

## Practical Exercise – VDS

### Directions to instructor for VDS practical

1. Review performance and requirements for the types of flares on hand. Call the manufacture if you have any questions. Do a practice shoot of any flares you are unfamiliar with.
2. Evaluate site and conditions to determine if it is safe to use pyrotechnic devices, and establish a firing line taking the following factors into consideration.
  - Proximity to occupied structures
  - Proximity to sensitive wildlife
  - Wind. How far will each of the flares drift?
  - Ground conditions. Could a fire start if a lit flare lands on the ground.

The firing area should be clear of vegetation and preferably near water so flares can be shot over and fall into the water. There should be no occupied structures or sensitive wildlife within one mile of the site, or at least downrange from the firing line.

3. After considering the above factors you have four main options
  - Do not shoot any pyrotechnics
  - Limit the types of flares used
  - Only a certified instructor will shoot the pyrotechnics to demonstrate their use
  - Allow students to fire pyrotechnic devices
4. If you allow the students to fire the devices, you must provide each person actively shooting the pyrotechnic with the following Personal Protective Equipment (PPE)
  - Shooting glasses or other protective eyewear
  - Hearing protection. Either disposable ear plugs or headphones
  - Leather gloves
5. You will prepare the firing line by:
  - Coordinate the shoot with the local emergency services (Coast Guard, Sheriff, Ranger, etc.). if there are structures nearby, try to notify the occupants in person or with a flyer. A flyer on a local or marina bulletin board is also a good idea.
  - Clear any tall grass or other obstacles in the immediate vicinity of the firing line that could catch fire or cause a person to trip.
  - Lay down a rope, chalk line, or other visible barrier for the non-firing students to stand behind.
  - Establish a firing box at least 10-feet away from the firing line and have the “open” end of the box pointed in the firing direction.
  - Set out at least one metal bucket beside each firing box, filled  $\frac{3}{4}$  with water for disposal of fired or misfired flares.

- Have on B-II fire extinguisher on hand
- Have one first aid kit available
- Designate one person to act as safety observer. They will be in charge of maintaining order on the firing line and monitoring flares that land on the ground.

6. Before actually firing you will review the preceding checklist and **READ** the following cautionary statement to the students.

**“To ensure everyone’s safety and to provide you with the best learning experience, I need you to listen closely to the following information and follow all of the safety guidelines.**

**The aerial flares fire the same way a gun fires (show the aerial flares), or are propelled by a rocket. Additionally, the actual flare section, or bullet, burns at over 1,000 degrees. Therefore we expect you to treat each of these flares as a loaded gun. In fact we will be using the same procedures used on gun firing ranges.**

**The first rule is the flare will always be pointed downrange (point in the direction the students will be firing). Never point flares at a person. Do not point the flare at the ground or a structure as it may ricochet if fired. Keep them pointed downrange or into the sky.**

**All hand held flares need to be held away from the body and perpendicular to the wind direction. Hold the flare over the edge of the gunnel. Never hold the flare over your feet or another person. In a boat you would not hold the flare over gas cans, or your boat. This is because of the molten metal that drips out the end of a burning flare.**

**There will be no talking while a person is in the firing box (point out the box). Flares will only be shot by the person standing inside this box.**

**Everybody not actively involved with the firing will stay behind the firing line (point out the firing line).**

**Before entering the firing box you will put on protective glasses, hearing protection, and gloves. Remember, these are like guns. They are loud, debris can come sideways out of the barrel, and sometimes they get hot.**

**You will not handle a flare unless it is handed to you by an instructor, and the instructor will only give you a flare when you are inside the firing box and have on the proper protective gear.**

**When you are inside the box, the instructor will run you through the firing procedure, which for aerial flares is:**

- **Keep the flare pointed downrange**
- **Make the flare ready (load the gun, remove the protective cap, etc.)**
- **Hold the flare up at a 45-60 degree angle**
- **Aim the flare**
- **Pull the hammer back or grab the firing lanyard**
- **Say “Firing”**
- **Look away**
- **Fire**

**If you have a misfire, you will continue holding the flare, pointed downrange at a 45-degree angle for 30 seconds. After 30 seconds the instructor will take the flare and place it in the bucket.**

**After you fire a flare, wait for the instructor to tell you to place the expended flare in the bucket. Then place the flare in the bucket, return to the firing line, and give your protective gear to the next person.**

**Remember, this is an optional exercise that allows you to fire flares in a controlled environment. We are not trying to scare you, we are trying to ensure that you use these potentially life saving devices properly and safely. If at any time during the exercise you feel uncomfortable or do not understand the instructions you will stop and not proceed until you and the instructor are satisfied. If you do not want to fire a flare you will not be required to.**

**Any questions?**

7. **When completed with the exercise contact the local emergency services agency and tell them you’ve concluded the exercise.**
8. **Allow used flares to soak for at least two hours then dispose of in trash. If you have miss-fired flares, contact the local fire department, Sheriff’s department, or the Coast Guard and request assistance in properly disposing of the LIVE flares.**