

# **Pump Unit 3-3**

## **PyroLance B 2000-M-P Operations**

### **Lesson Goal**

After completing this lesson, the student shall be able to summarize procedures and guidelines for the operations of the PyroLance B 2000-M-P following the policies and procedures set forth by PyroLance North America LLC.

### **Objectives**

Upon successful completion of this lesson, the student shall be able to:

1. Conduct a pre use inspection
2. Operate the unit in Normal Operation Mode.
3. Shut down and ready unit for next use.
4. Winterize unit.
5. Trouble Shoot Basic issues.

## Instructor Information

This lesson covering the PyroLance B 2000-M-P operations for both water and foam. The purpose of this lesson is to provide the student with an understanding of full operations of the B 2000-M-P and how UHP works when extinguishing fire. While this lesson specifically covers PyroLance B 2000-M-P, the instructor should always stress firefighter safety throughout the course. **You should emphasize that safety must be a priority for all firefighters in every situation they may encounter.**

Important instructor information is provided in shaded boxes throughout the lesson plan. Carefully review the instructor information before presenting the lesson. Use this lesson to initiate discussion on safety issues in the fire service. Supplement this lesson with current case studies involving safety issues in the fire service.

## Methodology

This lesson uses demonstration in the field, discussion, and skills practice. The level of learning is application.

### Estimated Total Time: 2-4 hours

Field teaching/demonstration:	30 minutes
Skills Practice:	20 minutes/student

Time	Section/Activity	
10 min.	Walk through the entire PyroLance B 2000-M-P Unit	

20 min.	<p>Demonstrate the use of the PyroLance B 2000-M-P Pump Unit Inspection</p> <ul style="list-style-type: none"> <li>○ Check Hydraulic Oil</li> <li>○ Check Engine Oil</li> <li>○ Check the clean water strainer</li> <li>○ Check Anti-freeze tank (if applicable)</li> <li>● Nozzle Inspection <ul style="list-style-type: none"> <li>○ Check Hoses</li> <li>○ Connect nozzle</li> <li>○ Show use of Emergency Override</li> <li>○ Show Emergency Stop</li> </ul> </li> <li>● Flow Water <ul style="list-style-type: none"> <li>○ Show misting &amp; distance</li> </ul> </li> <li>● Flow Foam <ul style="list-style-type: none"> <li>○ Select Class A or B Foam</li> <li>○ Correct application</li> <li>○ Flush Unit</li> </ul> </li> </ul>	
20 min.	<p>Choose one student to demonstrate the use of the PyroLance B 2000-M-P:</p> <ul style="list-style-type: none"> <li>● Walk thru PPE Requirements</li> <li>● Demonstrate correct operations of the B 2000-M-P Unit</li> <li>● Demonstrate correct shut down procedures</li> <li>● Demonstrate Emergency Stop Procedures</li> <li>● Demonstrate correct cleanup operations.</li> </ul>	
	Skills Practice	
10 min	Summary and Review	

### **Audiovisuals/Handouts**

- PyroLance B 2000-M-P video
- PyroLance B 2000-M-P Operations, installation & parts Manual

### **Evaluation**

- Skill Sheet 1-4
- Skill Sheet 2-3

### **Standards**

- NFPA 1500 – Standards on Fire Department Occupational Safety and Health Program
- NFPA 1971 – Standard on Protective Ensembles for Structure Fire Fighting and Proximity Fire Fighting.

**Section I:** Introduction to Unit 1-2*10 min.***I.INTRODUCTION TO UNIT 1-2****A. Lesson Goal**

**Instructor Note:** Briefly review the lesson goal. Answer any questions about the goal. Emphasize that the purpose of the lesson is to familiarize the students with the correct operations of the PyroLance B 2000-M-P

Unit 1 lesson goal — after completing this lesson, the student shall be able to correctly start, run and ready the PyroLance B 2000-M-P and demonstrate the correct techniques when using UHP with water and both Class A & B foams, following the policies and procedures set forth by PyroLance North America LLC and the authority having jurisdiction (AHJ).

**Safety Note:** Explain First Aid Procedures involving injuries sustained by UHP equipment and how to avoid them.

**Instructor Note:** Discuss the use of UHP when deciding your tactical operations on the fire ground. Explain some examples such as: Attic fires, Cellar fires, Compartment fires pre ventilation. Discuss the safety considerations during UHP operations. Explain the advantages and concept and how the UHP water mist affects fire.

**Section II:** Demonstrate the prestart check, starting, running and after use readiness of the PyroLance B1000-M-G Unit

*30 mins.*

## II. DEMONSTRATE THE STARTING, RUNNING AND AFTER USE READIENESS OF B 2000-M-P

**Instructor Note:** The purpose of this section is to walk through each step of the operations of the PyroLance B 2000-M-P, showing the students both the automatic and the manual operations. See pages 12-16 of the B 2000-M-P Manual.

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### Preparing the unit for operations

**Instructor Note:** It is very important to stress the difference between a low pressure pump and a UHP system and why the preoperational inspection is crucial.

1) Check the Hydrolic oil.



2) Check the Pump oil.



### 3) Inspect the clean water strainer.

- When re-installing the unit, turn clockwise, hand tight until snug and check for leaks.

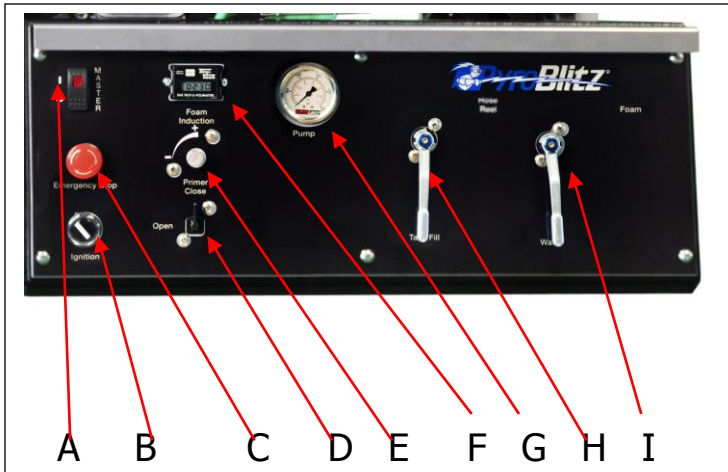
### 4) Check water tank level and open tank to pump valve.



### 5) Connect PyroLance nozzle to hose and ensure safety lock in engaged.

## Starting the Unit

**Instructor Note:** This section will include both the unit/pump operator and the Nozzleman. It is important to clarify who is to do what during the demonstration to the students.



1. Prior to start the operator must ensure that a proper inspection has been completed.
2. Operator to ensure that the **EMERGENCY STOP BUTTON** is released by twisting clockwise, which is the **ON** position ("C" in picture to the left).
3. Operator must verify that the PyroBlitz Nozzle is correctly connected.
4. Extend the hose to the working location and lock the hose reel prior to the Nozzleman pulling the trigger on the nozzle.
5. Operator warns personnel that the unit will be started.
6. Operator turns the master switch to the on position "A" in picture to the left. Turns the ignition switch on like a key in a car "B".
7. The Pyro Blitz is a **MANUAL** nozzle.

### Trouble Shooting:

#### ENGINE DOESN'T START UP:

- a) Check Emergency Stop button is released.
- b) Check fuses located in unit electrical box.
- c) Check Battery connections.
- d) Check Fuel level in fuel tank.

#### ENGINE DOESN'T SPEED UP WHEN TRIGGER PULLED:

- a) Check power supply and steady green light at the receiver.
- b) Check battery in Nozzle transmitter assembly.
- c) Check fuses located in unit electrical box.



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8. Point nozzle in safe direction and test water flow. Adjust nozzle to desired pattern and release trigger.
9. Point nozzle in desired direction and flow water.
10. Turn foam on and flow foam.
11. Turn off foam and flush with water.

**Trouble Shooting: Blitz Nozzle:****Foam is not flowing:**

- Check Foam tank level
- If the low foam tank light is on you must fill tank for sensor light to go off
- Check Foam lever is turned on

**Water is not flowing:**

- Check Water tank
- Check water lever is in on position

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12. Shut down unit and disconnect nozzles from hose.
13. Winterize Unit if Applicable

### III. DEMONSTRATE THE USE OF THE PYROBLITZ NOZZLES. UDOR & ELKHART NOZZLES.

**Instructor Note:** It is important to know just what PyroBlitz nozzle you are working with and become comfortable with its operations.



1. The nozzle on the top left is the Udor and has

**Section IV: Skills Practice***20 min. each student***IV. SKILLS PRACTICE**

**Instructor Note:** The purpose of this section is to have each student demonstrate the correct use of the PyroLance B 2000-M-Pand the PyroLance Piercing nozzle with both water and Pyro Shot to pierce an object.

At this point the Instructor will have 1 student operate the B 2000-M-Pand 1 student operates the PyroLance Piercing nozzle and goes through the operating procedures step by step. There are Skills Sheets for both the unit operator and the Nozzleman. With a class of 6 the time needed to have each student do both would be up to 4 hours

Each student must demonstrate safe and correct operation procedures of both the B 2000-M-Pand the PyroLance Piercing nozzle.

**Section V: Summary and Review***10 min.*

**Ask Students:** What are the benefits that they took out of the lesson?

Briefly discuss the answers with the students. Stress the safety to firefighters and the importance of using UHP and the limits (another tool in the tool box).

**Discussion Point:**

Discuss with the students how they see the use of UHP without and with piercing, can be used on the fire ground.

Discuss with the students any issues that they may see with the operations of the unit and talk about solutions. Ask students for solutions.

Ask students if they have any questions.



