TOPIC: HOW TO PUMP FROM HYDRANT, CDF ENGINE MODEL #1

TIME FRAME: :30

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: A CDF Model #1 engine with a full tank of water, a predetermined engine pressure of 150 PSI and the following items and conditions: Tank suction valve open, tank fill valve closed, suction inlet valve closed, 100 feet of 1 ½" or 1 ¾" hose with nozzle attached laying on the ground, a 20 foot section of 2 ½" soft suction hose, a spanner wrench, a hydrant wrench, and a 3" to 2 ½" adapter.

Behavior: The student will: Spot the engine at the hydrant, set the spring brake, chock the engine in accord with CDF policy, start the pump, connect the discharge hose to a 1 ½" discharge outlet, apply an uninterrupted stream of water to a simulated fire, and change over from using the tank as a water source to using the hydrant as a water source. The student will then return the apparatus to its original condition.

Standard: With a minimum of 70% accuracy, within 3 minutes and 40 seconds, according to the job breakdown

MATERIALS NEEDED:

- One (1) CDF Model #1 engine with a full tank of water
- One (1) 100 feet of 1 ½" or 1 ¾" hose
- One (1) 1 ½" nozzle with shut off
- One (1) 20 foot section of 2 ½" soft suction hose
- One (1) Spanner wrench
- One (1) Hydrant wrench
- One (1) 3" to 2 ½" double female adapter
- One (1) Stop watch

REFERENCES:

- Vehicle Operation and Maintenance Guide, (CDF Handbook 6804)

PREPARATION: It is standard operating procedure in most municipal fire departments to establish adequate water supplies by using a hydrant system. The ability to initiate a fire stream with tank water and switch over to the hydrant system, without interrupting the fire stream, is a basic engine operator skill.

OPERATIONS	KEY POINTS
1. Spot engine at hydrant	1a. Wheels 45° angle to curb
	b. Place engine to avoid kinks in soft suction
	c. Place engine to avoid water stream from hydrant
2. Shift transmission to neutral	
3. Set spring brake	
4. Set chocks	4a. In accord with CDF policy
	b. Use gloves
	c. Failure to properly set chock blocks will be cause for failing the examination
5. Return to cab	5a. Place foot on service brake
6. Engage midship pump	6a. Use pump lever/switch
7. Shift transmission	7a. Into 2/4
8. Adjust pump panel throttle	8a. Until transmission shifts into 4th gear
9. Adjust pump panel throttle	9a. To indicate 150 PSI on the midship pump pressure gauge
	b. ± 20 PSI
10. Connect discharge hose	10a. 1 ½"/1 ¾" hose
	b. To 1 ½" discharge valve
11. State "Water coming"	11a. Loudly
12. Open discharge valve	12a. Slowly
	b. Completely
13. Adjust pump panel throttle	13a. To indicate 150 PSI on the midship pump pressure gauge
	b. ±20 PSI

OPERATIONS	KEY POINTS
14. Remove equipment from engine	14a. Soft suction hose
	b. Hydrant wrench
	c. Spanner wrench
15. Uncap hydrant	15a. Using hydrant wrench
16. Open hydrant	16a. Using hydrant wrench
	b. Slowly
	c. Completely
	d. Until water stream clears
	e. Counterclockwise
17. Close hydrant	17a. Clockwise
	b. Slowly
	1) Prevent water hammer
	c. Completely
	d. Using hydrant wrench
18. Unroll soft suction hose	18a. At hydrant
19. Connect soft suction hose	19a. To hydrant
	b. To suction inlet
20. Open hydrant	20a. Using hydrant wrench
	b. Slowly
	c. Completely
	d. Counter clockwise
	e. Removing any kinks in hose that develop
21. Open suction inlet valve	21a. Slowly
	b. Completely
	c. If prime is lost open suction inlet valve completely immediately
	d. Primer can be engaged or suction

OPERATIONS	KEY POINTS
	drain valve opened to evacuate air from system
22. Simultaneously close tank suction valve and adjust midship pump throttle	22a. To indicate 150 PSI on the midship pump pressure gauge b. ± 20 PSI
23. TIME STOP	23a. Student raises hands to indicate completion of timed portion of examination. b. Failure to produce or maintain an effective fire stream (150 PSI ± 20 PSI) will be cause for failing the examination.
24. State "Shut Down"	24a. Loudly
25. Close discharge valve	25a. Slowly 1) Prevent water hammer b. Completely
26. Adjust pump panel throttle	26a. Slowly b. To idle
27. Return to cab	27a. Place foot on service brake
28. Shift transmission	28a. To neutral
29. Disengage midship pump	29a. Use pump lever/switch b. Acceptable to shift transmission into reverse then back into neutral for ease of disengaging the pump
30. Shift transmission	30a. With foot still on service brake b. Into a road gear c. Until lurch is felt
31. Shift transmission	31a. To neutral
32. Return to pump panel	
33. Open tank fill valve	33a. Fill tank

OPERATIONS	KEY POINTS
34. Close tank fill valve	34a. Slowly b. Completely
35. Close hydrant	35a. Slowly 1) Prevent water hammer b. Completely c. Clockwise d. Using hydrant wrench
36. Open tank suction valve	36a. Completely 1) Relieves pressure in soft suction hose b. Slowly
37. Close suction inlet valve	37a. Completely
38. Disconnect soft suction hose	38a. From hydrant b. From suction inlet valve
39. Replace hydrant cap	39a. Wrench tight
40. Replace suction inlet cap	40a. Hand tight
41. Return equipment to engine	41a. Soft suction 1) Drained and rolled b. Hydrant wrench 1) To brass compartment c. Spanner wrench 1) To brass compartment
42. Disconnect discharge hose	
43. Replace discharge valve cap	43a. Hand tight
44. Return chock blocks	44a. To proper place
45. Return engine	45a. To starting point

APPLICATION:

The student will practice until proficient.

EVALUATION:

A performance examination.

ASSIGNMENT:

To be determined by instructor(s).

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