SCENARIO TRAINER™

ELECTRONIC GUNFIRE SIMULATION SYSTEM

Mobile Blast Simulator (MBS-1 v3)

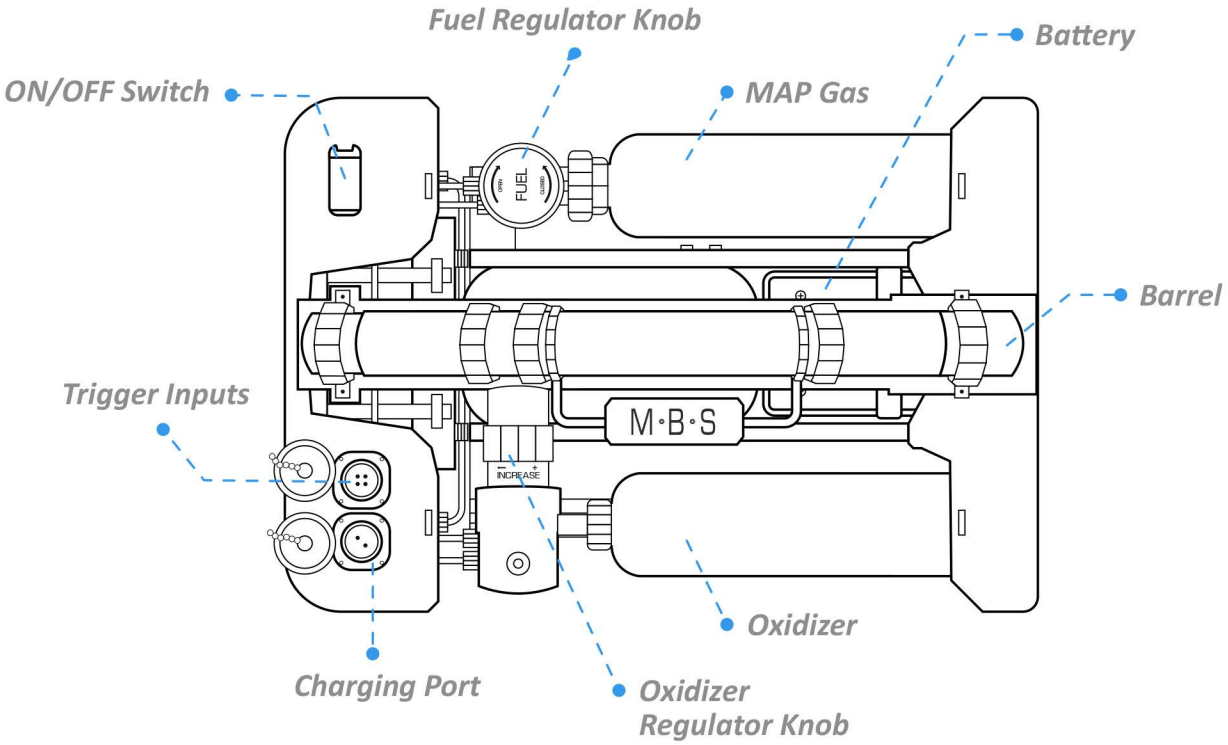
MBS

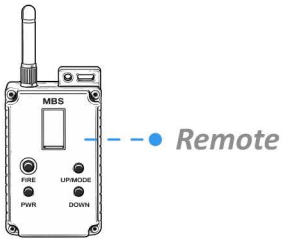
USER MANUAL

OVERVIEW

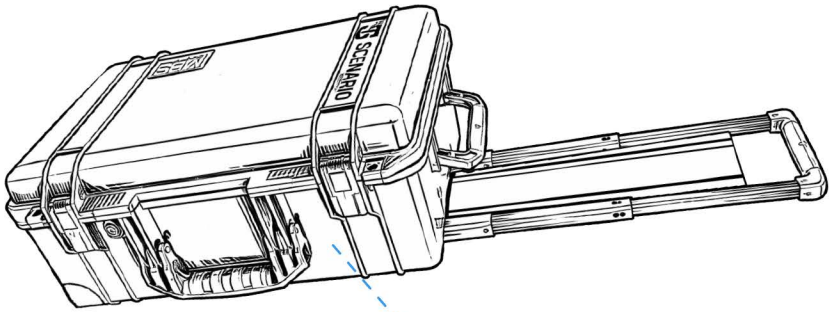
- Battery installation
- Safety requirements
- Proper operation
- Remote control functions
- Required purge procedures
- Charging and trigger options
- Field troubleshooting.

Main Components





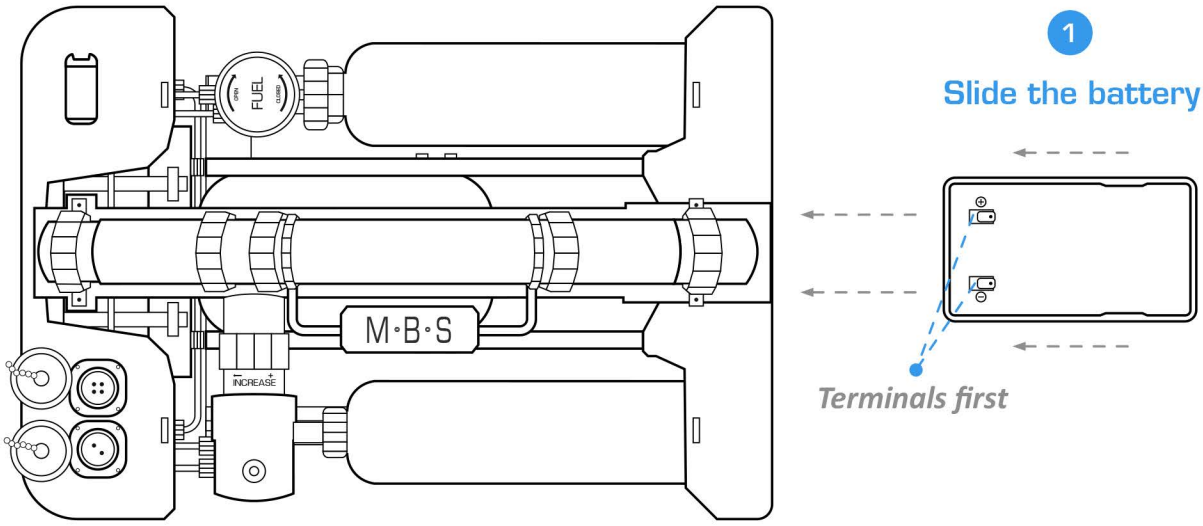
Remote

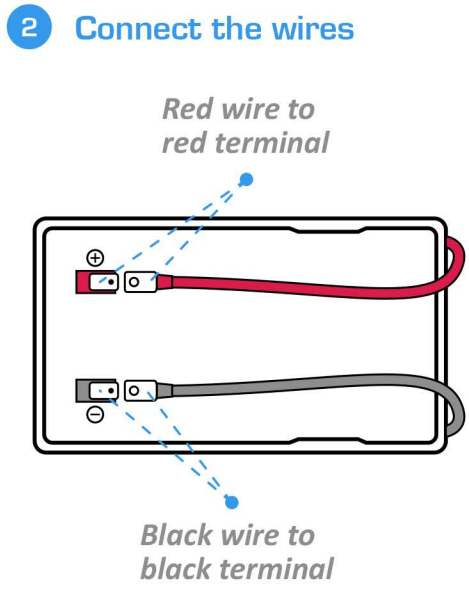


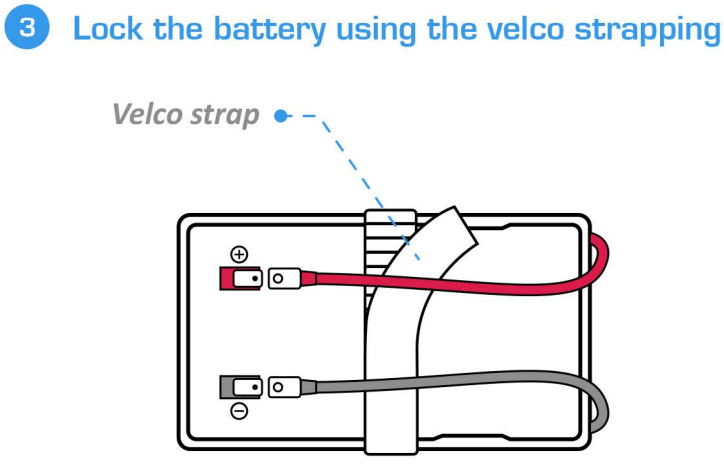
Pelican Case

Battery Installation

If the battery has not been installed yet, slide the lithium ion phosphate battery in from the barrel end of the lower frame battery terminals first. Connect the red or positive wire lead to the red terminal on the battery, and the black to black terminal. Lock into position with the included velcro strapping.





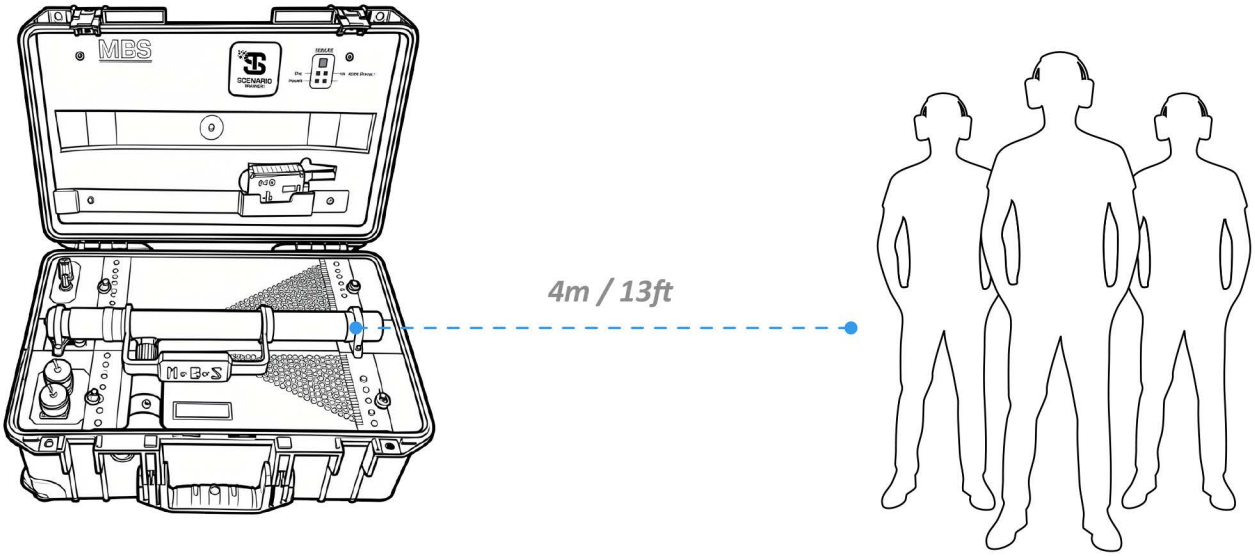


Critical Safety Requirements

Hearing and Personnel Safety

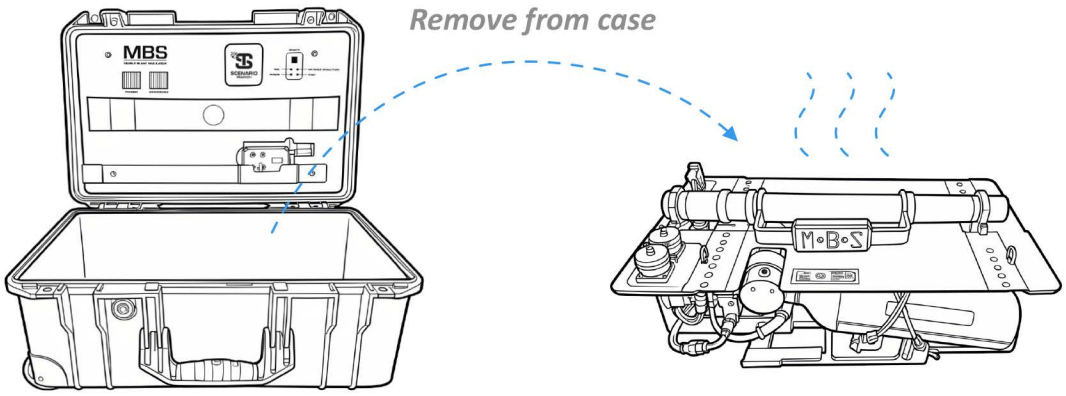
Hearing protection is mandatory for all personnel in the training area.

Maintain a minimum distance of 4m or 13ft from the front of the barrel.

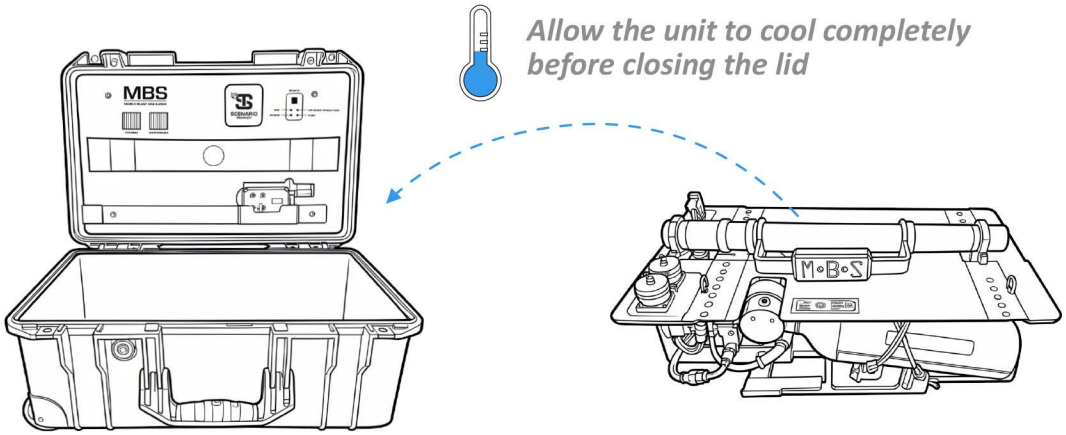


Heat & Duty Cycle

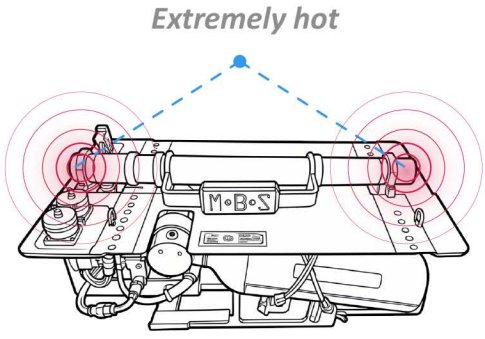
During sustained or heavy machine gun style fire, remove the unit from the pelican case to allow proper heat dissipation.



After firing, allow the unit to cool completely before closing the case lid.

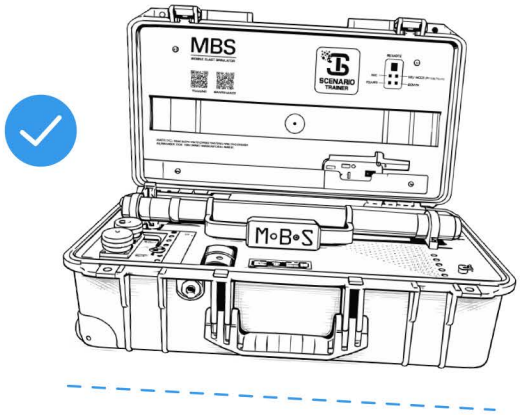


The barrel and surrounding metal surfaces become extremely hot, do not touch the barrel or the metal surface opposite the barrel opening during or immediately after firing. Serious burns can occur.

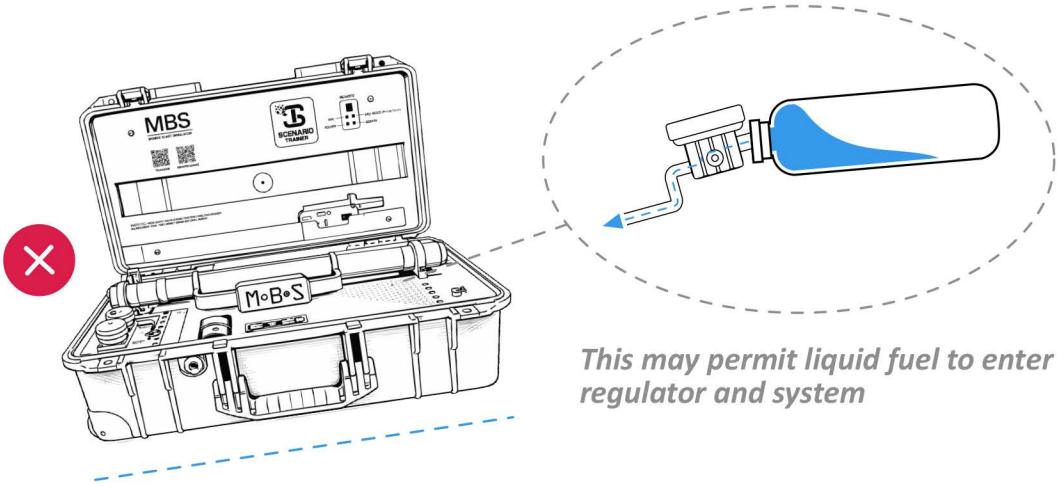


Unit Positioning

The MBS must be fired on level ground or slightly downward.

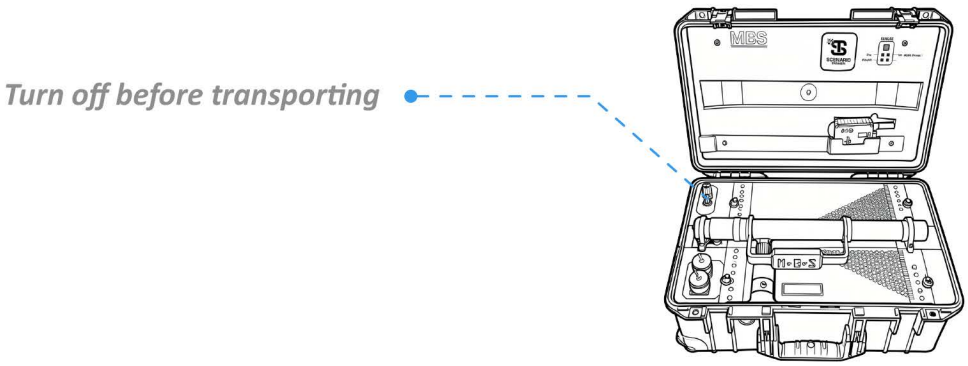


Never fire with the barrel pointed upward. Firing upward allows internal fuel bottles to tilt in a way that may permit liquid fuel to enter the regulator and system improperly. This can cause malfunction.

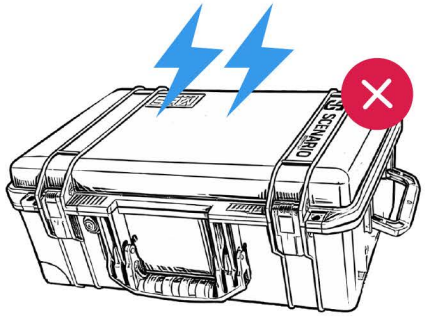


Transport & Power Safety

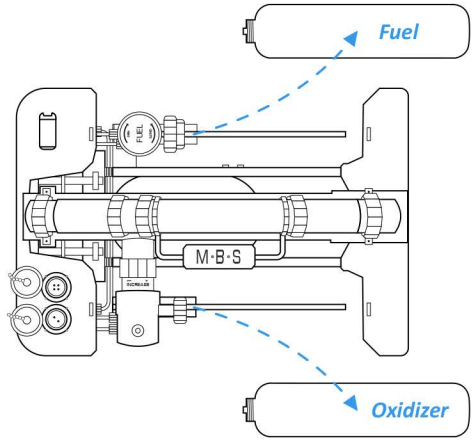
Before transporting the system, always power the unit off.



Storage Safety

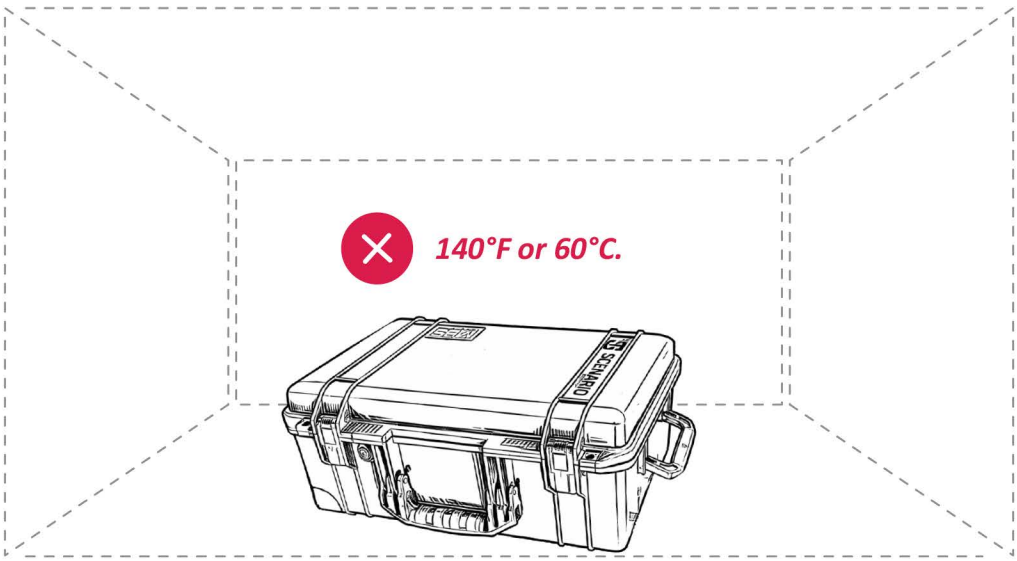


The system should never be stored while energized.



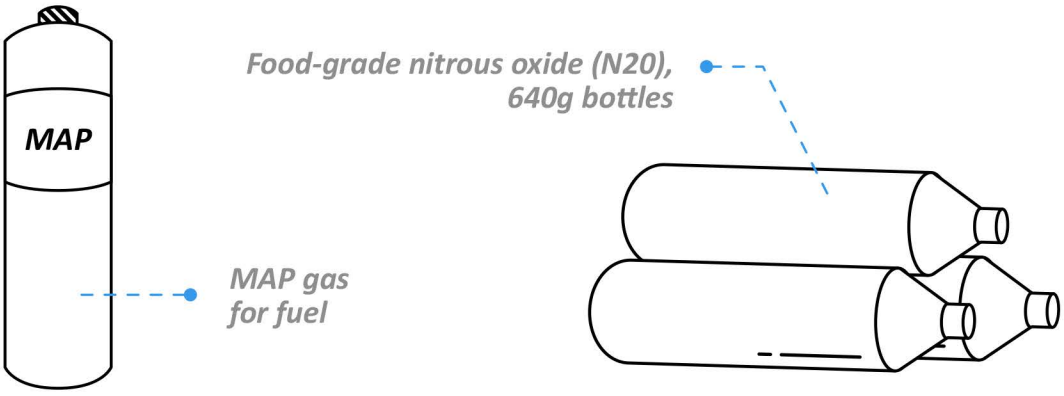
Fuel and oxidizer should be disconnected during storage.

Never store in an enclosed space where the temperature gets above 140°F or 60°C.



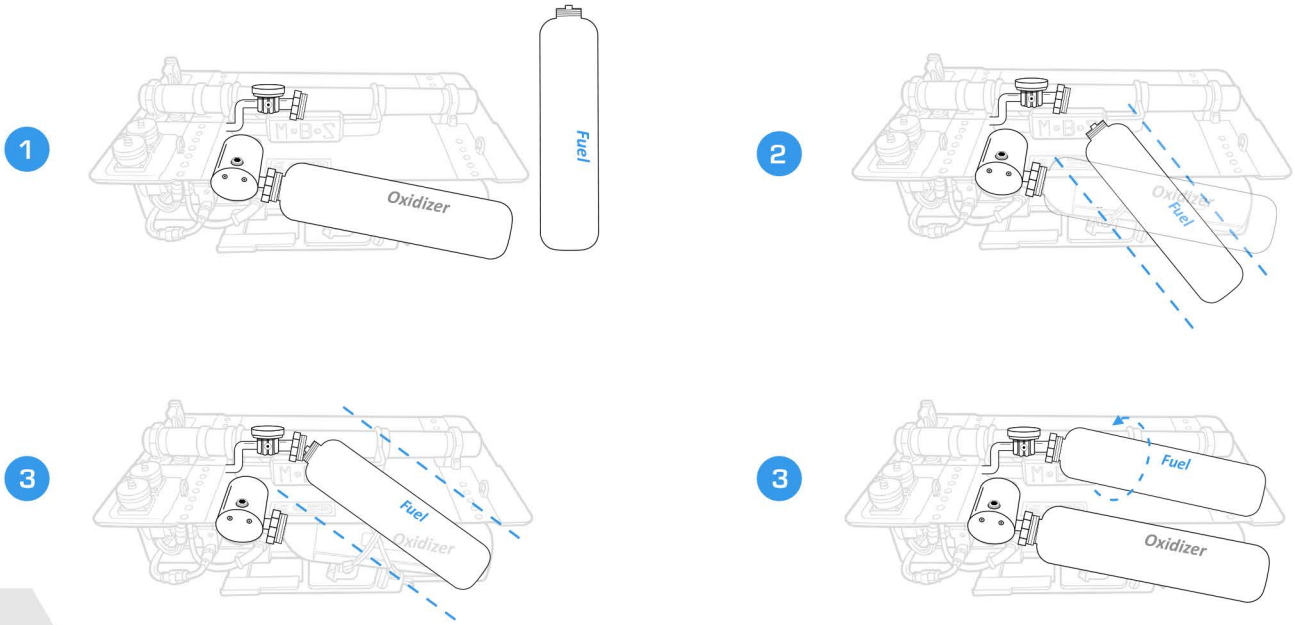
Fuel & Oxidizer Handling

The MBS uses two consumables. Map gas for fuel and food-grade nitrous oxide as oxidizer.



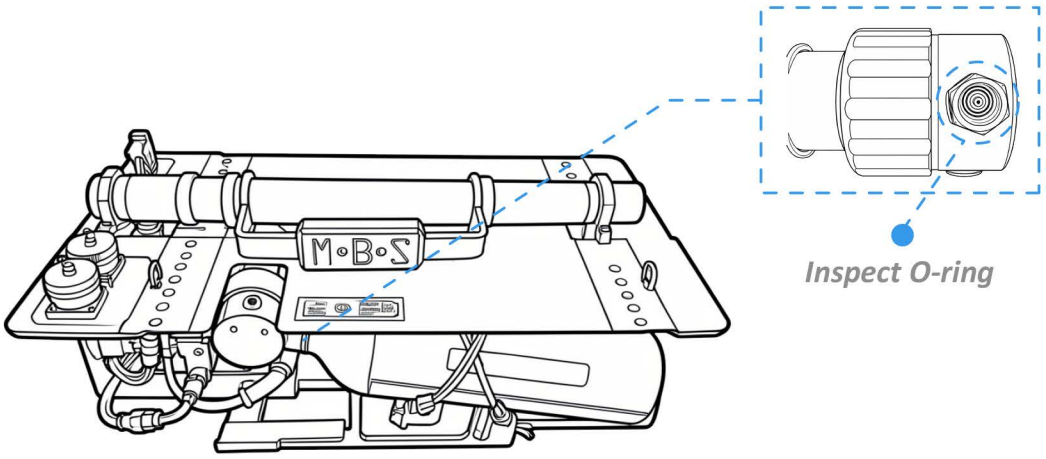
Fuel Connection

When installing the fuel, remember to picture a half full bottle of soda. When tipped passed halfway, liquid pours out. We must prevent that here. Keep bottles upright and positioned lower than the unit during attachment.



Nitrous Regulator O-Ring Inspection

Inspect the nitrous regulator O-ring before attachment.



Replace immediately if cracked or damaged using the provided dental pick and spare O-rings.

Spare O-rings

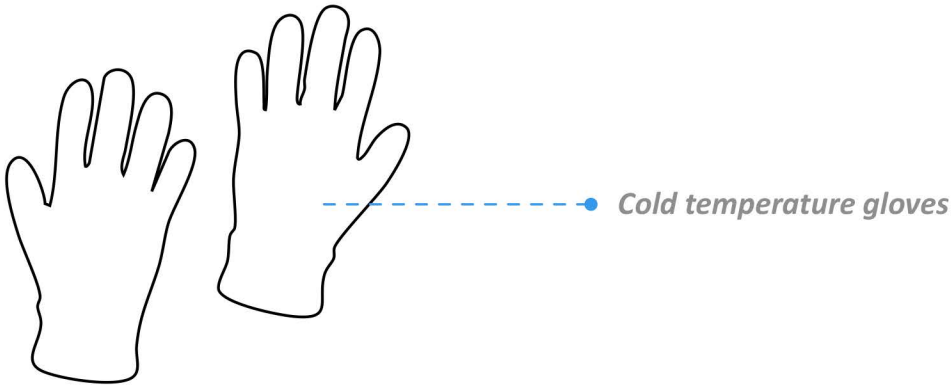
Dental pick

WARNING

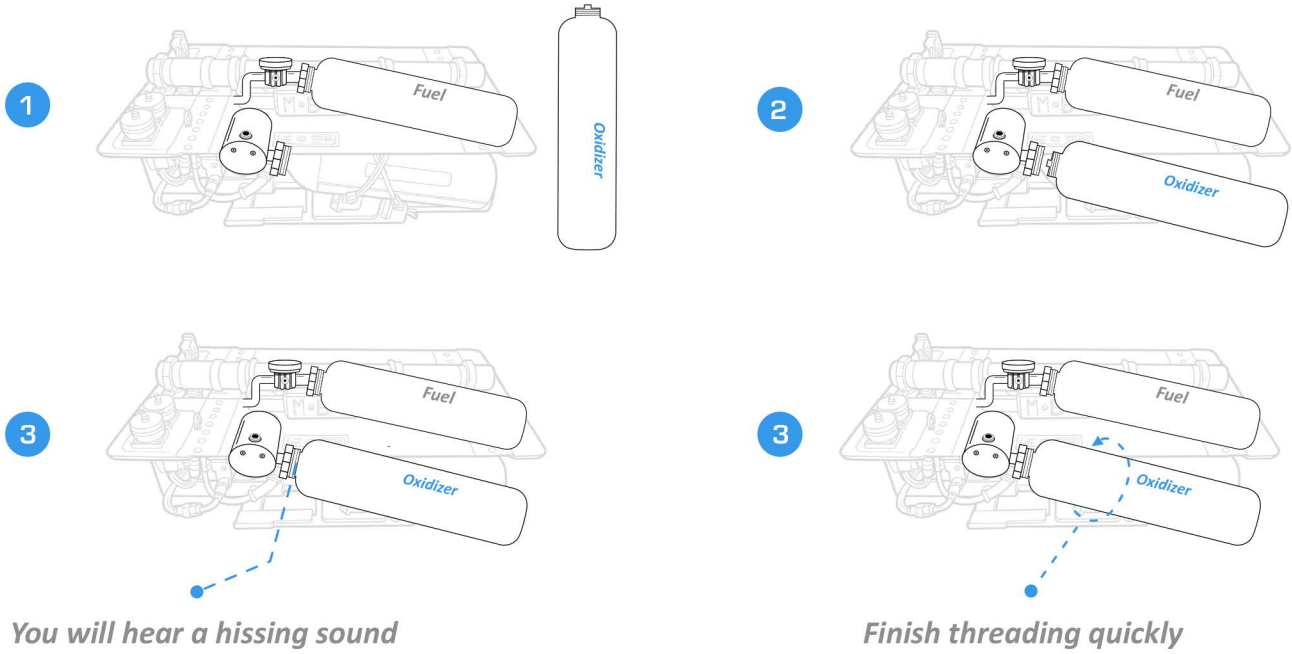
Never use silicone oil or grease. These materials can self ignite in the presence of nitrous

Nitrous Bottle Connection Procedure

Ensure cold temperature gloves are worn before proceeding with the nitrous bottle connection procedure.



When connecting the oxidizer, gently attach it to the valve. As the valve opens, a hiss will be heard and emit a small amount of cold gas from the sides of the valve. Once hissing begins, finish threading quickly.



Leak Safety

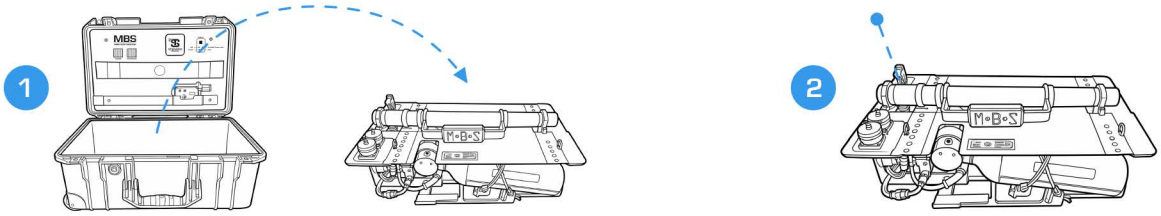
Before operating the unit, verify that all hose fittings are secure using the provided crescent wrench.

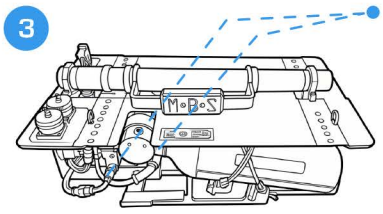
Use crescent wrench to tighten all hose fittings

If you detect any smell of gas or hear a hissing sound, stop immediately.

Remove the unit from the case and move it to a well ventilated area.

Do not power on the system

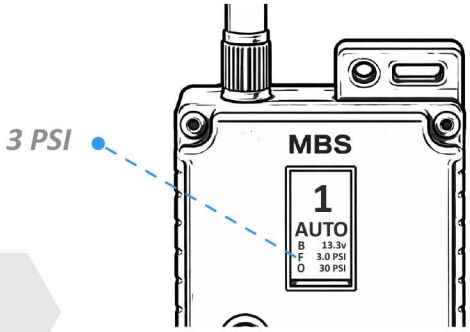




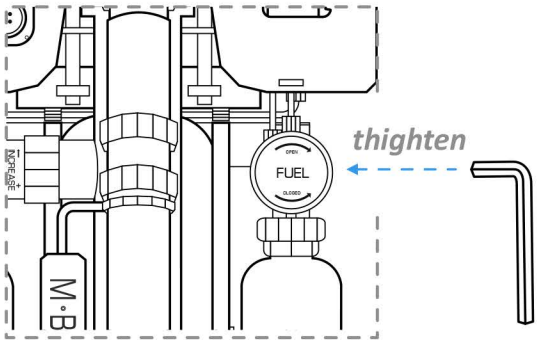
Inspect fittings and O-rings before resuming use

Fuel Pressure

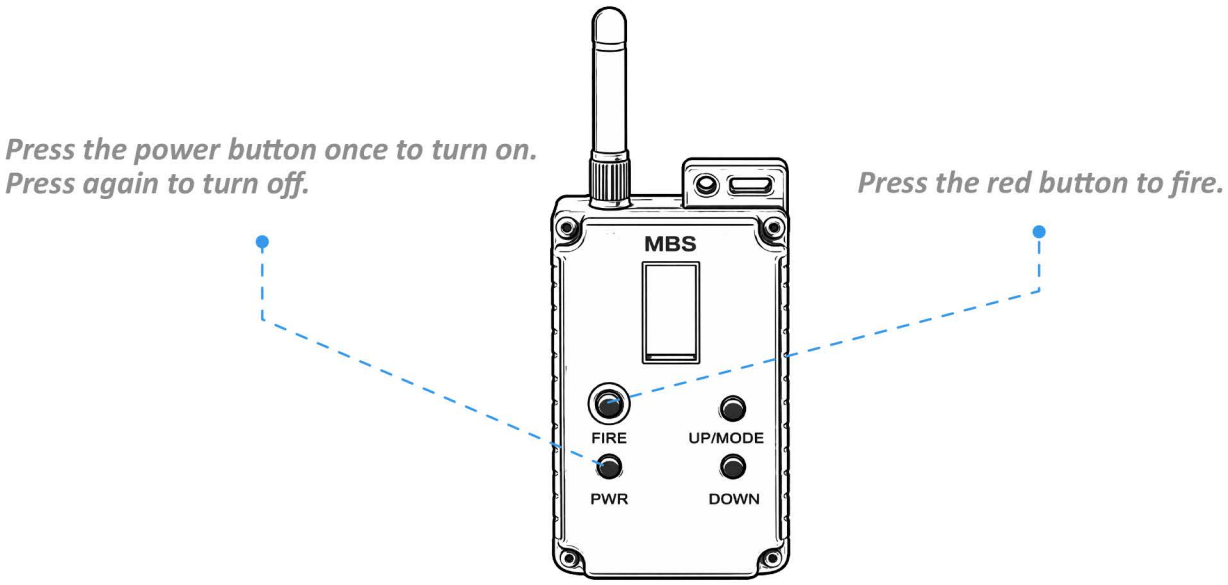
Confirm fuel pressure reads approximately 3 PSI on the remote.



Lock the regulator set screw with the provided three 32nd inch Allen wrench to prevent vibration shift.



Remote Control Button Functions



The system fires based on selected mode.

- Semi, one shot per press. Burst,
- three round burst. Auto,
- Continuous fire until 2.5 seconds have elapsed.

Default Rates of Fire

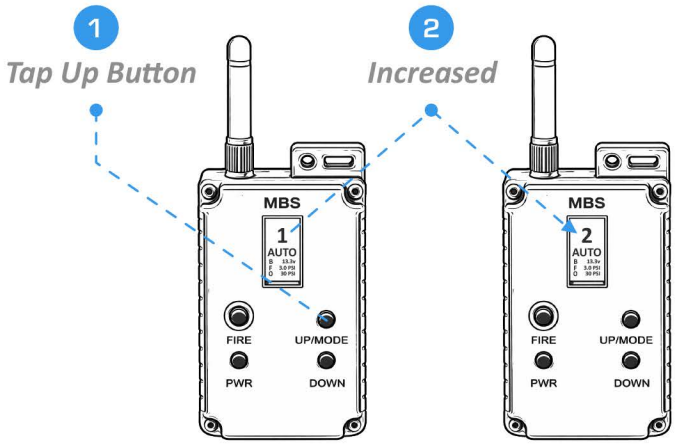
In full auto mode:

- Level 1 ⟶ 110 rounds/min
- Level 2 ⟶ 850 rounds/min
- Levels 3&4 ⟶ 700 rounds/min
- Level 5 ⟶ 750 rounds/min
- Level 6 ⟶ 500 rounds/min
- BOOM ⟶ 1 single blast

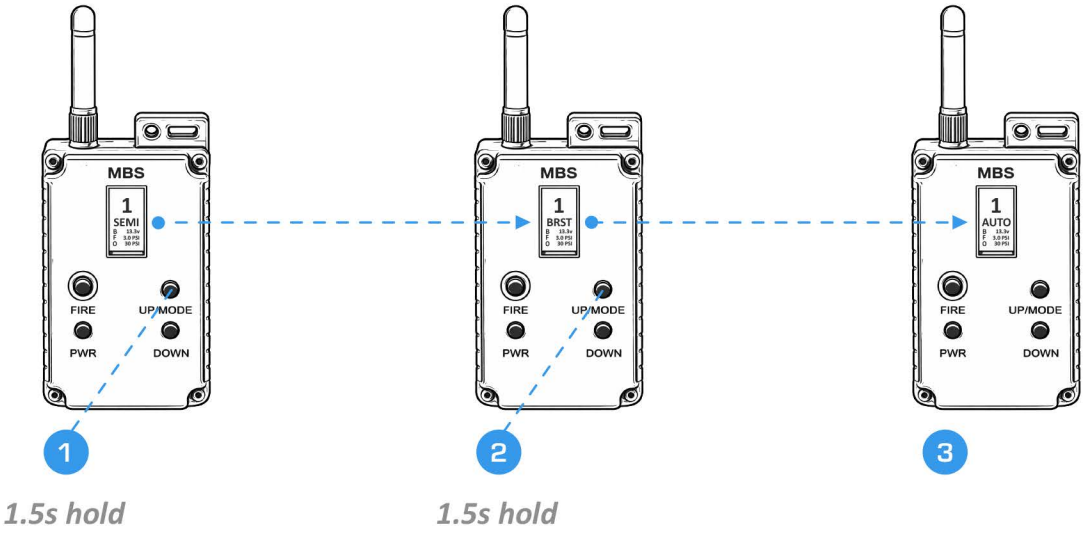
When cut off is reached after 2.5 seconds, release and press fire again to continue.

Up Button

Tap the up arrow button to increase level.

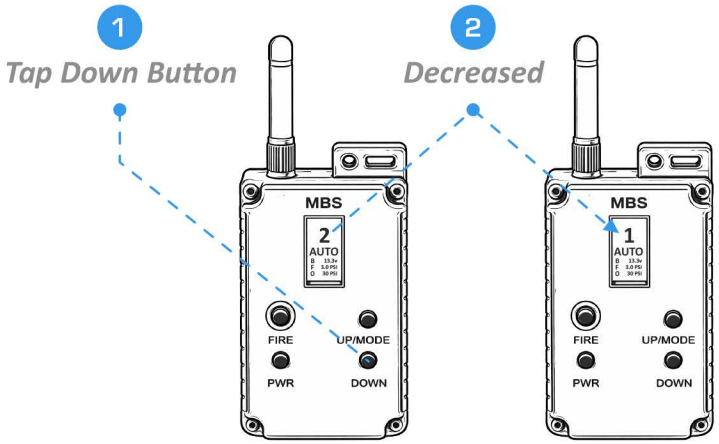


Hold up button for 1.5 seconds to cycle fire modes.

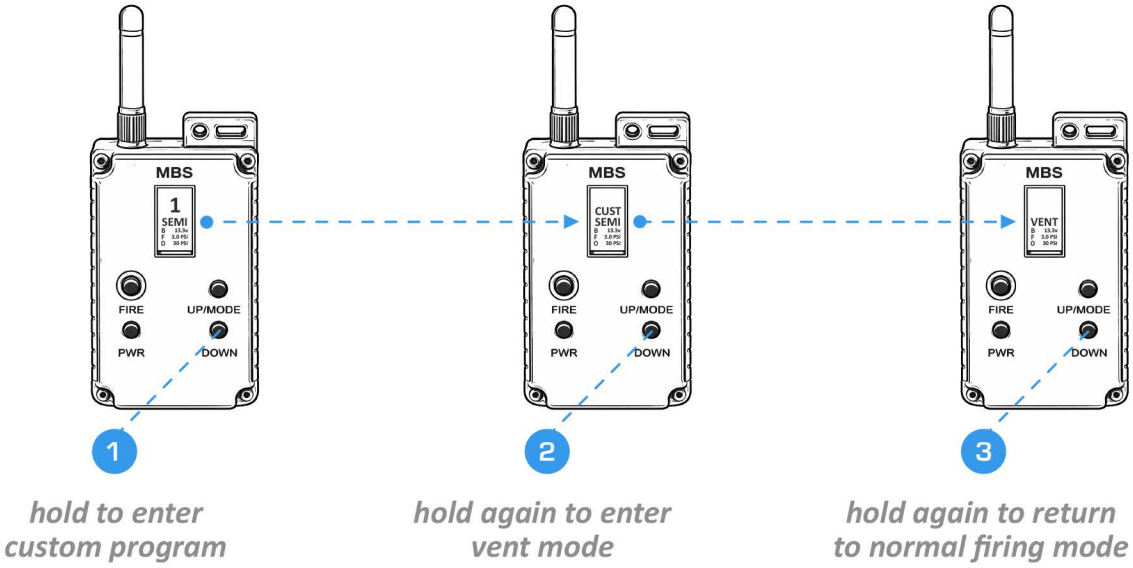


Down Button

Tap the up arrow button to increase level.

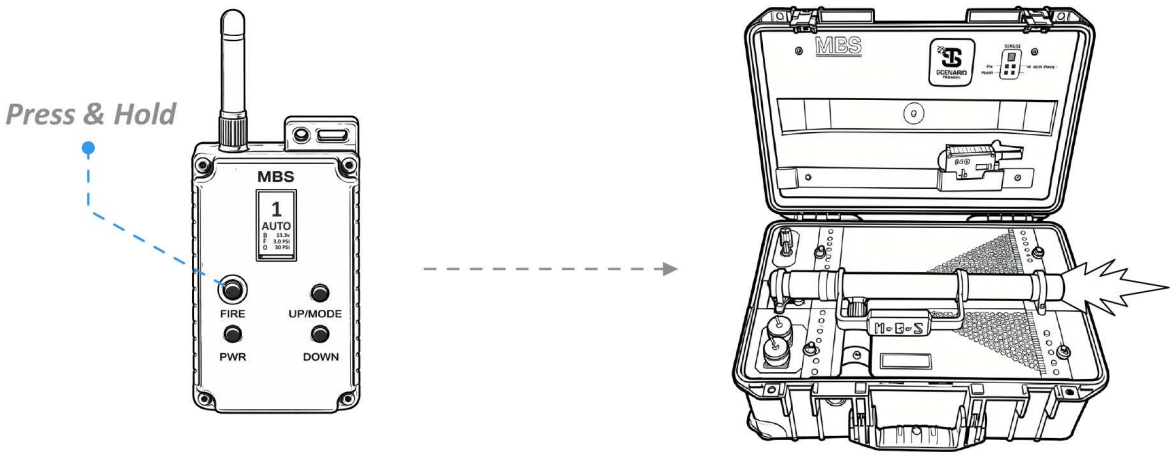


Hold down button to cycle programs.



Fire Modes, Levels & Behavior

In full auto mode, press and hold the fire button for continuous fire.

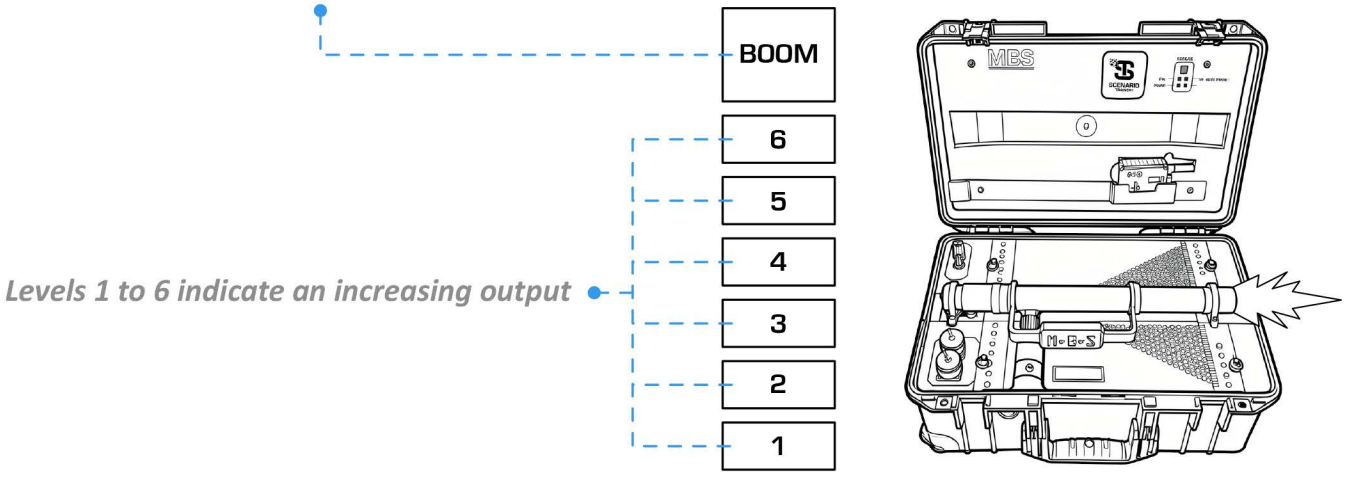


After firing continuously for 2.5 seconds, the system pauses and requires another fire press to continue.

Fire Levels (Loudness)

Level seven, labeled boom, delivers maximum impulse and does not follow the standard cyclic model.

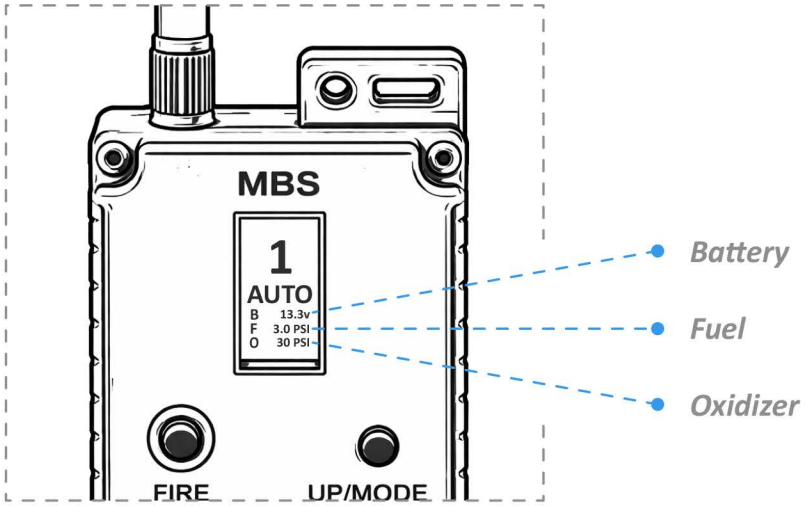
Levels 1 to 6 indicate an increasing output



BOOM level can also be triggered by external accessories via the trigger input port

Remote Display & Combustion Diagnostics

The remote display shows the fuel value, oxidizer level, and battery voltage.

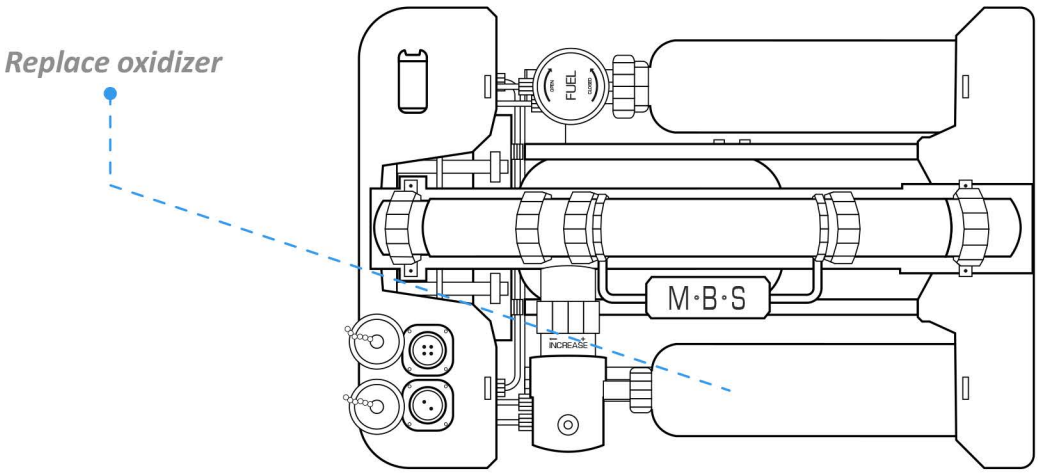


Operator & Combustion Cues

- Proper combustion produces a sharp, loud crack.
- If you see a yellow flame at the barrel, fuel may be too high or oxidizer too low.
- If the sound lacks a supersonic crack, oxidizer pressure is too low.
- The correct mixture should produce sharp and loud report.

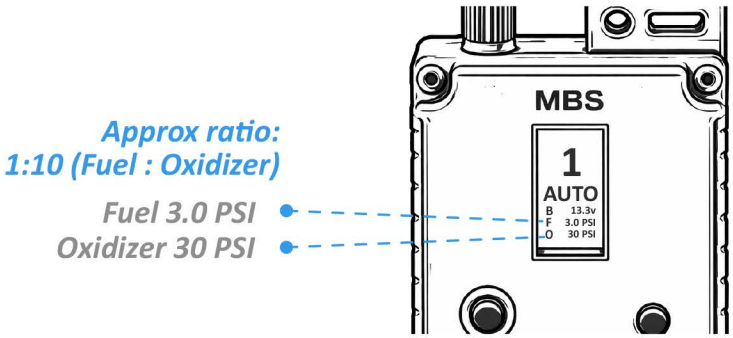
Ideal Operating Pressures (Approximate)

If oxidizer pressure begins dropping and does not rebound, the bottle is low and should be replaced.

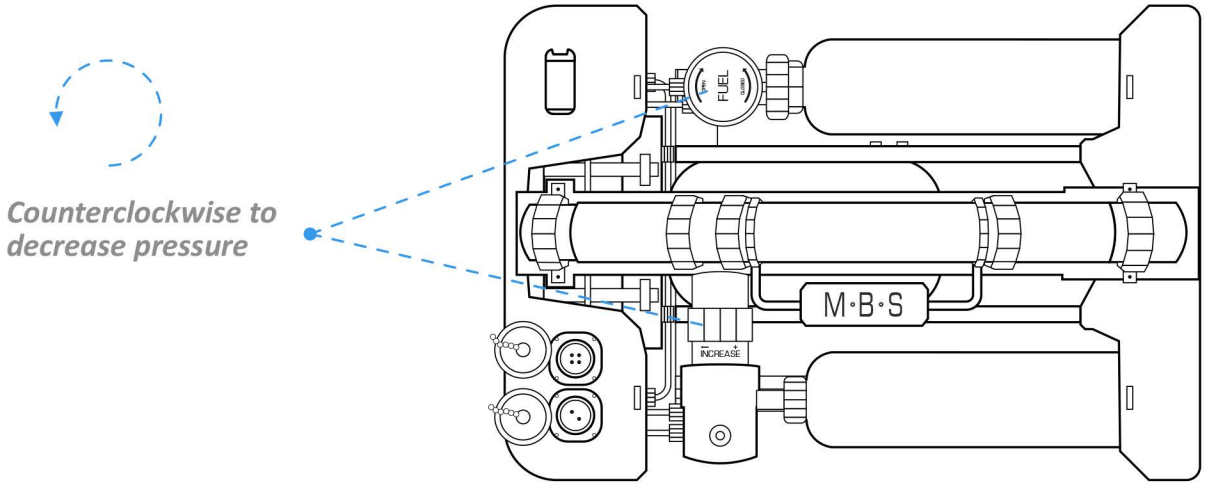


Fuel & Oxidizer Ratio

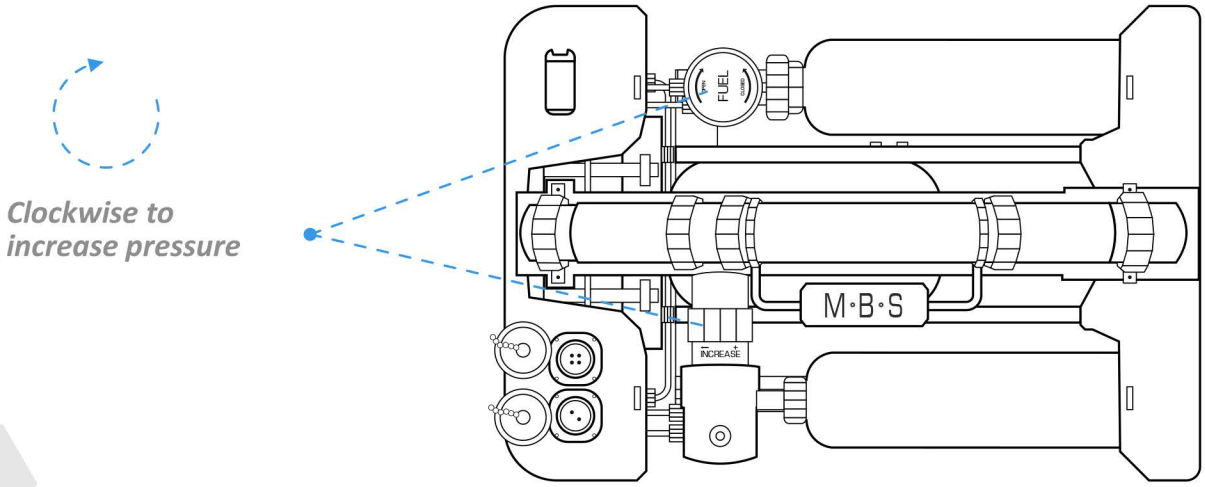
Ideal pressures are approximately 3 PSI fuel and 30 PSI oxidizer.



Turn regulator knobs counterclockwise to lower the pressure amount.



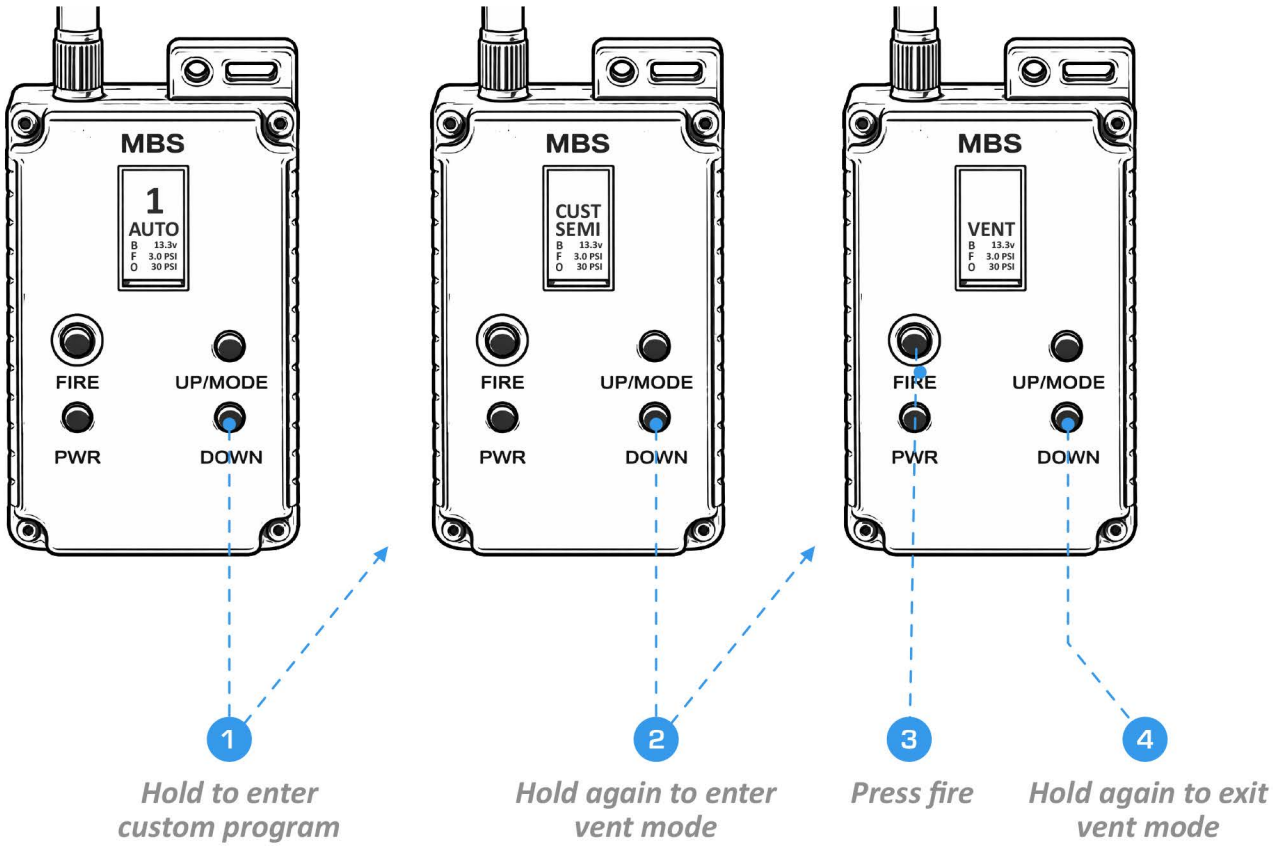
And to raise the pressure, turn the knobs clockwise.



Vent Mode (Mandatory Shutdown Procedure)

Vent mode should be used prior to firing and during shutdown procedures.

To enable vent mode, long press the down button twice, remote will read vent.

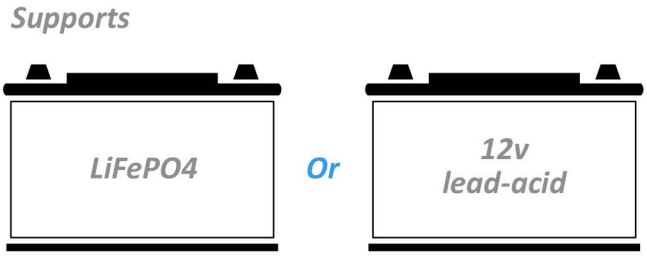


Before firing, ensure both canisters are connected. Then use vent mode to build pressures using the fire button and make adjustments to tuning. The unit will not fire during vent mode.

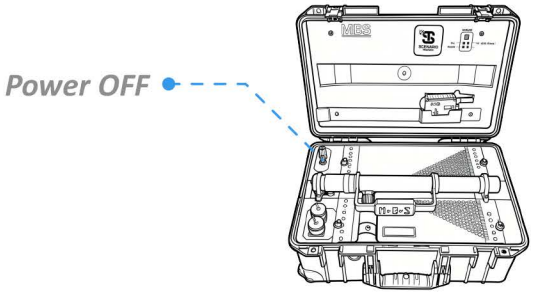
This purges residual oxidizer from the system and must be done before storage.

Battery & Charging

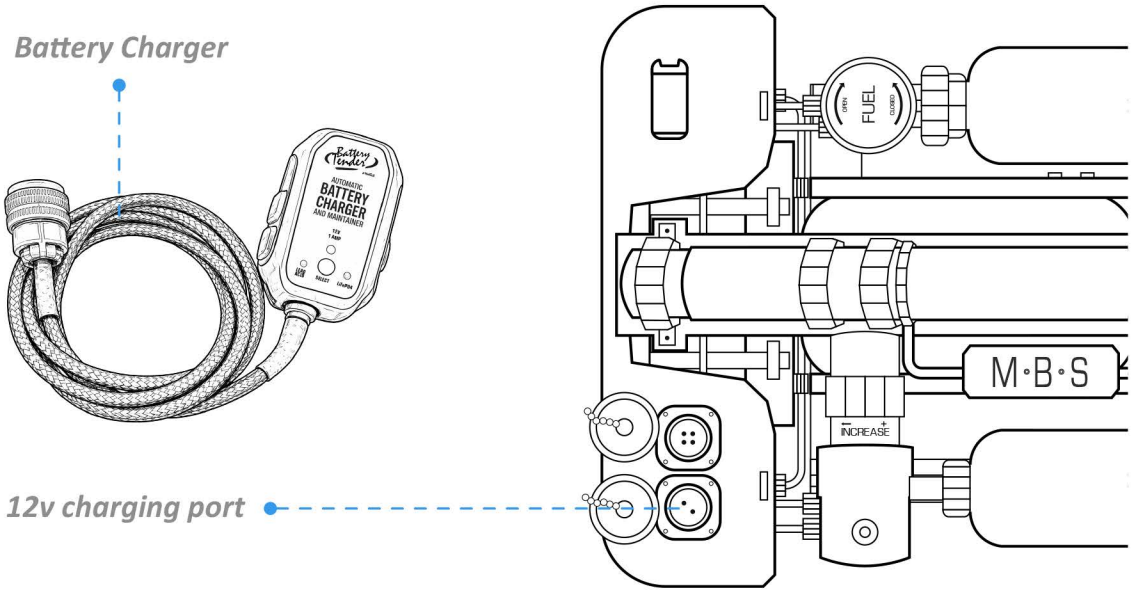
The MBS uses a 12 volt battery to initiate blasts. It will last for a thousands of rounds before it needs to be recharged.



Before charging, make sure the system is powered off.

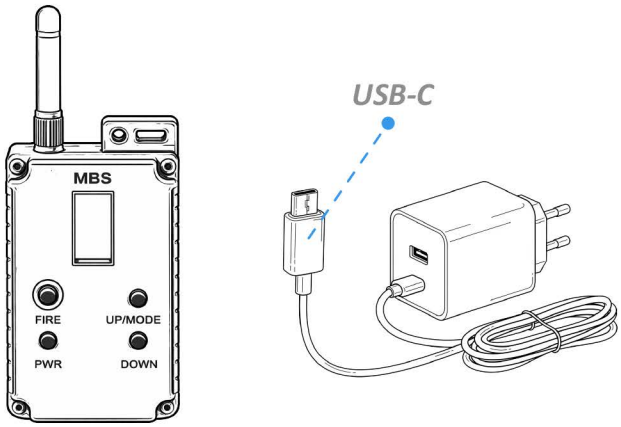


But if the voltage on the remote drops below 12V, recharge the unit at the next opportunity, ensuring that the charger is set to the lithium charge setting.

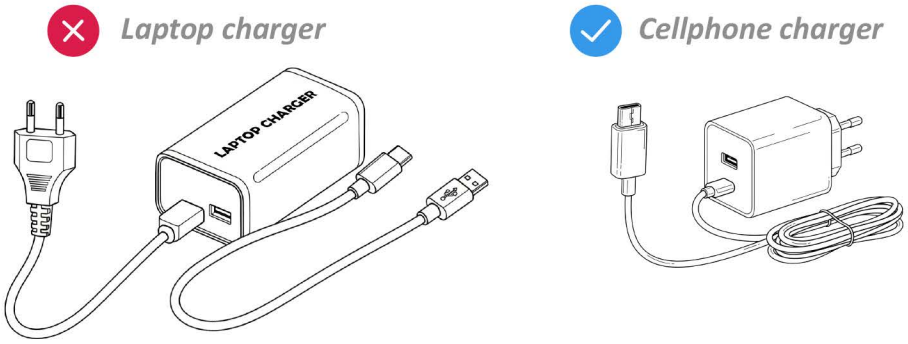


Remote Charging

If your remote has a low battery, plug it into a USB-C cellphone charger using a standard cable.



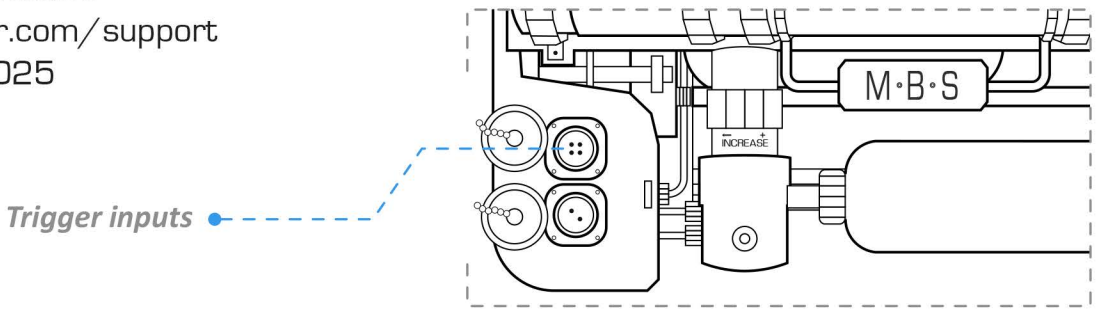
Avoid using a high power laptop charger as it may cause problems. Stick to a regular phone charger for safe charging.



Trigger Inputs

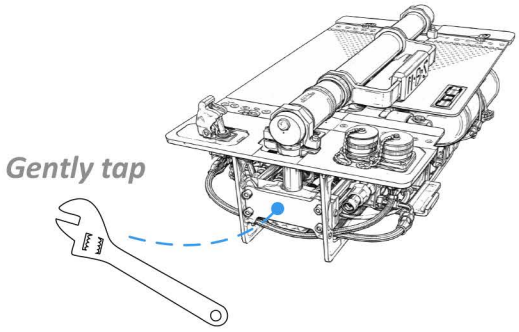
The MBS can be triggered in a number of additional ways. Training bang grenades and drones can trigger the unit directly. While other methods such as pressure plates or dry contact closure can trigger the unit via connection to the trigger input port.

For more information on connectors or custom triggers or interfaces, contact the Scenario Trainer support team.
ScenarioTrainer.com/support
+1 216-925-0025

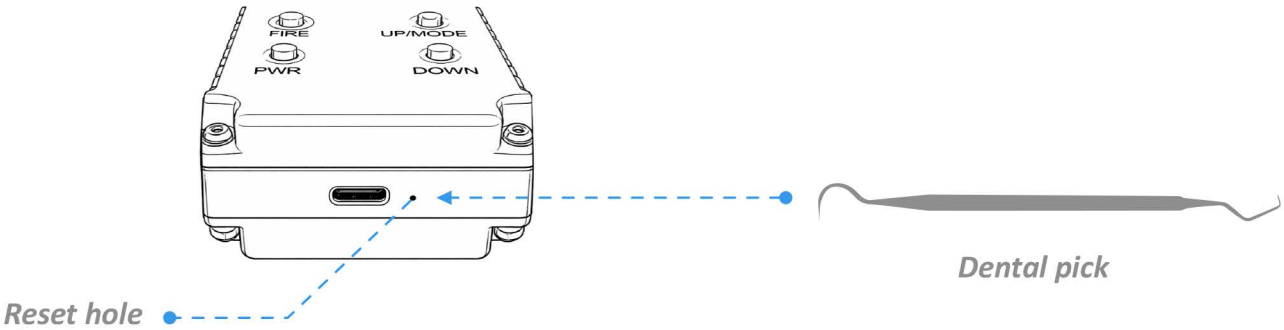


Trouble Shooting

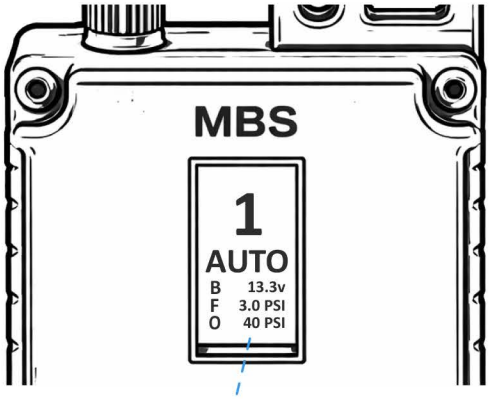
If fuel and oxidizer pressures are correct and the unit does not fire, lightly tap the stainless rectangular section at the rear of the engine housing using the crescent wrench. Carbon buildup can occasionally cause internal valves to stick after storage. A light tap may free the valve for initial firing.



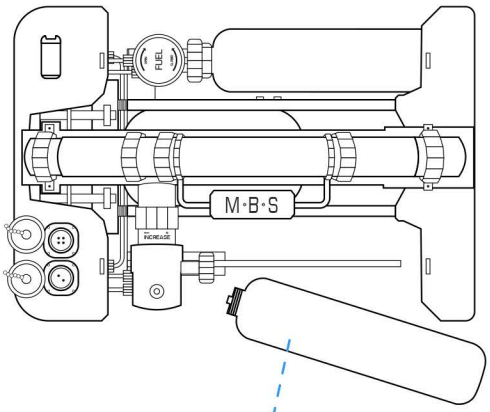
If the RMS remote is locked up or doesn't respond, reset by pressing the dental pick or a staple into the reset hole located at the bottom of the remote to the right of the USB-C.



When the oxidizer pressure is high and won't decrease due to a vapor lock, then remove the oxidizer

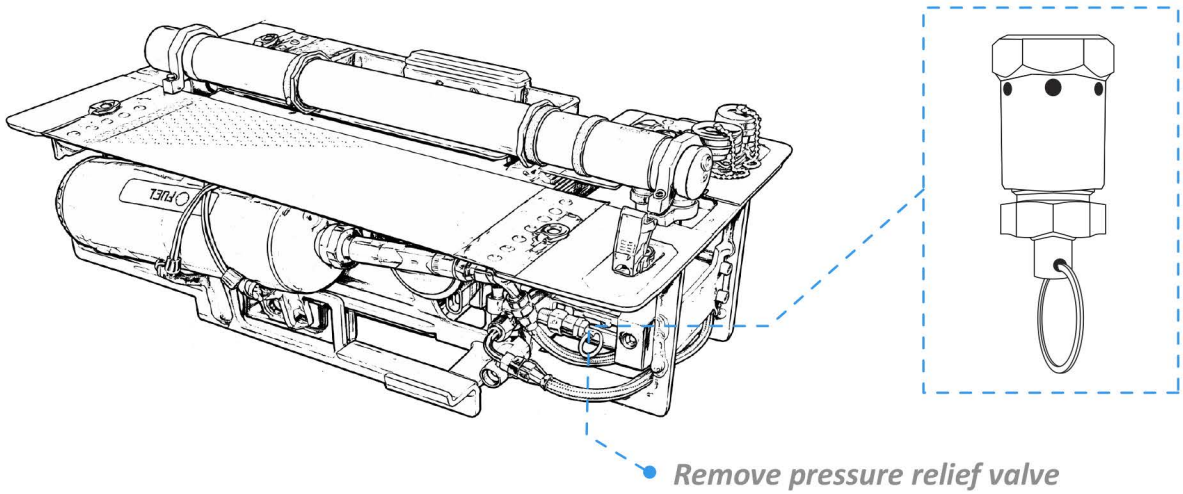


1 *If the pressure is high*



2 *Remove the oxidizer*

and if the pressure still reads high with bottle disconnected, then pull the ring on the pressure relief valve to release excess pressure vapor locked in the line.



If sound is weak, raise oxidizer pressure toward 30 PSI. If yellow flame is present, adjust fuel and oxidizer balance accordingly.

When the oxidizer is getting depleted, the oxidizer pressure will drop and the sound will be less snappy and you will see more yellow flame and fire from the end of the barrel.

Empty oxidizer bottles are much lighter than full ones.

Warranty & Service

- 1-year warranty included
- Hot swap replacement available
- Replacement units ship immediately to minimize downtime

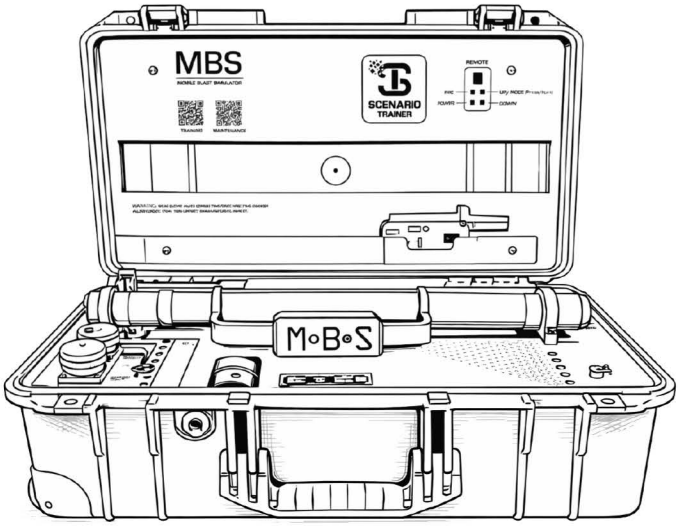
Support

216-925-0025

scenariotrainer.com/support

support

warranty



Mobile Blast Simulator
(MBS-1 v3)