

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, 2nd edition, International Fire Service Training Association (IFSTA), 800-654-4055 or www.ifta.org; Ch. 5, 6, 11&10

Aircraft Rescue & Fire Fighting 4th edition, IFSTA, Oklahoma State University, Stillwater, OK. (800) 654-4055 Chapters 6&9

NFPA 412 **Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment** 2003 Edition, All Specified Chapters, National Fire Protection Association, Quincy, MA (800) 344-3555 or www.nfpa.org

NFPA 414 **Standard for Aircraft Rescue and Fire-Fighting Vehicles** 2007 Edition,

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

FAA Advisory Circular 10-D www.faa.gov

Any Major Fire Pump Manufacturer Repair Manual

Learning Objectives for the ARFF-3 Exam

1. **Fire and Water Pump Systems**

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**

a. Hose Reel Hand Lines	f. Water tank	j. Piping
b. Master Drains	g. Flow Switches	k. Valve
c. Windshield Deluge	h. Interlocks	l. Winterization
d. Pressure Relief Valves	i. Structural Panel	
e. Priming System		

3. **Foam Systems**

a. Transfer Pumps	e. Check Valves	i. Foam Agents
b. Flushing Systems	f. Foam Tanks	j. Eductors
c. Instruments and Controls	g. Metering Valves	k. Foam Pumps
d. Interlocks	h. Proportioning Systems	l. Testing

4. **Nozzle and Turret Systems**

a. Piercing Nozzles	g. Micro-Processors	n. Dual Agent Turrets
b. Discharge Patterns	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	

5. **Ancillary Agent Systems**

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	i. Pressure Vessels	o. Interlocks
e. Discharge and Blow Down Systems	j. C.A.F.S.	
	k. Hydro Chemical Nozzles	