

X-OMG Troubleshooting and Repair Guide

Document EX1304

Last Update: 20 August 2013



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WARNING: Never place objects, especially body parts, over the cannon. When firing, any object in the blast cone is subject to blast effects including very brief moments of intense heat. This flash effect can cause serious flash burns to exposed skin or ignite readily flammable liquids or material; i.e. gasoline, black powder, etc.



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WARNING: This symbol indicates that violating this item could cause serious personal injury.

We have provided this manual to assist you in diagnosing and correcting problems that may occur with your Model X-OMG Explosive Blast Simulator. This manual is to be used in conjunction with your Model X-OMG Operator's Manual, Document EX1303. If at any time you are not satisfied with the performance of your Model X-OMG or any of our products please contact us at (850) 862-5344. We will gladly assist you in any way in diagnosing and correcting any issues you may have.



ALWAYS ENSURE BATTERIES ARE FULLY CHARGED AND PRODUCING MORE THAN 12 VOLTS DC BEFORE PERFORMING DIAGNOSTICS

 **WARNING: DISCONNECT OR REMOVE PROPANE AND OXYGEN CYLINDERS TO PREVENT ACCIDENTAL FIRING! SEE INSTRUCTIONS BELOW:**

Disconnecting Cylinders

1. Turn off the Model X-OMG.
2. Depressurize the fuel lines as follows:
 - a. Once the unit is Disarmed, close the Main Valve on the Oxygen and Propane Cylinders.
 - b. Turn the X-OMG to LIVE then Arm and Fire the unit to release the residual fuel gasses in the lines.
 - c. While the quantities of fuel gasses should not be sufficient for the unit to actually Fire, this bleeding operation should be treated as an actual Firing sequence for safety reasons.
3. Turn the X-OMG to OFF.

If at any time you have any questions about these troubleshooting procedures, please call Explotrain at 850 862-5344. We are more than willing to work with you to resolve any problems you may have.

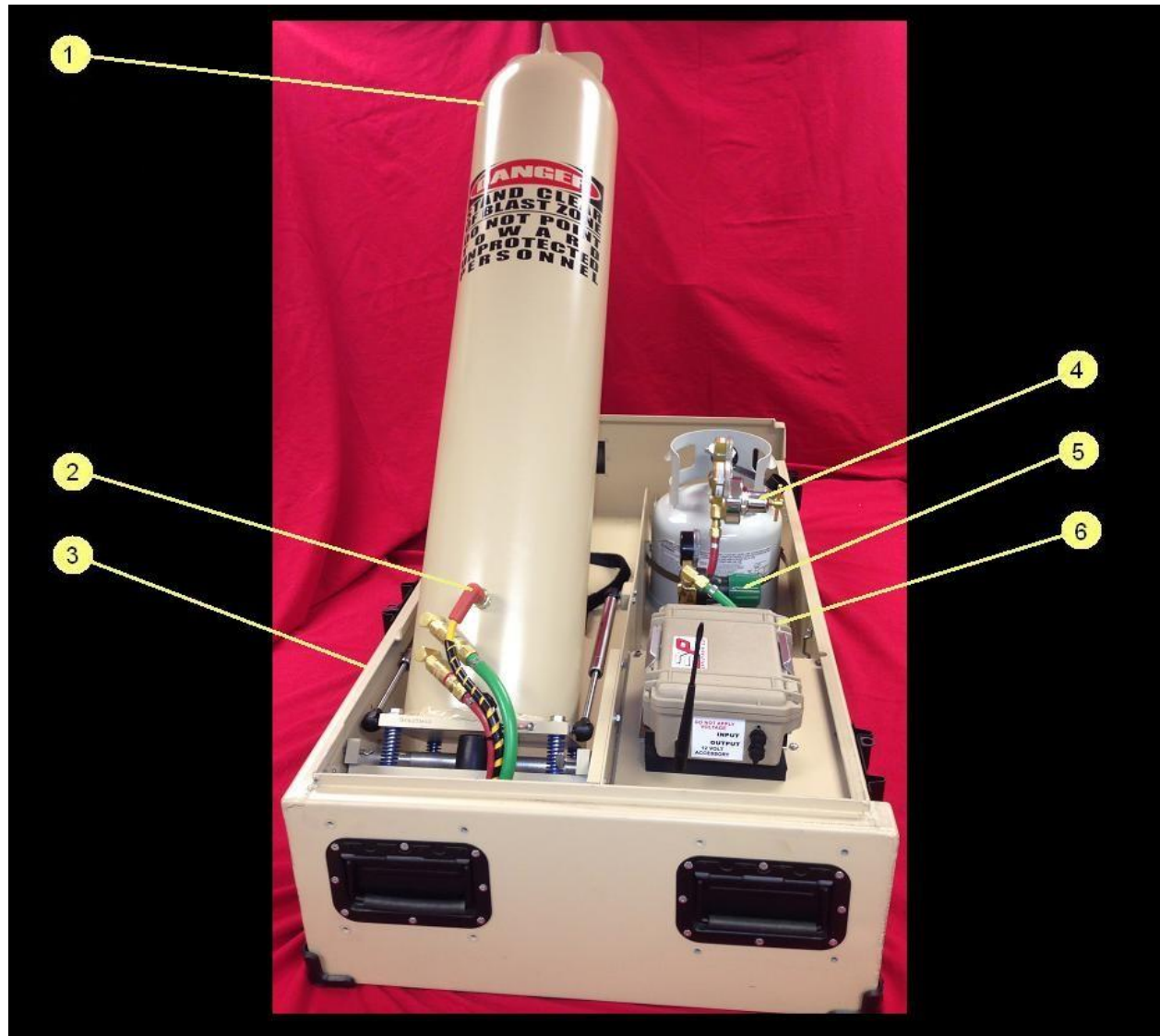


FIGURE 1

1. Cannon
2. Spark Plug
3. Base Enclosure
4. Propane Regulator
5. Oxygen Regulator

6. Control Box (New Style Control Box added August 2013)
Box

X-OMG Control



Figure 2

| | | | |
|---|-------------------|----|-------------------|
| 1 | Function Switch | 6 | Input Plug |
| 2 | X-0 ID Switch | 7 | Output Plug |
| 3 | 5 Amp Fuse | 8 | Mode Switch |
| 4 | Battery Pack | 9 | Armed LED |
| 5 | Battery Connector | 10 | Cannon Cable Plug |

TEST MODE DRY FIRING DIAGNOSTIC PROCEDURES FOR MODEL X-OMG



WARNING: DISCONNECT OR REMOVE PROPANE AND OXYGEN CYLINDERS TO PREVENT ACCIDENTAL FIRING!



WARNING: EVEN IF GAS HOSES AND CYLINDERS ARE DISCONNECTED RESIDUAL GAS MAY BE PRESENT ALLOWING THE CANNON TO FIRE

Operating your Model X-OMG in **TEST** mode will establish whether or not the Control Box is operational and if the Fire and Arm Signals of the receiver and transmitter are functioning.

1. Ensure the Propane and Oxygen Cylinders are disconnected, see page 5.
2. Turn the Model X-OMG on in **TEST** mode.
3. The Armed LED of the Control Box should begin flashing. If no Armed LED, see No Power. If the Armed LED flashes rapidly, i.e. more than once per second, see Connections and Transmit/Receive.
4. Arm the X-OMG using an X-MIT, X-LRT, X-COM or Hardwire input. The Armed LED should illuminate continuously instead of flashing. If not, see Connections and Transmit/Receive.
5. Fire the X-OMG using an X-MIT, X-LRT, X-COM or Hardwire input. The Buzzer should produce three distinct beeps. If not, see Connections and Transmit/Receive.

If the Model X-OMG functions in **TEST** mode the Control Board is powered and functional and the Receiver and Transmitter are functional.

 **WARNING: DISCONNECT OR REMOVE PROPANE AND OXYGEN CYLINDERS TO PREVENT ACCIDENTAL FIRING! SEE PAGE 3 FOR INSTRUCTIONS.**

 **WARNING: EVEN IF GAS HOSES AND CYLINDERS ARE DISCONNECTED RESIDUAL GAS MAY BE PRESENT ALLOWING THE CANNON TO FIRE**

LIVE MODE DRY FIRING DIAGNOSTIC PROCEDURES FOR X-OMG

1. Ensure Propane and Oxygen Cylinders are disconnected, see Page 3 for instructions.
2. Turn the Model X-OMG on in **LIVE** mode.
3. The Armed LED of the Control Box should begin flashing. If no Armed LED, see No Power. If the Armed LED flashes rapidly, i.e. more than once per second, see Connections and Transmit/Receive.
4. Arm the X-OMG using an X-MIT, X-LRT, X-COM or Hardwire input. The Armed LED should illuminate continuously instead of flashing. If not, see Connections and Transmit/Receive.



5. Once the Model X-OMG is Armed, read the warning regarding disconnecting the gas Cylinders above and Fire the X-OMG using an X-MIT, X-LRT, X-COM or Hardwire input to dry fire the Model X-OMG. The following should occur:

LIVE MODE DRY FIRING DIAGNOSTIC PROCEDURES FOR X-OMG Cont.

You should hear a “click” as the Gas Valves located below the Control Box open (see warning below) and a “clunk” 2.5 seconds later as they close. If not, see [Connections](#) and [Power](#).

You should then hear a faint buzz from the Spark Plug. If not, see [Spark Plug](#). **DO NOT LOOK INTO THE CANNON TO SEE IF YOU CAN SEE THE SPARK!**

These indicate the proper functioning of the Gas Valves and Spark Plug, both of which are essential for proper functioning of your Simulator.

 **WARNING: DISCONNECT OR REMOVE PROPANE AND OXYGEN CYLINDERS TO PREVENT ACCIDENTAL FIRING! SEE PAGE 3 FOR INSTRUCTIONS.**

 **WARNING: EVEN IF GAS HOSES AND CYLINDERS ARE DISCONNECTED RESIDUAL GAS MAY BE PRESENT ALLOWING THE CANNON TO FIRE**

LIVE MODE FIRING DIAGNOSTIC PROCEDURES FOR X-OMG

1. Fire the X-OMG as above, but with Gas Cylinders connected and set to normal operating pressures.
2. If gas flows before or after firing see [Gas Valves](#).
3. If gas flows normally, but no report see [No Power](#) and [Spark Plug](#).

If at any time you have any questions about these troubleshooting procedures, please



call Explotrain at 850 862-5344. We are more than willing to work with you to resolve any problems you may have.

No Power

If your Model X-OMG is not receiving power, possible corrections include:

1. Replace the AA Batteries
 - a. The easiest option is to move the Battery Connector to the other Battery Pack if present.
 - b. Remove the AA batteries from the Battery Pack and replace with new AA batteries.
2. Replace the Fuse, see Figure 2, with a commercially available 5 amp Fuse
3. No Power may in fact be Low Power causing the Simulator to function normally except for operating the Gas Valves. The Gas Valves require a relatively large amount of current, much more than is required to run the other circuitry or Transmit/Receive. If this is the case the Control Box simply does not have enough power to operate the Gas Valves, they may not open long enough or only one valve may open. In either case, the remedy is the same: See Steps 1 and 2 above.

Connections

If your Model X-OMG is having trouble due to a bad connection, possible corrections include:

1. Ensure the Blue “X-Bee” chip (located on the Control Board) is firmly pressed down onto their connections on the PLC board.
2. If still not operational, a broken connection may have occurred somewhere else in the circuitry and will likely require repair at Explotrain’s factory. Contact Explotrain at (850) 862-5344 for return instructions.
3. Check to see if a Hardwired Fire or Arm signal is being sent into the Control Box when Powered On. If so, disconnect the hardwired input.

Transmit/Receive

If your Model X-OMG is having trouble due to transmitting or receiving problems, possible corrections include:



1. Try a different Transmitter if available. If a different Transmitter works, the current Transmitter is non-functional. Please contact Explotrain, LLC for a replacement.
2. Ensure the Transmitter and Simulator are on the same Channel.
3. Ensure the Transmitter and Simulator X-0 IDs are compatible.
4. If the above steps do not work, please contact Explotrain, LLC at (850) 862-5344 to arrange for repairs and or replacements.

Spark Plug

If your Model X-OMG is having trouble due to problems with the Spark Plug, possible corrections include:

1. Ensure the ignition wire is firmly attached to the Spark Plug.
2. Replace the Spark Plug, it may have become fouled, rusted or damaged. The factory equipped spark plug is an Accel 437S (also listed as 8197) but it can be replaced with any Spark Plug that is compatible with a small block Chevy engine. Use a 13/16" wrench to replace. Tighten to 30-40 ft-lbs.
3. After replacing Spark Plug, make sure Spark Plug is firmly tightened and ignition wire firmly attached.

Gas Valves

If your Model X-OMG is having trouble due to problems with the gas Valves, possible corrections include:

1. Gas Valves may not be receiving enough power, see No Power above.
2. If Gas is flowing other than during the normal Fire Cycle the Gas Valves are likely dirty and are not closing. Contact Explotrain at (850) 862-5344 for backflushing procedure.

Uncontrolled Gas Flow

1. If gas flow is heard at anytime other than at the beginning of a Fire sequence a valve or valves are malfunctioning, Disarm the unit.
2. Turn the Mode Switch to OFF
3. Disconnect the Cannon Cable from the Control Box.
4. If either of these actions stop the gas flow, the problem is in the Control Box. Remove the Control Box and call Explotrain at (850) 862-5344.
4. If gas is still flowing, turn off the gas supply by turning the Main Valve of the Oxygen and/or Propane Cylinder clockwise. One or both of the valves have likely become dirty; please call Explotrain at (850) 862-5344 for further instructions.



**Thank you for purchasing your Model X-OMG
Explosive Blast Simulator. We at Explotrain LLC truly appreciate
your business.**

**If you have any questions or comments on any of our products
please let us know.**