



FBG-MK4 RISF (Royal Arms Impact Initiated Safety Flashbang)

INSTRUCTORS COURSE





Weapon Name: FLASH BANG TRAINER Sound Concussion Grenade 12 Gauge (Model# MK-4 Flash Bang Grenade)

Description: The MK-4 is a Impact Initiated Flash Bang Device which creates 175dB, 4psi of over pressure and 500K CP. This Flash Bang was designed to provide realistic training at a low cost per bang.

History/Background: The Impact Flash Bang was developed to overcome the issues with traditional M201 Fuse type. M201 fuses have a delay of 1.5sec +/- .3 seconds, which creates uncertainty where as the flashbang will detonate (anywhere from 1.2 – 1.8 sec). The M201 fuse is also a safety concern as they are dangerous, catch items/houses on fire. The M201 Fuse itself can become a projectile hazard.

Our Impact Flash Bang (MK-4) solves all of the problem associated with traditional M201 fuse type Flash Bangs. Our Impact Flash Bangs are not time delayed, they detonate where they strike. The operator can deploy against a wall, window, slider, car door, car window, second story, ceiling or any other hard object they strike. Our Flash Bang is not an explosive, and will never take off like a rocket. It will not become so hot they start fires. In fact, they are cool to the touch upon initiation. With the MK-4 you will never have to worry about the fuse separating and injuring personnel. The MK-4 produces a loud bang with minimal smoke eliminating the operational hazard associated with smoke. The most important feature of the MK-4 is its ability to be serviced and reloaded by the user.

Potential Targets/Applications: Training environments, new operator inoculation, individual targets, prison/civil rioters training, Active Shooter Training, animal control/conditioning and other training applications.

Primary Users: Law Enforcement, Military

Course Objectives

- To provide an introduction to teaching techniques relevant to the safe handling and deploying of Impact Mechanical Actuated Devices and Reloads
- To enable familiarisation and practical training in the use of Mechanical Actuated Devices and Reloads

This course will cover

- Impact Mechanical Actuated Device Introduction (5)
- Definitions (6 – 14)
- Understanding the Physics of the Explosions (15 – 19)
- Impact Mechanical Actuated Device Nomenclature (20 – 23)
- General Characteristics (24 – 29)
- Pre-Deployment Intelligence (30 – 34)
- Protective Equipment (35 – 36)
- Tactical Deployment (37 – 46)
- Post-Deployment (47 – 50)
- Rendering Safe (51 – 52)
- Loading / Reloading (53 – 60)
- Preventative Maintenance (53 – 60)
- Questions (60)
- Course Test (61)



Impact Mechanical Actuated Device Introduction

- **Innovative Simple System**

Impact NFDD (ATF Destructive Technology Exempt)

- **Reliable**

When deployed correctly (User familiarisation required)

- **Safe**

Meets and exceeds MIL/LE/GOV firearm safety requirements (Munitions Discharge System)

- **Cost effective**

Can be loaded with .209 reloads and specific 12Ga Nitro reloads

- **Adaptable**

Can be deployed at short or long range with instant deflagration on contact with hard target surface

Definitions (General)

- **Diversiónary Devices (General)**

All conventional Flash Powder NFDD's are classified as Destructive Technology and require specific training, explosive storage, authorisation for use

- **Diversiónary Devices (FBG-MK4)**

Are classified as Non Destructive Technology because there is no M201 Fuze, nor any Flash Powder. The Mk4 discharge 209 primers and specific nitro based cartridge via a impact mechanical actuation system

- **All of the above are also know as:**

- Flash Bangs
- Distraction Devices
- Noise / Flash Devices
- Light / Sound Devices
- Attraction Devices

Definitions (Cont.)

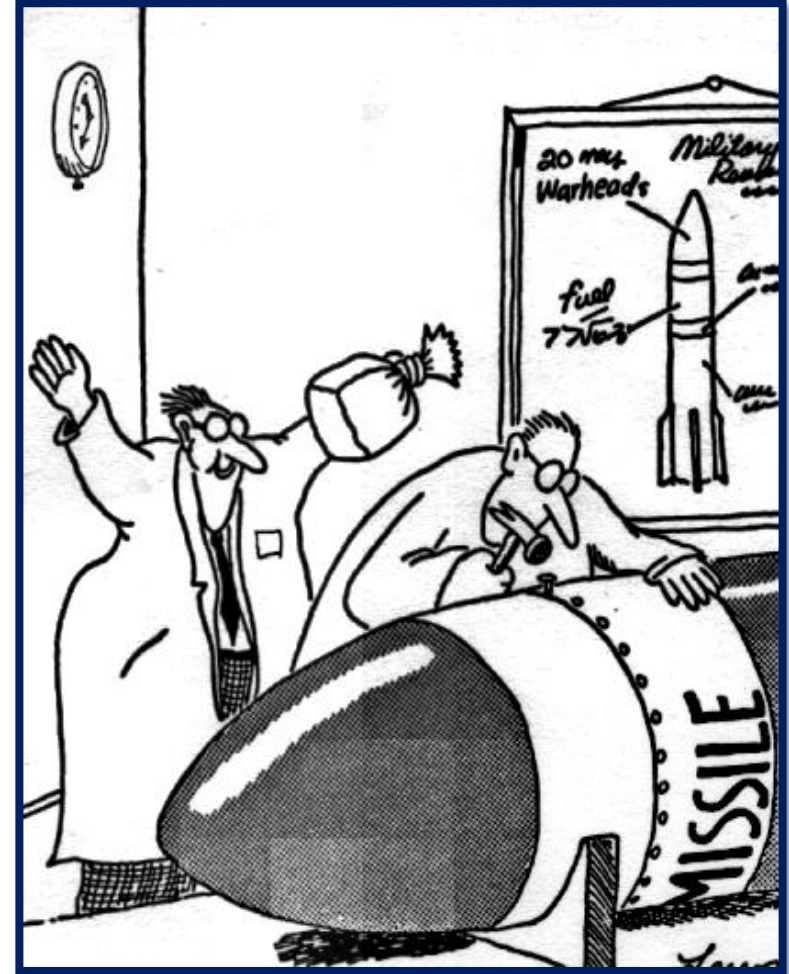
THE REASON WE HAVE DIVERSIONARY DEVICES

“To provide tactical government agencies with an effective tool that may assist in tactical life threatening incidents that are beyond the resources and equipment of standard level personnel”

Definitions (Cont.)

DIVERSIONS:

- Psychological
- Physiological



Definitions (Cont.)

Psychological

A **psychological** diversion comes in to play when an individual is deceived or tricked into believing an event or action is taking place when in reality something else is happening or about to happen



Definitions (Cont.)

Physiological

A **Physiological** diversion consists of an event or action that directly affects the subject, causing a physical reaction

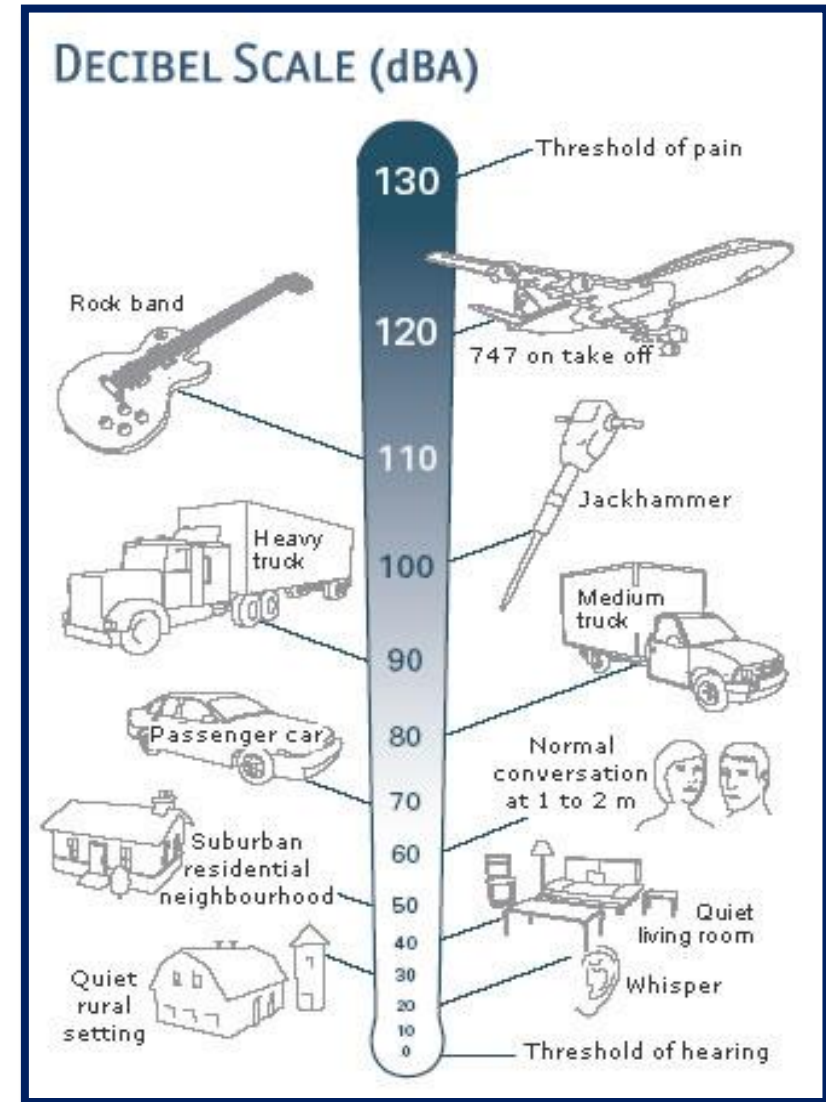
Example: A loud bang close to a person will cause a reflexive reaction in the person when they try to turn away from the source of noise



Definitions (Cont.)

Physiological Hearing

The sound created by a diversionary device goes beyond the normal levels found in daily life. This can cause an involuntary physical reaction



Definitions (Cont.)

Physiological Vision

While of very short duration, the intense light released by a diversionary device may cause vision to be significantly impacted. This may only last for a short period of time but does give tactical teams an advantage



Definitions (Cont.)

Physiological Feeling

The diversionary device releases energy upon initiation. A positive pressure wave (air being forced outwards) radiates out from the device. Any individuals nearby will experience a change in atmospheric pressure "sweep" over them. This is compounded by the accompanying negative pressure wave, which is a reverse effect created as atmospheric pressure returns to normal



Definitions (Cont.)

Psychological & Physiological Aim:
To disorientate and confuse suspects through
“SENSORY OVERLOAD”
(for a few seconds)



Understanding the physics of the explosion

Types of Explosion

- Mechanical
- Nuclear
- Chemical



Understanding the physics of the explosion (Cont.)

Mechanical Explosion

A mechanical explosion can be characterised by a continuous or steady build-up of pressure that eventually results in the release of the pent up energy



Understanding the physics of the explosion (Cont.)

Nuclear Explosion

A nuclear explosion is characterised by a huge release of energy. This is accomplished through either a fission or fusion process:

- Fission atoms are split to create the explosion.
- Fusion atoms are compressed together to initiate the explosion.



Understanding the physics of the explosion (Cont.)

Chemical Explosion

- A chemical explosion is characterised as a release of energy. It is created through a liquid or solid compound being quickly converted into gasses that expand in a very rapid manner



Understanding the physics of the explosion (Cont.)

LOW EXPLOSIVES

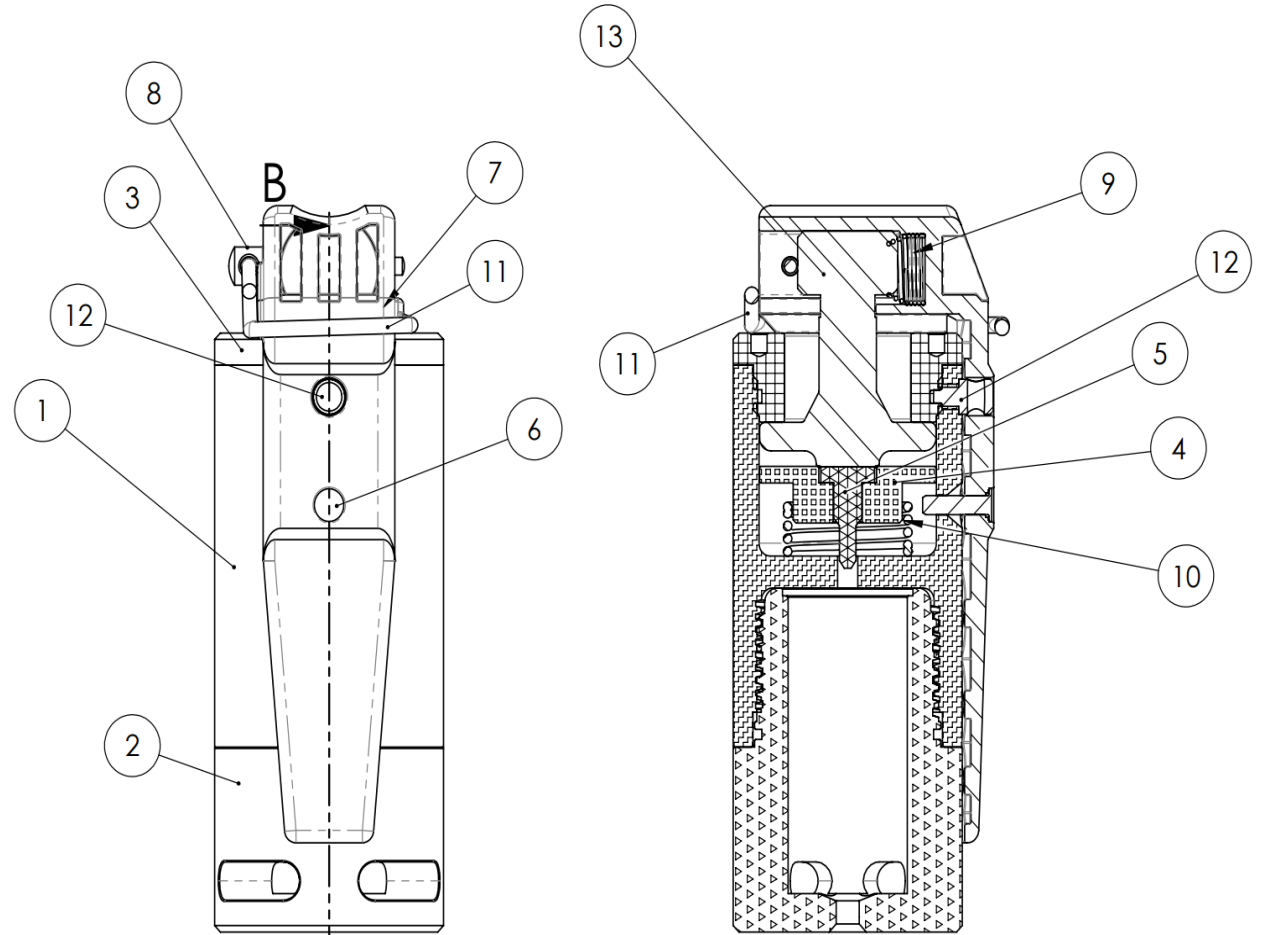
“DEFLAGRATION”

To be exact, Diversionary Devices regardless of type
DEFLAGRATE.

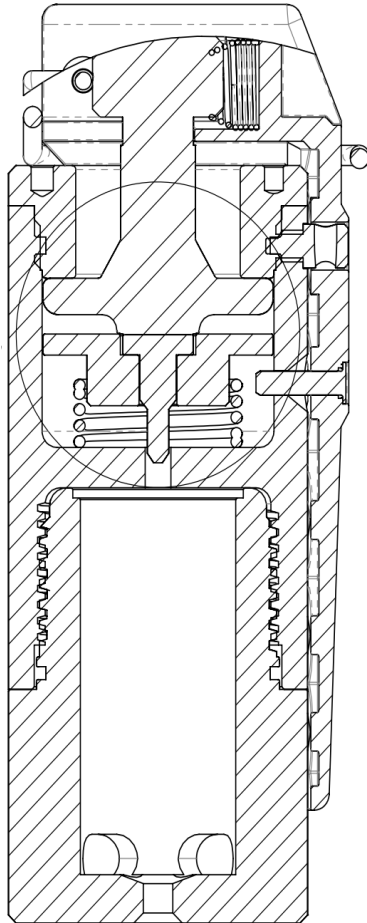
They do not explode.

Impact mechanical Actuated device nomenclature

1. Body
2. Base / Chamber
3. Collar
4. Slider
5. Discharge Pin
6. Safety Rivet
7. Lever / Spoon (Semi-Disposable Part)
8. Safety Pin (Semi-Disposable Part)
9. Lever Ejector Spring (Semi-Disposable Part)
10. Slider Return Spring
11. Safety Ring (Semi-Disposable Part)
12. Anti-Roll (Semi-Disposable Part)
13. Toggle (Hammer / Plunger)



Impact mechanical Actuated device nomenclature (Cont.)

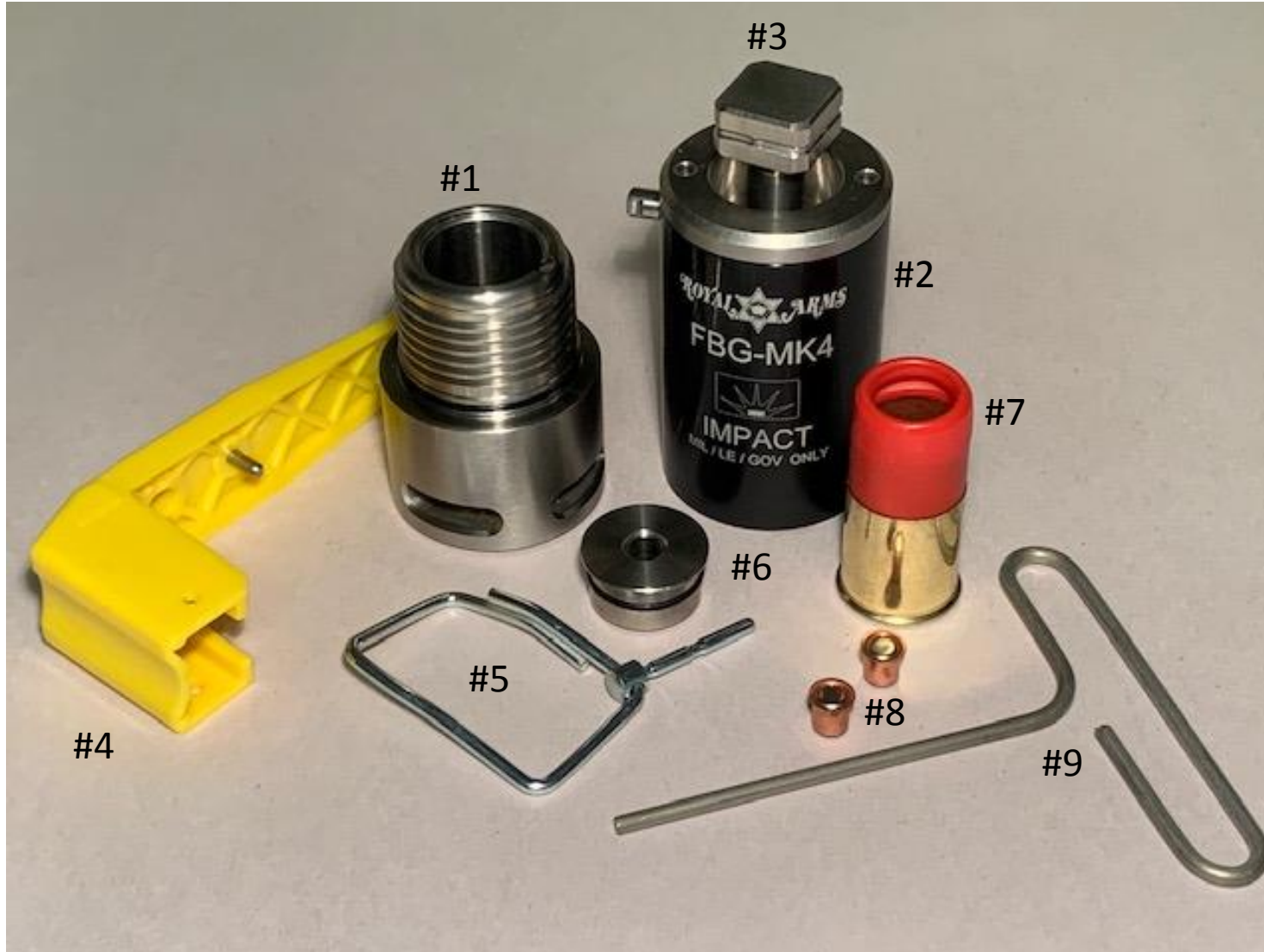


Multi-Point Safety System:

1. Safety Pin (Retains lever safety system)
2. Safety Ring (Retainer moulded into lever system for deadlocking Safety Pin / Safety Ring)
3. Lever System (Lever locks pivot in a safe position)
4. Lever System Safety Rivet (Locks slider and discharge pin in a safe position)

Even when the device has been loaded and made ready e.g. (The safety pin / ring has been removed) the device will still have two point of safety engaged until the device is deployed (Safety systems 3 & 4.

Impact mechanical Actuated device nomenclature



- #1 Chamber
- #2 Body
- #3 Toggle (Hammer)
- #4 Safety Spoon (lever)
- #5 Safety Pin (Ring)
- #6 209 Primer Adaptor
- #7 FBC Cartridges
- #8 209 Primers
- #9 Extraction tool
- #10 ACS Pouch (optional)
- #11 Colored Spoons (optional)



Impact mechanical Actuated device nomenclature (Cont.)

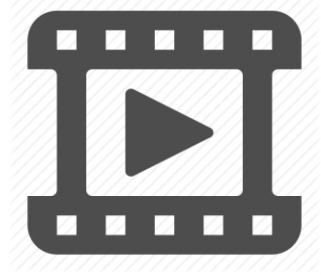
Semi-Disposable Parts:

- Worldwide user feedback of the FBG-MK4 has dictated that a reloadable diversionary device must have a lever safety system and retained safety pin / ring.
- Feedback has also dictated that any part that ejects away from the device must be must be a cost effective replaceable part as this may become lost or rendered non serviceable.

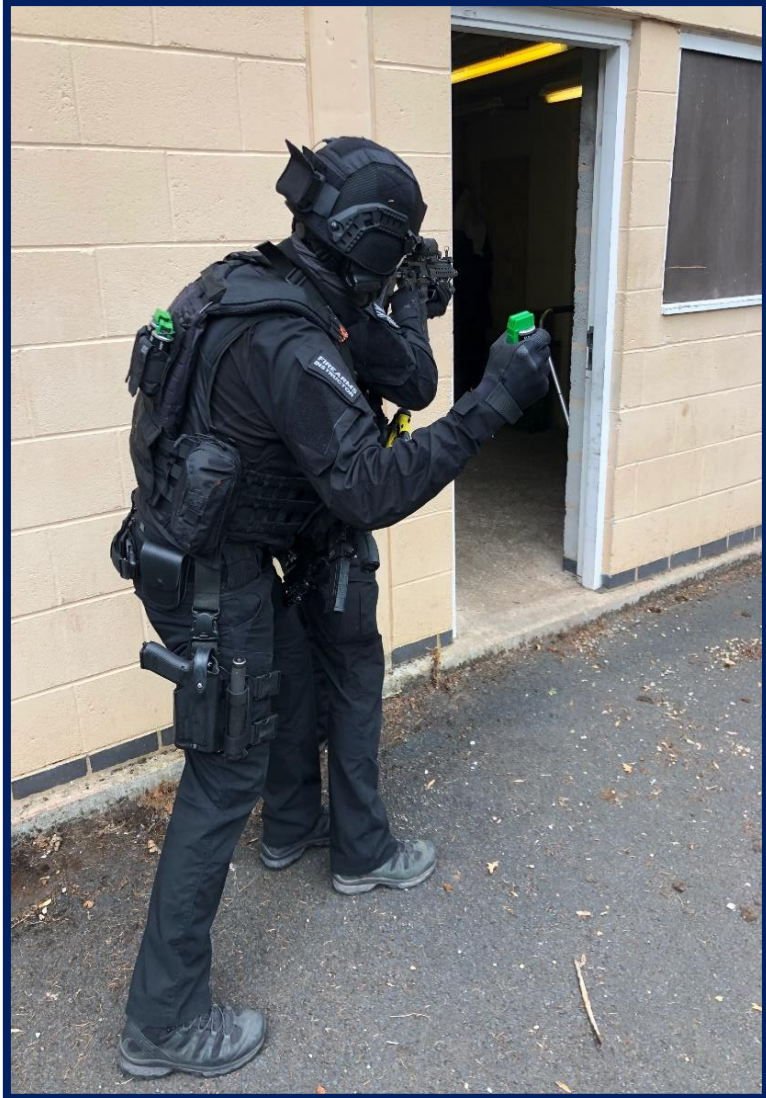
To meet the demands of the user Royal Arms International have manufactured the Lever System and Safety Pin / Ring as a Semi-Disposable Part.

A Semi-Disposable Part can be used to reload the device providing the part remains serviceable. Longevity of use of a Semi Disposable part will depend on the stress the part is subjected to in training / operational conditions

Video of unboxing the FBG-MK4
Advanced Kit



Impact mechanical Actuated device nomenclature (Cont.)



How the Impact system works:

On removal of the safety pin the device is deployed into the target area. The lever ejects away from the body of the device fully disengaging all safety systems.

When the device impacts a hard surface regardless of distance deployed the pivot moves causing the discharge pin to strike the primer on the loaded munition.

The loaded munition and its energetic content then deflagrates causing light, sound and pressure to be dispersed through the base deflecting apertures into the local atmosphere causing distraction and disorientation to nearby personnel that are not wearing PPE

General Characteristics

Impact Mechanical Actuated Device vs Generic Delay Device

Device application	Impact Device	Delay Device
Drop safe from 20ft when loaded / armed with safeties engaged? Meets and exceeds DefStan drop safe test requirements	✓	✓
Device remains serviceable after 20ft drop safe test?	✓	✗ Fuze M201A1 replacement required
Device ATF classified as "Non-destructive Technology"?	✓	✗
Device / Reloads hazardous classification <u>1.4s</u> or below?	✓	✗
Device / Reloads are exempt from explosive storage?	✓	✗
Device can be deployed at short range with instant deflagration on impact with a hard target area? E.g. Small rooms, corridors, stairs or stairwells	✓	✗
Device can be deployed at long range with instant deflagration on impact with a hard target area? E.g. Long / wide rooms, corridors walkways found in Schools, Colleges, Factories, Offices and Shopping Malls	✓	✗ Delay specific device
Device has a low heat output on deflagration? E.g. low fire risk	✓	✗
Device can be reloaded 25+ with the fuse/lever reload being replaced?	✓ Can be reloaded 250+	✗
Device can be targeted at a specific area for instant deflagration upon impact?	✓	✗
Device will not deflagrate on soft furnishings or soft flammable items?	✓	✗
Device will deflagrate regardless of impact surface when deployed?	✗	✓
Device compatible with 40mm pouch or ACS trigger pouch?	✓	✗
Device equipped with anti-roll feature?	✓	✗
Device equipped with safety ring retainer?	✓	✗

General Characteristics

HEAT

FBG-MK4 (FBC Reload)

- Can reach 300 to 1000 degrees centigrade (**Reduced Fire Risk**)
- Low haze output (**Compatible with night vision equipment use / low light operations**)

Generic Flash Bang Devices (Flash Powder Load)

- Generic Flash Bang Devices can reach 2000 to 2500 degrees centigrade (**Increased Fire Risk**)
- Smoke “fog like haze” (**Issues with identifying threats / hostages and issues with compatibility with night vision equipment use / low light operations**)

“fog like haze”



General Characteristics

LIGHT

FBG-MK4 (FBC Reload)

- Intense bright light up to 1 million candela
- Short in duration (lasting milliseconds)
- Compatible with night vision and thermal use operations / training

Generic Flash Bang Devices (Flash Powder Load)

- Intense bright light up to 10 million candela
- Short in duration (lasting milliseconds)

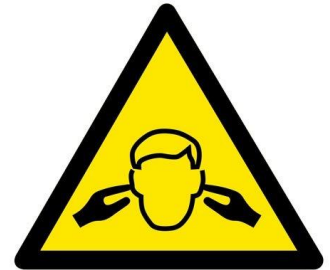
“Flash Bang (Flash Powder)”



General Characteristics

SOUND

- Defined as “any pressure variation in an elastic medium”
- Sound doubles at a constant ratio (noise measured at 37dB is actually twice as loud as the sound generated at a 36db level.
- Duration of deflagration sound (approximately 50 milliseconds)



Danger
Noise
hazard

General Characteristics

PRESSURE

- **Overpressure: PSI (Atmospheric Changes)**
The smaller the room area the greater the effects

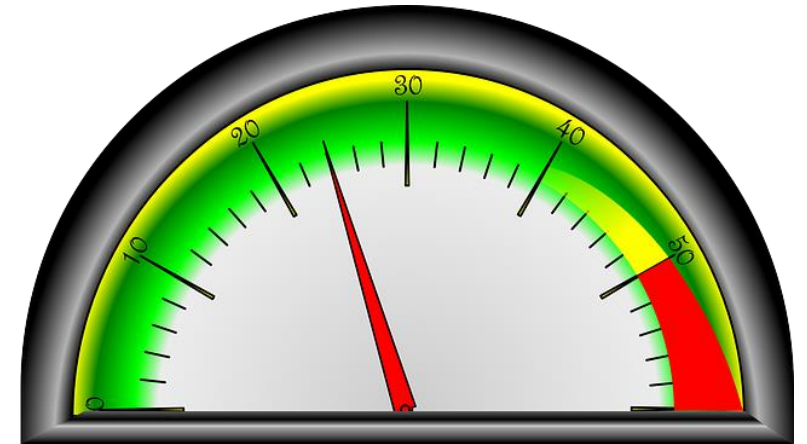
- **Secondary Blast Effects**

Focusing (Movement of the pressure wave through enclosed areas)

Shielding (A barrier that halts or decreases the pressure wave)

Reflection (Pressure wave that bounces or “reflects” off a hard surface)

Absorption (Pressure wave strength is being reduced due to the presence of materials that trap or “absorb” at least some of the pressure wave)



General Characteristics

OVERPRESSURE POTENTIAL RSIK

FBG-MK4 Reloads are ≤ 4.5 PSI

Decibel to PSI Conversion Chart

Decibel Level	PSI Level
175dB	1.63 PSI
180dB	2.90 PSI
185dB	5.16 PSI
190dB	9.17 PSI
195dB	16.30 PSI
200dB	29.00 PSI
205dB	51.60 PSI

PSI/Injury Potential Levels

PSI Level	Potential Injury
5	Slight chance of eardrum rupture
15	50% chance of eardrum rupture
30-40	Slight chance of lung damage
80	Severe lung damage
100-120	Slight chance of death
130-180	50% chance of death
200-250	100% chance of death

General Characteristics

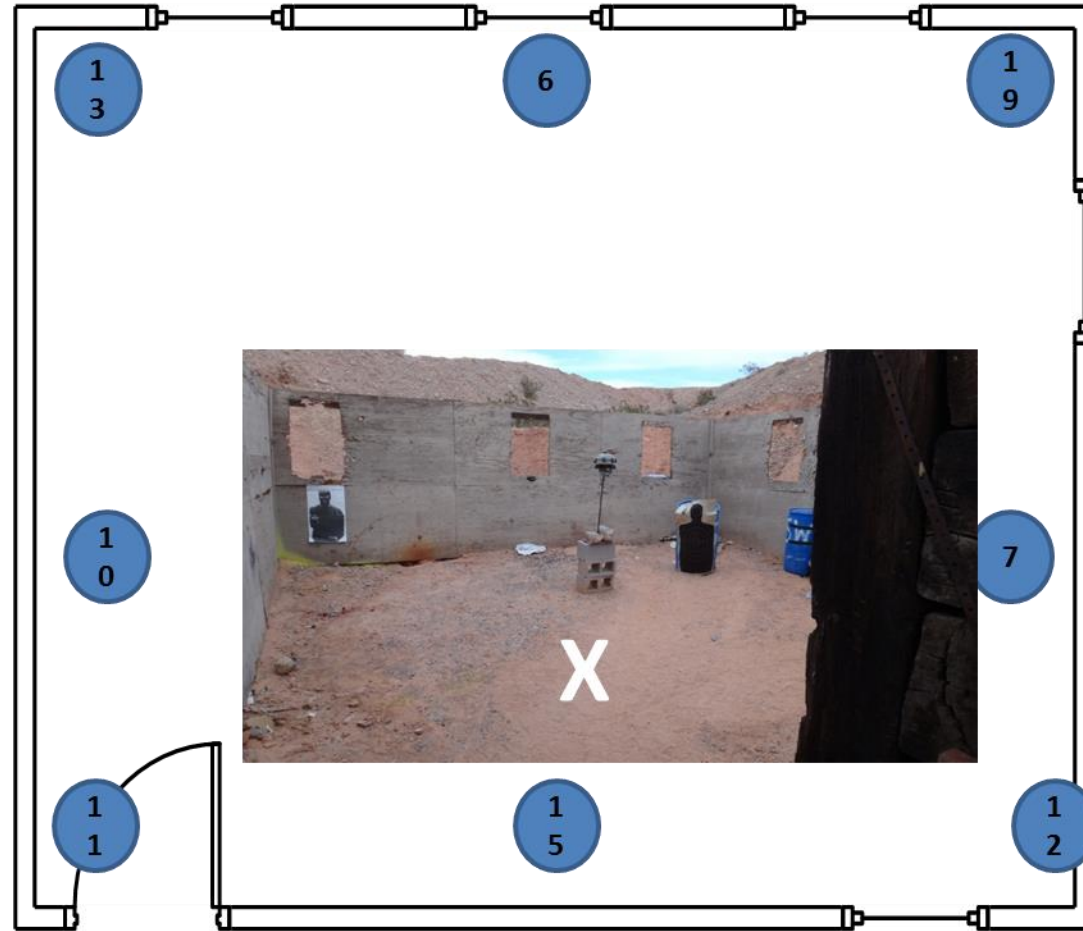
Blast Gage / Overpressure Study on Operators exposed to Blast Pressure and potential TBI

Competitors V.S. Royal Arms



General Characteristics (Cont.)

Flashbang Comparison, Outside Open



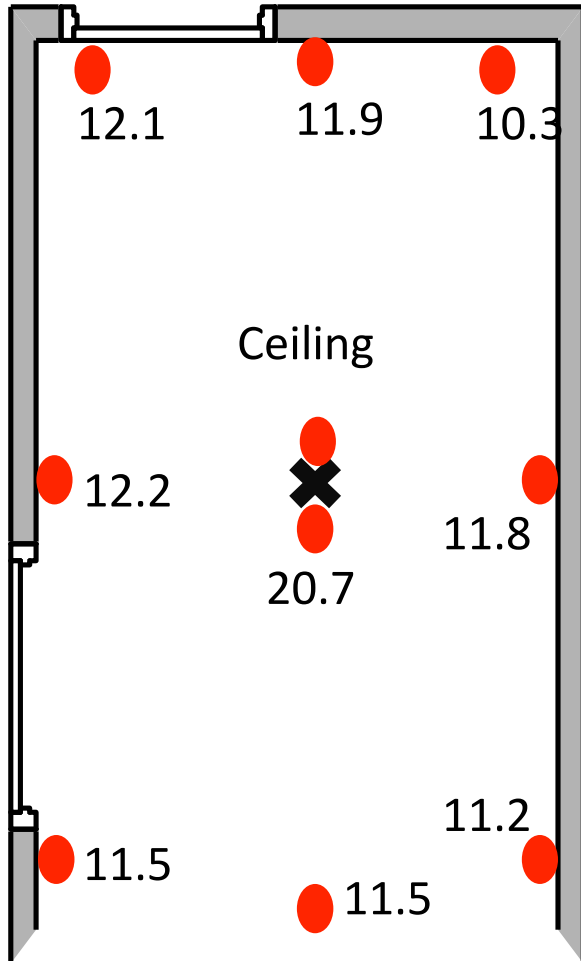
FBG-MkII	0.6	0.4	0.5	0.6	0.8	0.8	0.4	1.1
Competitor #1	2.9	2.6	2.6	2.9	2.6	2.6	2.9	2.0
Competitor #2	3.4	3.4	3.0	3.3	4.1	3.5	2.3	4.8

General Characteristics (Cont.)

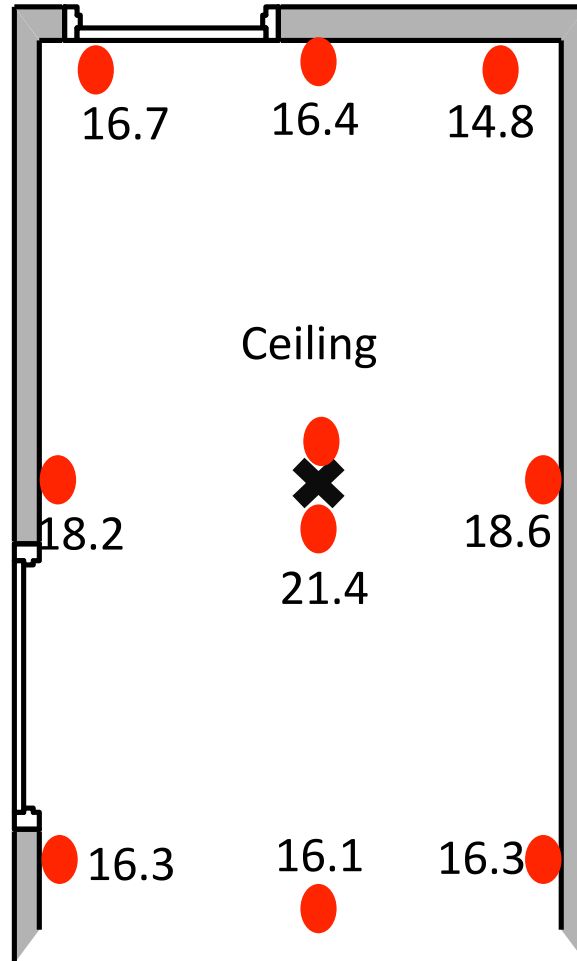
FlashBang Comparison (Inside)

All sensors placed at 5'3" above floor

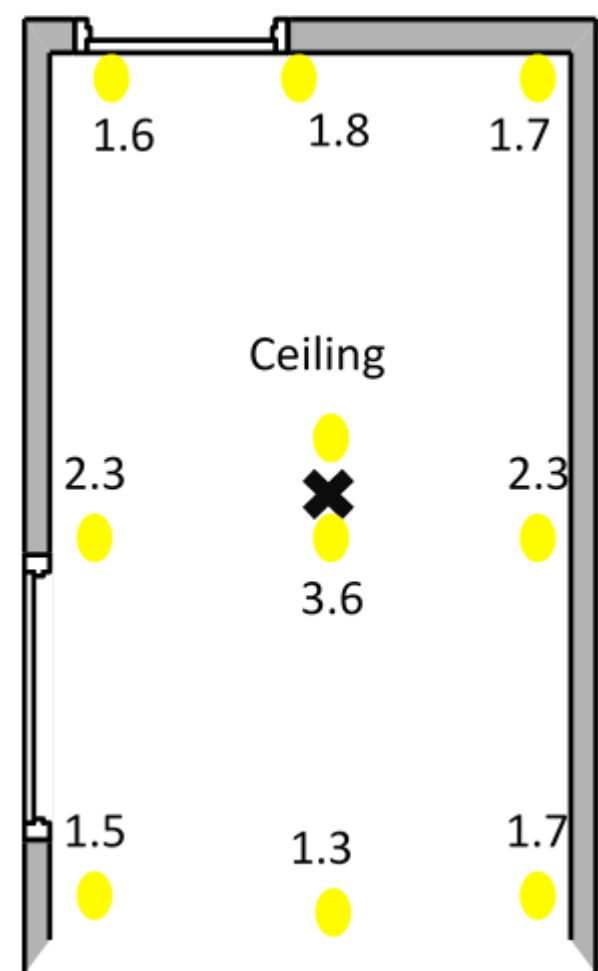
Competitor #1



Competitor #2



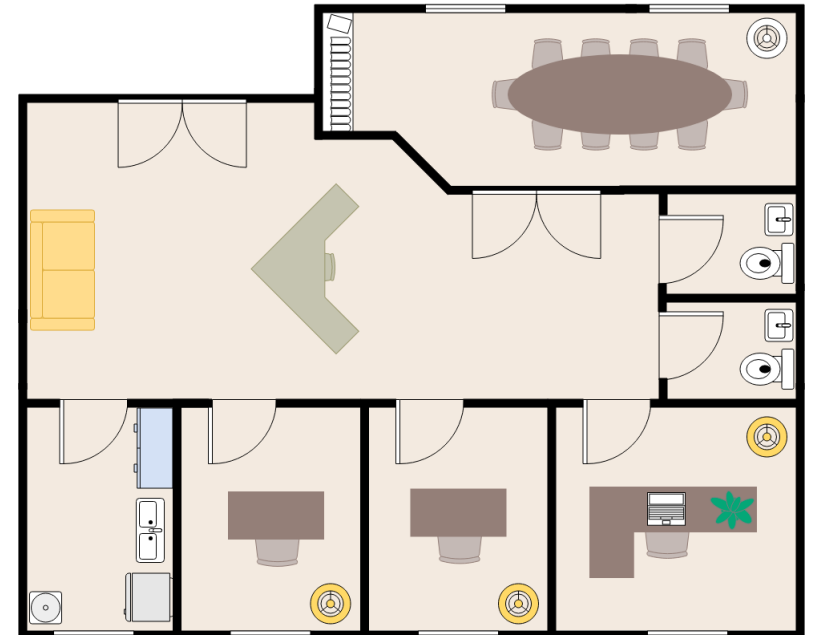
Royal Arms



Numbers indicate PSI

Pre-Deployment Intelligence

- **Number, sex and location of occupants**
- **Mental and physical conditioning of suspects**
- **Building / room layout and size**



Pre-Deployment Intelligence (Cont.)

- **Suspects location fortified, counter surveillance, etc.**
- **Possible combustibles, flammable substances present e.g. drugs lab**
- **Possible loose objects/debris**



Pre-Deployment Intelligence (Cont.)

- **Smoke detectors / fire sprinklers**
- **Specific drills to deal with fires**
 - ✓ **Assigned officer for fire fighting duties**
 - ✓ **Fire fighting equipment at breach point when training or accessible and ready to deploy if operational**
 - ✓ **Fire service on stand-by**



Pre-Deployment Intelligence (Cont.)

BE READY, BE PREPARED

"FBI admits it may have fired flammable devices in Waco siege"

CNN NEWS



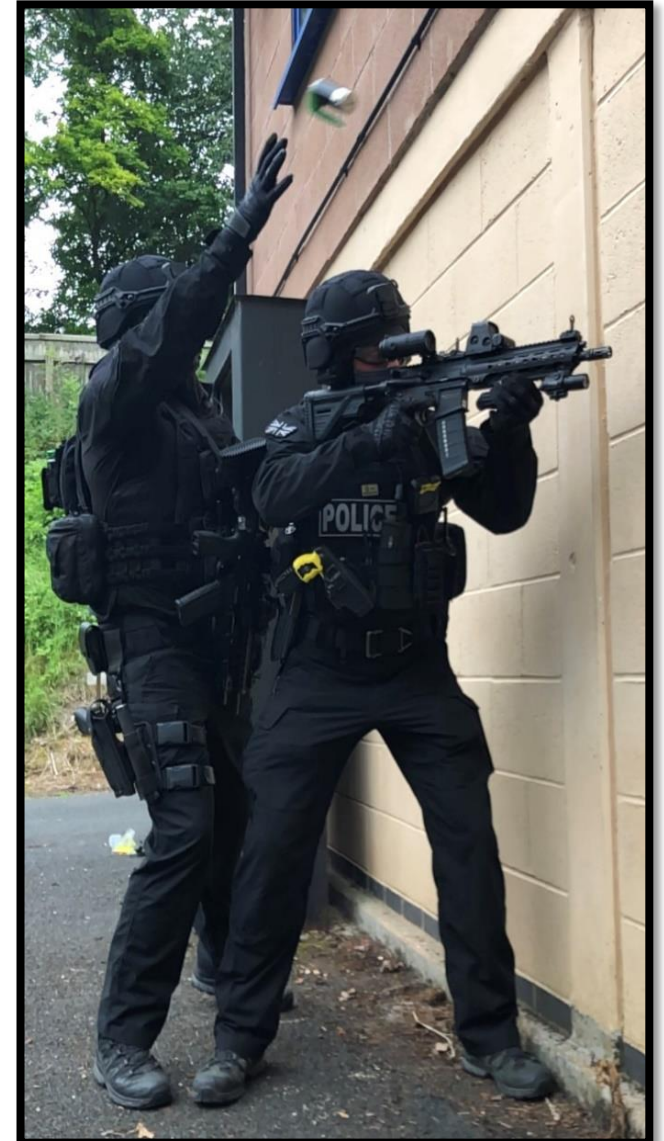
Pre-Deployment Intelligence (Cont.)

- **Exterior deployment**
 - ✓ To create a diversion
 - ✓ Possible fire hazards
 - ✓ Select hard non flammable surface to deploy towards (Can also be deployed at external walls)
- **Exterior disposal**
 - ✓ Pre-agreed area for **NO BANG** or **LOCKED DOOR**
 - ✓ Pre-designated area for **BLINDS / FAILURE TO DISCHARGE**

Protective Equipment

Personal Protective equipment must be worn at all times when handling, loading and deploying

- ✓ **Helmet**
- ✓ **Hearing Protection**
- ✓ **Eye Protection**
- ✓ **Face Protection**
- ✓ **Body Armour**
- ✓ **Protective Gloves**
- ✓ **Flame Resistant Clothing**
- ✓ **Protective Boots**



Protective Equipment (Cont.)

Medical Equipment

- ✓ Be proactive in addressing medical issues in both Training and Operational theatres
- ✓ Trauma Kit / First Aid Kit
- ✓ Tactical Medics
- ✓ Paramedics on stand-by or medical evacuation area known by all personnel

Tactical Deployment



Tactical Deployment (Cont.)

Pre-Loading Check

- ✓ **Always inspect device for serviceability prior to use**
- ✓ **Replace damaged or defective parts** (Please note that the Safety Lever / Spoon and Anti-Roll Pin is classified as a semi-disposable cost effective replaceable part, that may require replacement dependent on the type of use the part is subjected to)
- ✓ **Always ensure the device is clean and all parts function as intended**
(Deploy the device unloaded if required to verify)
- ✓ **Only use the device after Serviceability Check**

Tactical Deployment (Cont.)

Pre-Loading Check

MK4 Multiple safety system



Safety cross pin



Safety Ring catch



Anti roll pin & indicator (Optional)



Firing pin safety lock



Tactical Deployment (Cont.)

Pre-Loading Check

Insure all safeties are in place.



Insure firing pin is not protruding through hole.





Tactical Deployment (Cont.)

Loading 209 Primers

Note: Operator should throw
A minimum of 25 primers before using or
loading a FBC / Nitro powered Cartridge.
In order to familiarize yourself with the
Operations, deployment and activation of
the device and how it initiates.

Unscrew body from chamber



Install Primer
Adaptor
and 209 Primer



Screw body onto chamber insuring
the two parts mate up.



Correct



Incorrect



Video of loading 209 primers



Tactical Deployment (Cont.)

Loading FBC Cartridges

Note: Ensure operator has practiced with the 209 primers before utilizing the FBC Cartridge.

Unscrew body from chamber



Place flash bang cartridge into chamber



Screw body onto chamber insuring the two parts mate up.



Correct



Incorrect





Tactical Deployment (Cont.)

Safe tactical personal storage

- Do not store in a pouch with the pin removed
- Do not store in a pouch with the first stage safety disengaged
- Only use specific diversionary device pouches for storage



Tactical Deployment (Cont.)

Deploying

- ✓ **Communication with other officers**
- ✓ **Verbalisation, hand sign and/or physical display of device made ready** (Loaded with all safeties intact)
- ✓ **Divert suspects attention away from another location**
- ✓ **Make the suspect come to us**

Tactical Deployment (Cont.)

Deploying

- ✓ Remove pin ONLY when you are ready to use the device
- ✓ Always maintain control of the device until it is deployed
- ✓ Look before you deploy
- ✓ Only deploy onto a hard (Non Flammable) surfaces
- ✓ Deploy with directional force and or induced tumble if in doubt of surface hardness if required

Tactical Deployment (Cont.)

Deployment Procedures

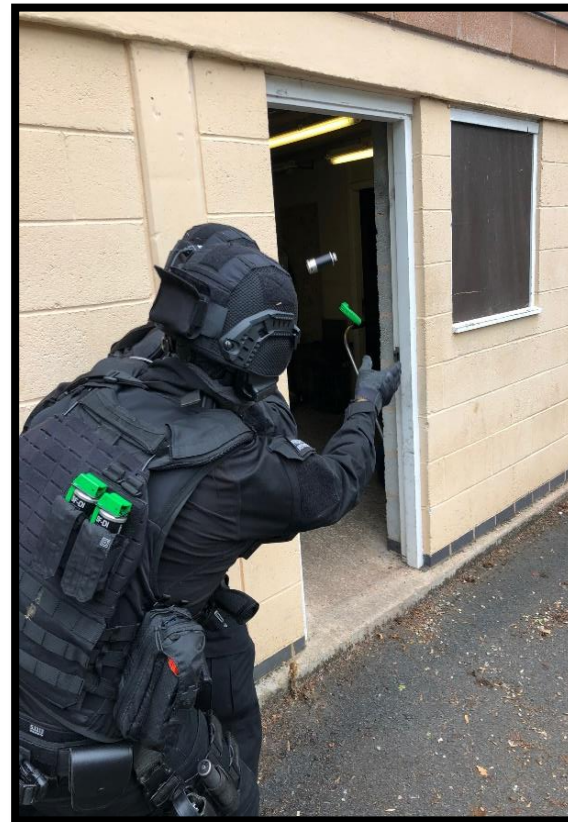
Firmly grip device with dominate hand. Ensure the lever/spoon is located in the web of the hand



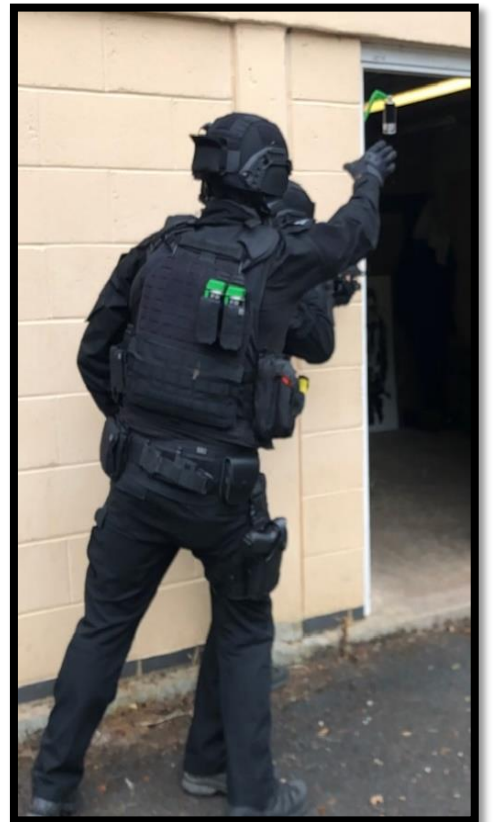
Using your opposite hand to disengage safety ring from retainer clip and pull away from device



Underarm Deployment:
Deploy underarm away from body into intended area
bang in safe direction



Overarm Deployment:
Deploy overarm with directional force into intended area





Tactical Deployment (Cont.)

Deployment Procedures (ACS Pouch)

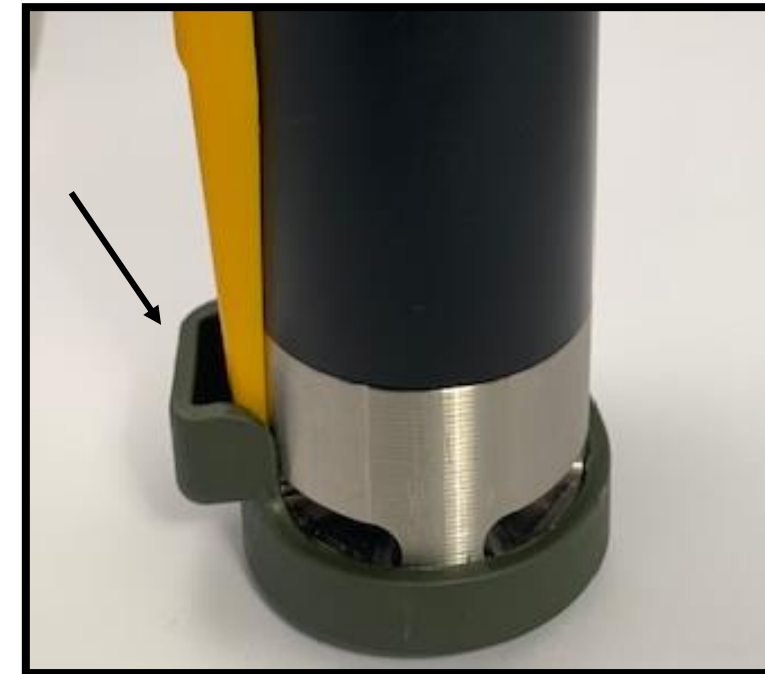
Install ACS deployment string through pull pin in MK-4. *Note: this is only needed for single hand deployment.*



Secure deployment string on hook. Located on the back of ACS pouch.



Place MK-4 in pouch ensuring safety spoon is inside lever protection slot.



Tactical Deployment (Cont.)

Deployment Procedures (ACS Pouch)

Place MK-4 in pouch.



Lower cover plate until it locks in place.



Lift locking lever to ensure secure device.



Tactical Deployment (Cont.)

Deployment Procedures (ACS Pouch)

Grip device, placing fingers on both side buttons. Disengage safety when ready



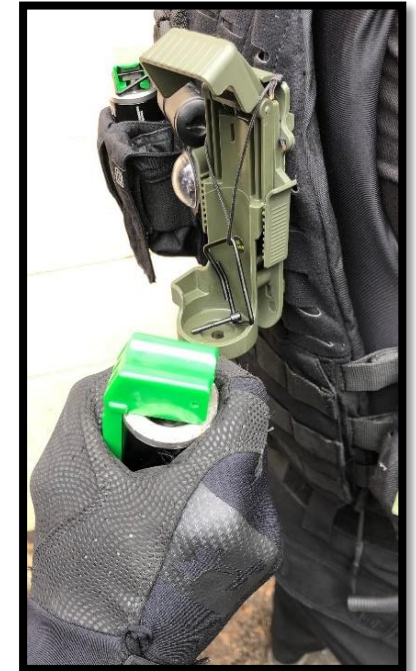
Press both side buttons simultaneously and grip device firmly



Pull device away from the ACS pouch in a smooth downwards motion

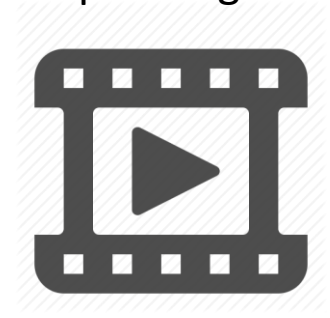


The device is now ready to deploy into intended area





Video of operating ACS Pouch



Tactical Deployment (Cont.)

Deploying “A Blind”

- ✓ **Have a plan “B” for if a device fails** (The device is only as good as the officer deploying it. Know your less-lethal products and there limitations)
- ✓ **Second device ready?**
- ✓ **Call out and cover areas of threat**

Post Deployment

Medical Screening/Treatment

- ✓ Any injury to officers or others when a device deflagrates should be treated and documented
- ✓ **As a proactive liability measure**, pregnant women, sick people, children and the elderly should be examined by paramedics/doctor after exposure to any device

Post Deployment (Cont.)

Collection of Evidence

- ✓ Secure location of deployment
- ✓ Retrieve as much of the device as possible
- ✓ Document all deployed devices and the areas where they deflagrated
- ✓ Obtain pictures and/or video of the areas and individuals involved
- ✓ Book these items as evidence

Post Deployment (Cont.)

Legal Scrutiny

- ✓ Knowledge of device
- ✓ Prior training and operational use of devices (**Both destructive technology and non destructive technology**)
- ✓ Train as you operate (**Stress Inoculation and equipment familiarisation is key**)
- ✓ Justification for the use (of this device)
- ✓ Planning that is focused on use

Rendering Safe

FBG MK4 (Failure to Discharge)

WARNING:

If the device has not discharged. **Its live.** Any sudden shock or impact on the device could cause an accidental negative discharge.



Recover all parts



Recover device by holding the upper body ONLY. Keeping chamber side away from operator.

Warning: **Do not hold or cover the base ports / apertures.**



Carefully unscrew body from chamber, ensuring not to place hands over base ports / apertures.
(PPE REQUIRED)



Rendering Safe (Cont.)

FBG MK4 (Failure to Discharge)

Re-install safety lever / spoon and safety pin.



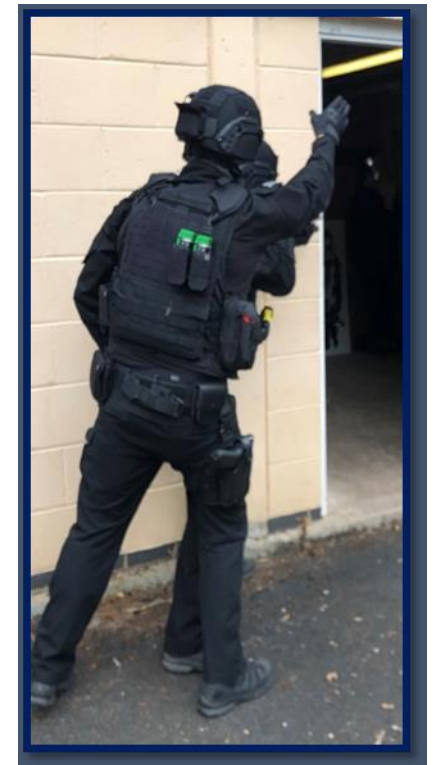
Inspect primer. If light strike is present. Remove cartridge and replace with new.

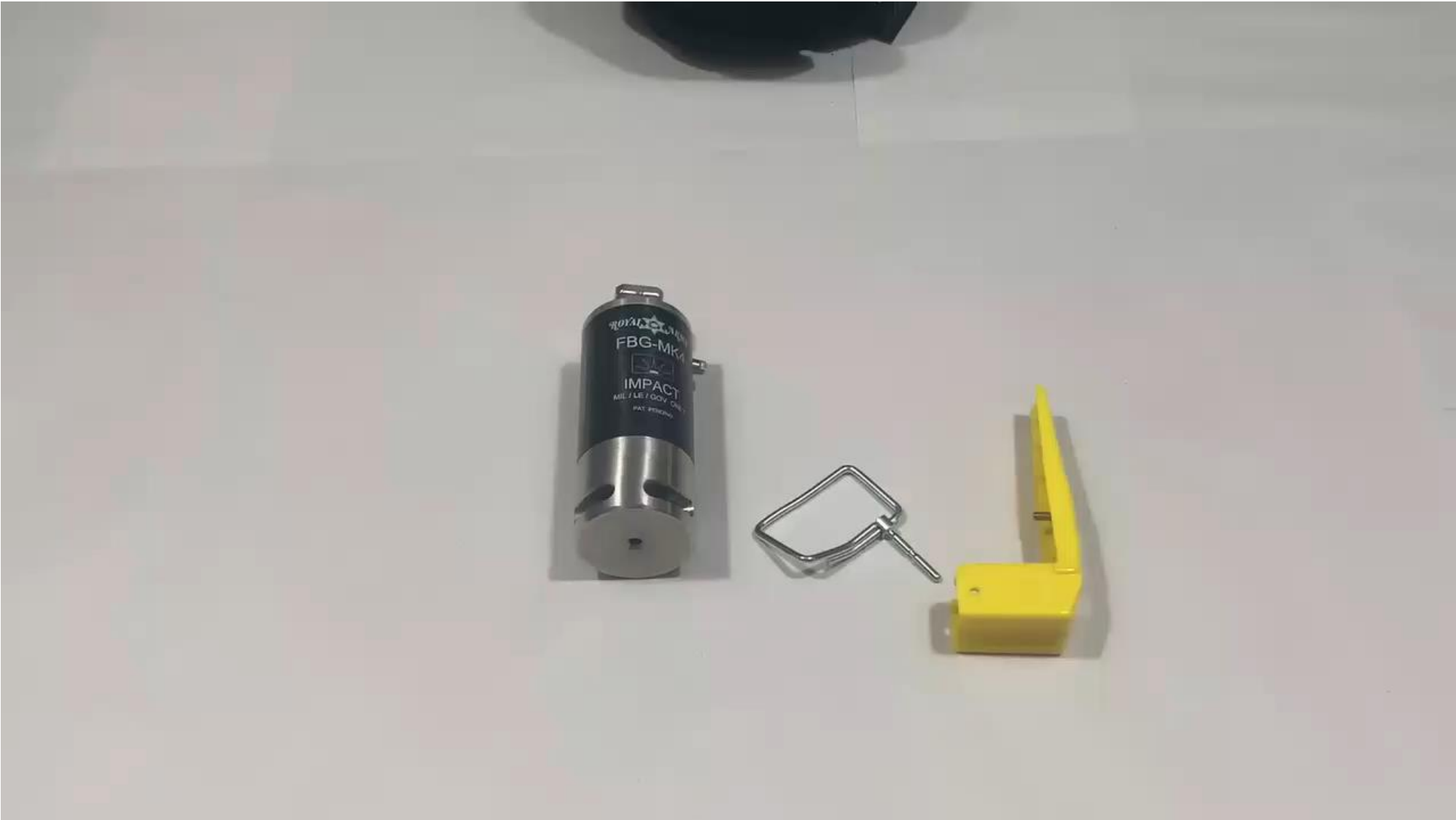
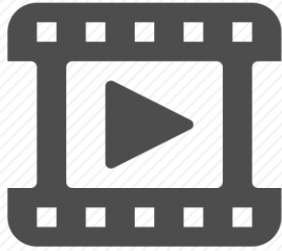


Re-assemble body onto chamber.



Re-deploy device
In a safe direction
onto a hard surface





Rendering Safe

FBG MK4 Unloading Procedures

WARNING:

If the device has not discharged. **Its live.** Any sudden shock or impact on the device could cause an accidental negative discharge.



Recover all parts



Recover device by holding the toggle or upper body ONLY. Keeping chamber side away from operator.
Warning: **Do not hold or cover the base apertures.**



Unscrew body from chamber, ensuring not to place hands over base apertures. **(PPE REQUIRED)**



MK-4 Un-Loading Procedures

Remove spent shell or Primer Adaptor with push out tool.



Note: Spoon may be used as a tactical extraction tool.



Inspect Primer

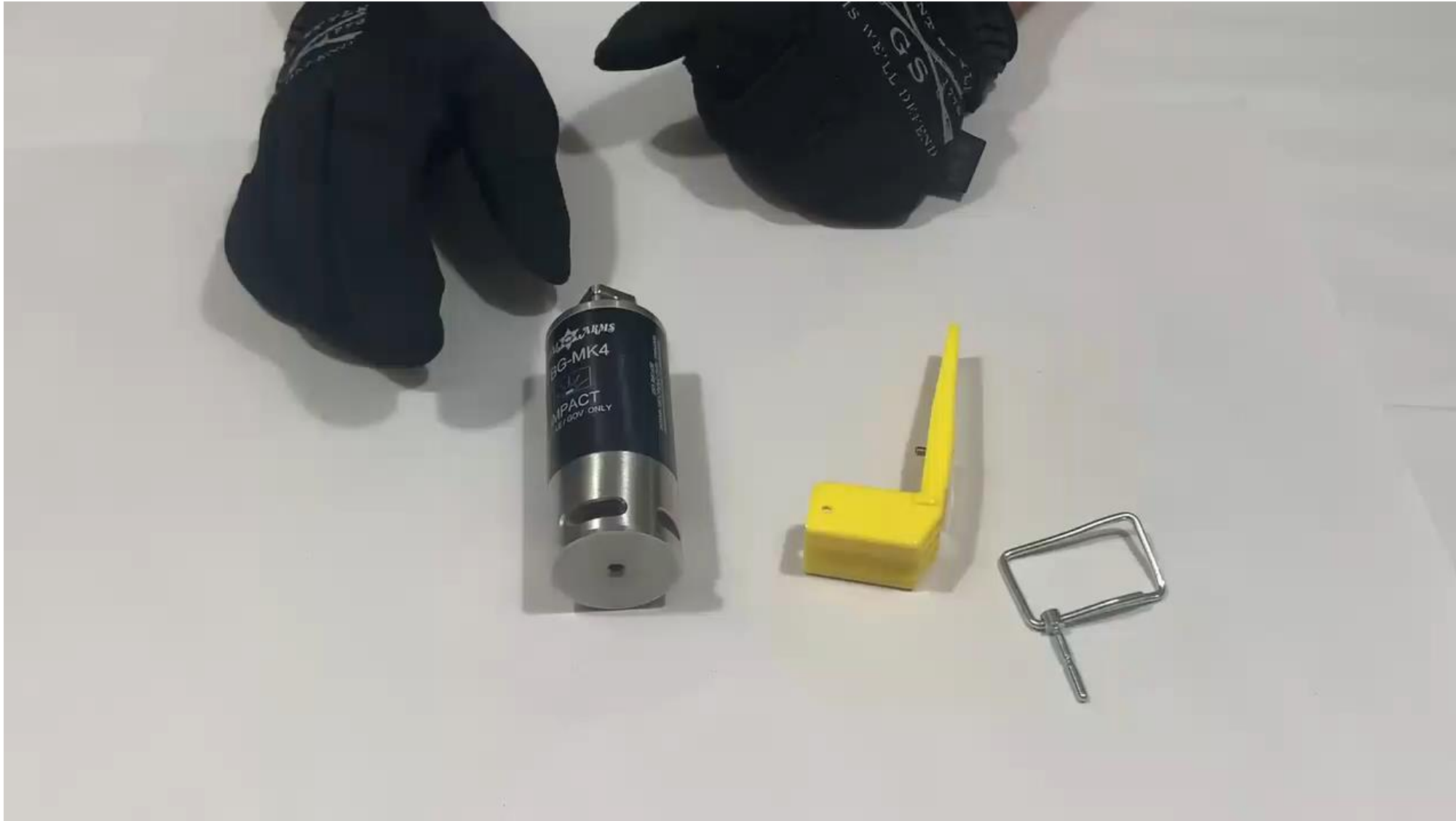
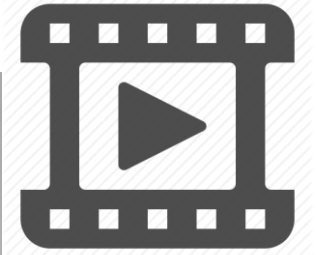


Discard of trash. Save Primer Adaptor.



Re-Install spoon and pin back onto MK-4.





MK-4 Preventative Maintenance

Clean threads and insure firing pin moves freely. Inspect for damage.



Insure toggle moves freely.

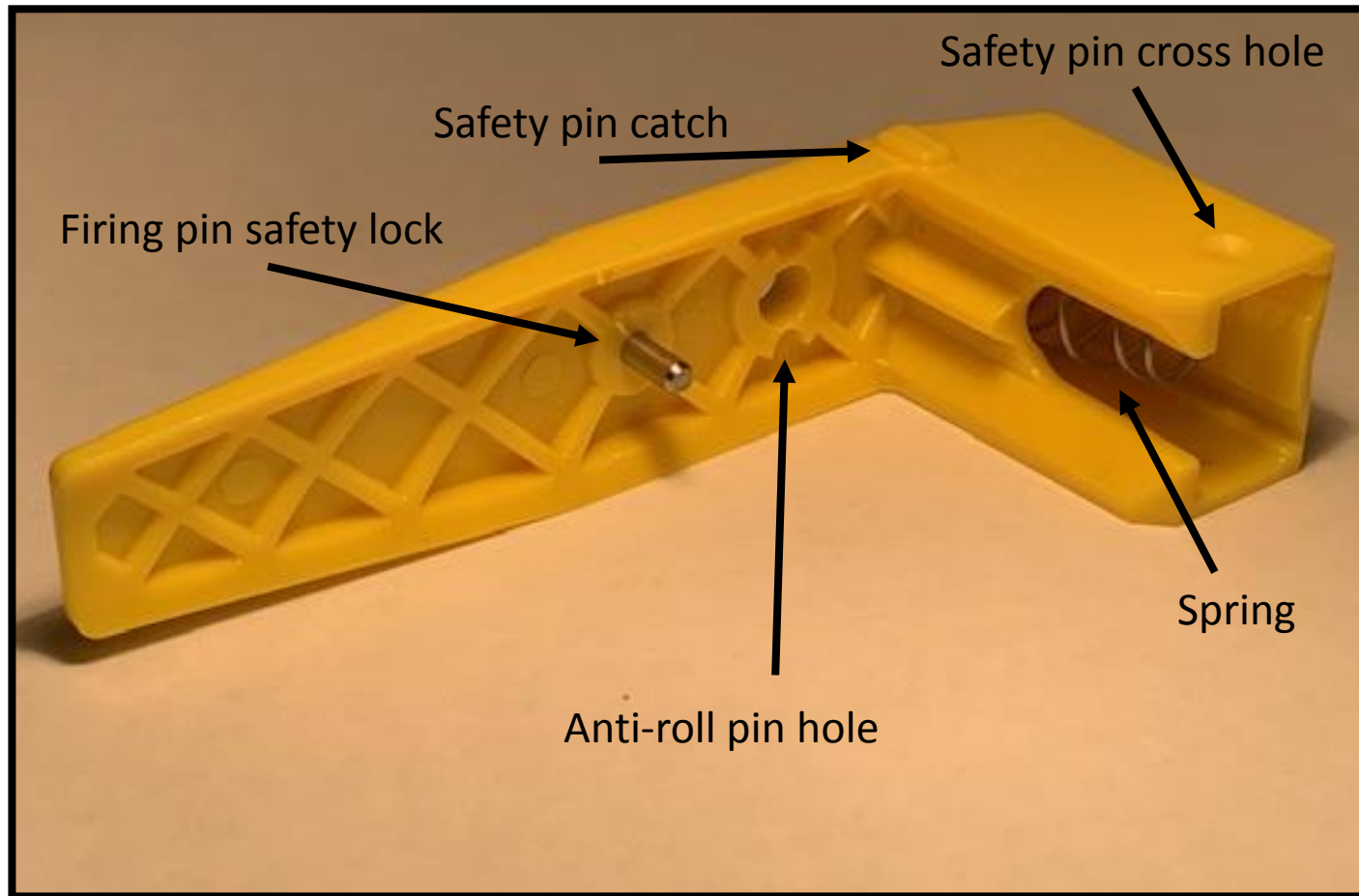


Clean threads and chamber. Inspect for damage. Light anti-seize or oil is recommended on threads.

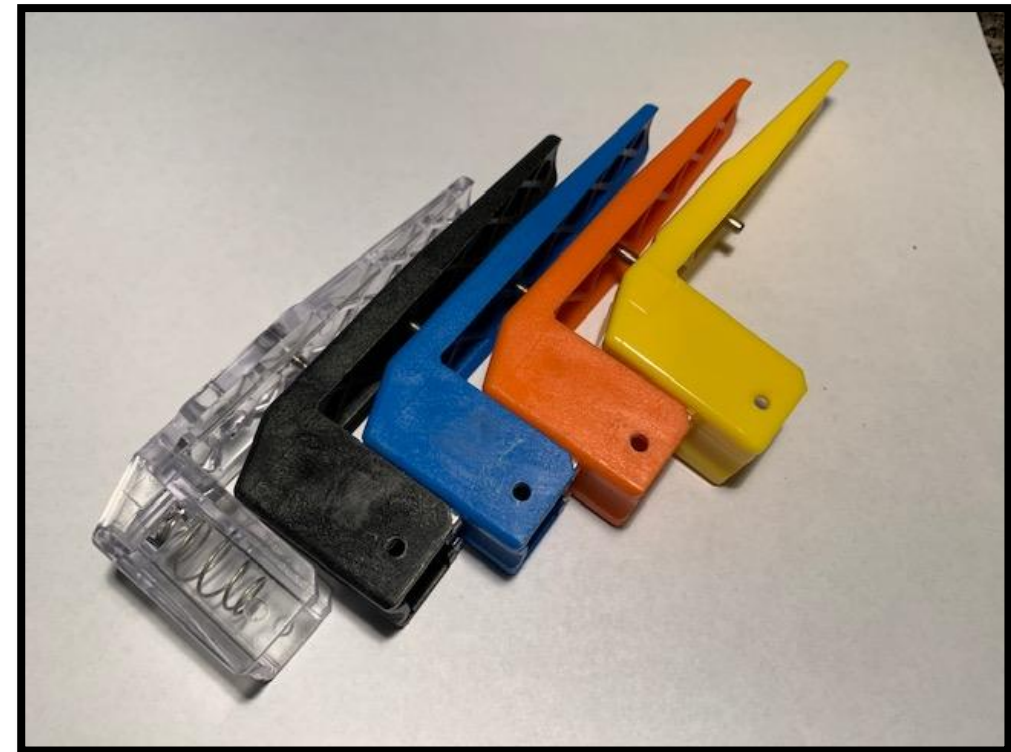


MK-4 Preventative Maintenance (Cont.)

If device is dropped or deployed with spoon still attached, cracks or complete spoon failure may occur. Proper inspection of safety spoons is required after every deployment or drop.



Note: Safety spoons are sacrificial parts. A new spoon should be used if damaged or cracks become noticeable.



Questions



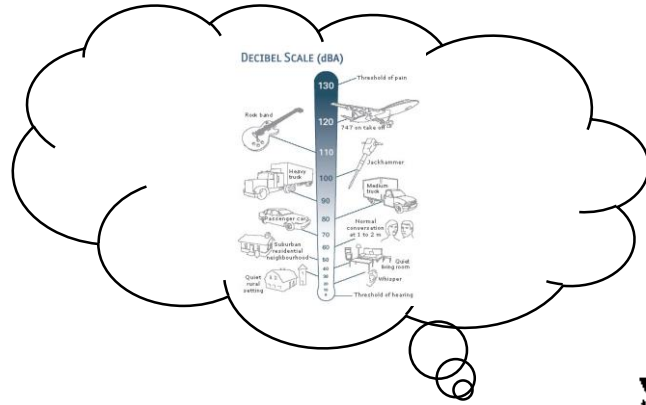


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Course Test



1. The FBG-MK4 is Classified as?
 - A. Destructive technology
 - B. A firearm
 - C. Non-destructive technology
 - D. A toy

2. At what point should PPE be worn when handling the FBG-MK4 Device?
 - A. Only when deploying
 - B. When loading and deploying
 - C. At all times when using or handling the device
 - D. When deploying and making safe

3. If the FBG-MK4 device is deployed onto a bed will it discharge its loaded munition on contact?
 - A. Yes, the device will successfully discharge its munition regardless of the surface it impacts.
 - B. No, the device must be deployed onto a hard surface for successful discharge of its loaded munition.

4. What is the first thing you do when presented with a FBG-MK4 device?
 - A. Check the state of the device ensuring it is safe to handle.
 - B. Deploy it to see if it is loaded.
 - C. Place it back into storage.
 - D. Completely disassemble the device.

5. You are conducting a training exercise and you find a FBG-MK4 device on the floor with no safety lever/spoon.

What is the first thing you do not knowing its state?

- A. Kick it out of the way.
- B. Follow the “rendering safe” procedures.
- C. Leave it for someone else to find.
- D. Pick the device up by the base and safety it with a spare safety lever/spoon you have.

6. You are teaching a group of officers how to correctly deploy the FBG-MK4 device. You select a training room

To deploy the devices into. Do you?

- A. Allow the students to deploy their device one after the other and then collect the discharged devices at the end.
- B. Allow each student to individually deploy and retrieve each device one after the other ensuring each device has been deployed correctly with a successful discharge of its loaded munition.

7. You are teaching a group of officers to load the FBG-MK4 device for the first time. Do you?

- A. Allow the students to figure it out for themselves.
- B. Allow the students to load a primer for the first time so they can get used to the deployment characteristics and limitations of an impact device.
- C. Allow the students to load a FBC Cartridge for the first time so they can get used to the deployment characteristics and limitations of an impact device.

8. The reason why we have diversionary devices are?
 - A. To provide tactical local government agencies with military hardware.
 - B. To provide a tactical tool for causing concussion in a life or death situation.
 - C. To provide tactical government agencies with a effective tool that may assist in tactical life threatening incidents that are beyond the resources and equipment of standard level personnel.

9. What is the Physiological effect of a device discharging its loaded munition?
 - A. A loud bang close to a person will cause a reflexive reaction in the person when they try to turn away from the source of noise.
 - B. To deceive or trick a person into believing an event or action is taking place when in reality something else is happening or about to happen.

10. What is the Psychological effect of the device discharging its loaded munition?
 - A. A loud bang close to a person will cause a reflexive reaction in the person when they try to turn away from the source of noise.
 - B. To deceive or trick a person into believing an event or action is taking place when in reality something else is happening or about to happen.

11. What is the sound dB threshold of pain?
 - A. 87 dB
 - B. 98 dB
 - C. 99 dB
 - D. 103 dB

12. What is the minimum number of primers an officer should use practicing with the FBG-MK4 prior to loading a FBC Cartridge?

- A. None
- B. 25
- C. 10

13. What is not a chemical explosive?

- A. Nitro
- B. Liquid nitrogen
- C. Gun powder
- D. TNT

14. Do diversionary devices?

- A. Explode
- B. Implode
- C. Deflagrate

15. What is the hazard classification of the FBG-MK4 device reloads?

- A. 1.1
- B. 1.4G
- C. 1.4S
- D. 1.3G

16. What is not an item of personal protective equipment?
 - A. Hearing protection
 - B. Stylish non-ballistic sunglasses
 - C. Protective gloves
 - D. Body armor

17. You deploy a FBG-MK4 in a training exercise and it fails to discharge due to landing on a bed. Do you first attempt to?
 - A. Recover the device by holding the toggle or upper body and then re-deploy in a safe direction.
 - B. Recover the device by holding the base and then re-deploy in a safe direction.
 - C. Recover the device by holding the base and attempt to unscrew the body
 - D. None of the above

18. You are about to re-load a FBG-MK4 and notice a crack in the safety lever/spoon. Do you?
 - A. Continue to load the device regardless of the cracked safety lever.
 - B. Replace the cracked lever with a serviceable lever and continue loading the device.
 - C. Stow the device and deal with it some other time.

19. How many safety systems are engaged on the device when reloading correctly?
 - A. 2
 - B. 1
 - C. 4

20. If a FBG-MK4 discharges a FBC cartridge and the sound is 175dB. What is the pressure level?
 - A. 9.17 PSI
 - B. 1.63 PSI
 - C. 0.80 PSI