



FIRE PROTECTION TRAINING

Procedures Handbook 4300

PUMPING

TOPIC: HOW TO PUMP FROM TANK, HYDROSTATIC PUMP – MODEL 14 OR 15

TIME FRAME: :30

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: A CAL FIRE hydrostatic engine, Model 14 or 15 with a full tank of water, and the following items and conditions: Tank to pump valve open, tank fill valve set appropriately, suction inlet valve closed, a pre-connected 100 foot length of 1-½" or 1-¾" hose with a combination nozzle and a suitable area to safely deploy a hoseline and produce an effective fire stream. Student and assistant in appropriate PPE per CAL FIRE policy, less SCBA.

Behavior: The student will spot the engine, direct an assistant to pull the appropriate pre-connected hoseline and supply an uninterrupted stream of water, at 150 psi (±20). After completing the evolution, the apparatus will be returned to its original condition.

Standard: With a minimum of 80% accuracy within two minutes, according to the job breakdown

MATERIALS NEEDED:

- One (1) CAL FIRE Model 14 or 15 hydrostatic engine with a full tank of water
- 100 feet of 1-½ " or 1-¾ " hose with a nozzle and a bale shut off valve
- One (1) assistant
- Appropriate PPE per CAL FIRE policy, less SCBA

REFERENCES:

- Vehicle Manufacturer's Operation and Maintenance Guide

PREPARATION: The ability to expeditiously initiate a fire stream with tank water is a basic engine operator skill.

4314.24

Page 1



FIRE PROTECTION TRAINING

Procedures Handbook 4300

PUMP FROM TANK,
HYDROSTATIC PUMP – MODEL
14 OR 15

PRESENTATION

OPERATIONS	KEY POINTS
1. Spot engine at designated location	1a. Windows and all doors closed for safety
2. Shift transmission to neutral	
3. Set parking brake	
4. Exit engine and set chock blocks	4a. In accordance with CAL FIRE policy <ul style="list-style-type: none">Gloves may be removed after chock blocks are set in order to operate the engine or pump, but must be donned when working with equipment such as hoses, appliances and the hydrant
5. Instruct assistant to deploy a pre-connected 1-½" or 1-¾" hoseline	5a. Hoseline must be 100' <ul style="list-style-type: none">Assistant shall deploy the hose after being instructed to do so by the student
6. Prepare the engine to pump	6a. Move or place pump valve switch on pump panel to the "OPEN" position b. Move or place transfer valve switch on pump panel to the "PRESSURE" position c. Set the main engine throttle to indicate 2000 RPM (±200 RPM) on the tachometer
7. Adjust pump pressure to 100 psi (±20psi)	7a. Using the swash plate in the cab or on the pump panel
8. Confirm assistant is ready for water and loudly state, "Water Coming"	8a. Do not charge hoseline without checking with assistant to ensure they are prepared

4314.24

Page 2



FIRE PROTECTION TRAINING

Procedures Handbook 4300

PUMP FROM TANK,
HYDROSTATIC PUMP – MODEL
14 OR 15

PRESENTATION

OPERATIONS	KEY POINTS
9. Charge hoseline	9a. Open discharge valve slowly and completely b. Allow assistant to check for adequate nozzle pattern and water flow c. Do not increase pump pressure until assistant has checked nozzle pattern and flow
10. Increase pump pressure to 150 psi (± 20 psi)	10a. Using the swashplate in the cab or on the pump panel of the engine b. Do not increase the pump pressure until the assistant has checked the nozzle pattern and flow
11. Set pressure relief valve (PRV)	11a. Turn pressure relief valve switch on by moving the four way valve to the ON position b. Set PRV to 150 psi (± 20 psi)
12. Achieve adequate hose stream of 150 psi (± 20 psi) with all valves and controls in the appropriate position.	
13. Open tank fill valve	13a. Approximately 10 psi pressure drop to achieve pump cooling
14. Student notifies assistant that they are shutting down by loudly stating, "Shutting Down"	
15. Close the discharge valve	15a. Slowly and completely b. Shut down the hoseline prior to shutting down pump

4314.24

Page 3



FIRE PROTECTION TRAINING

Procedures Handbook 4300

PUMP FROM TANK,
HYDROSTATIC PUMP – MODEL
14 OR 15

PRESENTATION

OPERATIONS	KEY POINTS
16. Shut down pump	16a. Return engine pressure gauge to zero
17. Return engine RPM's to idle	17a. Return to cab and place foot on service brake
18. Turn off pressure relief valve	18a. Do not shut off pressure relief valve while the valve is under pressure
19. Return engine to response ready condition	19a. Re-bed fire hose on engine b. Refill water tank if needed



FIRE PROTECTION TRAINING

Procedures Handbook 4300

PUMP FROM TANK,
HYDROSTATIC PUMP –
MODEL 14 OR 15

APPLICATION:

The student will practice performing the operations in the job breakdown while under supervision.

EVALUATION:

The student will complete a manipulative performance test at a time determined by the instructor.

ASSIGNMENT:

Practice this job in order to prepare yourself for the upcoming performance test.