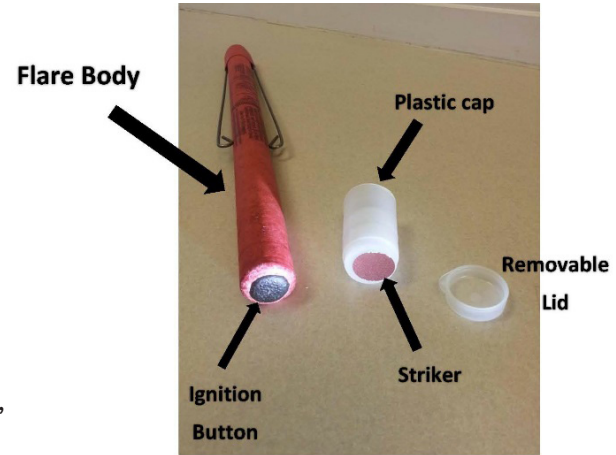


# Safety Alert

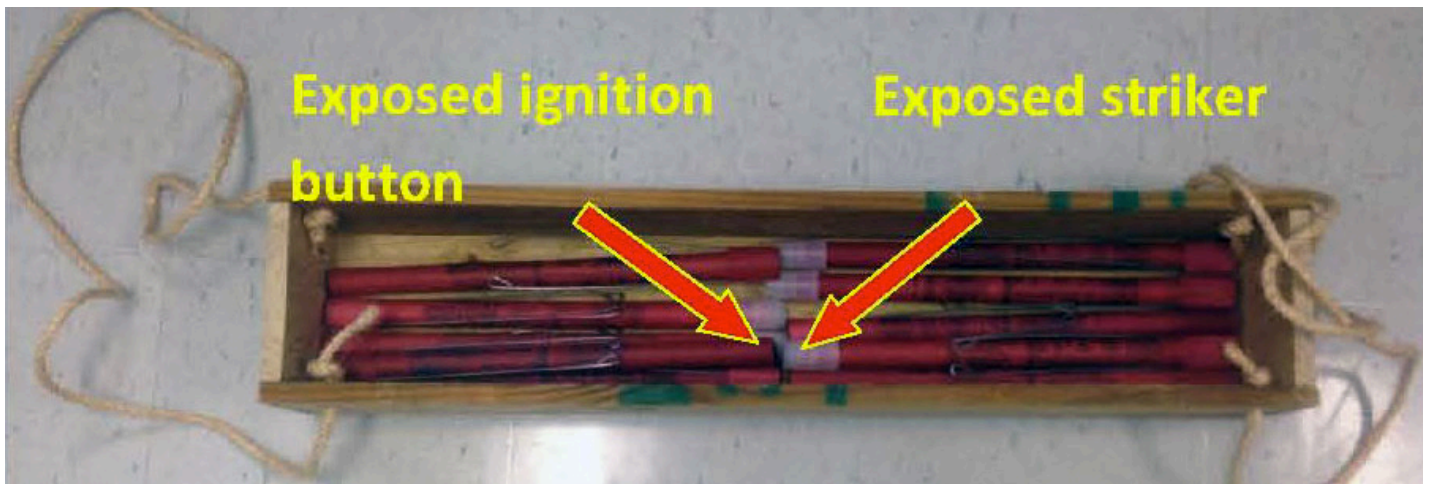
## Accidental Road Flare Ignition

The Office of Fire Prevention and Control’s Investigation Branch recently investigated a fire that originated within the cargo area of a law enforcement vehicle. The investigation concluded that road flares, stored within that area, were ignited the result of inadvertent contact between the striker (red phosphorous) and ignition button of separate flares. Those flares had been stored within an installed tray.

Further research identified similar incidents dating back to 1999, where other law enforcement vehicles experienced similar occurrences, fires in the cargo area due to incidental contact between the striker and ignition button of road flares (Photo #2). A 2013 study found that, during driving conditions, unsecured road flares stored inside the cargo compartments have free movement which can cause plastic cap and removable lid to fall off, exposing both the ignition button and striker.<sup>2</sup> In those circumstances, and with little force or contact pressure the flares can readily ignite.



*Flare Components*<sup>1</sup>



*Photo #2*<sup>3</sup>

Such incidents may occur where flares are stored in any type of emergency vehicle. To minimize the probability of encountering an inadvertent flare ignition, the Office of Fire Prevention and Control recommends that agencies and their personnel consider the following;

<sup>1</sup> Garza, Hernandez, Reiter, et.al.; “Patrol Vehicle Cargo Compartment Fires”, Houston Fire Department, 2013, 31.

<sup>2</sup> Ibid., 27.

<sup>3</sup> Ibid., 15.

**When storing flares in a vehicle:**

- Store flares, with plastic cap and removable lid in place, in the original cardboard box or a container that has a secure lid.
- Avoid storing flares oriented so that the ignition button and striker ends could face each other.
- If using an storage tray, place the flares in a compartment separate from any other items.
- If that compartment is longer than the flare, place material (i.e. cardboard or wood) in the extra space to prevent movement of the flares.

**Regularly inspect flare storage compartments:**

- Ensure all flares have a plastic cap secured over the ignition button and the removable lid in place over the striker.
- Clean any flare residue from compartment or containers.

**Additional considerations:**

- Discard all used flare components! Do not place extinguished flare bodies, used striker caps, or wire stands in a vehicle with stored flares.
- Follow MSDS safety precautions regarding handling, storage and disposal of flares.
  - Store in a dry place away from sunlight, heat and incompatible materials.
  - Store away from flammable materials, sources of heat, flame, and sparks.
  - Flares should be allowed to burn to completion. Do NOT store partially burned flares in vehicles.
  - Burning is the preferred method of disposal; product is considered inert after ignition.
  - If quantities are too large to destroy, consult the manufacturer or distributor.
- Do not store flares near the radio or other electrical connections.
- Create an agency policy for storing road flares inside emergency vehicles.

These ignition specifics were identified through comprehensive investigations, in accordance with discipline standards, to definitively identify the origin and cause of the fire. Should your agency experience a fire incident the Office of Fire Prevention and Control will provide assistance investigating that incident.

Should you have questions regarding the information presented in this bulletin, wish to report a similar incident, or require assistance with a fire investigation contact the Office of Fire Prevention and Control's Investigation Branch at (518) 474-6746.