XC Series™ Operator's Manual
Document EX4416

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Model XC Series Overview

The XC Series utilizes disposable CO2 cartridges and Burst Discs to produce audio and visual effects for small Battlefield Effects Simulators. Current XC Series products include:

XC-DDV™ Distraction Device Simulator
XC-RPG™ Rocket Propelled Grenade Simulator with XC-CO2™
XC-MTR™ Drop Fired Mortar Simulator with XC-CO2™

Available individually and in the following configurations:

XC-DDK Distraction Device Kit- Ten XC-DDV Distraction Device Simulators, 50 CO2 Cartridges, 50 Burst Discs, 50oz Visual Effects Powder, all in a hard plastic case.

XC-RPGK RPG-7 Simulation Kit- RPG-7 Launch Tube with three XC-CO2 inserts, 50 CO2 Cartridges, 50 Burst Discs, 50oz Visual Effects Powder, all in a hard plastic case.

XC-DFMK Drop Fired Mortar Kit- Mortar tube with eight XC-CO2 mortar round simulators, 50 CO2 Cartridges, 50 Burst Discs, 50oz Visual Effects Powder, all in a hard plastic case.

XC-DDV

The XC-DDV is used to simulate the loud report and optional smoke effects of a hand thrown distraction device. The loud report is created by the release of compressed CO2 from a disposable cartridge that gradually increases the pressure on a consumable burst disc. When the disc bursts, it creates a loud report and any visual effects powder used is released in a cloud simulating the dust and smoke dispersal of an actual device.

XC-DDV	
1. Spoon	5. CO2 Cartridge (Disposable)
2. Safety Pin	6. Burst Disc (Disposable)
3. Main Body	7. Exhaust Cap
4. Cartridge Holder	

Loading and Firing the XC-DDV

1. Insert the Safety Pin through the hole in the Spoon with the Spoon positioned at an angle as shown.
2. Insert a disposable CO2 Cartridge in the orientation shown.
3. Screw the Cartridge Holder into the Main Body. Some resistance will be felt as the O-Ring seal engages, but the Cartridge Holder must be screwed in until it bottoms out.
4. Fill the Main Body approximately 1/3 full with 0.5oz of visual effects powder if desired (Do Not Overfill). Make sure threads are clear of powder.
5. Firmly seat a Burst Disc with the smooth side facing outwards into the groove inside the Exhaust Cap and firmly tighten onto the Main Body. The Exhaust Cap must be tightened firmly in order to provide a good seal (hand tighten only, do not use tools). The unit is now loaded, but the CO2 Cartridge has not been punctured.
6. To puncture the CO2 Cartridge, pull the Safety Pin and firmly depress the Spoon until it bottoms out. This punctures the CO2 Cartridge and the unit is now ready to fire. **Hold the Spoon in the fully depressed position until ready to fire.**
7. To Fire, release the Spoon and immediately throw the device to a safe area. *Releasing the Spoon allows the CO2 to fill the chamber of the Main Body where it will reach a pressure sufficient to rupture the Burst Disc in 3+ seconds. The rupturing Burst Disc will produce a loud report and release the visual effects powder if used.*
8. To reload and re-fire, remove the Exhaust Cap, discard the used Burst Disc, and unscrew the Cartridge Holder, and repeat steps 1-7.

Note: Do not squeeze the Spoon to puncture the CO2 Cartridge until ready to fire. Puncturing the CO2 Cartridge can allow the CO2 to very slowly leak into the chamber of the Main Body resulting in a delayed firing.
If the needle is stuck in the firing position, it may puncture the CO2 Cartridge when loaded. The needle can be pushed back into position by first assembling the Cartridge Holder with the CO2 Cartridge inverted, then reassembling as described above.

Do not place unprotected body parts in the high pressure exhaust cone shown in red as bodily injury may result.

XC-CO2 Overview

The XC-CO2 utilizes the same operating principles and many of the same components as the XC-DDV. However, instead of puncturing the CO2 cartridge with a spoon, the XC-CO2 is fired by contact with a firing pin in an auxiliary device.

XC-CO2 Components

The XC-RPG and XC-MTR use the same XC-CO2 unit with the following features:

1. Steel Cap	4. Cartridge Holder
2. Main Body	5. CO2 Cartridge (Disposable)
3. Exhaust Cap	6. Burst Disc (Disposable)

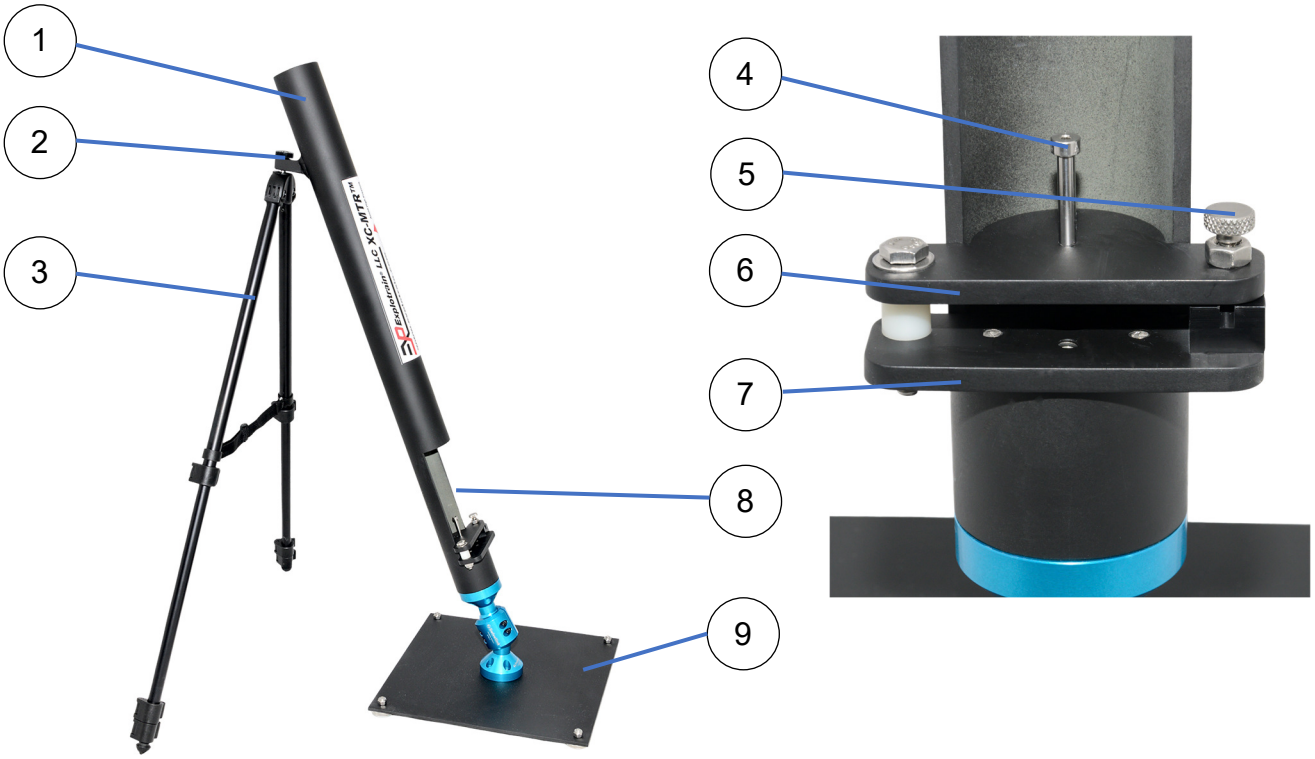
Loading the XC-CO2

1. Insert a disposable CO2 Cartridge in the orientation shown on the previous page.
2. Screw the Cartridge Holder into the Main Body. Some resistance will be felt as the O-Ring seal engages, but the Cartridge Holder must be screwed in until it bottoms out.
3. Fill the Main Body approximately 1/3 full with 0.5oz of visual effects powder if desired (Do Not Overfill).
4. Firmly seat a Burst Disc into the groove inside the Exhaust Cap and firmly tighten onto the Main Body. The Exhaust Cap must be tightened firmly in order to provide a good seal (hand tighten only, do not use tools). The unit is now loaded, but the CO2 Cartridge has not been punctured.

XC-MTR Overview

The XC-MTR simulates the firing of a drop fired mortar. When the XC-CO2 is dropped into the tube, it is fired producing a loud report and simulated smoke cloud.

XC-MTR Components

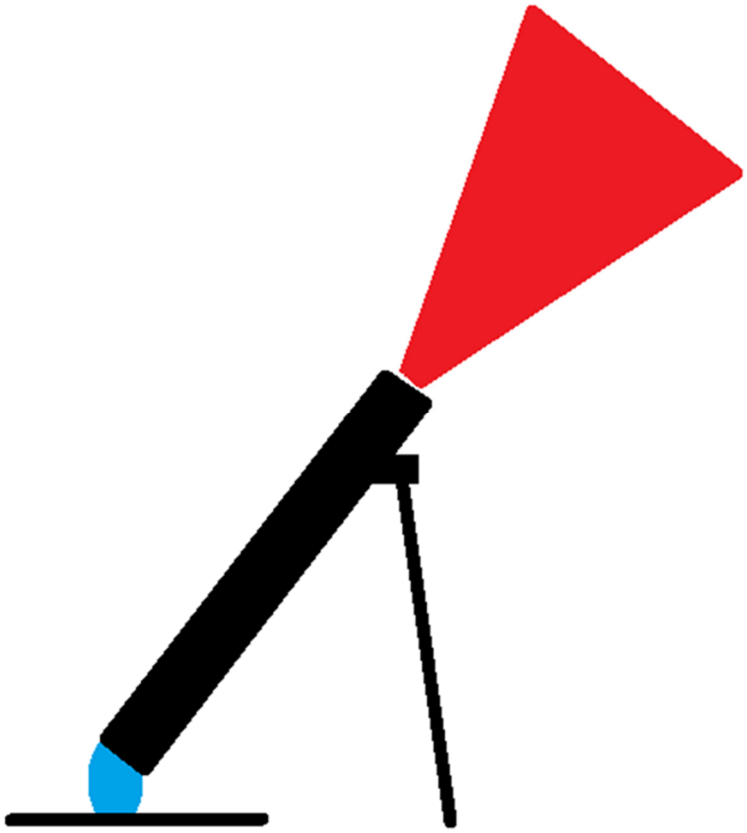


The XC-MTR Mortar Simulator has the following features:

1. Mortar Tube
2. Bipod Retention Nut
3. Bipod
4. Firing Pin
5. Swing Pin
6. Swing Plate
7. Stop Plate
8. Extraction Window
9. Base Plate

Firing the XC-MTR

1. Attach the Bipod, extend legs as needed, and secure with the Bipod Retention Nut.
2. Ensure that the Swing Plate is closed and secured by the Swing Pin.
3. Place the XC-CO2 in the mouth of the Mortar Tube with the Exhaust Cap facing upwards.
4. Release the XC-CO2, allowing it to drop down the length of the Mortar Tube where it will strike the Firing Pin causing it to fire.
5. Once fired, lift the XC-CO2 off of the Firing Pin, pull the Swing Pin up, and open the Swing Plate.
6. Remove the XC-CO2 and close the Swing Plate.
7. To fire again, repeat steps 1 through 7.

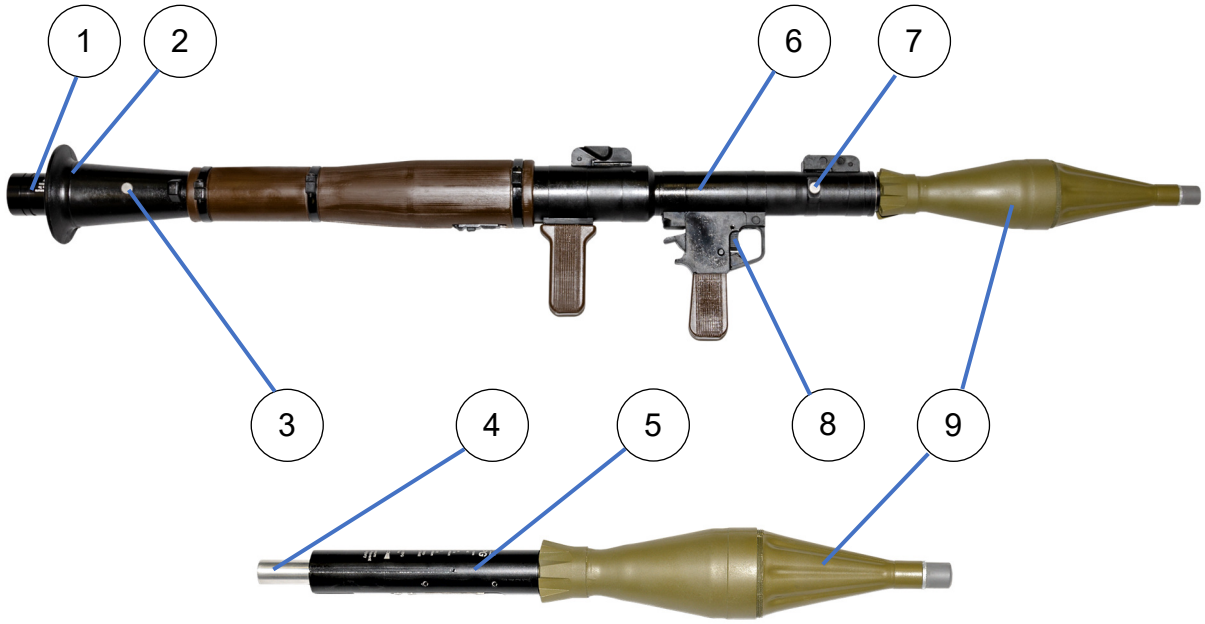


Do not place unprotected body parts in the high pressure exhaust cone shown in red as bodily injury may result.

XC-RPG Overview

The XC-RPG simulates the firing of an RPG. When an XC-CO2 is loaded into the rear of the RPG launcher and fired, it produces a loud report and dust cloud to simulate the firing of an actual device.

XC-RPG Components



The XC-RPG Rocket Propelled Grenade Simulator has the following features:

1. XC-CO2
2. Exhaust Chamber
3. Rear Retention Pin
4. Firing Pin
5. Motor Assembly
6. Launcher Body
7. Front Retention Pin
8. Trigger
9. Warhead

Loading and Firing the XC-RPG

1. Remove the assembled Warhead and Motor Assembly from the shipping case.
2. Firmly press the Firing Pin in approximately 1” until it clicks into place and is retained by the internal trigger mechanism.
3. Gently slide the Warhead and Motor Assembly into the Launcher so the slot in the Motor Assembly lines up with the Front Retention Pin. Pull up on the knurled knob of the spring-loaded Front Retention Pin and slide the Assembly inward until the Front Retention Pin clicks and holds it in place. Slightly rotate the knurled knob of the Front Retention Pin and move the Motor Assembly back and forth slightly to make sure it is fully engaged into the hole at the end of the slot in the Motor Assembly.
4. Repeat Step 2 to insert the loaded XC-CO2 into the Exhaust Chamber with the Exhaust Cap facing rearwards until Rear Retention Pin clicks and holds it in place. (The XC-CO2 is also held by a magnet so make absolutely sure it is completely inserted).
5. Pull the Trigger to fire the XC-CO2.
6. To unload, pull up on the knurled knob of the spring-loaded Rear Retention Pin and remove the XC-CO2 from the Exhaust Chamber .
7. Pull up on the knurled knob of the Front Retention Pin and remove the Warhead and Motor Assembly.
8. To fire again, repeat steps 2 through 7.

Do not place unprotected body parts in the high pressure exhaust cone shown in red as bodily injury may result.

Troubleshooting

If the Burst Disc does not pop:

- Burst Disc does not inflate - CO_2 Cartridge was not punctured
  Exhaust Cap was not tightened to seal Burst Disc
  CO_2 Cartridge was empty or missing
- Burst Disc inflates - Extreme cold may lower CO_2 below requisite burst pressure
  Exhaust Cap was not tightened to seal Burst Disc

If Burst Disc pops after extended period of time:

CO_2 Cartridge was improperly punctured
Extreme cold may extend pressurization time
Rapid reloading may allow ice to build up in the bleed hole

If CO_2 Cartridge is punctured upon assembly:

Insert CO_2 Cartridge in reverse orientation to reposition Needle
Check CO_2 Cartridge for length (3.274”-3.253”)

If Burst Disc pops too soon:

Overfilling with visual effects powder reduces the CO_2 expansion volume causing pressure to rise more quickly. Use less visual effects powder.
Extreme heat will increase the CO_2 pressure resulting in faster fill times.

If the XC-CO_2 in the XC-RPG does not fire:

Make absolutely sure the XC-CO_2 is completely seated.

Maintenance

Keep the threads and sealing surfaces of the Main Body, Cartridge Holder, and Exhaust Cap clean and in good condition. Failure to do so may prevent sealing of the Burst Disc or internal surfaces to contain the CO2 .

Please contact Explotrain at (850) 862-5344 if you have any questions or concerns about our products, or would like any assistance in their use.

Please see MSDS sheet for CO2 for handling and storage information.

Some of your Explotrain products may exhibit signs of light use, such as dusty surfaces, tool marks, etc. These indications are from test firing operations after final assembly performed as part of our quality control procedures. All of your products are new and unused.