old Fifty Hwy overpass, shift gears to maintain speed. **(9.k)**

Return to station.

Skill Set: Driving – Cone Course

OBJECTIVE: NFPA 1002-2009, Chapter 4, Sections 4.3.2, 4.3.3, 4.3.4, and 4.3.5.

REFERENCE: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.
KNOWLEDGE: pp. 76 – 78, 90 – 92.
SKILLS: KFRTI SM 4-3, 4-4.

Candidate Equipment Required: Station uniform, valid driver's license, fire department pumper.

Evaluator Equipment Required: Cones, spotter, event specifications, closed-course driving area.

Read To Candidate

At this station, you will be required to operate a fire department pumper through various situations that simulate actual driving situations. I will give you specific instructions at the beginning of each event. You will have a spotter available to you. No one else will be in the truck cab with you during this station. If you strike any of the cones, that constitutes a failure at that event. This is **not** a timed event, but you should complete the assignment as expeditiously as possible.

To pass this station, you must **successfully complete 100% of the steps.**

1st Attempt 2nd Attempt
P F P F

Skill Steps

- | | | | | |
|-----|-----|-----|-----|--|
| ___ | ___ | ___ | ___ | 1. Possessed valid driver's license in accordance with department SOP. |
| ___ | ___ | ___ | ___ | 2. Operated passenger restraint devices. |
| | | | | 3. Used mirrors & judged vehicle clearance: |
| ___ | ___ | ___ | ___ | a. Backed into a restricted area. |
| ___ | ___ | ___ | ___ | b. Maneuvered around obstructions. |
| ___ | ___ | ___ | ___ | c. Turned 180 degrees within a confined space. |
| ___ | ___ | ___ | ___ | d. Maneuvered in areas with restricted horizontal & vertical conditions. |

(NOTE: See following pages for individual event requirements.)

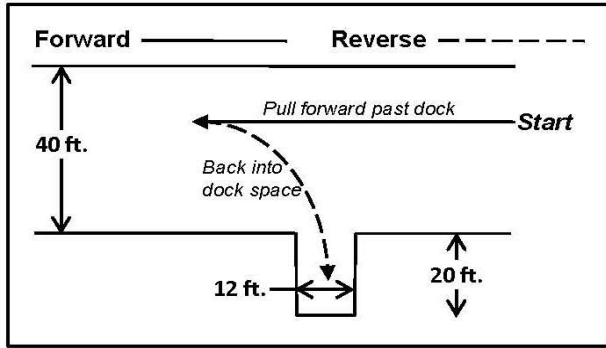
Candidate's Name: _____ **Station:** P ___ F ___

Evaluator's Signature: _____ **Date:** _____

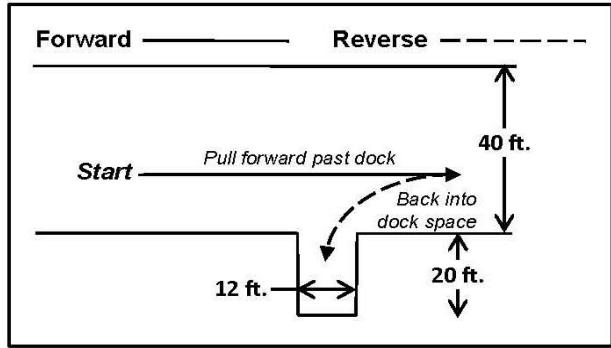
If the candidate FAILS this station after both attempts, provide comments on the back of this sheet and turn it in to the Exam Site Coordinator.

Skill Item 3, Event 3a – Back into a restricted space:

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 40 ft. from a boundary line. These barricades should be 12 ft. apart, and the length should be approximately 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.



Step 1



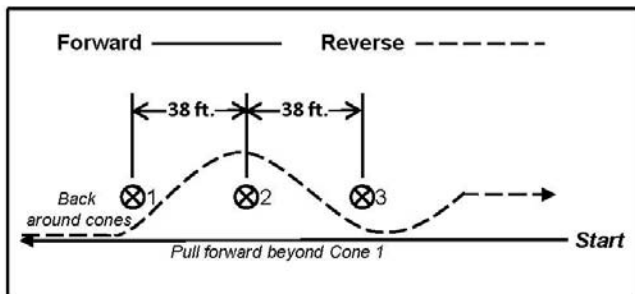
Step 2

Skill Item 3, Event 3b – Maneuver around obstacles:

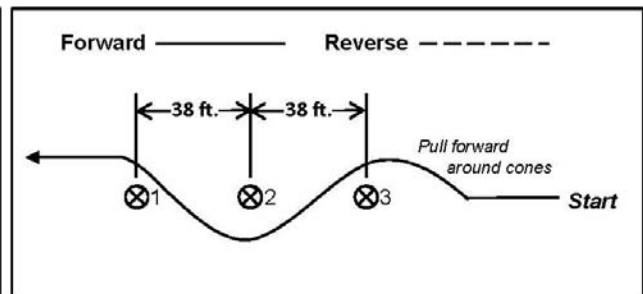
This exercise measures a driver's ability to steer the apparatus in close limits without stopping. The exercise should be conducted with the apparatus moving **first** backward, **then** forward. The course or path of travel for this exercise can be established by placing a minimum of three markers, each spaced 38 ft. apart, in a line. 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.



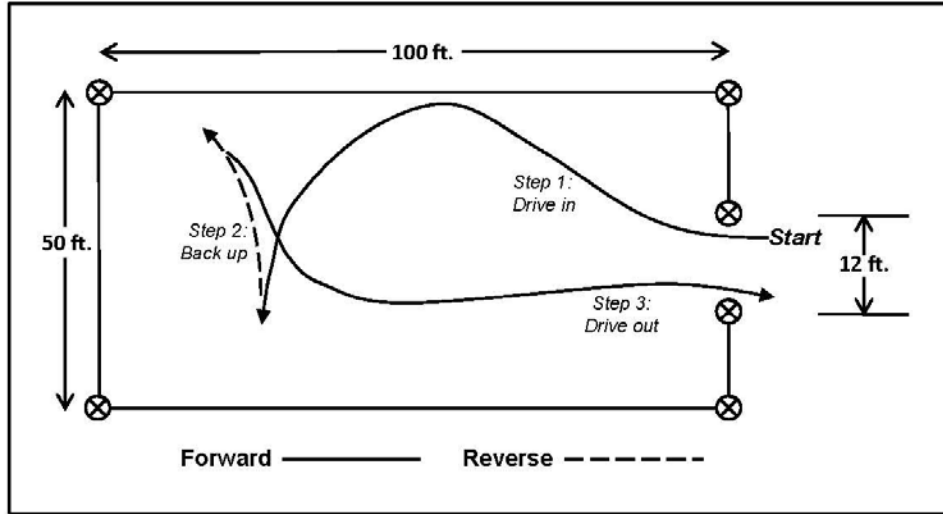
Step 1



Step 2

Skill Item 3, Event 3c – Turned 180 degrees within a confined space:

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 50 ft. x 100 ft. The driver moves into the area from a 12 ft. opening in the center of one of the 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.

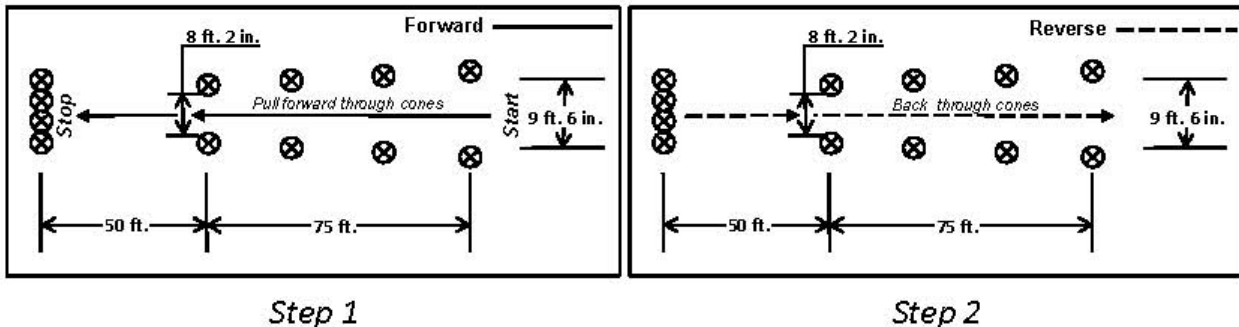


Skill Item 3, Event 3d – Maneuvered in areas with restricted horizontal & vertical conditions:

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 9 ft. 6 in. to a diminishing clearance of 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 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 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.



Skill Set: Pumping Hand and Master Streams

OBJECTIVE: NFPA 1002-2009, Chapter 5, Sections 5.2.1.

REFERENCE: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.

KNOWLEDGE: pp. 99 – 115, 135 – 160, 165 – 179, 184 – 213, 251 – 261, 266 – 309, 315 – 346, 377 – 392.

SKILLS: KFRTI SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8.

Candidate Equipment Required: Station uniform, fire department pumper, water source, hose, appliances, nozzles, valves.

Evaluator Equipment Required: Personnel to operate handlines or master streams.

Read To Candidate

At this station, you will be required to produce effective handline and master streams. You will begin by driving to the area of your water source in order to connect to that source. You will begin pumping from your on-board water supply tank and demonstrate transferring to your external water source. You will assemble and deploy all required hose, nozzles, valves, and appliances to complete this evolution. Personnel will be provided to operate the handlines and master streams. If you require assistance due to safety or weight of the equipment, ask me.

You are to flow water to the handline using on-board tank water. Once you have established and maintained the handline fire flow, I will direct you to transition to an external water source. You must maintain the handline flow and then establish fire flow to a master stream and then refill your on-board tank. Once you have demonstrated the ability to flow both a handline and master stream simultaneously, I will direct you to shut down the system.

You will use a hydrant as your water source.

-- OR --

You will draft from a static water source.

This is **not** a timed event, but you should complete the assignment as expeditiously as possible.

To pass this station, you must **successfully complete 100% of the steps**.

1st Attempt 2nd Attempt
P F P F

Skill Steps

- | | | | | |
|-----|-----|-----|-----|---|
| ___ | ___ | ___ | ___ | 1. Position the pumper to operate at a (hydrant) (static water source). |
| ___ | ___ | ___ | ___ | 2. Power transfer from vehicle engine to pump. |
| ___ | ___ | ___ | ___ | 3. Chock wheels. |
| ___ | ___ | ___ | ___ | 4. Draft (if applicable). |
| ___ | ___ | ___ | ___ | 5. Operate pumper pressure control systems. |
| ___ | ___ | ___ | ___ | 6. Operate the volume/pressure transfer valve (multistage pumps only). |
| ___ | ___ | ___ | ___ | 7. Operate auxiliary cooling systems. |
| ___ | ___ | ___ | ___ | 8. Transition between internal and external water sources. |
| ___ | ___ | ___ | ___ | 9. Refill on-board water tank. |
| ___ | ___ | ___ | ___ | 10. Assemble hoselines, nozzles, valves, and appliances. |
-

Candidate's Name: _____ **Station:** P ___ F ___

Evaluator's Signature: _____ **Date:** _____

If the candidate FAILS this station after both attempts, provide comments on the back of this sheet and turn it in to the Exam Site Coordinator.

Skill Set: Pump a Supply Line to a Second Pumper in a Relay Pumping Evolution

OBJECTIVE: NFPA 1002-2009, Chapter 5, Sections 5.2.2.

REFERENCE: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.

KNOWLEDGE: pp. 395 – 413.

SKILLS: KFRTI SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8, 13-1, 13-2, 13-3.

Candidate Equipment Required: Station uniform, two fire department pumpers, water source, hose, appliances, nozzles, valves.

Evaluator Equipment Required: Personnel to operate second pumper and handlines or master streams.

Read To Candidate

At this station, you will be required to establish a relay pumping operation. The supply line to the second pumper will already be laid out. You must connect it to your pumper. Once I am satisfied that you have established and maintained the relay, I will direct you to break down the relay. You must do so safely and correctly.

You will begin by driving to the area of your water source in order to connect to that source. You will begin pumping from your on-board water supply tank and demonstrate transferring to your external water source. You will assemble and deploy all required hose, nozzles, valves, and appliances (other than the line to the second pumper) to complete this evolution. Personnel will be provided to operate the second pumper and handlines or master streams. If you require assistance due to safety or weight of the equipment, ask me.

You will use a hydrant as your water source.

-- OR --

You will draft from a static water source.

This is **not** a timed event, but you should complete the assignment as expeditiously as possible.

To pass this station, you must **successfully complete 100% of the steps**.

1st Attempt 2nd Attempt
P F P F

Skill Steps

- | | | | | |
|-----|-----|-----|-----|---|
| ___ | ___ | ___ | ___ | 1. Position the pumper to operate at a (hydrant) (static water source). |
| ___ | ___ | ___ | ___ | 2. Power transfer from vehicle engine to pump. |
| ___ | ___ | ___ | ___ | 3. Chock wheels. |
| ___ | ___ | ___ | ___ | 4. Draft (if applicable). |
| ___ | ___ | ___ | ___ | 5. Operate pumper pressure control systems. |
| ___ | ___ | ___ | ___ | 6. Operate the volume/pressure transfer valve (multistage pumps only). |
| ___ | ___ | ___ | ___ | 7. Operate auxiliary cooling systems. |
| ___ | ___ | ___ | ___ | 8. Transition between internal and external water sources. |
| ___ | ___ | ___ | ___ | 9. Refill on-board water tank. |
| ___ | ___ | ___ | ___ | 10. Assemble hoselines, nozzles, valves, and appliances. |
| ___ | ___ | ___ | ___ | 11. Maintain at least 20 p.s.i. to second pumper at all times in the evolution. |
-

Candidate's Name: _____ **Station:** P ___ F ___

Evaluator's Signature: _____ **Date:** _____

If the candidate FAILS this station after both attempts, provide comments on the back of this sheet and turn it in to the Exam Site Coordinator.

Skill Set: Pump a Foam Fire Stream

OBJECTIVE: NFPA 1002-2009, Chapter 5, Sections 5.2.3.

REFERENCE: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.

KNOWLEDGE: pp. 451 – 480, 502 – 504.

SKILLS: KFRTI SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8, 15-1.

Candidate Equipment Required: Station uniform, fire department pumper, water source, hose, appliances, nozzles, valves, foam concentrate.

Evaluator Equipment Required: Personnel to operate handlines or master streams.

Read To Candidate

At this station, you will be required to establish a foam fire stream. You must establish a water supply and assemble all the components of a foam fire stream. You are not being evaluated on application of the finished foam.

You will begin by driving to the area of your water source in order to connect to that source. You will begin pumping from your on-board water supply tank and demonstrate transferring to your external water source. You will assemble and deploy all required hose, nozzles, valves, and appliances to complete this evolution. Personnel will be provided to operate the handlines or master streams. If you require assistance due to safety or weight of the equipment, ask me.

You will use a hydrant as your water source.

-- OR --

You will draft from a static water source.

This is **not** a timed event, but you should complete the assignment as expeditiously as possible.

To pass this station, you must **successfully complete 100% of the steps**.

1st Attempt 2nd Attempt

Skill Steps

P F P F

- | | | | | |
|-----|-----|-----|-----|---|
| ___ | ___ | ___ | ___ | 1. Position the pumper to operate at a (hydrant) (static water source). |
| ___ | ___ | ___ | ___ | 2. Power transfer from vehicle engine to pump. |
| ___ | ___ | ___ | ___ | 3. Chock wheels. |
| ___ | ___ | ___ | ___ | 4. Draft (if applicable). |
| ___ | ___ | ___ | ___ | 5. Operate pumper pressure control systems. |
| ___ | ___ | ___ | ___ | 6. Operate the volume/pressure transfer valve (multistage pumps only). |
| ___ | ___ | ___ | ___ | 7. Operate auxiliary cooling systems. |
| ___ | ___ | ___ | ___ | 8. Transition between internal and external water sources. |
| ___ | ___ | ___ | ___ | 9. Refill on-board water tank. |
| ___ | ___ | ___ | ___ | 10. Assemble hoselines, nozzles, valves, and appliances. |
| ___ | ___ | ___ | ___ | 11. Operate foam proportioning equipment. |
| ___ | ___ | ___ | ___ | 12. Connect foam stream equipment. |

Candidate's Name: _____ **Station:** P ___ F ___

Evaluator's Signature: _____ **Date:** _____

If the candidate FAILS this station after both attempts, provide comments on the back of this sheet and turn it in to the Exam Site Coordinator.

Skill Set: Pumping Water to Sprinkler and Standpipe Systems

OBJECTIVE: NFPA 1002-2009, Chapter 5, Sections 5.2.4.

REFERENCE: IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2d edition, © 2006.

KNOWLEDGE: pp. 199 – 200, 347 – 350.

SKILLS: KFRTI SM 5-1, 5-2, 5-3, 5-4, 5-5, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8, 11-9, 11-10.

Candidate Equipment Required: Station uniform, fire department pumper, water source, hose, appliances, nozzles, valves.

Evaluator Equipment Required: FDC (or a Second Pumper & Operator to Simulate FDC.)

Read To Candidate

At this station, you will be required to establish and maintain a water supply to (an FDC) (a second pumper simulating an FDC) that supplies a (fire sprinkler system) (standpipe system). You will begin by driving to the area of your water source in order to connect to that source. You will begin pumping from your on-board water supply tank and demonstrate transferring to your external water source. You will assemble and deploy all required hose, nozzles, valves, and appliances to complete this evolution. (An operator will be provided to operate the second pumper.) If you require assistance due to safety or weight of the equipment, ask me.

You will use a hydrant as your water source.

-- OR --

You will draft from a static water source.

This is **not** a timed event, but you should complete the assignment as expeditiously as possible.

To pass this station, you must **successfully complete 100% of the steps.**

1st Attempt 2nd Attempt
P F P F

Skill Steps

- | | | | | |
|-----|-----|-----|-----|--|
| ___ | ___ | ___ | ___ | 1. Position the pumper to operate at a (hydrant) (static water source). |
| ___ | ___ | ___ | ___ | 2. Power transfer from vehicle engine to pump. |
| ___ | ___ | ___ | ___ | 3. Chock wheels. |
| ___ | ___ | ___ | ___ | 4. Draft (if applicable). |
| ___ | ___ | ___ | ___ | 5. Operate pumper pressure control systems. |
| ___ | ___ | ___ | ___ | 6. Operate the volume/pressure transfer valve (multistage pumps only). |
| ___ | ___ | ___ | ___ | 7. Operate auxiliary cooling systems. |
| ___ | ___ | ___ | ___ | 8. Transition between internal and external water sources. |
| ___ | ___ | ___ | ___ | 9. Refill on-board water tank. |
| ___ | ___ | ___ | ___ | 10. Assemble hoselines, nozzles, valves, and appliances. |
| ___ | ___ | ___ | ___ | 11. Operate at correct pressure to supply water to an FDC in support of a (fire sprinkler) (standpipe) system. |

Candidate's Name: _____ **Station:** P ___ F ___

Evaluator's Signature: _____ **Date:** _____

If the candidate FAILS this station after both attempts, provide comments on the back of this sheet and turn it in to the Exam Site Coordinator.

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Driver/Operator - Pumper Local Verification Form

NFPA 1002 – 2009

Candidate's Name: _____ Date of Birth: _____

Local Verification Requirements

1. Driver's license.

The candidate has the appropriate class of driver's license (and appropriate endorsements, if applicable) per department requirements and is authorized by the undersigned to operate the vehicle(s) used during the test.

2. NFPA 1002 – 2009, JPR 4.2.2, Document Routine Tests, Inspections, and Servicing Functions:

The candidate has successfully demonstrated the ability to complete all required documentation relating to routine tests, inspections, and servicing functions of department pumpers per department protocols and procedures.

3. NFPA 1002 – 2009, JPR 4.3.1, Operate a Fire Department Vehicle Under Adverse Environmental Conditions:

The candidate has successfully demonstrated the ability to successfully drive a department pumper under adverse environmental or driving surface conditions.

4. NFPA 1002 – 2009, JPR 4.3.6, Operate Fire Department Vehicle Using Defensive Driving Techniques Under Emergency Conditions:

The candidate has successfully demonstrated the ability to safely and successfully drive a department pumper including, but not limited to, the ability to operate passenger restraint devices; maintain safe following distances; maintain control of vehicle while accelerating, decelerating, and turning; operate the vehicle under adverse environmental or surface conditions; and use automotive gauges and controls, all while operating under emergency conditions (i.e., "lights and sirens").

I have reviewed the candidate's file and affirm that the candidate identified above has met the requirements listed in paragraphs 1 through 3 above. All requirements have been successfully conducted and completed per local department protocol. All information listed above can be validated by a written and/or hard copy of the documents maintained by the department.

Typed or Legibly Printed Name of Fire Chief or Designated Representative

Signature of Fire Chief or Designated Representative

Date: _____ Department: _____

Fire Department Phone Number: (_____) _____ - _____

Mail Completed Form To: Kansas Fire & Rescue Training Institute, KU Continuing Education, 1515 St Andrews Drive, Lawrence, KS 66047

03/09 KF&RTI