



Fire Protection Training

Procedures Handbook 4300

PUMPING

TOPIC: HOW TO PUMP FROM DRAFT, CDF ENGINE MODEL #5

TIME FRAME: :30

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: A CDF Model #5 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 15 seconds, according to the job breakdown

MATERIALS NEEDED:

- One (1) CDF Model #5 engine with an empty water tank
- One (1) 100 feet of 1 ½" or 1 ¾" hose with nozzle and shut off
- Three (3) Lengths of hard suction hose
- One (1) Suction hose strainer
- One (1) Shovel
- One (1) 15' length of rope
- One (1) Stop watch
- One (1) Performance examinations
- Two (2) Red pens for scoring
- One (1) Clipboard
- One (1) Tally sheet



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REFERENCES:

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

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. Place foot on service brake

2. Start main engine

TIME START

3. Close tank suction valve

4. Open suction inlet valve

5. Turn primer selector

6. Engage primer

7. Turn Primer selector

8. Return to cab

9. Shift transfer case

10. Engage midship pump

11. Shift transmission

12. Adjust pump panel throttle

2a. Allow engine to idle

3a. Completely

4a. Completely

5a. To "Midship" position

6a. 30 seconds maximum

b. Look for continuous flow from primer

c. Listen for change of pitch

d. Feel for weight of water in hard suction hose

e. Look for compound gauge to drop below (0)

7a. To "Off" position

8a. Place foot on service brake

9a. To neutral

b. If equipped with air shift, skip this step

10a. With midship pump switch/lever

11a. Into 4th or Drive

b. If equipped with air shift, transmission must be put in reverse, to insure transfer case is disengaged, before shifting into 4th or Drive

12a. Until transmission shifts into selected gear

b. If prime is lost, return to idle, disengage pump and repeat steps 2 through 11

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OPERATIONS

KEY POINTS

13. Adjust pump panel throttle

13a. To indicate 150 PSI on the midship pump pressure gauge

b. \pm 20 PSI

14. State "Water coming"

14a. Loudly

15. Open discharge valve

15a. Slowly

b. Completely

16. Adjust pump panel throttle

16a. To indicate 150 PSI on the midship pump pressure gauge

b. \pm 20 P.S.I.

TIME STOP

Student raises hands to indicate completion of the timed portion of the examination

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

17. State "Shut down"

17a. Loudly

18. Close discharge valve

18a. Slowly

b. Completely

19. Adjust pump panel throttle

19a. Slowly

b. Until main engine returns to idle

20. Return to cab

20a. Place foot on service brake

21. Shift transmission

21a. To neutral

22. Disengage midship pump

22a. Using midship pump lever/switch

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

23. Shift transfer case

23a. To high range

b. If equipped with air shift, skip this step



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OPERATIONS

KEY POINTS

24. Shift transmission

24a. Into a road gear

b. With foot on brake

c. Until lurch is felt

25. Shift transmission

25a. Into Neutral

26. Shut off main engine

27. Return chock blocks

27a. To proper position



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APPLICATION:

Student will practice skills until proficient.

EVALUATION:

A performance examination.

ASSIGNMENT:

To be determined by instructor(s).