



Fire Protection Training

Procedures Handbook 4300

PUMPING

TOPIC: How to Operate Auxiliary Pump on CDF Model #1 and #5 Engines

TIME FRAME: 30 Minutes

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A model #1 or #5 engine with a full tank of water and the following items and conditions:

Tank suction valve open, tank fill valve closed, suction inlet valve closed, 100 feet of 1 1/2" or 1 3/4" hose with nozzle attached laying on the ground.

Behavior: The student will:

Start the engine, set engine idle at 1000 RPM, chock engine, start the auxiliary pump, connect 1 1/2" or 1 3/4" hose to auxiliary pump discharge, apply an uninterrupted stream of water to a simulated fire.

Standard: With a minimum of 70% accuracy within one minute 30 seconds

MATERIALS NEEDED:

- Model #1 or #5 engine with spring brake set, transmission in neutral, transfer case in high range, tank suction valve open, suction inlet valve closed and tank fill valve closed
- 1 length of 1 1/2" or 1 3/4" discharge hose, with nozzle attached
- Score sheets
- Tally sheet
- Red pens
- Clip board
- Stop watch, and full wildland safety uniform

REFERENCES:

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



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PREPARATION:

CDF model #1 and #5 engines comprise a large portion of the CDF fleet. They are equipped with two pumps, a midship pump and an auxiliary pump. Since you will encounter them on wildland fires, you must be familiar with their operation.



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HOW TO OPERATE AUXILIARY
PUMP ON CDF MODEL #1 AND #5
ENGINES

OPERATIONS

KEY POINTS

- | | |
|---|---|
| 1. Start main engine | 1a. Inside cab |
| 2. Set idle at 1000 RPM | 2a. In cab throttle
b. Counter clockwise |
| 3. Set chocks in accordance with CDF policy | 3a. Missing this step will constitute failure of the entire evolution
b. Both chocks
c. Hook placed in anchor |
| 4. Start auxiliary pump engine | 4a. Ignition on
b. Press starter |
| 5. Set auxiliary pump at 100 PSI (+ 20 PSI) with pump panel throttle | 5a. Counter clockwise |
| 6. Connect 1 1/2" or 1 3/4" discharge hose to auxiliary pump discharge valve | 6a. Discharges above level of pump panel
b. Clockwise
c. Hand tight |
| 7. Loudly state "Water coming" | |
| 8. Open discharge valve slowly | 8a. Avoid nozzle surge
b. Completely |
| 9. Set pressure at 150 PSI (+ 20 PSI) | |
| 10. Failure to produce an effective fire stream will constitute failure of the entire evolution | 10a. |
| TIMED EVOLUTION STOPS | |
| 11. Loudly state "Shut down" | 11a. Shutting off nozzle person water supply |
| 12. Close discharge valve slowly | 12a. Avoid water hammer |
| 13. Return auxiliary pump engine to idle | 13a. Clockwise
b. Completely |



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OPERATIONS

KEY POINTS

14. Turn auxiliary pump engine "OFF"
15. Disconnect 1 1/2" or 1 3/4" hose from discharge
16. Pick up chocks and return to engine
17. Return main engine throttle to normal idle
18. Shut off main engine

- 14a. Toggle ignition "off"
- 15a. Protect couplings
- 16a. Store in appropriate compartment
- 17a. In cab throttle
 - b. Clockwise
- 18a. Ignition key

EVOLUTION COMPLETE



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APPLICATION:

The student will practice until proficient.

EVALUATION:

A performance examination.

ASSIGNMENT:

To be determined by instructor(s).

POINTS

TIME START

- | | | |
|-----|--|-----------|
| 1. | Start main engine | <u>5</u> |
| 2. | Set idle at 1000 RPM | <u>10</u> |
| 3. | Set chocks in accordance with CDF policy (Missing this step will constitute failure of the entire evolution) | <u>*</u> |
| 4. | Start auxiliary pump engine at pump panel | <u>10</u> |
| 5. | Set auxiliary pump at 100 PSI (ñ 20 psi) with pump panel throttle | <u>5</u> |
| 6. | Connect 1 1/2 or 1 3/4 inch discharge hose to auxiliary pump discharge valve | <u>5</u> |
| 7. | Loudly state "water coming" | <u>5</u> |
| 8. | Open discharge valve slowly | <u>10</u> |
| 9. | Set pressure at 150 PSI (ñ 20 psi) | <u>10</u> |
| 10. | Failure to produce an effective fire stream will constitute failure of the entire evolution | <u>*</u> |

TIMED EVOLUTIONS STOPS

ENTER TIME

EXAMINATION CONTINUES BUT IS NOT TIMED

- | | | |
|-----|--------------------------------------|----------|
| 11. | Loudly state "shut down" | <u>5</u> |
| 12. | Close discharge valve slowly | <u>5</u> |
| 13. | Return auxiliary pump engine to idle | <u>5</u> |
| 14. | Turn auxiliary pump engine off | <u>5</u> |

Performance Examination

HOW TO OPERATE AUXILIARY
PUMP ON CDF MODEL #1 AND #5
ENGINES

	<u>POINTS</u>
15. Disconnect 1 1/2" or 1 3/4" hose from discharge	___ 5
16. Pick up chocks and return to engine	___ 5
17. Return main engine throttle to normal idle	___ 5
18. Shut off main engine	___ 5

ENTER TOTAL TIME: ___:

POINTS POSSIBLE: ___ 100

POINTS DEDUCTED:

FINAL SCORE:

EVALUATOR'S SIGNATURE:

DATE:

COMMENTS:
