

****Driver / Operator Apparatus Equipped with Fire Pump (Pumper)** Certification Test Documentation Booklet**

MSU Fire Services Training School
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This certification process is accredited by:



International Fire Service Accreditation Congress (IFSAC)
and
National Board on Fire Service Professional Qualifications (NPQS)

MSU FIRE SERVICES TRAINING SCHOOL
Driver / Operator Test PLEASE
PRINT LEGIBLY

Candidate's Name

First

Middle

Last

Candidate's Home Address

Phone Contact _____ Secondary Phone Contact _____

Email _____

Name of Fire Service Organization (FSO) of which you are a member:

Mailing Address of Fire Service Organization (FSO) of which you are a member:

Name of the Chief of the Fire Service Organization (FSO) of which you are a member.

Daytime phone contact for your Chief _____

TEST INSTRUCTIONS (PLEASE READ CAREFULLY!)

A Driver / Operator Candidate has a **12 month period** to complete this test. Once the FSTS administered portion of the test has begun, it must be completed within **6 months**. This period begins with the first test date entered and ends with the last test date a skill was demonstrated and recorded. Notification: When testing is planned or scheduled, contact your local FSTS Field Trainer and give notice of the dates, times, and location of the testing. Occasionally, the FSTS Field Trainer is required to observe local testing to ensure compliance with accreditation and certification rules. Reference materials from any source may be used by the Candidate to complete the locally administered, open resource portions of the testing process. All answers in this test booklet must be hand written. The FSTS Coaching Package is a vital training tool for instructors teaching the skills listed inside the rear cover. Other resources are listed after some test elements and are available from the FSTS Resource Center.

The Chief Officer (CEO) of your Fire Service Organization must sign off in the signature block under

"Fitness Requirements" and "Facilities and Equipment Compliance" before any testing begins. An FSTS authorized test administrator, a certified instructor or Chief Officer of the Department who has a Proctor's Affidavit on file with the FSTS must sign off each signature block and enter the date after witnessing your completion of each element. Every signature block must be signed and dated. The individual who conducts the test for an element and signs off a block, must be someone other than the instructor the Candidate was trained and learned the skill from. Original signatures are required. The reference source cited after each element is the authoritative source for satisfactory performance.

****NOTE** There are some Job Performance Requirements (JPR's) in NPFA 1002 (Driver/Operator) that overlap with NFPA 1001 Fire Fighter 1. The NFPA 1002 JPR's that overlap and are found in this test booklet are; 4.4.1, 4.4.2, 4.4.4, 5.1.1a-i, 5.2.3. If you have a current Montana Fire Fighter 1 certification, you do not need to complete these JPR's. Attach a copy of your current Montana Fire Fighter 1 certificate. If you do not have a current Montana Fire Fighter 1 certification, the above listed JPR's must be completed in this test booklet.**

Safety - All of the performance elements/objectives shall be performed swiftly, safely, and with competence. Each element/objective shall be demonstrated in its entirety.

Fitness Requirements

The signature of the Chief of the Fire Service Organization is evidence to FSTS that the candidate has met local requirements with regard to good physical and mental condition and has a background indicating good moral character. The local chief should ensure that the candidate has an appropriate background and physical and mental condition prior to beginning this test. NFPA 1582 (Medical Requirements for Fire Fighters) is recommended for use by local authorities in assessing the physical and medical evaluation of candidates.

Chief Officer's Signature

Date

Facilities and Equipment Compliance:

The signature of the chief of the Fire Service Organization is evidence to FSTS that the facilities and equipment used for testing are in compliance with applicable NFPA Standards.

Chief Officer's Signature

Date

Signature Verification:

For the purpose of signature verification to sign off in this test booklet I certify my signature as:

Signed:

Printed Name:

Upon Completion of this Test Documentation Booklet, make a copy for your records, then give to an FSTS Staff Member OR send to FSTS via certified mail. FSTS Address: MSU Fire Services Training School 409 14th Street SW–Ste 1, Great Falls, Montana 59404

Duration of Certification:

Accredited certifications issued by the Montana Fire Services Training School do not have an expiration date. However, for purposes of progression within the FSTS certification system, a certification is recognized for five years from the test completion date. The policy regarding this is part of the Montana Fire Service Professional Qualifications Certification System, which is adopted by the Fire Services Training School Advisory Council. The policy is shown below.

304 Duration of Certification

304.1 Certifications issued under this system are recognized for purposes of progression within the system from the test completion date to the date a revised testing process is implemented by FSTS, however, certification will be recognized for progression purposes for a minimum of 5 years from its date of issuance.

304.2 Individuals with certifications which have lapsed under 304.1, are treated as new to the level or system and must be re-tested to the current standard for a given level.

Definitions and Acronyms - The following definitions and acronyms for the terms indicated are intended for use with the Certification Program.

Approved - Acceptable to the FSTS or their authorized representative.

Authority having jurisdiction - Fire Services Training School (FSTS).

Candidate - The person who has made application for certification.

Define - To describe the basic qualities and principles.

Demonstrate - To show by actual use or simulation.

Fire company - Subpart of FSO to which an individual is assigned.

Fire department - An agency of government charged with primary fire protection responsibility within a city, county, reservation or district.

FSO - Fire service organization.

FSTS Website – <http://www.montana.edu/wwwfire>

Element – A single item, task or tactic that is tested under this program.

Identify - To physically select, indicate, or explain verbally or in writing, using standard terms recognized by the fire service.

IMS - Incident Management System

May - The term is used to state a permissive use or an alternative method to a specified requirement.

Objective - A goal that is achieved through the attainment of a skill, knowledge, or both, which can be observed or measured.

Qualified - Having satisfactorily completed the requirements of the objectives.

PAR - Personnel Accountability Report

PASS - Personal Alert Safety System

Safely - To perform the objective without unreasonable risk or injury to self, others, apparatus or equipment. Shall - The term indicates a mandatory requirement.

Swiftly - The time, as determined by the qualified evaluator or FSTS that it takes to perform the element satisfactorily.

Technique - The systematic procedure by which a task is accomplished.

With competence - Possessing the knowledge, skill, and judgment needed to perform indicated objectives satisfactorily.

Driver / Operator
Locally Tested Portion Administered by Local Chief Officer or Certified Instructor

4.2 Preventative Maintenance

4.2.1 Perform visual and operational checks on the systems and components specified in the following list, given a fire department vehicle, its manufacturer's specifications, and policies and procedures of the jurisdiction, so that the operational status of the vehicle is verified:

(1) Battery(ies)

Volt meter in cab, engine not running, voltage should be between 12 and 14 volts

Engage starting motor, enough power to start engine

Voltage after starting, with vehicle running, 13 -16 volts

(2) Braking system

Remove air from the air brake system so that low air alarm sounds

Air brake system builds air, within apparatus specific standard time

Press and hold brake pedal, listen for air leaks

Release parking brake, assess that air systems holds air

(3) Coolant system

Coolant present in operator coolant level check system at a "full level"

Look in area of cooling system for signs of leaks (corrosion, liquid on ground, liquid around connections, etc)

Coolant system drive belts in place, intact (no shreds), no visible slack

Look at coolant system hoses, look for leaks, any mechanical insult to hose structure, cracks, rubbing, discoloration, swelling

Coolant gauge functions at operating temp

(4) Electrical system

Look at battery connections, connections snug, connections are free of corrosion, cables free of mechanical insult, rubbing, cracked, frayed

Chassis lighting functions (headlights L/H, turn signals DS/PS/F/R, DOT lights DS/PS/F/R

Emergency lights work

Scene lighting works, mounting systems function correctly

Compartment/pump panel lighting works

(5) Fuel

Fuel tank level reading on dash gauge, 3/4 level or above, full at start at shift

Fuel tank cap in place and snug

Supply route from tank to engine free of leaks

(6) Hydraulic fluids (if equipped)

Tank level full at start at shift (sight gauge)

Tank cap in place and snug

Supply route from tank and system free of leaks

(7) Oil

Check dip stick, level within operating range

Check for leaks

(8) Tires

Absence of mechanical insult

- Tread depth with in specs (no wear bars showing)
- Thump with hard instrument
- Air pressure check
- (9) Steering system
 - Slack in steering
 - Fluid level within operating range
 - System free of leaks
- (10) Belts
 - Free of shreds
 - Free of cracks/checks
 - Fee of slack
- (11) Tools, appliances, and equipment
 - Per inventory
- (12) Built-in safety systems
- (13) Air systems (others, if equipped)

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 29-75)

Signed _____ Date: ____/____/____

4.2.2 Document the visual and operational checks, given maintenance and inspection forms, so that all items are checked for operation and deficiencies are reported.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus D/O, pp 29-75; IAFC/NFPA Fire Service Pump Op., pp 126-148, 160)

Candidate shall attached a completed maintenance/inspection form.

Signed _____ Date: ____/____/____

4.3 Driving/Operating

4.3.1

Describe the importance of donning passenger restraint devices and ensuring crew safety.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 90-93)

Signed _____ Date: ____/____/____

List the common causes of fire apparatus accidents.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 84-89)

Signed _____ Date: ____/____/____

Describe the effects on vehicle control of liquid surge, braking reaction time, and load factors; effects of high center of gravity on roll-over potential, general steering reactions, speed, and centrifugal force.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 96-99, 105-112)

Signed _____ Date: ____/____/____

JPR's 4.3.2 through 4.3.5 shall use the maneuvers outlined in NFPA 1002 2017 Edition A4.3.2 – A4.3.5.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 113-116, 129-130)

4.3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle, given a fire apparatus, 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 obstructions.

Signed _____ Date: ____/____/____

4.3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse, given a fire apparatus, 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.

Signed _____ Date: ____/____/____

4.3.4 Turn a fire apparatus 180 degrees within a confined space, given a fire apparatus, 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.

Signed _____ Date: ____/____/____

4.3.5 Maneuver a fire apparatus in areas with restricted horizontal and vertical clearances, given a fire apparatus 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.

Signed _____ Date: ____/____/____

4.3.7 Operate all fixed systems and equipment on the vehicle not specifically addressed elsewhere in this test, 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. 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 A-frames or other lifting equipment.

Candidate shall list all systems and equipment not specifically listed elsewhere in this test that were operated in accordance with manufacturer procedures, applicable instructions and policies.

Signed _____ Date: ____/____/____

4.4 Fire Department Communications

****NOTE**** This section is not required if the candidate has a current Montana Fire Fighter 1 certification.

Candidate shall attached a copy of a current Montana Fire Fighter 1 certificate.

If the candidate does not have a current, accredited Fire Fighter 1 certification, 4.4.1, 4.4.2, and 4.4.4 must be completed.

This duty shall involve initiating responses, receiving telephone calls, and using fire department communications equipment to correctly relay verbal or written information.

4.4.1 Initiate the response to a reported emergency, given the report of an emergency, fire department SOPs, and communications equipment, so that all necessary information is obtained, communications equipment is operated correctly, and the information is relayed promptly and accurately to the dispatch center.

(Resource: 6th Ed. IFSTA ESSENTIALS of FF and FD Ops., CH 3 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed CH 4)

Candidate has initiated the response to a reported emergency.

Signed _____ Date: ____/____/____

4.4.2 Receive a telephone call, given a fire department phone, so that procedures for answering the phone are used and the caller's information is relayed.

(Resource: 6th Ed. IFSTA ESSENTIALS of FF and FD Ops., CH 3 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed CH 4)

Signed _____ Date: ____/____/____

4.4.4 Activate emergency procedures, given an emergency situation and department SOPs, so that emergency actions can be initiated.

(Resource: 6th Ed. IFSTA ESSENTIALS of FF and FD Ops., CH 3 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed CH 4)

Candidate has demonstrated the activation of emergency procedures.

Signed _____ Date: ____/____/____

5.1 General The job performance requirements defined in Sections 5.1 and 5.2 shall be met prior to qualifying as a fire department driver/operator — pumper.

5.1.1 General Knowledge Requirements. (Resource: 6th Edition IFSTA ESSENTIALS of Fire Fighting and Fire Department Operations, Chapters 1,2,7,18; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed., Chapters 1, 2, 9)

****NOTE**** 5.1.1 is not required if the candidate has a current Montana Fire Fighter 1 certification.

Candidate shall attached a copy of a current Montana Fire Fighter 1 certificate.

If the candidate does not have a current Montana Fire Fighter 1 certification, 5.1.1a-i must be completed.

Describe the organization of the fire department.

5.1.1a Candidate will provide a written narrative describing the operations and administrative staffing and duties of their Fire Service Organization (FSO).* Resource: Your FSO Leadership

Signed _____ Date: ____/____/____

5.1.1b Explain the driver / operator's role as a member of the organization.

Candidate will provide a written narrative describing the role of fire fighter in their FSO.

*Resource: Your FSO Leadership

Signed _____ Date: ____/____/____

5.1.1c Explain the mission of the fire service and of the local fire department.

Candidate will provide a narrative describing the mission of their FSO.* Resource: Your FSO Leadership

Signed _____ Date: ____/____/____

5.1.1d Explain the function of a standard operating procedure, and rules and regulations as they apply to the driver operator.

Candidate will provide a written narrative explaining the function of a standard operating procedure, rules and regulations. (Resource: 6th Ed. IFSTA ESSENTIALS of FF and FD Ops., CH 1, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed. CH 1)

Signed _____ Date: ____/____/____

5.1.1e Explain the value of fire and life safety initiatives in support of the fire department mission and to reduce fire fighter line-of-duty injuries and fatalities.

Candidate will provide a written narrative explaining the value of fire and life safety initiatives as it relates to their fire service organization. (Resource: 6th Ed. IFSTA ESSENTIALS of FF and FD Ops., CH 21, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed. CH 2)

Signed _____ Date: ____/____/____

5.1.1f Explain the role of other agencies that may respond to emergencies.

Candidate will provide a written narrative explaining the role of EMS, law enforcement and other fire agencies that may respond to emergencies. Resource: Your FSO Leadership

Signed _____ Date: ____/____/____

5.1.1g Describe the aspects of a member assistance program.

Candidate will provide a written narrative explaining the aspects of a member assistance program. Resource: Local MAP.

Signed _____ Date: ____/____/____

5.1.1h Explain the importance of physical fitness and a healthy lifestyle to the performance of the duties of a firefighter.

Candidate will provide a written narrative explaining the importance of physical fitness and a healthy lifestyle relating to the performance of the duties of a fire fighter. Resource: (Resource: 6th Ed. IFSTA ESSENTIALS of FF and FD Ops., CH 2, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed. CH 2)

Signed _____ Date: ____/____/____

5.1.1i Describe the critical aspects of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

Candidate will provide a written narrative describing the critical aspects of NFPA 1500. (Resource: NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and leadership or procedures of FSO; Resource: 6th Ed. IFSTA ESSENTIALS of FF and FD Ops., CH 1&2; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 3rd Ed. Chapter 2)

Signed _____ Date: ____/____/____

5.2.4

Describe hydraulic calculations for friction loss and flow using both written formulas and estimation methods.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 206-290)

Apparatus ID _____

All calculations are on level ground, no elevation gain or loss

Pre-connect 1 – Diameter- ____ (1.5” or larger), Length- ____ (150’ or longer), Flow- ____ (180 gpm or more),

Pump discharge pressure _____ psi, friction loss _____

Show your calculation:

Pre-connect 2 – Diameter - ____ (2.5” or larger), Length- ____ (100’ or longer), Flow- ____ (325 gpm or more)

Pump discharge pressure _____ psi, friction loss _____

Show your calculation:

Master Stream 1(500 gpm or greater) nozzle tip size or rated GPM- _____

Pump discharge pressure _____ psi, friction loss _____

Show your calculation:

Portable master stream 1(500 gpm) nozzle tip size or rated GPM- _____, size of hose _____, length _____

Pump discharge pressure _____ psi, friction loss _____

Show your calculation:

Line extension 1 (extending pre-connect 100' (or more), 180 gpm or greater) total length of line with extension _____ ft

Pump discharge pressure _____ psi, friction loss _____

Show your calculation:

Signed _____ Date: ____/____/____

Describe problems related to small-diameter or dead-end mains, low-pressure and private water supply systems.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 182-189)

Signed _____ Date: ____/____/____

Describe hydrant coding systems

(Resource: NFPA standard 291, and firehydrant.org, <http://www.firehydrant.org/info/design07.html>)

Signed _____ Date: ____/____/____

Describe reliability issues of static sources.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 410-415)

Signed _____ Date: ____/____/____

5.2.5 Pump a supply line of 2 1/2 in. (65 mm) 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.

Minimum criteria:

100' minimum distance between Relay Supply engine and Relay Attack engine

250 gpm relay flow rate, minimum

Shut down from attack pumper(1st) back toward Relay Supply pumper(last).

Use Positive Message Acknowledgement(5 step order model) for all communications related to relay operations

Explain how they determined the discharge pressure for the Relay Supply engine(consider distance, elevation, friction loss for flow in hose size used for relay hose lay)

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 400-437)

Signed _____ Date: ____/____/____

5.2.7 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.

(Resource: 3rd Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 364-366)

Signed _____ Date: ____/____/____

FSTS Tested Portion – Driver/Operator- Pumper

This page provides documentation for completion of the evolutions required for Driver/Operator-Pumper certification. **Each evolution must be signed off by a representative of the FSTS.** Other signatures will not be accepted on this page. Bring this Booklet with you when testing and be sure to have the appropriate sections completed by the evaluators **before** they leave the test site.

Road Course

Evaluator: _____ Date: _____

Hand-line evolution

Evaluator: _____ Date: _____

Pressurized source evolution

Evaluator: _____ Date: _____

Drafting evolution

Evaluator: _____ Date: _____

Criteria for FSTS Testing:

1. Communications must be accomplished by using the 5 step, positive message acknowledgement, order model. Examples include: Movement from staging into a simulated incident scene, charging a handline or masterstream.
2. Operate vehicle in compliance with all legal and regulatory requirements.
3. Use a spotter when backing, communicate with the spotter using a radio and equipping the spotter(s) with a portable radio(s).
4. Conduct operations in a manner free of conflict with other traffic and or pedestrians, and is free of damage to fire department, and other, property or equipment.
5. Structural PPE (bunker coat, pants, boots, helmet, hood, gloves) shall be worn when working outside the vehicle cab.

PROCTOR'S AFFIDAVIT

Note: This form may be duplicated so each proctor has one to file.

Date:_____

Proctor's Name_____

By my signature, I hereby agree to administer testing for Montana State University - Fire Services Training School in a professional manner, with integrity, and in compliance with the letter and spirit of the regulations governing the operation of the Montana Professional Qualifications Certification System. I also certify that I have not been involved in the training of the candidate(s) for the skills which I am testing. I understand that any breach of this commitment will result in my immediate dismissal and possible legal action against me.

Proctor's Signature

Witness

***** PROCTOR IN-SERVICE TRAINING *****

Location of Training:_____

Lead Instructor:_____

Date of Training:_____/_____/_____