



# Fire Protection Training

Procedures Handbook 4300

PUMPING

**TOPIC:** HOW TO PUMP FROM HYDRANT, CDF ENGINE MODEL #10 OR #12

**TIME FRAME:** :30

**LEVEL OF INSTRUCTION:** Level II

**BEHAVIORAL OBJECTIVE:**

*Condition:* A CDF Model #10 or #12 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, 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, use the hydrant as a water source, start the pump, connect the discharge hose to an 1 ½" discharge outlet and apply an uninterrupted stream of water to a simulated fire. The student will then return the apparatus to its original condition.

*Standard:* With a minimum of 70% accuracy, within 3 minutes, according to the job breakdown sheet

**MATERIALS NEEDED:**

- One (1) CDF Model #10 or #12 engine with a full tank of water
- One (1) 100' length of 1 ½" or 1 ¾" hose with nozzle and shut-off
- One (1) 20' length 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
- One (1) Performance examination per student
- 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:**

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 using a hydrant system is a basic engine operator skill.



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## OPERATIONS

## KEY POINTS

1. Spot engine at hydrant

1a. Wheels at 45° angle to curb

b. Place engine to avoid soft suction kinks

c. Place engine to avoid water stream from hydrant

2. Shift transmission to neutral

3. Set spring brake

### TIME START

4. Set main engine idle

4a. At 1200 RPM

b.  $\pm$  200 RPM

5. Set chock blocks

5a. In accord with CDF policy

b. Use gloves

c. Failure to properly set chocks will be cause for failing the examination

6. Close tank suction valve

6a. Completely

7. Remove equipment from engine

7a. Soft suction hose

b. Hydrant wrench

c. 3" to 2 1/2" adapter

d. Spanner wrench

8. Uncap hydrant

8a. Using hydrant wrench

9. Open hydrant

9a. Using hydrant wrench

b. Slowly

c. Completely

d. Until water stream clears

e. Counterclockwise

10. Close hydrant

10a. Clockwise

b. Slowly

1. Prevent water hammer

c. Completely

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## OPERATIONS

## KEY POINTS

- 11. Unroll soft suction hose
- 12. Connect soft suction hose
- 13. Open hydrant
  
- 14. Start pump engine
- 15. Adjust pump panel throttle
- 16. Connect discharge hose
- 17. State "Water coming"
- 18. Open discharge valve
- 19. Adjust pump panel throttle

### TIME STOP

- 20. State "SHUT DOWN"
- 21. Close discharge valve

- d. Using hydrant wrench
- 11a. At hydrant
- 12a. To hydrant
  - b. To suction inlet
- 13a. Using hydrant wrench
  - b. Completely
  - c. Slowly
  - d. Counterclockwise
  - e. Removing kinks from hose
  
- 15a. To indicate 100 PSI on pump pressure gauge
  - b.  $\pm 20$  PSI
- 16a. 1 1/2" or 1 3/4" hose
  - b. To 1 1/2" discharge valve
- 17a. Loudly
- 18a. Slowly
  - b. Completely
- 19a. To indicate 150 PSI on the pump pressure gauge
  - b.  $\pm 20$  PSI
  
- Student raises hands to indicate end of timed portion of examination
- Failure to produce an effective fire stream (150 PSI  $\pm$  20 PSI) will be cause for failing the examination
- 20a. Loudly
- 21a. Slowly
  - 1) Prevent water hammer
  - b. Completely

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## OPERATIONS

## KEY POINTS

22. Adjust pump panel throttle

22a. Slowly

b. To idle

c. For approximately 30 seconds

23. Shut off pump

24. Close hydrant

24a. Slowly

1) Prevent water hammer

b. Completely

c. Using hydrant wrench

d. Clockwise

25. Open tank suction valve

25a. Completely

1) Relieves pressure in soft suction hose

b. Slowly

26. Close tank suction valve

26a. Completely

b. Slowly

27. Disconnect soft suction hose

27a. From hydrant

b. From suction inlet

28. Replace hydrant cap

28a. Wrench tight

29. Replace suction inlet cap

29a. Hand tight

30. Open tank suction valve

30a. Completely

31. Return equipment to engine

31a. Soft suction

1) Drained and rolled

b. Hydrant wrench

1) To brass compartment

c. Spanner wrench

1) To brass compartment

32. Disconnect discharge hose

32a. From 1-1/2" charge

33. Replace discharge valve cap

33a. Hand tight

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## OPERATIONS

## KEY POINTS

34. Return main engine to idle

35. Return chock blocks

36. Return engine

35a. To proper place

36a. To starting point



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## ***APPLICATION:***

The student will practice until proficient.

## ***EVALUATION:***

A performance examination.

## ***ASSIGNMENT:***

To be determined by instructor(s).



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