Skill Set: Driving / Operating: Cone Course

Reference: NFPA 1002, 2017 Edition - Chapter 4, Sections 4.3.2 - Alley Dock; 4.3.3 - Serpentine Course; 4.3.4 - Confined Space Turn-around; 4.3.5 - Diminishing-Clearance Driving

Candidate Equipment Required: None

Evaluator Equipment Required: Pumper Apparatus; Traffic cones; Spotter; Closed-course driving area

Evaluator's Instructions to the Candidate

At this station, you will demonstrate driving fire apparatus through various exercises that simulate actual driving situations. The evaluator will give you specific instructions at the beginning of each exercise.

You will have a spotter available, if you wish. You alone will be in the apparatus during this station. If you knock down any of the traffic cones during an exercise, that constitutes a failure for that exercise.

Candidate MUST successfully be competent in each of the steps listed to pass this skill station.

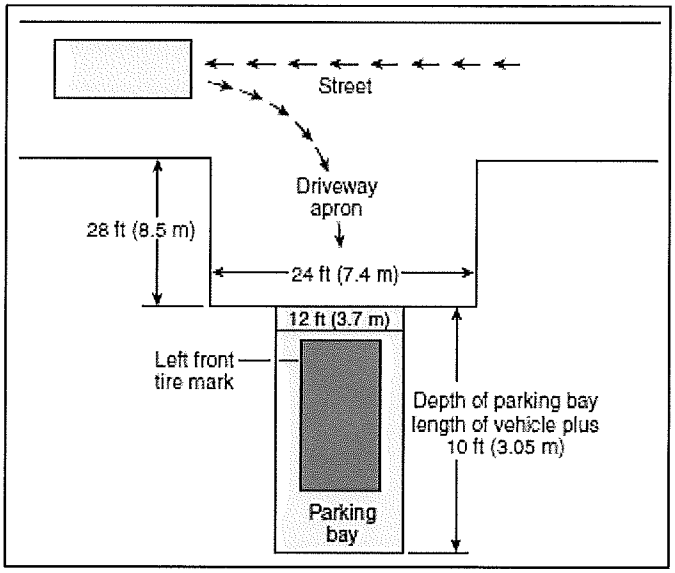
No.	Evaluated Skill Items	First Time		Retest	
		Pass	Fail	Pass	Fail
1.	Correctly operated passenger restraint devices.				
2.	Correctly use mirrors and judge vehicle clearance without knocking down cones: a. Back a vehicle into restricted spaces (Station Stall Parking) b. Maneuver around obstructions (Serpentine Course) c. Turn 180° within a confined space (Confined Space Turn-around) d. Maneuver in areas with restricted horizontal & vertical clearance (Diminishing-Clearance)				

(NOTE: See following pages for individual exercise descriptions)

Skill Set: Driving / Operating: Cone Course

Skill Item 1a - Station Stall Parking Exercise:

This exercise measures a driver's ability to drive past a station stall, back the apparatus into the space provided, and stop smoothly. A station stall can be simulated by arranging traffic cones as shown in the below diagram. The actual stall should be 12 ft. apart and the length will be 10 ft. longer than the apparatus used. The driver shall drive pass the stall, with the stall on the left and then back the apparatus, using a left turn, into the stall. The driver will then exit the stall and the exercise shall be **repeated** with the stall on the right side, backing the apparatus using a right turn.

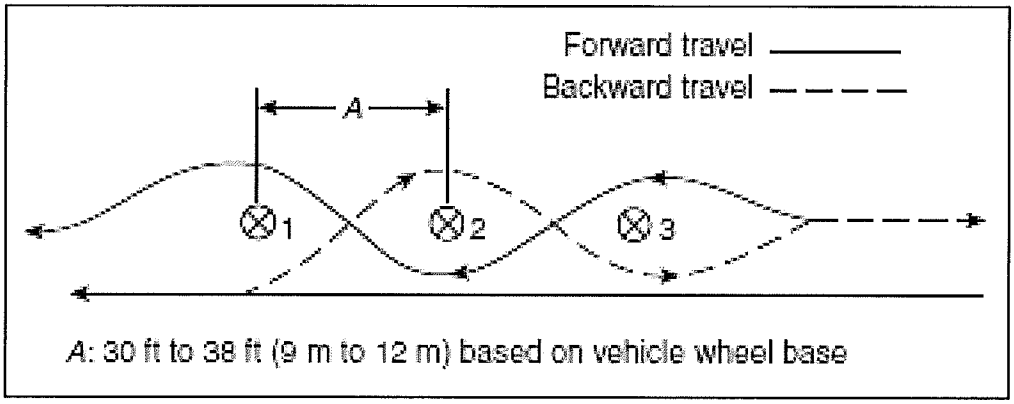


Skill Item 1b - Serpentine Course Driving Exercise:

This exercise measures a driver's ability to steer the apparatus in close limits without stopping. The exercise should be conducted with the apparatus moving **first** backward, **then** forward. The course or path of travel for this exercise can be established by placing a minimum of three markers, each spaced 38 ft. apart, in a line. Adequate space must be provided on each side of the markers for the apparatus to move freely.

The driver should drive the apparatus along the left side of the markers in a straight line and stop just beyond the last marker. The driver then should begin the exercise by backing the apparatus between the markers by passing to the left of marker No. 1, to the right of marker No. 2, and to the left of marker No. 3.

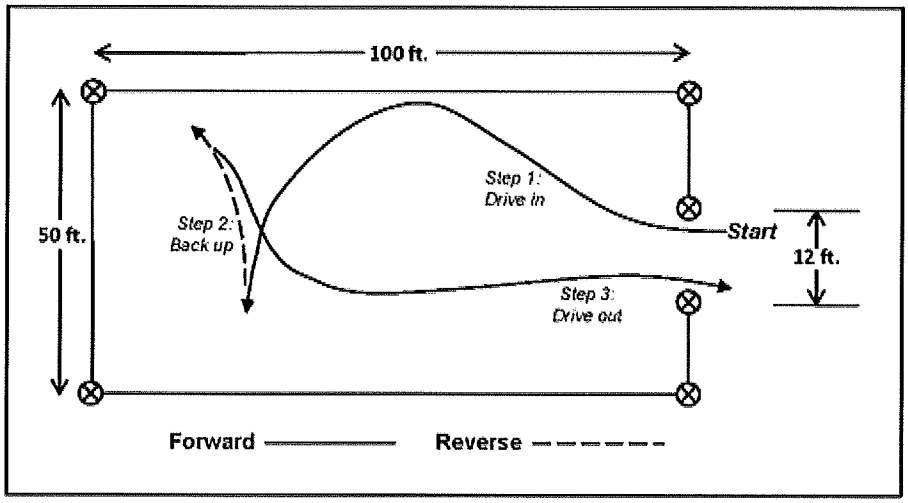
At this point, the driver should stop the vehicle and then drive it forward between the markers by passing to the right of marker No. 3, to the left of marker No. 2, and to the right of marker No. 1.



Skill Set: Driving / Operating: Cone Course

Skill Item 1c - Confined Space Turn-around Exercise:

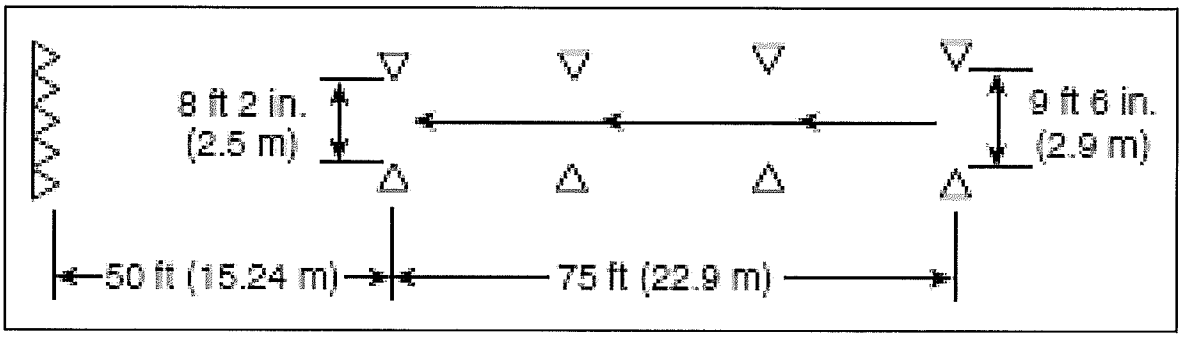
This exercise measures the driver's ability to turn the vehicle around in a confined space without striking obstacles. The turn is accomplished within an area 50 ft. x 100 ft. The driver moves into the area from a 12 ft. opening in the center of one of the 50 ft. legs, turns the vehicle 180 degrees, and returns through the opening. There is **no limitation** on the number of times the driver has to maneuver the vehicle to accomplish this exercise, but **no portion** of the vehicle should extend over the boundary lines of the space.



Skill Item 1d - Diminishing-Clearance Driving Exercise:

This exercise measures a driver's ability to steer the apparatus in a straight line, to judge distances from wheel to object, and to stop at a finish line. The speed at which a driver should operate the apparatus is optional, but it should be great enough to necessitate quick judgment.

The course for this exercise is created by arranging two rows of markers to form a lane 75 ft. long. The lane varies in width from 9 ft. 6 in. to a diminishing clearance of 8 ft. 2 in. The driver should maneuver the apparatus through this lane without touching the markers. The vehicle should be stopped at a finish line 50 ft. beyond the last marker. **No portion** of the vehicle should protrude beyond this line. (If the apparatus used for this exercise is wider than the given measurements, adjustments to the diminishing widths of each set of cones will be made based on the width of the apparatus used.)



Skill Set: Pumping Operations: Hose Streams

Reference: NFPA 1002, 2017 Edition - Chapter 5, Section 5.2.4 - Produce Effective Hand and Master Streams

Candidate Equipment Required: Complete NFPA-Compliant Personal Protective Clothing Ensemble

Evaluator Equipment Required: Pumper apparatus; Access to a fire hydrant; Portable drop-tank; Salvage covers; 100' 1-3/4" hoseline with fog nozzle; personnel to operate apparatus; designated area to conduct pumping operations

Evaluator's Instructions to the Candidate

At this station, you will demonstrate producing effective hand or master streams. You will position the apparatus operate at a fire hydrant or static water source. You will first pump from your on-board water supply tank and demonstrate transferring to the external water source. You will deploy all required hoses, nozzles, valves, and appliances to complete this evolution. Once you have demonstrated the ability to flow a hand or master stream and refill your on-board water supply tank, the evaluator will direct you to shut down the system. Personnel will be provided to operate the hand or master stream. If you require assistance due to safety or weight of the equipment, ask the evaluator.

You will use a hydrant as your water source.

-- OR --

You will draft from a static water source.

Candidate MUST successfully be competent in each of the steps listed to pass this skill station.

No.	Evaluated Skill Items	First Time		Retest	
		Pass	Fail	Pass	Fail
1.	Position the apparatus to operate at the water source.				
2.	Transfer power from vehicle engine to pump.				
3.	Chock wheels.				
4.	Correctly set-up portable drop-tank and establish draft. ***(if applicable)***				
5.	Operate pumper pressure control systems.				
6.	Operate the volume/pressure transfer valve. ***(multistage pumps only)***				
7.	Operate auxiliary cooling systems, if necessary.				
8.	Transition between on-board and external water source.				
9.	Refill on-board water supply tank.				
10.	Correctly assemble necessary hoselines, nozzles, valves, and appliances.				

Skill Set: Pumping Operations: Relay Pumping

Reference: NFPA 1002, 2017 Edition - Chapter 5, Section 5.2.5 - Pump a Supply Line of 2-1/2" or Larger

Candidate Equipment Required: Complete NFPA-Compliant Personal Protective Clothing

Evaluator Equipment Required: Pumper apparatus; Access to a fire hydrant; Portable drop tank; Salvage cover; 100' supply line (at least 2-1/2" or larger); Second pumper apparatus for relay

Evaluator's Instructions to the Candidate

At this station, you will demonstrate pumping a supply line in a relay pumping evolution. The supply line must be at least 2-1/2" in diameter. You will position the apparatus to operate at a fire hydrant or static water source. You will then make the necessary connections to establish a relay with the second pumper apparatus. You will first pump from your on-board water supply tank and demonstrate transferring to the external water source. Once you have demonstrated the ability to pump the relay at the correct and pressure and flow to the second apparatus, the evaluator will direct you to shut down the system. Personnel will be provided to operate the second pumper apparatus. If you require assistance due to safety or weight of the equipment, ask the evaluator.

You will use a hydrant as your water source.
-- OR --
You will draft from a static water source.

Candidate MUST successfully be competent in each of the steps listed to pass this skill station.

No.	Evaluated Skill Items	First Time		Retest	
		Pass	Fail	Pass	Fail
1.	Position the apparatus to operate at the water source.				
2.	Transfer power from vehicle engine to pump.				
3.	Chock wheels.				
4.	Correctly assemble necessary hoselines, nozzles, valves, and appliances to make the relay connection.				
5.	Correctly set-up portable drop-tank and establish draft. ***(if applicable)***				
6.	Operate pumper pressure control systems.				
7.	Operate the volume/pressure transfer valve. ***(multistage pumps only)***				
8.	Operate auxiliary cooling systems.				
9.	Transition between on-board and external water source.				
10.	Operate pump to ensure the correct pressure and flow to the relay apparatus.				

Skill Set: Pumping Operations: Foam Fire Streams

Reference: NFPA 1002, 2017 Edition - Chapter 5, Section 5.2.6 - Produce a Foam Fire Stream

Candidate Equipment Required: Complete NFPA-Compliant Personal Protective Clothing Ensemble

Evaluator Equipment Required: Pumper apparatus; Foam concentrate; Foam eductor; 100' of 1-3/4" hoseline with nozzle and aerator tip; Personnel to operate hoseline

Evaluator's Instructions to the Candidate

At this station, you will demonstrate producing a foam fire stream. You must assemble all the equipment required for the production of a foam fire stream or use the apparatus' on-board foam system. You will not being evaluated on the application of the finished foam. Personnel will be provided to operate the hoseline. If you require assistance due to safety or weight of the equipment, ask the evaluator.

Candidate MUST successfully be competent in each of the steps listed to pass this skill station.

No.	Evaluated Skill Items	First Time		Retest	
		Pass	Fail	Pass	Fail
1.	Select proper foam and percentage of application for the fuel type.				
2.	Check the nozzle and eductor to ensure they are hydraulically compatible.				
3.	Check and set the eductor for the percentage of concentration needed.				
4.	Attach the eductor to the discharge outlet or in the hoseline.				
5.	Connect the nozzle and aerator tip to the discharge end of the hose. Ensure the length of hose does not exceed recommendations per manufacturer's instructions.				
6.	Place the eductor pick-up tube into the foam concentrate. Ensure that the tube is not more than 6 feet (2 m) below the eductor.				
7.	Increase the water pressure in accordance with manufacturer's instructions and local SOPs.				
8.	Ensure the nozzle operator has sufficient foam.				
9.	Once the foam evolution is complete, make sure all appliances are thoroughly flushed with clean water.				

Skill Set: Pumping Operations: Sprinkler and Standpipe Systems

Reference: NFPA 1002, 2017 Edition - Chapter 5, Section 5.2.7 - Supply Water to Fire Sprinkler and Standpipe Systems

Candidate Equipment Required: Complete NFPA-Compliant Personal Protective Clothing Ensemble

Evaluator Equipment Required: Pumper apparatus; Access to a fire hydrant; Portable drop tank; Salvage cover; Access to a FDC

Evaluator's Instructions to the Candidate

At this station, you will demonstrate supplying water to a FDC that supplies a fire sprinkler or standpipe system. You will position the apparatus to operate at a fire hydrant or static water source. You will first establish an adequate water supply before connecting to the FDC. You will deploy and assemble all required hoselines, nozzles, valves, and appliances to complete this evolution. Once you have demonstrated the ability to supply a FDC, the evaluator will direct you to shut down the system. If you require assistance due to safety or weight of the equipment, ask the evaluator.

You will use a hydrant as your water source.

-- OR --

You will draft from a static water source.

Candidate MUST successfully be competent in each of the steps listed to pass this skill station.

No.	Evaluated Skill Items	First Time		Retest	
		Pass	Fail	Pass	Fail
1.	Position the apparatus to operate at the water source.				
2.	Transfer power from vehicle engine to pump.				
3.	Chock wheels.				
4.	Safely set-up portable drop-tank and establish draft. ***(if applicable)***				
5.	Safely establish an adequate water supply by connecting to a hydrant.				
6.	Operate pumper pressure control systems.				
7.	Operate the volume/pressure transfer valve. ***(multistage pumps only)***				
8.	Operate auxiliary cooling systems.				
9.	Correctly assemble hoselines, nozzles, valves, and appliances.				
10.	Supply water to the system at the correct volume and pressure.				