

Reference Materials:

Note: This exam may contain "accepted practice" type questions not found in reference material.

When an inconsistency arises between NFPA 414 and FAA 10D, NFPA 414 will take precedence.

Pumping Apparatus DRIVER/OPERATOR Handbook, 3rd edition, International Fire Service Training Association (IFSTA), 800-654-4055 or www.ifta.org; Ch. 5,9 & 10

NFPA 412 **Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment**

National Fire Protection Association, Quincy, MA (800) 344-3555 or www.nfpa.org

NFPA 414 **Standard for Aircraft Rescue and Fire-Fighting Vehicles**

National Fire Protection Association, Quincy, MA. (800) 344-3555 or www.nfpa.org

FAA Advisory Circular 10-E www.faa.gov

Any Major Fire Pump Manufacturer Repair Manual

Learning Objectives for the ARFF-3 Exam**1. Fire and Water Pump Systems**

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|------------------------------|---------------------------------|------------------|
| a. Hydraulic Theory | d. Controls and Instrumentation | g. Pump and Roll |
| b. Mechanical | e. Over Heat Protection | h. Interlock |
| c. Operations and Components | f. Pump Engagement | |

2. Plumbing Systems

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|---|---|---|
| a. Hose Reel Hand Lines
(1) required range
(2) required hose length | f. Water tank
g. Flow Switches
h. Interlocks
i. Structural Panel | j. Piping
k. Valve
l. Winterization |
| b. Master Drains | | |
| c. Windshield Deluge | | |
| d. Pressure Relief Valves | | |
| e. Priming System | | |

3. Foam Systems

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|-----------------------------|-------------------------------|---|
| a. Transfer Pumps | f. Foam Tanks
(1) Mounting | k. Foam Pumps
l. Testing
(1) Foam Concentration |
| b. Flushing Systems | g. Metering Valves | m. Premix |
| c. Instruments and Controls | h. Proportioning Systems | n. CAFS |
| d. Interlocks | i. Foam Agents | o. Flouroprotein |
| e. Check Valves | j. Eductors | p. Protein Foam |

4. Nozzle and Turret Systems

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|---------------------------------|-------------------------|--------------------------------------|
| a. Piercing Nozzles | g. Micro-Processors | n. Dual Agent Turrets |
| b. Discharge Patterns/distances | h. Joysticks | o. Dual Rate Turrets |
| c. Non-Aspirated | i. Auto oscillation | p. Bumper Turrets |
| d. Aspirated | j. Hydraulic Controls | q. Roof Turrets |
| e. Electric Controls | k. Actuators | r. Interlock Systems |
| f. Manual Overrides | l. Ground Sweep Systems | s. Elevated Water-Way
Systems |
| | m. Under Truck Nozzles | t. Parallel multiple agent
nozzle |

5. Ancillary Agent Systems

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|--------------------------------------|---------------------------|--|
| a. Instruments and Controls | f. Check Valves | l. Dual Agent Nozzles |
| b. Refilling Agents | g. Safety Valves | m. Propellant Gases |
| c. Caking and Fluffing | h. Pressure Regulators | n. Agents |
| d. Plumbing
(1) Halogenated agent | i. Pressure Vessels | o. Interlocks |
| e. Discharge and Blow Down Systems | j. | p. Flow and Range
Performance parameters
for clean agent systems |
| | k. Hydro Chemical Nozzles | |