# *International Fire Service Certification Program*

**April 2017**

# FIRE PROTECTION TECHNOLOGY

# *Certification Guide*

# *Apparatus Equipped with Fire Pump*

**NFPA 1002**

***Standard for Fire Apparatus Driver/Operator Professional Qualifications***

**2014 Edition**

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## Basic Certification Information

Each individual seeking International Fire Service Accreditation Congress (IFSAC) accredited certification from Portland Community College (PCC), Fire Protection Technology (FPT) Program **MUST** do the following:

- ***Register***; and
- ***Submit an Application for Certification Testing Date***.

The Registration and Application for Certification Testing Date **MUST** be completed online. A list of current fees and the online registration and test date application forms may be found at: http://www.pcc.edu/programs/fire-protection/.

Once a person has ***Registered*** and submitted an ***Application for Certification Testing Date***, PCC FPT will evaluate the registration and application to ensure the person meets the criteria for the certification level for which they applied. The requirements for **Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump** certification are located on page 4 of this guidebook. Following the evaluation, the person will be notified whether they meet the criteria for admission into the ***Certification Process***. Upon acceptance into the ***Certification Process***, the person is considered a ***candidate for certification*** and has ***one year to complete*** the process.

During the ***Certification Process*** for Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump , candidates are responsible to know and be able to perform all job performance requirements (JPRs), requisite knowledge and requisite skills, identified in Chapters 4 and 5, NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2014 Edition.

Certification candidates are given two opportunities to successfully complete the written and skills portions of the certification examination component, including the original examination. The candidate must complete both the written and skills portions within the 12 month certification period. Failure to successfully complete all portions (written and skill examinations) within the 12 month period, will be deemed as failure of the attempted certification level.

Candidates that fail a certification level must reapply by submitting a new completing a ***Registration*** for a new test and an ***Application for Certification Testing Date***, including paying appropriate application fees.

### Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump Certification Information:

The certification examination process for becoming certified as a Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump is as follows:

- Candidate must complete the online ***Registration***.
- Candidate must complete the online ***Application for Certification Testing Date***, including a statement of ability to perform skills at least 15 days prior to the requested test date.
- Candidate must take the Apparatus Equipped with Pump written examination and skills examination (written and skill testing). NOTE: The written and skills tests may be taken on the same testing date or on different testing dates, i.e., the written may be taken on one date and the skills may be taken at a later date as long as it occurs within the 12 month certification period.
- Written examinations ***will not be scored*** at the testing site.

- Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump certification written examination:
  - The written examination includes two parts.
  - A score of 70 percent or more is required on each part of the written examination to receive a passing grade on the written portion of the certification examination process. The following are the two parts included in the written examination:
    - Chapter 4, NFPA 1002, General Requirements
    - Chapter 5, NFPA 1002, Apparatus Equipped with Fire Pump
  - A score of 69 percent or less on the written examination is deemed failing. Candidates that score 69% or less will be deemed to have failed the written portion of the certification examination process.
  - If the test (initial test) is failed, the candidate must schedule a second written test (retest) to occur between 21 days and 6 months following the first failed written test. This second test will be a new, randomly generated, written test.
  - If the second test (retest) is failed, the candidate will be considered to have failed the entire certification process.
- Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump certification skills examination:
  - Candidates will be tested over a minimum of three (3) randomly selected skill events from Chapter 4 and two (2) randomly selected skill events from Chapter 5, NFPA 1002, Apparatus Equipped with Fire Pump.
  - Candidates should be prepared to test on any skill event listed in the Skill Assessment Guided located at the end of this study guide.
  - Skill event examinations are assessed on a ***Pass/Fail*** basis.
  - **ALL** skill events selected as part of the certification examination process must be passed to receive a passing score for the skills examination component of the certification process.
  - The candidate will be considered to have passed the skills assessment portion of the certification examination process if all skill events tested during the certification skills examination portion are passed on either the first or second attempt.*

    *** IMPORTANT NOTE:** During the first skills examination, the candidate will be provided two attempts to pass each skill event. If the first attempt is failed, the candidate will, immediately, be provided a second attempt to pass the skill event. If the second attempt is failed, the candidate will be considered to have failed the event.
  - Candidates that fail a one skill event **are not** considered to have failed the entire skills examination process, but only that individual event.
  - Candidates that fail one event must retest the skill event failed and one randomly selected event.
  - Candidates that fail two skill events will be considered to have failed the entire skill examination test and must retest an entire new set of skill events consisting of a minimum of three (3) randomly selected skill events from Chapter 4 and two (2) randomly selected from Chapter 5, NFPA 1002, Apparatus Equipped with Fire Pump.
  - The skill retest must be scheduled to occur between 21 days and 6 months following the first failed test.
  - The second test (retest) will be conducted as follows:
    - The candidate will be give "one attempt" (**not** two attempts as provided in the first test) to pass each failed skill event from the first skills test.
    - If the skill events failed as part of the first skill test are passed on the first attempt, the candidate will be required to pass an additional, randomly, selected skill event for each event failed during the first test. NOTE: The candidate will be provided two attempts to pass each of the randomly selected skill events.
    - If the original skill events and the randomly selected events are passed, the candidate will be deemed to have passed the skills examination portion of the certification examination process.
    - If the candidate fails to pass the skill event, or events, failed during the first test or fails a randomly selected skill event during the retest, the candidate will be deemed to have failed the entire certification process.

- If the certification process is failed, the candidate must wait 12 months, from the original examination date (**not** the ***Registration date***), to reapply for certification at the Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump level.
- If a skill or written examination is failed during the first test, the candidate is responsible for registering online for the retest.

Requirements for admission to the Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump certification written and/or skills examination process, including retests:

- **A valid motor vehicle license issued by State must be shown for admittance to any examination requiring operation of a fire department vehicle.**
- **Where operation of a fire department vehicle is NOT required during an examination, an official government issued ID (state or federal) with picture may be shown for admittance to the examination, including retests.**

# Certification Examination Instructions
# Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump
# NFPA 1002-2014

## Certification Prerequisites and Requirements:

Candidates seeking Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump certification from PCC, FPT must meet the following requirements:

1. Candidates must meet the age and residency requirement as identified in **Chapter Four**, of PCC, FPT *Certification Policy and Procedure Manual*, February 2017.
2. Successful completion of written and skills examination at the Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump level.

Candidates that meet all the identified requirements will be awarded certification at the Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump level and receive a certificate with an official IFSAC seal and registry number.

# Certification Examination Process

**Written Examination:**

The Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump written examination component of the certification examination process consists of two written tests based on **Requisite Knowledge** listed in Chapters 4 and 5, NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2014 Edition.

- Candidates are required to score a minimum of 70% on both tests.
- The Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump certification examination consist of 40 test items based on the requisite knowledge listed in Chapter 4 and 60 test items based on the requisite knowledge listed in Chapter 5, NFPA1002-2014.
- Candidates are allowed two (2) hours to complete the test.
- Test items are constructed using the multiple choice format.

**Example:**

1. How many total tests items are on the Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump certification examinations?
   a. 25
   b. 50
   c. 75
   d. 100

**Skills Examination:**

The Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump skills examination component of the certification examination consists of practical skill assessments based on the **Requisite Skills** and **Job Performance Requirements** (JPRs) listed in Chapters 4 and 5, NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2014 Edition.

- Candidates will be assessed on a minimum of three (3), randomly selected skill events from Chapter 4 and two (2) from Chapter 5.
- Candidates will be required to pass all skill examinations assessed.
- All skill examinations are scored on a pass/fail basis.
- All skill evaluation forms are included in this study guide.

**References and Textbooks:**

- IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook, 3rd Edition*.
- NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2014 Edition.
- Portland Community College, *Driver/Operator Skills Booklet*, 2017 Edition.

# Required and Recommended Equipment
# For
# Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump
# Certification Skill Examination

1. Candidates are **required** to provide an apparatus equipped with a fire pump or utilize apparatus provided by PCC. **Note:** If the candidate will be utilizing a PCC apparatus, it is the candidate's responsibility to become familiar with driving and operating the apparatus prior to testing.

2. The following are **recommended**, but not required of candidates:
   - NFPA compliant uniform "t-shirt"
   - NFPA compliant uniform pants
   - Outer garment suitable for the weather
   - Water or sports drink for hydration
   - Sun screen

# Written Examination Study Guide
# Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump

**Standard:**

All written examination test items are based on Chapters 4 and 5, NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2014 Edition. Reference to the NFPA 1002 standard in the following study guide material is not the complete or official position of the NFPA. The official position of the NFPA is only represented by the "Standard" when printed in its entirety.

**Reference:**

**Textbook:** Any textbook covering basic driving and operating apparatus equipped with a fire pump knowledge and techniques appropriate for instruction of a "driving and pump operations class" can be used to prepare for the Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump written examination. However, PCC has chosen to adopt and reference the International Fire Service Training Association (IFSTA), *Pumping and Aerial Apparatus Driver/Operator Handbook, 3rd Edition*.

## Chapter 4 – Recommended Reading

| NFPA Standard Section & Number | Reference Page(s) |
|---|---|
| **Preventative Maintenance Tests: 4.2.1**<br>• Manufacturer specifications and requirements, policies, and procedures of the jurisdiction | **IFSTA:**<br>26-49 |
| **Preventative Maintenance Documentation: 4.2.2**<br>• Departmental requirements for documenting maintenance performed<br>• The importance of keeping accurate records | **IFSTA:**<br>26-49 |
| **Operate a Fire Apparatus: 4.3.1**<br>• The importance of donning passenger restraint devices and ensuring crew safety<br>• The common causes of fire apparatus accidents and the recognition that drivers of fire apparatus are responsible for the safe and prudent operation of the vehicle under all conditions<br>• The effects on vehicle control of liquid surge, braking reaction time, and load factors<br>• Effects of high center of gravity on roll-over potential, general steering reactions, speed, and centrifugal force<br>• Applicable laws and regulations<br>• Principles of skid avoidance, night driving, shifting, and gear patterns<br>• Negotiating intersections, railroad crossings, and bridges<br>• Weight and height limitations for both roads and bridges<br>• Identification and operation of automotive gauges<br>• Operational limits | **IFSTA:**<br>17, 19, 20, 76-119 |

| | |
|---|---|
| **Back a Fire Apparatus: 4.3.2**<br>• Vehicle dimensions<br>• Turning characteristics<br>• Spotter signaling<br>• Principles of safe vehicle operation | **IFSTA:**<br>96-99, 100-101, 113-116, 118 |
| **Maneuver a Fire Apparatus on a Roadway: 4.3.3**<br>• Vehicle dimensions<br>• Turning characteristics<br>• The effects of liquid surge<br>• Spotter signaling<br>• Principles of safe vehicle operation | **IFSTA:**<br>41, 96-112, 113-118 |
| **Turn a Fire Apparatus 180 Degrees in a Confined Space: 4.3.4**<br>• Vehicle dimensions<br>• Turning characteristics<br>• The effects of liquid surge<br>• Spotter signaling<br>• Principles of safe vehicle operation t | **IFSTA:**<br>96-119 |
| **Maneuver a Fire Apparatus with Restricted Clearances: 4.3.5**<br>• Vehicle dimensions<br>• Turning characteristics<br>• The effects of liquid surge<br>• Spotter signaling<br>• Principles of safe vehicle operation | **IFSTA:**<br>96-119 |
| **Operate a Vehicle Using Defensive Driving Techniques: 4.3.6**<br>• The importance of donning passenger restraint devices and ensuring crew safety Points of strength and weakness in auto body construction<br>• The effects on vehicle control of liquid surge, braking reaction time, and load factors<br>• The effects of high center of gravity on roll-over potential, general steering reactions, speed, and centrifugal force<br>• Applicable laws and regulations<br>• Principles of skid avoidance, night driving, shifting, gear patterns<br>• Automatic braking systems in wet and dry conditions<br>• Negotiation of intersections, railroad crossings, and bridges<br>• Weight and height limitations for both roads and bridges<br>• Identification and operation of automotive gauges<br>• Operational limits | **IFSTA:**<br>19, 21, 40-43, 85-91, 96-119 |

| | |
|---|---|
| **Operate Fixed Systems and Equipment: 4.3.7**<br>• Manufacturer's specifications and operating procedures Hazards associated with technical rescue operations<br>• Policies and procedures of the jurisdiction | **IFSTA:**<br>31-46 |

**Cumulative reading pages, for Chapter 4 written test, in numerical order:**

**IFSTA,** ***Pumping and Aerial Apparatus Driver/Operator Handbook, 3rd Edition*****:**
17, 19-21, 26-49, 76-119.

## Chapter 5 – Recommended Reading

| NFPA Standard Section & Number | Reference Page(s) |
|---|---|
| **Perform Pumper Inspections: 5.1.1**<br>• Manufacturer's specifications and requirements<br>• Policies and procedures of the jurisdiction | **IFSTA:**<br>13-22, 30-46, 338-341, 344, 350 |
| **Produce Streams: 5.2.1**<br>• Hydraulic calculations for friction loss and flow using both written formulas and estimation methods<br>• Safe operation of pump<br>• Problems related to small-diameter or dead-end mains<br>• Low-pressure and private water supply systems<br>• Hydrant coding systems<br>• Reliability of static sources | **IFSTA:**<br>22, 137, 142, 144, 164-189, 206-227, 336, 352-360, 362-363, 365-366, 404-406, 410-418 |
| **Relay Pumping: 5.2.2**<br>• Hydraulic calculations for friction loss and flow using both written formulas and estimation methods<br>• Safe operation of pump<br>• Problems related to small-diameter or dead-end mains<br>• Low-pressure and private water supply systems<br>• Hydrant coding systems<br>• Reliability of static sources | **IFSTA:**<br>14, 21, 22, 116-121, 137, 142, 144, 167, 169, 170, 172-179, 181-189, 193-195, 197-204, 210-214 218-219, 282-284, 287-288, 295-296, 298-304, 306-307, 309-310,312, 314-319, 321-322, 324, 326-327, 329,426-428, 430,432-435 |

| | |
|---|---|
| **Produce a Foam Fire Stream: 5.2.3**<br>• Proportioning rates and concentrations<br>• Equipment assembly procedures<br>• Foam system limitations<br>• Manufacturer's specifications | **IFSTA:**<br>15, 20, 479-505 |
| **Supply Fire Standpipe System: 5.2.4**<br>• Calculation of pump discharge pressure<br>• Hose layouts<br>• Location of fire department connection<br>• Alternative supply procedures if fire department connection is not usable<br>• Operating principles of sprinkler systems as defined in NFPA 13, NFPA 13D, and NFPA 13R<br>• Fire department operations in sprinklered properties as defined in NFPA 13E<br>• Operating principles of standpipe systems as defined in NFPA 14 | 18, 137, 141, 143-144, 362-364 |

**Cumulative reading pages, for written test, in numerical order:**

**IFSTA*, Pumping and Aerial Apparatus Driver/Operator Handbook, 3rd Edition*:**
13-22, 30-46, 116-121, 137, 141-144, 164-189, 193-204, 206-227, 282-329, 336-366404-418, 426-435, 480-497, 500-529.

**Cumulative reading pages, for written test, by Chapter, IFSTA*, Pumping and Aerial Apparatus Driver/Operator Handbook, 3rd Edition*:**
Chapter 1: 13-22
Chapter 2: 30-49
Chapter 3: 80-122
Chapter 4: 137, 141-144
Chapter 5: 167-189
Chapter 6: 193-195, 197-204
Chapter 7: 209-222, 224, 229, 242
Chapter 8: 281-284, 287-288
Chapter 9: 295-304, 306-307, 309-310, 312, 314-319, 321-324, 326-329
Chapter 10: 336-341, 344-366
Chapter 11: 404-406, 410-418
Chapter 12: 425-428, 430, 432-435
Chapter 14: 479-505

# Skills Examination Study Guide
# Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump

**Standard:**

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**References:**

**Textbook:** Any textbook covering basic driving and operating apparatus equipped with a fire pump knowledge and techniques appropriate for instruction of a "driving and pump operations class" can be used to prepare for the Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump written examination. However, PCC has chosen to adopt and reference the International Fire Service Training Association (IFSTA), *Pumping and Aerial Apparatus Driver/Operator Handbook, 3rd Edition*.

***Skill Events Booklet:*** For instructional purposes, PCC has developed and publishes a skills booklet: Fire Protection Program, *Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump Skills Booklet*, 2017 edition, for use in teaching its Fire Apparatus Driver/Operator courses; FP 200 and FP 232.

This study guide references skill sheets included in IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook, 3rd Edition*, and PCC FPT, *Fire Apparatus Driver/Operator Skills Booklet*, 2017 Edition.

## Chapter 4 – Skill References

| NFPA Standard Section & Number | Textbook Reference Page | Skills Booklet Reference Page |
|---|---|---|
| **Preventative Maintenance Tests: 4.2.1**<br>• Perform routine tests, inspections, and servicing functions on the systems and components specified in the following list,:<br>♦ Battery(ies)<br>♦ Braking system<br>♦ Coolant system<br>♦ Electrical system<br>♦ Fuel<br>♦ Hydraulic fluids<br>♦ Oil<br>♦ Tires<br>♦ Steering systems<br>♦ Belts<br>♦ Tools, appliances, and equipment | IFSTA 2-2 p. 52<br>IFSTA 2-3 p. 60<br>IFSTA 2-4 p. 62<br>IFSTA 2-5 p. 64<br>IFSTA 2-6 p. 67 | Skill #1 p. |

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| **Preventative Maintenance Documentation: 4.2.2**<br>• Document the routine tests, inspections, and servicing functions.<br>• Items are checked for operation and deficiencies are reported. | IFSTA 2-2 p. 52<br>IFSTA 2-3 p. 60<br>IFSTA 2-4 p. 62<br>IFSTA 2-5 p. 64<br>IFSTA 2-6 p. 67 | Skill #1 p. |
| **Operate a Fire Apparatus: 4.3.1**<br>• Operate a fire apparatus on a public way.<br>• Incorporate the maneuvers and features that the driver/operator is expected to encounter during normal operations.<br>• Vehicle is operated in compliance with all applicable state and local laws and departmental rules and regulations. | IFSTA 3-5 p.131 | Skill #2 p. |
| **Back a Fire Apparatus: 4.3.2**<br>• Back a vehicle from a roadway intro restricted spaces on both the right and left sides of the vehicle.<br>• Perform 90-degree right-hand and left-hand turns from the roadway.<br>• Vehicle is parked within the restricted areas without having to stop and pull forward and without striking obstructions. | No Skill Sheet | Skill #3 p. |
| **Maneuver a Fire Apparatus on a Roadway: 4.3.3**<br>• Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse.<br>• Vehicle is maneuvered through the obstructions without stopping to change the direction of travel and without striking the obstructions. | IFSTA 3-4 p.129 | Skill #4 p. |
| **Turn a Fire Apparatus 180 Degrees in a Confined Space: 4.3.4**<br>• Turn a fire apparatus 180 degrees within a confined space.<br>• The vehicle is turned 180 degrees without striking obstructions within the given space. | IFSTA 3-4 p.130 | Skill #5 p. |
| **Maneuver a Fire Apparatus with Restricted Clearances: 4.3.5**<br>• Maneuver a fire apparatus in areas with restricted horizontal and vertical clearances.<br>• Operator accurately judges the ability of the vehicle to pass through the openings and so that no obstructions are struck. | IFSTA 3-4 p.130 | Skill #6 p. |

| | | |
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| **Operate a Vehicle Using Defensive Driving Techniques: 4.3.6**<br>• Operate a vehicle using defensive driving techniques. | IFSTA 3-4 p.130 | Skill #7 p. |
| **Operate Fixed Systems and Equipment: 4.3.7**<br>• Operate all fixed systems and equipment on the vehicle not previously identified.<br>• Each system or piece of equipment is operated in accordance with the applicable instructions and policies of the manufacturer and department. | IFSTA 3-1 p.124<br>IFSTA 3-2 p.126<br>IFSTA 3-3 p.128 | Skill #8 p. |

**Cumulative IFSTA *Skill* Sheets, in numerical order:**
2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 3-1, 3-2, 3-3, 3-4, 3-5.

**Cumulative PCC FPT, *Driver/Operator Skills Booklet* skill sheets in numerical order:**
Skill Sheets #1 through #8.

## Chapter 5 – Skill References

| NFPA Standard Section & Number | Textbook Reference Page | Skills Booklet Reference Page |
|---|---|---|
| **Perform Pumper Inspections: 5.1.1**<br>• Perform the routine tests, inspections, and servicing functions specified in the following list:<br>♦ Water tank and other extinguishing agent levels (if applicable)<br>♦ Pumping systems<br>♦ Foam systems | IFSTA 2-7 p.69<br>IFSTA 2-8 p.72<br>IFSTA 10-1 p.390<br>IFSTA 10-2 p.391 | Skill #9 |
| **Produce Streams: 5.2.1**<br>• Produce effective hand or master streams given the following situations:<br>♦ Internal tank source<br>♦ Pressurized source<br>♦ Static source<br>♦ Transfer from internal tank to external source | IFSTA 10-3 p.392<br>IFSTA 10-4 p.394<br>IFSTA 10-5 p.395<br>IFSTA 10-6 p.396 | Skill #10A<br>Skill # 10B |

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|---|---|---|
| **Relay Pumping: 5.2.2**<br>• Pump a supply line of 2 1/2 in. or larger in relay.<br>• Operate pumper pressure control systems.<br>• Operate the volume/pressure transfer valve (multistage pumps only).<br>• Operate auxiliary cooling systems.<br>• Assemble hose lines, nozzles valves and appliances. | IFSTA 12-1 p.437<br>IFSTA 12-2 p.438 | Skill #11 |
| **Produce a Foam Fire Stream: 5.2.3**<br>• Produce a foam fire stream.<br>• The ability to operate foam proportioning equipment.<br>• Connect foam stream equipment. | IFSTA 14-1 p.510 | Skill #12 |
| **Supply Fire Systems: 5.2.4**<br>• Supply water to fire sprinkler and standpipe systems. | IFSTA 10-7 p.398 | Skill #13A<br>Skill #13B |

**Cumulative IFSTA *Skill* Sheets, in numerical order:**
10-1, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 12-1, 12-2, 14-1.

**Cumulative PCC FPT, *Driver/Operator Skills Booklet* skill sheets in numerical order:**
Skill Sheets #9 through #13B.

# Fire Apparatus Driver/Operator: Apparatus Equipped with Fire Pump Skill Assessment Guides

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# Chapter 4 Skill Sheets

# Skill Sheet #1: Preventive Maintenance

## Portland Community College
## Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.2.1 & 4.2.2

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 2-2 (pp. 52-59), 2-3 (pp. 60-61), 2-4 (pp.62-63), 2-5 (pp. 64-66), & 2-6 (pp. 67-68).

**Candidate Equipment Required:** Appropriate personal protective equipment, including eye protection; apparatus equipped with fire pump; department inspection and maintenance forms.

**Evaluator Equipment Required:** Hand tools/wrenches, tire gauge.

**Read To Candidate:**
This skill event has two parts. In Part I, you will perform routine tests, inspections, and service functions on a fire department apparatus equipped with a pump. In Part II, you will document the results.

**Part I:**
For this part of the skill event, you will perform routine tests, inspections, and service functions on the outside and inside of a fire department apparatus equipped with a pump of the components and systems in the following list:

(1) Battery(ies) – including battery charging
(2) Braking system – including brake tests
(3) Coolant system
(4) Electrical system
(5) Fuel
(6) Hydraulic fluids (when applicable)
(7) Oil
(8) Tires
(9) Steering system
(10) Belts
(11) Tools, appliances, and equipment

You are required to verify the operational status of all the components and systems listed. While performing routine tests, inspections, and service functions, you will be required to use hand tools, recognize system problems, and correct any deficiencies noted according to manufacturer recommendations and policies and procedures of the jurisdiction. You will **NOT** be required to perform routine pump tests, pump inspections, aerial inspections, or similar inspections and tests at this skill event.

**Part II:**
For this part of the skill event, you will complete appropriate maintenance and inspection forms appropriate for the routine tests, inspections, and service functions you performed. You are required to document all results. Deficiencies you are unable to correct, shall be reported to me. You will be provided appropriate maintenance and inspection forms for documenting your findings.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | |
|---|---|---|
| | | **Skill Demonstration: Part I** |
| | | **Inspection and Maintenance** |
| ____ | ____ | **1. Checked batteries.** |
| ____ | ____ | **2. Checked engine oil.** |
| ____ | ____ | **3. Checked belts.** |
| ____ | ____ | **4. Checked coolant system.** |
| ____ | ____ | **5. Checked tires.** |
| ____ | ____ | **6. Checked hydraulic fluids [***if applicable***].** |
| ____ | ____ | *7. Turned on batteries and/or switch and checked dash panel gauges prior to starting engine.* |
| ____ | ____ | *8. Started engine.* |
| ____ | ____ | **9. Checked fuel.** |
| ____ | ____ | **10. Checked steering system.** |
| ____ | ____ | **11. Checked electrical system [***including headlights, turn signals, brake lights, and emergency warning lights***].** |
| ____ | ____ | *12. Checked outside of vehicle for open compartments/doors, loose equipment, and loose objects prior to placing vehicle in motion.* |
| ____ | ____ | **13. Tested road and parking brakes.** *(Critical fail: if seat belt not properly worn prior to engaging transmission)* |
| ____ | ____ | *14. Shut down engine and turned off switch and/or batteries.* |
| ____ | ____ | **15. Checked tools, appliances, and equipment.** |
| ____ | ____ | **16. Recognized system problems** *(if any)* |
| ____ | ____ | **17. Corrected deficiency found during routine tests and inspection, according to policies and procedures** |
| ____ | ____ | **18. Used handle tools** *(where required)* **to perform routine tests, inspection, and servicing.** |
| | | **Skill Demonstration: Part II** |
| | | **Documentation** |
| ____ | ____ | **19. Documented the routine tests, inspections, and servicing functions performed and completed all related departmental forms.** |
| ____ | ____ | **20. Reported deficiencies.** |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# Skill Sheet #2: Operate a Fire Apparatus

## Portland Community College
## Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.3.1.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015.
*SKILL SHEETS*: 3-5 (pp. 131)

**Candidate Equipment Required:** Fire apparatus equipped with a pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Fire apparatus, Safe area to maneuver fire apparatus, Safety cones, Sidewalk chalk, Spotter.

**Read To Candidate:**
For this skill event, you will be required to drive/operate a fire department vehicle on a predetermined route that incorporates the maneuvers and features that a driver/operator would expect to encounter during normal operations. You are expected to comply with all state and local laws and department rules and regulations while driving/operating the vehicle.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | |
|---|---|---|
| ____ | ____ | *1. Turned on batteries and/or switch and checked dash panel gauges prior to starting engine.* |
| ____ | ____ | *2. Started engine.* |
| ____ | ____ | **3. Operated passenger restraint devices.** [*Critical fail: if seat belt not properly worn prior to engaging transmission*] |
| ____ | ____ | *4. Checked mirrors and adjusted if necessary.* |
| ____ | ____ | **5. Properly engaged transmission control.** |
| ____ | ____ | *6. Checked for traffic prior to proceeding and during vehicle operation.* |
| ____ | ____ | **7. Maintained safe following distances.** |
| ____ | ____ | **8. Maintained control of vehicle while accelerating.** |
| ____ | ____ | **9. Maintained control of vehicle while decelerating.** |
| ____ | ____ | **10. Maintained control of vehicle while turning.** |
| ____ | ____ | **11. Operated under adverse environmental or driving surface conditions.** |
| ____ | ____ | **12. Used dash panel gauges while operating vehicle.** |
| ____ | ____ | **13. Followed state and local laws while operating vehicle.** [*Critical fail: if speed limit is exceeded or fails to stop at controlled intersection*] |
| ____ | ____ | *14. If applicable, spotter used when backing.* [*Critical Fail: candidate failed to have a spotter when backing*] |
| ____ | ____ | *15.* ***Critical Fail:*** *Candidate had to be stopped due to pending unsafe maneuver or accident* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# Skill Sheet #3: Back a Fire Apparatus

## Portland Community College
## Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.3.2.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*:

**Candidate Equipment Required:** Fire apparatus equipped with a pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Fire apparatus, Safe area to maneuver fire apparatus, Safety cones, Sidewalk chalk, Spotter.

**Read To Candidate:**
For this skill event, you will be required to back a fire apparatus into a restricted space. You will start from a simulated roadway position that is 90-degrees to the restricted space. The restricted space is 12 feet in width. You are required to use a spotter when backing. The spotter will not assist you while backing. However, the spotter will signal you prior to a pending accident. You are to sound the horn prior to backing so the evaluator and spotter are made aware of your pending movement. (see illustration #1a and #1b)

You are permitted to stop when backing, but you are not permitted to pull forward to realign the apparatus or to get out and judge your distance from an object. You are to back until the spotter indicates for you to stop.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| ____ | ____ | **1.** | **Used mirrors when backing.** |
| ____ | ____ | **2.** | **Judged clearance on each side of vehicle while backing. [***Critical Fail: Candidate had to be stopped due to pending unsafe maneuver or accident***].** |
| ____ | ____ | **3.** | **Did not strike obstructions.** |
| ____ | ____ | **4.** | **Did not have to stop and pull forward in order to realign apparatus so obstruction is avoided [***it is acceptable to stop in order to judge alignment, but it is NOT acceptable to pull forward to realign vehicle***].** |
| ____ | ____ | *5.* | *Spotter used when backing.* **[***Critical Fail: candidate failed to have a spotter when backing***].** |
| ____ | ____ | *6.* | *Sounded horn prior to backing so evaluator and spotter are made aware.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

## Skill Sheet #4: Maneuver a Fire Apparatus on a Roadway

# Portland Community College
# Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.3.3.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 3-4 (pp. 129)

**Candidate Equipment Required:** Fire apparatus equipped with a pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Fire apparatus, Safe area to maneuver fire apparatus, Safety cones, Sidewalk chalk, Spotter.

**Read To Candidate:**
For this skill event, you will be required to maneuver a fire apparatus around obstructions on a roadway while moving forward and in reverse. A "serpentine exercise" will be used for this skill event.

The apparatus is to be maneuvered through the serpentine without striking the obstructions and without stopping to change the direction of travel, accept for maneuvers that require you to operate the apparatus in reverse. You are **NOT** permitted to stop when moving forward, except as required for a given maneuver.

You are permitted to stop when backing, but you are not permitted to pull forward to realign the apparatus or to get out and judge your clearance from an object. When backing, you are required to use a spotter. The spotter will not assist you while backing. However, the spotter will signal you prior to a pending accident and when the backing maneuver is completed. You are to sound the horn prior to backing so the evaluator and spotter are made aware of your pending movement. (see illustration #2)

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| ____ | ____ | **1.** | **Maneuvered forward through serpentine without stopping to change the direction of travel.** |
| ____ | ____ | **2.** | **Maneuvered forward through serpentine without striking obstructions.** |
| ____ | ____ | **3.** | **Used mirrors when backing through serpentine.** |
| ____ | ____ | *4.* | *Sounded horn prior to backing so evaluator and spotter are made aware.* |
| ____ | ____ | **5.** | **Judged clearance on each side of vehicle while backing.** |
| ____ | ____ | **6.** | **Did not have to stop and pull forward when backing in order to realign apparatus so obstruction is avoided [***it is acceptable to stop in order to judge alignment, but it is **NOT** acceptable to pull forward to realign vehicle***].** |
| ____ | ____ | **7.** | **Spotter used when backing. [***Critical Fail: candidate failed to have a spotter when backing***].** |
| ____ | ____ | *8.* | ***Critical Fail:** Candidate had to be stopped due to pending unsafe maneuver or accident.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# Skill Sheet #5: Turn Fire Apparatus 180 Degrees in a Confined Space

## Portland Community College
## Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.3.4.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 3-4 (pp. 130)

**Candidate Equipment Required:** Fire apparatus equipped with a pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Fire apparatus, Safe area to maneuver fire apparatus, Safety cones, Sidewalk chalk, Spotter, Barricade tape.

**Read To Candidate:**
For this skill event, you will be required to turn a fire apparatus 180 degrees within a confined space. You must perform the maneuver without striking obstructions or the markers used to identify the boundaries of the confined space. You are not permitted to get out and judge your clearance from an obstruction or the markers used to identify the boundaries of the confined space. Be advised, the confined space area is not large enough to perform a U-turn.

When making the 180 degree turn, you are only permitted to back up one time. The turn must be accomplished using a three-point turn (sometimes called a Y-turn, K-turn, or broken U-turn) and without striking the markers used to identify the boundaries of the confined space or any obstruction.

When backing, you are required to use a spotter. The spotter will not assist you while backing. However, the spotter will signal you prior to a pending accident and when the backing maneuver is completed. You are to sound the horn prior to backing so the evaluator and spotter are made aware of your pending movement.
(see illustration #3)
To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| ____ | ____ | **1.** | **Maneuvered forward in the confined space without striking obstructions or crossing the confined space boundary marker.** |
| ____ | ____ | **2.** | **Maneuvered backward in the confined space without striking obstructions or crossing the confined space boundary marker.** |
| ____ | ____ | **3.** | **Used mirrors when backing.** |
| ____ | ____ | **4.** | **Spotter used when backing. [***Critical Fail: candidate failed to have a spotter when backing***].** |
| ____ | ____ | *5.* | *Sounded horn prior to backing so evaluator and spotter are made aware.* |
| ____ | ____ | **6.** | **Judged vehicle clearance while entering and exiting confined space.** |
| ____ | ____ | **7.** | **Made 180 degree turn using a three-point turn [***vehicle was only backed up one time***].** |
| ____ | ____ | *8.* | ***Critical Fail:*** *Candidate had to be stopped due to pending unsafe maneuver or accident.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# Skill Sheet #6: Maneuver Fire Apparatus in Areas with limited Clearance

## Portland Community College
## Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.3.5.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 3-4 (pp. 130)

**Candidate Equipment Required:** Fire apparatus equipped with a pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Fire apparatus, Safe area to maneuver fire apparatus, Safety cones, Sidewalk chalk, Spotter.

**Read To Candidate:**

For this skill event, you will be required to maneuver a fire apparatus in areas with restricted horizontal and vertical clearances and stop at a designated point. You are required to maneuver through the areas so no obstructions are struck and stop at the designated point without going beyond it. This event will use a "diminishing clearance" exercise. You will drive forward through a course with two rows of markers that form a lane and an adjustable cross-bar to simulate vertical clearance. The lane varies in width from 9 ft. 6 in. to 8 ft. 2 in. and the cross-bar will be adjusted to a height that may or may not provide sufficient clearance for the apparatus to pass under. Assuming you are able to pass under the cross-bar, you are to continue forward until you reach the stop line. If the apparatus will not pass under the cross-bar, you are required to stop prior to striking it. You are required to maintain a speed of at least 10 mph when moving forward through the diminishing clearance exercise lane and approaching the stop line. After reaching the stop line or the cross-bar positioned without adequate clearance, you are to back the apparatus out of the diminishing clearance set up. (see illustration #4)

When backing you are not permitted to stop. When backing, you are required to use a spotter. The spotter will not assist you while backing. The spotter will signal when the backing maneuver is completed or to prevent an accident. You are to sound the horn prior to backing so the evaluator and spotter are made aware of your pending movement.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| _____ | _____ | **1.** | **Maneuvered forward through diminishing clearance exercise without stopping.** |
| _____ | _____ | **2.** | **Maneuvered forward through diminishing clearance exercise without striking obstructions.** |
| _____ | _____ | **3.** | **Did not strike vertical clearance cross-bar.** |
| _____ | _____ | **4.** | **Stopped at the stop line without crossing it.** |
| _____ | _____ | **5.** | **Used mirrors when backing through diminishing clearance exercise.** |
| _____ | _____ | *6.* | *Sounded horn prior to backing so evaluator and spotter are made aware.* |
| _____ | _____ | **7.** | **Judged clearance on each side of vehicle while backing.** |
| _____ | _____ | **8.** | **Did not have to stop while backing [***it is <u>NOT</u> acceptable to stop in order to judge alignment***].** |
| _____ | _____ | **9.** | **Did not strike obstruction while backing.** |
| _____ | _____ | **10.** | **Spotter used when backing. [***Critical Fail: candidate failed to have a spotter when backing***].** |
| _____ | _____ | *11.* | ***Critical Fail:*** *Candidate had to be stopped due to pending unsafe maneuver or accident.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# Skill Sheet #7: Operate Vehicle Using Defensive Driving Techniques

## Portland Community College
## Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.3.6.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 3-4 (pp. 130)

**Candidate Equipment Required:** Fire apparatus equipped with a pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Fire apparatus, Safe area to maneuver fire apparatus, Safety cones, Sidewalk chalk, Spotter.

**Read To Candidate:**
For this skill event, you will be required to operate a vehicle using defensive driving techniques. You are to maintain control of the vehicle at all times, including while accelerating, turning, and decelerating.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| ____ | ____ | 1. | *Turned on batteries and/or switch and checked dash panel gauges prior to starting engine.* |
| ____ | ____ | 2. | *Started engine.* |
| ____ | ____ | 3. | **Operated passenger restraint devices.** [*Critical fail: if seat belt not properly worn prior to engaging transmission*] |
| ____ | ____ | 4. | *Checked mirrors and adjusted if necessary.* |
| ____ | ____ | 5. | **Properly engaged transmission control.** |
| ____ | ____ | 6. | *Checked for traffic prior to proceeding and during vehicle operation.* |
| ____ | ____ | 7. | **Maintained safe following distances.** |
| ____ | ____ | 8. | **Maintained control of vehicle while accelerating.** |
| ____ | ____ | 9. | **Maintained control of vehicle while decelerating.** |
| ____ | ____ | 10. | **Maintained control of vehicle while turning.** |
| ____ | ____ | 11. | **Operated under adverse environmental or driving surface conditions.** |
| ____ | ____ | 12. | **Used dash panel gauges while operating vehicle.** |
| ____ | ____ | 13. | **Followed state and local laws while operating vehicle.** [*Critical fail: if speed limit is exceeded or fails to stop at controlled intersection*] |
| ____ | ____ | 14. | *If applicable, spotter used when backing.* [*Critical Fail: candidate failed to have a spotter when backing*] |
| ____ | ____ | 15. | ***Critical Fail:** Candidate had to be stopped due to pending unsafe maneuver or accident* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# Skill Sheet #8: Operate Fixed Systems on a Fire Apparatus

## Portland Community College
## Appar. Driver/Operator General Requirements - Skills Assessment

**JPR:** NFPA 1002-2014, Section 4.3.7.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015.
*SKILL SHEETS*: 3-1 (pp. 124-125), 3-2 (pp. 126-127), 3-3 (pp. 128)

**Candidate Equipment Required:** Fire apparatus equipped with a pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Fire apparatus with fixed system, such as an onboard generator or hydraulic system for rescue tools.

**Read To Candidate:**
For this skill event, you will be required to operate a major piece of equipment or mechanical system on the apparatus. The equipment or system operated must be operated according to the manufacturer's recommendations and department policies and procedures. Examples of 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.

I will select the piece of equipment/mechanical system you are required to operate based on the equipment and mechanical systems available on the apparatus provided.

In addition to operating the selected piece of equipment or mechanical system on the apparatus, you are required to operate all equipment associated with the equipment or system selected.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| _____ | _____ | 1. | *Checked system/equipment prior to operating.* |
| _____ | _____ | **2.** | **Deployed system/equipment.** |
| _____ | _____ | **3.** | **Energized system/equipment.** |
| _____ | _____ | **4.** | **Monitored system/equipment while in operation.** |
| _____ | _____ | **5.** | **Recognized and corrected system problems.** (if applicable) |
| _____ | _____ | **6.** | **Operated system/equipment according to manufacturer's recommendations and policies and procedures.** |
| _____ | _____ | **7.** | **Operated equipment associated with the fixed system/equipment.** |
| _____ | _____ | 8. | *Returned system/equipment to operational readiness state.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# Chapter 5 Skill Sheets

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# Skill Event #9: Perform Pumper Inspections

## Portland Community College
## Apparatus Equipped with a Pump - Skills Assessment

**JPR:** NFPA 1002-2014, Section 5.1.1.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015.
*SKILL SHEETS*: 2-7 (pp. 69-71), 2-8 (pp. 72-73), 10-1 (pp. 390), 10-2 (pp. 391)

**Candidate Equipment Required:** Fire apparatus equipped with fire pump (unless using apparatus provided by evaluator); Appropriate personal protective equipment, including eye protection; apparatus; department inspection and maintenance forms.

**Evaluator Equipment Required:** Hand tools/wrenches, tire gauge.

**Read To Candidate:**
This skill event has two parts. In Part I, you will perform routine tests, inspections, and service functions on the basic components and equipment on a fire department apparatus equipped with a pump. In Part II, you will perform routine tests, inspections, and service functions on the pumping system and, if applicable, the foam system.

While performing the routine tests, inspections, and service functions in **Part I** and **Part II**, you will be required to use hand tools, recognize system problems, and correct any deficiencies noted, in accordance with manufacturer recommendations and policies and procedures of the jurisdiction.

**Part I:**
For this part of the skill event, you will be required to perform routine tests, inspections, and servicing functions specified in the following list, so that the operational status of the fire department apparatus equipped with a pump is verified.

1) Battery(ies) – including battery charging
2) Braking system – including brake tests
3) Coolant system
4) Electrical system
5) Fuel
6) Hydraulic fluids (when applicable)
7) Oil
8) Tires
9) Steering system
10) Belts
11) Tools, appliances, and equipment

You will perform the routine tests, inspections, and service functions on the outside and inside of a fire department pumper. The routine tests, inspections, and servicing functions are to be conducted in accordance with the manufacturer's specifications, and policies and procedures of the jurisdiction.

**Part II:**

For this part of the skill event, you will be required to perform routine tests, inspections, and servicing functions specified in the following list, so that the operational status of the pumping system and, if applicable, foam system on that apparatus equipped with a pump is/are verified

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

You will perform the routine tests, inspections, and service functions on the pump and, if applicable, foam systems of the apparatus equipped with a pump in accordance with the manufacturer's specifications, and policies and procedures of the jurisdiction.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | |
|---|---|---|
| | | **Skill Demonstration: Part I** |
| | | **Basic Components and Equipment Checks:** |
| ____ | ____ | **1. Checked batteries.** |
| ____ | ____ | **2. Checked engine oil.** |
| ____ | ____ | **3. Checked belts.** |
| ____ | ____ | **4. Checked coolant system.** |
| ____ | ____ | **5. Checked tires.** |
| ____ | ____ | **6. Checked hydraulic fluids [***if applicable***].** |
| ____ | ____ | *7. Turned on batteries and/or switch and checked dash panel gauges prior to starting engine.* |
| ____ | ____ | *8. Started engine.* |
| ____ | ____ | **9. Checked fuel.** |
| ____ | ____ | **10. Checked steering system.** |
| ____ | ____ | **11. Checked electrical system [***including headlights, turn signals, brake lights, and emergency warning lights***].** |
| ____ | ____ | *12. Checked outside of vehicle for open compartments/doors, loose equipment, and loose objects prior to placing vehicle in motion.* |
| ____ | ____ | **13. Tested road and parking brakes.** *(Critical fail: if seat belt not properly worn prior to engaging transmission)* |
| ____ | ____ | *14. Shut down engine and turned off switch and/or batteries.* |
| ____ | ____ | **15. Checked tools, appliances, and equipment.** |
| ____ | ____ | **16. Recognized system problems** *(if any)* |
| ____ | ____ | **17. Corrected deficiency found during routine tests and inspection, according to policies and procedures** |
| ____ | ____ | **18. Used handle tools** *(where required)* **to perform routine tests, inspection, and servicing.** |
| ____ | ____ | **19. Reported deficiencies found in components and equipment.** |

1st Attempt 2nd attempt

**Skill Demonstration: Part II**
**Pumping System:**

_____ _____ **20. Checked water tank level.**
_____ _____ **21. Checked extinguishing agent levels.** *(if applicable)*
_____ _____ **22. Tested pump.**
_____ _____ **23. Operated pressure relief system.**
_____ _____ **24. Operated primer.**
_____ _____ **25. Operated foam system.** *(if applicable)*
_____ _____ *26.* ***Critical fail:*** *cavitated pump*
_____ _____ *27. Disengaged pump.*
_____ _____ *28. Returned pumper to road ready status.*
_____ _____ **29. Reported deficiencies found in pumping system and,** *if applicable***, foam system.**

**Candidate's Name:** _____ Station: P ____ F ____ P ____ F ____
1st Attempt 2nd attempt

**Evaluator's Signature:** _____

# Skill Event #10A: Produce Steams From Tank and Then Transfer to Pressurized Source

## Portland Community College
## Apparatus Equipped with a Pump - Skills Assessment

**JPR:** NFPA 1002-2014, Section 5.2.1.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015.
*SKILL SHEETS*: 10-3 (pp. 392-393), 10-4 (pp. 394), 10-5 (pp. 395), 10-6 (pp. 396-397)

**Candidate Equipment Required:** Fire apparatus equipped with fire pump and internal water tank (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Hand line with nozzle, Master stream device with nozzle, Pressurized water source, Hose lines, Nozzles, Valves, and Appliances.

**Read To Candidate:**
For this skill event, you will be required to produce an effective hand line stream from the pumper's internal water tank and an effective master stream from a pressurized water source. After establishing the hand line stream from the pumper's internal tank, you will be required to switch from it to the pressurized water source while maintaining the hand line stream. Once you have switched to the pressurized water source, you will be required to establish a master stream. When pumping the master stream using a multi-stage pump, you are required to operate the transfer valve.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| _____ | _____ | **1.** | **Positioned fire department pumper to operate at a fire hydrant.** |
| _____ | _____ | *2.* | *Set parking brake. (Critical Fail: if parking brake not applied)* |
| _____ | _____ | *3.* | *Placed wheel chocks.* |
| _____ | _____ | **4.** | **Assembled hose lines, nozzles, valves, and appliances for pumping operation.** |
| _____ | _____ | **5.** | **Power transferred from vehicle engine to pump.** *(pump & transmission engaged)* |
| _____ | _____ | **6.** | **Produced effective hand line stream from pumper's internal water tank.** |
| _____ | _____ | **7.** | **Operated pumper pressure control system.** |
| _____ | _____ | **8.** | **Made the transition between internal tank and pressurized water source.** |
| _____ | _____ | **9.** | **Operated the volume/pressure transfer valve.** *(if applicable)* |
| _____ | _____ | **10.** | **Produced effective master stream from pressurized water source.** |
| _____ | _____ | **11.** | **Operated auxiliary cooling system.** |
| _____ | _____ | **12.** | **Monitored apparatus for potential problems.** |
| _____ | _____ | *13.* | ***Critical fail:** pump cavitated and then continued operating requiring evaluator to stop test.* |
| _____ | _____ | *14.* | *Power transferred from pump to vehicle engine. (disengaged pump)* |
| _____ | _____ | *15.* | *Returned pumper to road ready status.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

## Skill Event #10B: Produce Streams From Static Source

# Portland Community College
# Apparatus Equipped with a Pump - Skills Assessment

**JPR:** NFPA 1002-2014, Section 5.2.1.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015.
*SKILL SHEETS*: 10-3 (pp. 392-393), 10-4 (pp. 394), 10-5 (pp. 395), 10-6 (pp. 396-397)

**Candidate Equipment Required:** Fire apparatus equipped with fire pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Hand line with nozzle, Master stream device with nozzle, Static water source, Hose lines, Nozzles, Valves, and Appliances.

**Read To Candidate:**
For this skill event, you will be required to produce an effective hand line stream using a static water source. After establishing the hand line stream, you will be required to establish an effective master stream. When pumping the master stream using a multi-stage pump, you are required to operate the transfer valve.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| _____ | _____ | **1.** | **Positioned fire department pumper to operate at a static water source.** |
| _____ | _____ | *2.* | *Set parking brake. (Critical Fail: if parking brake not applied)* |
| _____ | _____ | *3.* | *Placed wheel chocks.* |
| _____ | _____ | **4.** | **Assembled hose lines, nozzles, valves, and appliances for drafting operation.** |
| _____ | _____ | **5.** | **Power transferred from vehicle engine to pump.** *(engaged pump)* |
| _____ | _____ | **6.** | **Drafted from static water source.** |
| _____ | _____ | **7.** | **Produced effective hand line stream.** |
| _____ | _____ | **8.** | **Produced effective master stream.** |
| _____ | _____ | **9.** | **Operated pumper pressure control system.** |
| _____ | _____ | **10.** | **Operated the volume/pressure transfer valve.** *(if applicable)* |
| _____ | _____ | **11.** | **Operated auxiliary cooling system.** |
| _____ | _____ | **12.** | **Monitored apparatus for potential problems.** |
| _____ | _____ | *13.* | ***Critical fail:*** *pump cavitated and then continued operating requiring evaluator to stop test.* |
| _____ | _____ | *14.* | *Power transferred from pump to vehicle engine. (disengaged pump)* |
| _____ | _____ | *15.* | *Returned pumper to road ready status.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

## Skill Event #11: Relay Pumping

# Portland Community College
# Apparatus Equipped with a Pump - Skills Assessment

**JPR:** NFPA 1002-2014, Section 5.2.2.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 12-1 (pp. 437), 12-2 (pp. 438)

**Candidate Equipment Required:** Fire apparatus equipped with fire pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Hand line with nozzle, Master stream device with nozzle, Static water source, Hose lines, Nozzles, Valves, and Appliances.

**Read To Candidate:**
For this skill event, you will be required to pump a 2½ in. or larger supply line in a relay pumping scenario. You are required to provide the correct pressure and flow to the next pumper in the relay. The supply hose diameter and length, will be laid out for you. I will advise you of the flow and intake pressure required.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| ____ | ____ | 1. | **Positioned fire department pumper to operate at a fire hydrant or static water source.** |
| ____ | ____ | 2. | *Set parking brake. (Critical Fail: if parking brake not applied)* |
| ____ | ____ | 3. | *Placed wheel chocks.* |
| ____ | ____ | 4. | **Assembled hose lines, nozzles, valves, and appliances for pumping operation.** |
| ____ | ____ | 5. | **Power transferred from vehicle engine to pump.** *(pump & transmission engaged)* |
| ____ | ____ | 6. | **Drafted from static water source.** *(if applicable)* |
| ____ | ____ | 7. | **Operated from fire hydrant.** *(if applicable)* |
| ____ | ____ | 8. | **Provided correct pressure and flow to next pumper in the relay.** |
| ____ | ____ | 9. | **Operated pumper pressure control system.** |
| ____ | ____ | 10. | **Operated the volume/pressure transfer valve.** *(if applicable)* |
| ____ | ____ | 11. | **Operated auxiliary cooling system.** *(if applicable)* |
| ____ | ____ | 12. | *Monitored apparatus for potential problems.* |
| ____ | ____ | 13. | ***Critical fail:** pump cavitated and then continued operating requiring evaluator to stop test.* |
| ____ | ____ | 14. | *Effectively communicated with other pumpers when shutting down the relay evolution. (Critical Fail: the next pumper in the relay ran out of water causing the pump to cavitate and/or fire suppression operations had to cease due to loss of water)* |
| ____ | ____ | 15. | *Power transferred from pump to vehicle engine. (disengaged pump)* |
| ____ | ____ | 16. | *Returned pumper to road ready status.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

## Skill Event #12: Produce A Foam Fire Stream

# Portland Community College
# Apparatus Equipped with a Pump - Skills Assessment

**JPR:** NFPA 1002-2014, Section 5.2.3.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 14-1 (pp. 510-511)

**Candidate Equipment Required:** Fire apparatus equipped with fire pump (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Hand line with nozzle, Master stream device with nozzle, Water source, Internal foam system (or foam proportioner and concentrate), Foam equipment, including hose lines, nozzles, valves, and appliances.

**Read To Candidate:**
For this skill event, you will be required to produce a foam fire stream, so that proportioned foam is provided to a hand line. The foam fire stream must be produced utilizing the pumper's internal foam system and foam stream hand lines. If the pumper is not equipped with an internal foam system, portable foam proportioning equipment, containers of concentrate, and foam stream equipment must be used.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| _____ | _____ | 1. | *Positioned fire department pumper to operate at a fire hydrant or static water source.* |
| _____ | _____ | 2. | *Set parking brake. (Critical Fail: if parking brake not applied)* |
| _____ | _____ | 3. | *Placed wheel chocks.* |
| _____ | _____ | **4.** | **Assembled foam proportioning equipment, foam concentrate, and foam stream equipment.** |
| _____ | _____ | 5. | *Power transferred from vehicle engine to pump. (pump & transmission engaged)* |
| _____ | _____ | **6.** | **Correctly operated pump so properly proportioned foam is provided.** *(internal foam system operated correctly; or, if using portable foam equipment, correct pressure)* |
| _____ | _____ | 7. | *Operated pumper pressure control system.* |
| _____ | _____ | 8. | *Monitored apparatus for potential problems.* |
| _____ | _____ | 9. | ***Critical fail:** pump cavitated and then continued operating requiring evaluator to stop test.* |
| _____ | _____ | 10. | *Power transferred from pump to vehicle engine. (disengaged pump)* |
| _____ | _____ | 11. | *Returned pumper to road ready status.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

## Skill Event #13A: Supply A Fire Sprinkler System

# Portland Community College
# Apparatus Equipped with a Pump - Skills Assessment

**JPR:** NFPA 1002-2014, Section 5.2.4.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015. *SKILL SHEETS*: 10-7 (pp. 398)

**Candidate Equipment Required:** Fire apparatus equipped with fire pump and internal water tank (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Hand line with nozzle, Master stream device with nozzle, External water source, Hose lines, Nozzles, Valves, and Appliances.

### Read To Candidate:

For this skill event, you will be required to supply water to a fire sprinkler system, so that the system is supplied at the correct volume and pressure.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

### P-Pass / F-Fail:

| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| ____ | ____ | **1.** | **Positioned fire department pumper to operate at a fire hydrant or static water source.** |
| ____ | ____ | *2.* | *Set parking brake. (Critical Fail: if parking brake not applied)* |
| ____ | ____ | *3.* | *Placed wheel chocks.* |
| ____ | ____ | **4.** | **Assembled hose lines, nozzles, valves, and appliances required to supply the fire sprinkler system.** |
| ____ | ____ | **5.** | **Power transferred from vehicle engine to pump.** *(pump & transmission engaged)* |
| ____ | ____ | **6.** | **Drafted from static water source.** *(if applicable)* |
| ____ | ____ | **7.** | **Operated pumper pressure control system.** |
| ____ | ____ | **8.** | **Made the transition between internal tank and external water source.** |
| ____ | ____ | **9.** | **Operated the volume/pressure transfer valve.** *(if applicable)* |
| ____ | ____ | **10.** | **Provided correct volume to sprinkler system.** |
| ____ | ____ | **11.** | **Provided correct pressure to sprinkler system.** |
| ____ | ____ | **12.** | **Operated auxiliary cooling system.** |
| ____ | ____ | *13.* | ***Critical fail:*** *cavitated pump and then continued operating cavitated pump requiring evaluator to stop test.* |
| ____ | ____ | *14.* | *Power transferred from pump to vehicle engine. (disengaged pump)* |
| ____ | ____ | *15.* | *Returned pumper to road ready status.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

## Skill Event #13B: Supply A Fire Standpipe System

# Portland Community College
# Apparatus Equipped with a Pump - Skills Assessment

**JPR:** NFPA 1002-2014, Section 5.2.4.

**Reference:** IFSTA, *Pumping and Aerial Apparatus Driver/Operator Handbook*©, 3rd edition, 2015.
*SKILL SHEETS*: 10-7 (pp. 398)

**Candidate Equipment Required:** Fire apparatus equipped with fire pump and internal water tank (unless using apparatus provided by evaluator).

**Evaluator Equipment Required:** Hand line with nozzle, Master stream device with nozzle, External water source, Hose lines, Nozzles, Valves, and Appliances.

**Read To Candidate:**
For this skill event, you will be required to supply water to a fire standpipe system, so that the system is supplied at the correct volume and pressure.

To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**). This skill is not timed; however, you must complete it within a reasonable time. Do you have any questions?

**P-Pass / F-Fail:**

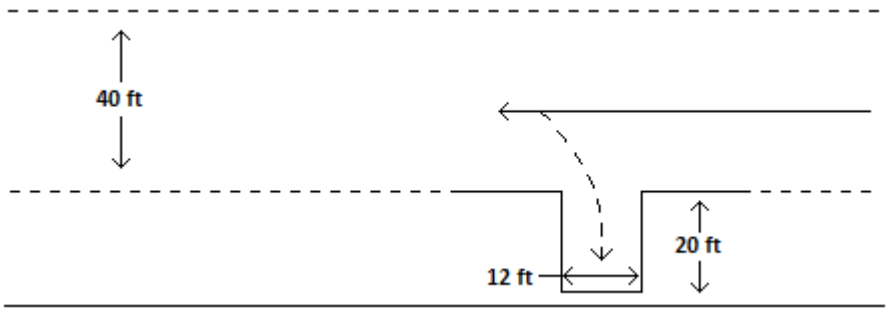
| 1st Attempt | 2nd attempt | | |
|---|---|---|---|
| ____ | ____ | **1.** | **Positioned fire department pumper to operate at a fire hydrant or static water source.** |
| ____ | ____ | *2.* | *Set parking brake. (Critical Fail: if parking brake not applied)* |
| ____ | ____ | *3.* | *Placed wheel chocks.* |
| ____ | ____ | **4.** | **Assembled hose lines, nozzles, valves, and appliances required to supply the fire standpipe system.** |
| ____ | ____ | **5.** | **Power transferred from vehicle engine to pump.** *(pump & transmission engaged)* |
| ____ | ____ | **6.** | **Drafted from static water source.** *(if applicable)* |
| ____ | ____ | **7.** | **Operated pumper pressure control system.** |
| ____ | ____ | **8.** | **Made the transition between internal tank and external water source.** |
| ____ | ____ | **9.** | **Operated the volume/pressure transfer valve.** *(if applicable)* |
| ____ | ____ | **10.** | **Provided correct volume to standpipe system.** |
| ____ | ____ | **11.** | **Provided correct pressure to standpipe system.** |
| ____ | ____ | **12.** | **Operated auxiliary cooling system.** |
| ____ | ____ | *13.* | ***Critical fail:*** *cavitated pump and then continued operating cavitated pump requiring evaluator to stop test.* |
| ____ | ____ | *14.* | *Power transferred from pump to vehicle engine. (disengaged pump)* |
| ____ | ____ | *15.* | *Returned pumper to road ready status.* |

**Candidate's Name:** _____ Station: P ____ F ____ (1st Attempt) P ____ F ____ (2nd attempt)

**Evaluator's Signature:** _____

# List of Illustrations

#1a

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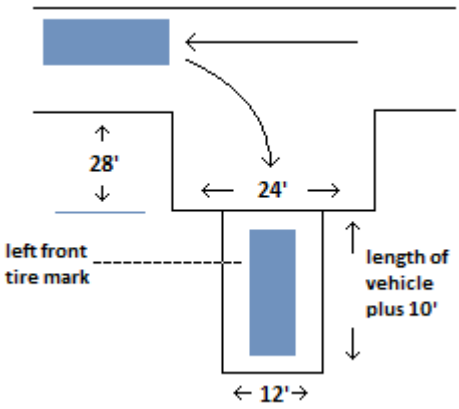


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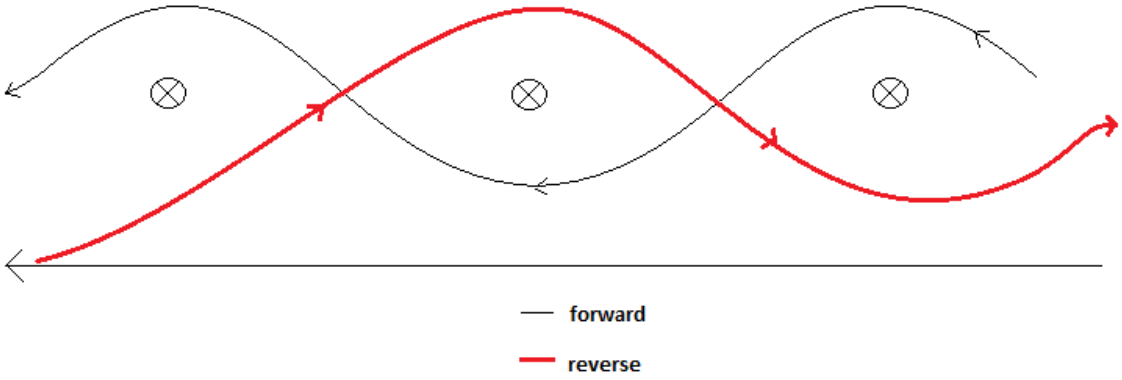

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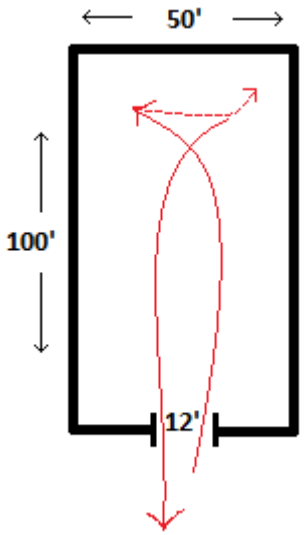


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