

ADO-Pumping Apparatus Manipulative Skill Objectives

PREVENTIVE MAINTENANCE

1. Perform and document routine tests, inspections, and servicing functions on specified systems and components.

A. For a fire department Apparatus (Pumper).

Reference: NFPA 1002, 2017 Edition, 4.2.1(B), 4.2.2 (B), 4.3.7 (B) 5.1.2(B)

Condition: Given a fire department pumping apparatus (with manufacturer specifications), inspection form or check-off sheet. Sample check-off sheet provided in Appendix B or a department check-off sheet that covers all items listed below.

Competence:

- Check batteries for fluid level and corrosion (if maintenance free, check indicator for correct color).
- Check braking system for fluid level/drain air tanks of water.
- Check coolant system for fluid level, leaks, and cleanliness.
- Check electrical system for corrosion and tight connections.
 - Siren and other warning devices.
 - Headlights, running lights, and turn signal flashers.
 - Emergency warning lights.
- Check fuel level.
- Check hydraulic fluids for fluid level and leaks.
- Check engine oil for fluid level and leaks.
- Check tires for pressure and wear.
- Check steering system for range of motion and looseness.
- Check engine belts for tightness and wear.
- Check tools, appliances, and equipment, fixed equipment, lighting.
- Check windshield wiper blades/fluid level.
- Start apparatus and monitor gauges and other control devices.
- Check all items off on check-off sheet (see Appendix B)
- Correct, document, and report deficiencies found.

Time: 15:00 minutes.

B. Fire Department Pump system.

Reference: NFPA 1002, 2017 Edition, 5.1.1 (A)(B) 5.1.2(B)

Condition: Given a fire department pumping apparatus (with manufacturer's specifications) determine readiness of fire pump on apparatus.

Competence:

- Check water tank for level and leaks in system.
- Check foam tank for level and leaks in system (if applicable).
- Exercise pump valves.
- Check and clean intake strainers.
- Check pump gearbox for proper oil level and traces of water.
- Start apparatus and place apparatus in pump gear.
- Operate the pump primer with all pump valves closed.
- Operate the changeover valve while pumping from booster tank or other water source.
- Check packing glands for excessive leaks (if applicable).
- Operate the pump pressure control device(s).

Time: 15:00 minutes.

DRIVING OPERATIONS

NOTICE: The driving skills in this standard are used to determine participant's qualifications to become certified at the level of ADO-Pumping Apparatus. The passing of these skills does not qualify a participant for any other certification or licenser, such as a Commercial Drivers License (CDL) and is not intended to certify, verify or approve an individual's ability to drive fire apparatus on state or federal highways. The responsibility to determine who will drive fire apparatus resides with the local fire department or the authority having jurisdiction.

SPOTTER INSTRUCTIONS: The purpose of having a spotter assist while backing an apparatus is to protect life and property. The spotter should alert the driver if property damage could occur or damage the apparatus. The spotter will not DIRECT the driver when to stop during a test.

2. Operate a fire department pumper so that the vehicle is safely operated in compliance with all applicable state and local laws, departmental rules and regulations.

Reference: NFPA 1002, 2017 Edition, 4.3.1(B), 4.3.6(B), 4.3.7 (B), 5.2.1(B), 5.5.2(B)
* See Appendix C for diagram of course and instructions.

Condition: Given a fire department pumping apparatus (with manufacturers specifications) and a predetermined route on a public way that incorporates the maneuvers and features specified below, and that the driver/operator is expected to encounter during normal operations:

- a. Travel a straight section of urban, business street or a 2-lane rural road at least 1 mile in length.
- b. Make 1 left & 1 right hand turn from a stoplight or stop sign.
- c. Negotiate 1 through-intersection.
- d. Negotiate 1 curve, either right or left.

Competence:

- Adjust and use mirrors.
- Use seat belts for all occupants.
- Observe all posted speed limits.
- Maintain safe following distances.
- Maintain control of the vehicle while accelerating, decelerating, and turning.
- Stop fully at all stop signs or stop lights.
- Use turn signals.
- Keep apparatus in correct lane of travel.
- Monitor all gauges so vehicle is operated within manufactures specifications.

Time: Not to exceed 15:00 minutes.

3. Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle, Alley Dock.

Reference: NFPA 1002, 2017 Edition, 4.3.2(B), 4.3.6(B)
* **See Appendix C for diagram of course and instructions.**

Condition: Given a fire department pumping apparatus (with manufacturer's specifications), spotter (used as a guide and safety to direct the apparatus when backing **only**), cones, and a restricted space 12 ft. in width, requiring 90-degree right or left-hand turns from a 40' wide roadway, so that the vehicle is parked within the restricted area without having to stop and pull forward and without crossing over or striking cones. A marker should be placed on the ground, on the left side of the apparatus, to mark where the front left tire should be spotted, by the operator, to know where to stop the apparatus and park.

Competence:

- Adjust and use mirrors for backing.
- Driver/passengers wearing seat belts.
- Spotter used to back apparatus, for safety.
- Stop apparatus so that the center of the left front wheel is within 6" of the center of the marker.
- Completed skill correctly without crossing over or striking cones.

Time: 5:00 minutes

4. Maneuver vehicle around obstructions on a roadway while moving forward and in reverse, Serpentine.

Reference: NFPA 1002, 2017 Edition, 4.3.3(B), 4.3.6(B)
* **See Appendix C for diagram of course and instructions.**

Condition: Given a fire department pumping apparatus (with manufacturer's specifications), spotter (used as a guide and safety to direct the apparatus when backing **only**), cones, a roadway with obstructions, so that the vehicle is maneuvered through the obstructions without stopping to change the direction of travel and without crossing over or striking cones.

Competence:

- Adjust and use mirrors for backing.
- Driver/passengers wearing seat belts.
- Spotter used to back apparatus.
- Completed skill correctly without crossing over or striking cones.

Time: 5:00 minutes

5. Turn a vehicle around 180 degrees within a confined space, Confined Space Turnaround.

Reference: NFPA 1002, 2017 Edition, 4.3.4(B), 4.3.6(B)
*** See Appendix C for diagram of course and instructions.**

Condition: Given a fire department pumping apparatus (with manufacturer's specifications), spotter (used as a guide and safety to direct the apparatus when backing **only**), cones, area where vehicle cannot make a U-turn without stopping and backing up, so that the vehicle is turned 180 degrees without passing over or striking cones.

Competence:

- Adjust and use mirrors for backing.
- Driver/passengers wearing seat belts.
- Spotter used to back apparatus.
- Completed skill correctly without crossing over or striking cones.

Time: 5:00 minutes

6. Maneuver a vehicle in restricted horizontal and vertical clearances, Diminishing Clearance.

Reference: NFPA 1002, 2017 Edition, 4.3.5(A)(B), 4.3.6(A)(B)
*** See Appendix C for diagram of course and instructions.**

Condition: Given a fire department pumping apparatus (with manufacturer's specifications), spotter (used as a guide and safety to direct the apparatus when backing **only**), cones, course that requires the operator to move through areas of restricted horizontal clearances, so that the operator accurately judges the ability of the vehicle to pass through the openings without passing over or striking cones.

*** Width measurements for this skill may be modified due to the varying widths of apparatus. Modification should be based on the track width of the apparatus being used for training. To obtain a final width, measure the apparatus being used and add 2 inches on each side the track width and that will be the final width for training and testing purposes.**

Competence:

- Adjust and use mirrors.
- Driver/passengers wearing seat belts.
- Completed skill correctly without crossing over or striking cones.
- Stop the vehicle before crossing cone at finish line.

Time: 5:00 minutes

7. Initiate a response

Reference: NFPA 1002, 2017 Edition, 4.4.1, 4.4.4

Condition: The candidate, given the report of an emergency, facility SOPs, and communications equipment, shall initiate a response so that all necessary information is obtained and recorded and communications equipment is operated properly, and emergency procedures are activated

Competence:

- Operates communications equipment properly (telephone, radio, cell phone, etc)
- Identifies the type of emergency and assesses the current situation
- Identifies the incident location
- Identifies the resources needed
- Records all pertinent information related to the emergency – CRITICAL POINT
- Notifies proper entity (fire brigade, fire department, unit supervisor, etc) and activates emergency response according to department SOPs – CRITICAL POINT

Time: 5:00 minutes

8. Communications – Telephone Calls

Reference: NFPA 1002, 2017 Edition, 4.4.2

Condition: The candidate, given a specific situation, shall demonstrate the procedures for answering emergency and non-emergency calls using department communications equipment and ensuring that all information is received and relayed appropriately

Competence:

- Identifies self and department in a timely fashion
- Records all pertinent information received by caller (date, time, caller's name, callback number, and their own name)
- Hangs up last

Time: 3:00 minutes

9. Communications – Radio

Reference: NFPA 1002, 2017 Edition, 4.4.3

Condition: The candidate will properly demonstrate transmitting and receiving radio messages using radio equipment

Competence:

- Checks equipment and ensures that radio is on right frequency, battery is charged, and radio is ready to be used – CRITICAL POINT
- Waits for open channel prior to transmitting, ensuring that they are not interrupting other transmissions
- Differentiates between routine and emergency traffic
- Uses radio phonetics correctly
- Transmits message clearly, concisely, and using clear speech (no codes)

Time: 1:00 minute

PUMPING OPERATIONS

10. Produce effective hand or master streams, given the source specified for the following, so that the pump is safely engaged, all pressure control and vehicle safety devices are set, the rated flow for the nozzle is achieved and maintained and the apparatus is continuously monitored.

A. Fire Hydrant – Handline

Reference: NFPA 1002, 2017 Edition, 5.2.3(B)

Condition: Given a fire department pumping apparatus (with manufacturer's specifications), 100 feet of supply hose (2 1/2" or larger), attack line minimum 100 feet 1 1/2" or 1 3/4" hoseline, appropriate fittings and tools, **Operator** plus 1-firefighter to assist with hydrant and 1-firefighter to assist with hoseline.

Competence:

- Stop at hydrant, tailboard even with or slightly beyond (approximately 10 feet).
- After signal from hydrantman, proceed to fire.
- Lay out minimum of 100 feet of supply line.
- Stop apparatus, set brake.
- Engage pump.
- Chock wheels.
- Engage tank to pump (department standard).
- Open correct discharge valve and charge appropriate attack line.
- Gradually develop pump discharge pressure in attack line.
- Set discharge relief valve (department standard).
- Make supply line connection to intake.
- Signal hydrant for water.
- Transition from tank water to hydrant supply (valves, gauges, and throttle).
- Monitor discharge pressure.

Time: 5:00 minutes

B. Fire Hydrant – Master Stream Device.

Reference: NFPA 1002, 2017 Edition, 5.2.4(B), 5.2.5(B)

Condition: Given a fire department pumping apparatus (with manufacturer's specifications), 100 feet of supply hose (2 1/2" or larger), appropriate fittings and tools, Mounted master stream device or portable. Operator plus 1-firefighter to assist with hydrant and 2 firefighters to assist with hoseline and Master stream device (if portable master stream device is used).

Competence:

- Stop at hydrant, tailboard even with or slightly beyond (approximately 10 feet).
- After signal from hydrantman, proceed to fire.
- Lay out minimum of 100 feet of supply line.
- Stop apparatus, set brake.
- Engage pump.
- Chock wheels.
- Engage tank to pump (department standard).
- Make supply line connection.
- If using portable master stream device, set up device away from apparatus using 50 feet of supply hose (department standard).
- Signal for water from hydrant.
- Open appropriate discharge valve(s).
- Gradually develop pump discharge pressure to master stream device.
- Set discharge relief valve (department standard).
- Monitor discharge pressure.

Time: 5:00 minutes for Mounted Master Stream Device
10:00 minutes for Portable Master Stream Device

C. Draft Supply Source – Handline.

Reference: NFPA 1002, 2017 Edition, 5.2.3(B)

Condition: Given a fire department pumping apparatus (with manufacturer's specifications), hard suction intake hose, appropriate fittings and tools, 10 ft. ladder, portable water tank (if being used as water source), 100 ft. of 1 1/2" or 1 3/4" attack line. Operator plus 2-firefighters to assist with setting up equipment.

Competence:

- Position apparatus at drafting location.
- Connect sections of hard suction hose together (department standard).
- Connect strainer to hard suction hose, attach rope (department standard).
- Connect to apparatus, tighten all connections.
- Place ladder into static water source if necessary.
- Lower into static source.
- Engage pump.
- Pick up draft.
- Gradually open appropriate valve to charge hand-line.
- Flow water from handline or master stream device for 1 minute at appropriate pressure.

Time: 10:00 minutes

11. Establish a relay pumping evolution, produce an effective water supply, so that the pump is safely engaged, all pressure control and vehicle safety devices are set, the rated flow is achieved, and the apparatus is continuously monitored for potential problems.

Reference: NFPA 1002, 2017 Edition, 5.2.4(B), 5.2.5(B)

Condition: Given 2 fire department pumping apparatus (with manufacturer's specifications) 200 feet 2 1/2" or larger hose, appropriate hose adapters and appliances, 4 firefighter team (2 firefighters per apparatus). With "Attack" pumper positioned 50 ft. from "Source" pumper. Candidate being evaluated will be at the Source Pumper.

Competence:

- Position "Source" pumper at water source (hydrant or draft location).
- Ensure supply lines from Source pumper are connected to Attack pumper.
- Establish water supply to "Source" pumper intake.
- Through radio communication ensure that the Attack pumper has water flowing from discharge opening at an appropriate pressure (20 psi as a minimum).
- Pump required discharge pressure from Source pumper to Attack pumper, based on pressure given by radio communication.

Time: 10:00 minutes

12. Produce a foam fire stream so that properly proportioned foam is delivered. (USE THE COMPETENCY THAT IS APPROPRIATE FOR THE TYPE OF FOAM EQUIPMENT THAT YOUR DEPARTMENT HAS).

Reference: NFPA 1002, 2017 Edition, 5.2.6(B)

Condition: Given a fire department pumping apparatus (with manufacturers specifications), foam concentrate, **foam eductor**, foam nozzle or other portable foam producing equipment, with hoseline set up, 2 firefighter team to man hose line.

Competence:

- Set concentrate percentage on the proportioner.
- Place pickup tube in foam container.
- Set appropriate pump discharge pressure.
- Deliver properly proportioned foam.
- Clean system when skill complete (not included in time limit).

OR

Condition: Given a fire department pumping apparatus (with manufacturers specifications), foam concentrate, **apparatus mounted foam system**, foam nozzle and other related equipment, with hoseline set up, 2 firefighter team to man hose line.

Competence:

- Set concentrate percentage on the proportioner.
- Set metering valve.
- Set appropriate pump discharge pressure.
- Deliver properly proportioned foam.
- Clean system when skill complete (not included in time limit).

Time: 5:00 minutes

13. Supply water to a fire sprinkler or standpipe system so that water is supplied to the system at the correct volume and pressure.

Reference: NFPA 1002, 2017 Edition, 5.2.7(B)

Condition: Given a fire department pumping apparatus (with manufacturers specifications), 2- lengths 2 ½” or 3” hose, additional hose tools or appliances, 2-firefighter team to make connection from apparatus to FDC.

Competence:

- Stop at hydrant, tailboard even with or slightly beyond (approximately 10 feet).
- After signal from hydrantman, proceed to fire.
- Lay out minimum of 100 feet of supply line.
- Stop apparatus, set brake.
- Engage pump.
- Chock wheels.
- Engage tank to pump (department standard).
- Make supply line connection to intake.
- Signal hydrant for water.
- Open correct discharge valve and charge appropriate supply lines to FDC.
- Gradually develop pump discharge pressure in supply lines.
- Monitor discharge pressure.

Time: 5:00 minutes