

# **\*\*Driver / Operator Apparatus Equipped with Aerial Device\*\* Certification Test Documentation Booklet**

MSU Fire Services Training School  
409 14th Street Southwest – Suite 1 Great Falls MT 5940  
Phone: (406) 761-7885  
Fax: (406) 268-3735  
Website: <http://www.montana.edu/wwwfire>

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!)**

**An accredited Fire Fighter I certification is required for the Driver/Operator Aerial candidate.**

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.

**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.

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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.

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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:

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**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 within 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
  - Free of slack
- (11) Tools, appliances, and equipment
  - Per inventory
- (12) Built-in safety systems
- (13) Air systems (others, if equipped)

(Resource: 3<sup>rd</sup> 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: 3<sup>rd</sup> 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. (\* see also 6.1.1)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**4.3 Driving/Operating**

**4.3.1**

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

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

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_



List the common causes of fire apparatus accidents.

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

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

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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: 3<sup>rd</sup> 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.

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

6.1 General. The requirements of Fire Fighter I as specified in NFPA 1001 (or the requirements of Advanced Exterior Industrial Fire Brigade Member or Interior Structural Fire Brigade Member as specified in NFPA 1081) and the job performance requirements defined in Sections 6.1 and 6.2 shall be met prior to qualifying as a fire department driver/ operator — aerial.

**Candidate shall attached a copy of an accredited Fire Fighter 1 certificate.**

**6.1.1** Perform the visual and operation checks on the systems and components specified in the following list in addition to those specified in 4.2.1, given a fire department aerial apparatus, and policies and procedures of the jurisdiction, 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

(Resource: 3<sup>rd</sup> Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 562-573, 592-597)

Candidate shall attached a completed maintenance/inspection form. (\* see also 4.2.2)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## 6.2 Operations

6.2.1 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.

Describe the capabilities and limitations of the FSO's aerial device related to reach, tip load, angle of inclination, and angle from chassis axis.

(Resource: Manufactures operating manuals)

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Describe the effects of topography on the deployment and use of the aerial device.

(Resource: 3<sup>rd</sup> Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 613-619, 654-660)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Describe the effects of ground conditions on the deployment and use of the aerial device.

(Resource: 3<sup>rd</sup> Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 613-619)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Describe the effects of weather conditions on the deployment and use of the aerial device.

(Resource: 3<sup>rd</sup> Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 613-619)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

6.2.2 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.

Describe the FSO's aerial apparatus hydraulic system.

(Resource: Manufactures operating manuals, 3<sup>rd</sup> Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 546-552)

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6.2.3 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.

Describe system overrides on the FSO's aerial apparatus and the hazards of using overrides.

(Resource: Manufactures operating manuals)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

6.2.5 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.

Describe nozzle reaction as it relates to aerial master streams.

(Resource: 3<sup>rd</sup> Ed. IFSTA Pumping and Aerial Apparatus Driver/Operator, pp 570-571)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Describe range of operation and weight limitations on the FSO's aerial apparatus as it relates to aerial master streams.

(Resource: Manufactures operating manuals)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## FSTS Tested Portion – Driver/Operator- Aerial

This page provides documentation for completion of the evolutions required for Driver/Operator- Aerial 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: \_\_\_\_\_

### Aerial set-up, master stream, and emergency operating system evolution

Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

\*If the aerial apparatus is equipped with a fire pump, the following must also be performed\*

### Hand-line evolution

Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

### Pressurized source 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:**\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_