



Fire Protection Training

Procedures Handbook 4300

PUMPING

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

TIME FRAME: :30

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: A CDF Model #1 engine, properly chocked and set up to draft, with spring brake set, transmission in neutral, an empty water tank, 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, a preconnected 100 foot length of 1 ½" or 1 ¾" hose with nozzle attached laying on the ground

Behavior: The student will: Start the engine, prime the pump, obtain a draft, engage the main pump, charge an 1 ½" or 1 ¾" line, and deliver an uninterrupted stream of water to a simulated fire using a drafting tank as a water source. The student will then return the apparatus to its original condition.

Standard: With a minimum of 70% accuracy, within 1 minute and 10 seconds, according to the job breakdown

MATERIALS NEEDED:

- One (1) CDF #1 Model engine with an empty water tank
- One (1) 100' length of 1 ½" or 1 ¾" hose with nozzle and shut off
- Three (3) Sections of hard suction hose
- One (1) Suction hose strainer
- One (1) Shovel
- One (1) 15' length of rope
- One (1) Stop watch

REFERENCES:

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



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PREPARATION:

In rural settings it is often not possible to locate a hydrant system as a water source for fire suppression activities. Alternative water sources such as rivers, lakes, ponds, or swimming pools may have to be utilized in these cases. The quickest method of obtaining water from these sources may be by drafting. The ability to draft from an external water source is a basic engine operator skill.



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OPERATIONS

KEY POINTS

- | | |
|--------------------------------|---|
| 1. Start main engine | 1a. Place foot on service brake |
| 2. Close tank suction valve | b. Allow engine to idle |
| 3. Open suction inlet valve | 2a. Completely |
| 4. Turn primer selector | 3a. Completely |
| 5. Engage primer | 4a. To "midship" position |
| 6. Turn primer selector | 5a. 30 seconds maximum |
| 7. Return to cab | b. Look for continuous flow from primer |
| 8. Engage midship pump | c. Listen for change of pitch |
| 9. Shift transmission | d. Feel weight of water in hard suction hose |
| 10. Adjust pump panel throttle | e. Look for compound gauge to drop below (0) |
| 11. Adjust pump panel throttle | 6a. To "off" position |
| 12. State "WATER COMING" | 7a. Place foot on service brake |
| 13. Open discharge | 8a. Use pump lever/switch |
| | 9a. Into 2/4 |
| | 10a. Until transmission shifts into 4th gear |
| | b. If prime is lost return to idle, disengage pump and repeat steps 2 through 10. |
| | 11a. To indicate 150 PSI on the midship pump pressure gauge |
| | b. ± 20 PSI |
| | 12a. Loudly |
| | 13a. Slowly |
| | b. Completely |



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OPERATIONS

KEY POINTS

14. Adjust pump panel throttle

TIME STOP

15. State "SHUT DOWN"

16. Close discharge valve

17. Adjust pump panel throttle

18. Return to cab

19. Shift transmission

20. Disengage midship pump

21. Shift transmission

22. Shift transmission

23. Shut off main engine

14a. To indicate 150 PSI on the midship pump pressure gauge

b. ± 20 PSI

Student raises hands to indicate completion of timed portion of examination

Failure to produce an effective fire stream will be cause for failing the examination

15a. Loudly

16a. Slowly

b. Completely

17a. Slowly

b. Until main engine returns to idle

18a. Place foot on service brake

19a. To neutral

20a. Use midship pump lever/switch

b. Acceptable to put transmission in reverse then back into neutral for ease in disengaging pump

21a. Into a road gear

b. With foot on brake

c. Until lurch is felt

22a. Into neutral



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APPLICATION:

Student will practice until proficient.

EVALUATION:

A performance examination.

ASSIGNMENT:

To be determined by instructor(s).



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