MARGO ELECTRA
WITH INSTRUCTIONS FOR #1400 CELLULAR CONTROL

1100 - INSTRUCTION MANUAL

FOR PRODUCT
MANUALS AND VIDEOS,
SCAN THE QR CODE

SCAN ME

TABLE OF CONTENTS

FEATURES

- ▶ 120dB cannon blasts scare birds and keep them away.
- ▶ One 20lb cylinder will provide over 15,000 detonations.
- ▶ Advanced digital clock for preset firing times and multi-shot bursts.
- ▶ Microprocessor controlled timing with a backup real time clock.
- ▶ Improved battery life, uses 2mA of power in standby for regular cannons and 12mA for radio versions.

- ▶ On demand firing mode helps to prevent bird habituation.
- ▶ 14 Amp/Hr battery provides 120 days of average use and 60 days for radio version.
- ▶ For Radio Controlled: 900MHz receiver provides up to 15.5km (9mi) line of sight range.

CANNON DEPLOYMENT

- ▶ Birds find it difficult to adapt to the confusion presented when using several deterrents together. Combine scare cannons with other different audio and visual deterrents for the best effect.

- ▶ Deploy cannons before your crops are damaged, not after. It's easier to keep birds out of the control area than to chase them out once they've been rewarded.

- ▶ Birds are most active at dawn and dusk.

- ▶ To reduce overall sound output and prevent habituation, restrict cannon use when birds are not active.

- ▶ A single cannon will protect up to 6 acres of high value crop from persistent birds.

- ▶ Relocate cannon frequently to prevent habituation. It should be moved every 2-3 days when birds are present.

ACCESSORIES

▶ The **Electra Rotating Tripod** (#1101) provides 360° coverage and elevates the cannon's blast. Using the tripod will increase the cannon's coverage to 30 acres.

▶ Paired with the Electra Rotating Tripod (#1101), the **Tripod Mounted Solar Kit** (#1102) provides continuous power and protects your battery from the elements.

▶ The **Solar Case Kit** (#1103) provides continuous power and protects your battery from the elements. **Not** paired with the Electra Rotating Tripod (#1101).

THE TRIPOD MOUNTED SOLAR KIT (#1102) AND THE SOLAR CASE KIT (#1103) ARE NOT INTERCHANGEABLE.

ELECTRA MODELS

MARGO ELECTRA BASE MODEL (#1100) INSTRUCTIONS ARE APPLICABLE TO ALL MARGO ELECTRA CANNON MODELS.

Margo Electra with High Frequency Radio Control (#1200)

This cannon uses the Margo Electra Scare Cannon (#1100) as a base with a High Frequency Radio Controller (#1301) that allows the user to fire the cannon remotely on a line-of-sight range of 8km (5mi).

Margo Electra with Cellular Control (#1400)

This cannon uses the Margo Electra Scare Cannon (#1100) as a base with a Cellular Control. Control your cannon, view its status, and customize settings from anywhere with an internet connection!

Margo Electra with Push Button Control (#1500)

This cannon uses the Margo Electra Scare Cannon (#1100) as a base with an added Push Button Controller which allows the user to fire the cannon On Demand.

SAFETY INFORMATION

- ► Clear an area of 5m (15ft) surrounding the gas cylinder and cannon of all debris, including flammable and combustible materials, such as dried weeds and grass.

- ► The area directly in front of the megaphone must be clear of all obstructions.

- ► Never place objects or look directly into the megaphone.

WARNING!
Always wear proper ear and eye protection when operating the cannon.

- ► Never walk in front of or look into the barrel.

- ► Do not place objects on top of the cannon.

- ► Do not operate the cannon in an enclosed space.

- ► Keep fire and other sources of heat/ignition away from the cannon.

- ► Cannon should be on stable, horizontal ground when in use.

- ► Only use LP Gas (propane) or butane gas. Keep canister upright. Do not place in a pit.

- ► Call the proper authorities/emergency services in case of a fire.

- ► Service cannon after 150kg (330lbs) of use.

- ► Replace the gas hose every 2 years. Contact Margo Supplies to order replacement.

INSTALLATION

1. Attach Red Lid (#ZE-M) to Cannon Body with the Handle (#91616).

2. Insert the Plastic End Caps (#91656) onto the end of the Metal Legs (#91636).

3. Attach the Left and Right Metal Legs (#91636) onto the cannon using 4 Butterfly Nuts.

4. Make sure the Regulator and the Gas Cylinder both have clean connections.

5. Connect the Gas Regulator (#9023) to your gas canister (not included) and snug with a 24mm wrench. Do not open propane valve.

6. Hook up cannon to power source.

7. Keep the battery raised above ground level and sheltered from the elements.

8. The cannon is now ready for programming, if desired. Consult the following pages for further instructions.

9. To fire the cannon, open the gas valve and then press the Red Hose Fracture Button on the Pressure Regulator (#9023).

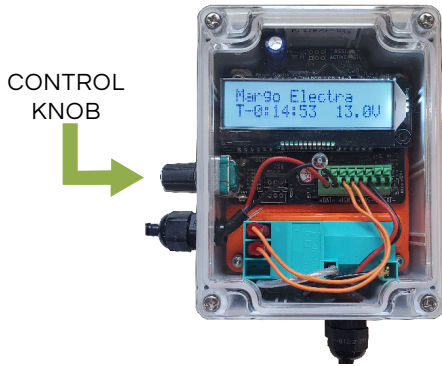**THE HOSE FRACTURE BUTTON MUST BE PRESSED EACH TIME THE GAS IS TURNED ON**

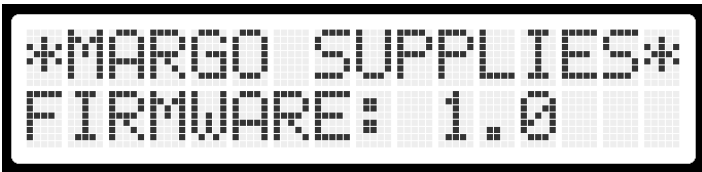SEE PAGES 16-17 FOR PARTS DIAGRAMS AND A FULL PARTS LIST.

PROGRAMMING

START UP:

1. Rotate the Control Knob to navigate the menu. The menu will reset to the homepage after 45 seconds without use. Settings are saved and stored in an internal memory.
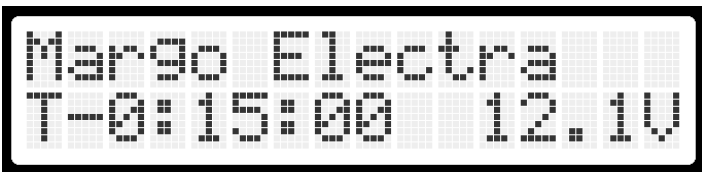
CONTROL KNOB

2. When first turned on, the screen will flash:

```
*MARGO SUPPLIES*
FIRMWARE: 1.0
```

3. If equipped with radio control, the screen will also flash the following:

```
*MARGO SUPPLIES*
Wireless Enabled
```
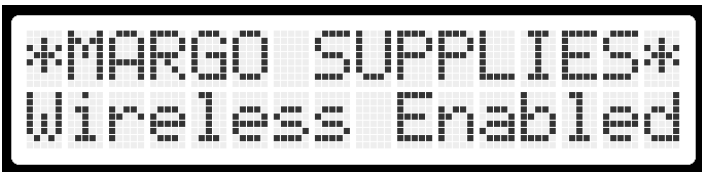
4. The home screen will display a countdown until the next firing cycle and the battery voltage.

```
Margo Electra
T-0:15:00  12.1V
```

5. To test fire the cannon, navigate to the test fire screen and push the Control Knob. The cannon will fire up to 4 blasts. This screen also indicates the cannon's total fire count.

```
TEST FIRE
Count 20
```
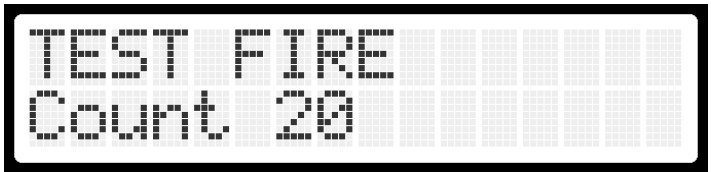
SHOT INTERVALS:

6. To set the intervals between firing cycles, use the following guide:

ON DEMAND ➡	No timed firing will occur, for use with radio and push button.
FIXED TIME ➡ 1 | 5 | 9 | 15 | 30 60 | 120 | 240	Set a fixed time between firings.
RANDOM ➡ 5 | 15 | 60	Set random time between firings. example: Random 15 will fire randomly during the 1 to 15 minute range.

NOTE: On Demand must be selected to remotely detonate cannon. For more information, please see page 8 for radio control and page 14 for push button control.

FOR CUSTOM FIRING CYCLES, INQUIRE WITH MARGO SUPPLIES.

PROGRAMMING

QUIET TIMES:

7. Factory timing is set to 15 minute intervals.

```
SET INTERVAL
15 MIN
```

The real time clock keeps track of time when the cannon is not connected to power. It is a 24hr clock that must be set manually. The internal battery keeps time for up to 100 days without power. Connect the cannon to power to recharge the clock's battery.
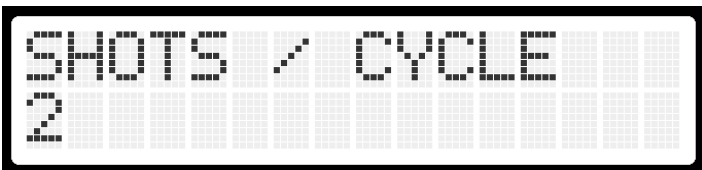
```
SET CLOCK
18:16:14
```
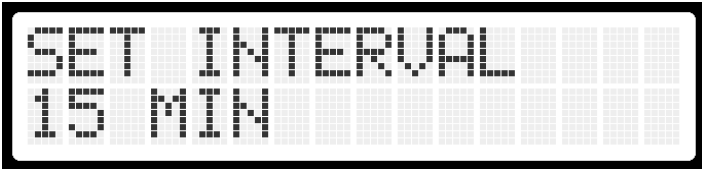
8. For cannon's equipped with wireless receivers (#1200), this additional menu is available to select the desired radio channel. The factory channel is 1 and 98 other channels can be programmed.
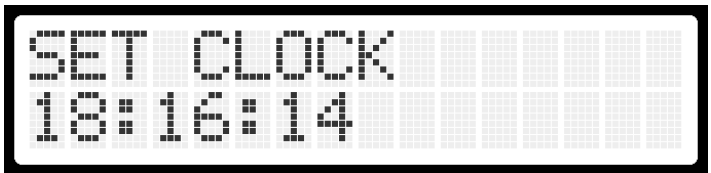
```
WIRELESS TRIGGER
Channel: 1
```
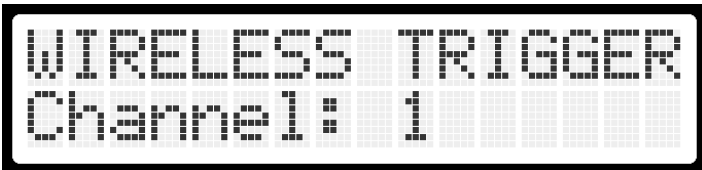
NOTE: The control box and transmitter must be on the same channel. See page 9 for more information.

10. The real time clock is also used for Quiet Time intervals. To set, depress the Control Knob and move through the menu as directed. Set the start and end time as it relates to the real time clock. Some examples of Quiet Times are:

```
QUIET TIME 1
OFF
```

Quiet between 10AM and 4PM (mid-day silence).

```
QUIET TIME 1 SET
10:00 > 16:00
```

9. Use this screen to set the number of shots per time interval. Options are selectable between 1 - 4 shots per interval. The factory setting is 2.
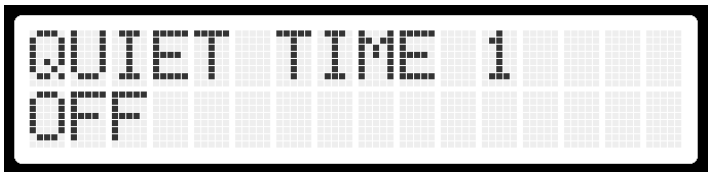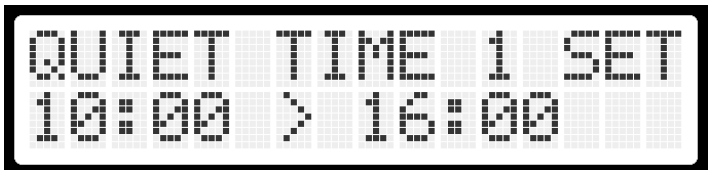
Quiet between 9PM and 6AM (overnight silence).

```
SHOTS / CYCLE
2
```

```
QUIET TIME 1 SET
21:00 > 06:00
```
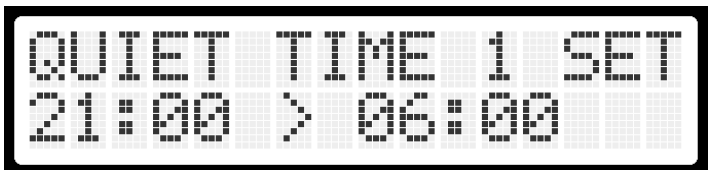
CONTROL OPTIONS -
#1200 ELECTRA WITH HIGH FREQUENCY RADIO CONTROL

► Operating frequency band 902 to 928 MHz.

► Ideal RF line-of-sight range up to 15.5km (9mi).

► Transmit power output 24 dBm (250 mW).

FOR 900 MHZ EQUIPPED MODELS, THE FOLLOWING MODEM APPROVALS APPLY:

► Innovation, Science and Economic Development Canada (ISED): 1846A-XB900HP

► United States (FCC Part 15.247): MCQ-XB900HP

1. Connect the antenna and the antenna cable as shown below. Medium thread lcoker is recommended.

2. Ensure smooth operation of the lid without pinching the coaxial antenna wire inside.

3. The green "RSSI" LED indicates signal strength.

NOTE: On Demand must be selected to remotely detonate cannon. Please see page 6 for programming information.

MARGO TRANSMITTER QUICK START GUIDE

1. Enter the selected channel using the number keypad.
   • Indicator will flash 1 time for the first digit and 2 times for the second digit.

2. Press the "FIRE LAST" button to configure channel and to fire.
   • Indicator will flash 3 times.

3. Pressing the "FIRE ALL" button will trigger all devices.
   • Indicator will flash 5 times.

4. Subsequent firings on the same channel can be done by simply pressing the "FIRE LAST" button.

Transmitter is powered by 2 - AA batteries and housed in a weatherproof case.

MARGO ELECTRA BASE MODEL (#1100) INSTRUCTIONS ARE APPLICABLE TO ALL MARGO ELECTRA CANNON MODELS.

CONTROL OPTIONS - #1400 ELECTRA WITH CELLULAR CONTROL

MARGO ELECTRA BASE MODEL (#1100) INSTRUCTIONS ARE APPLICABLE TO ALL MARGO ELECTRA CANNON MODELS.

CANNON CONTROL APP

Log In

The Margo Cannon Control app is a web-based app. This means it can be accessed through any web browser using a desktop or mobile device.

The app can be accessed by going to https://cannoncontrol.margosupplies.com/

OR

By clicking the "Login" button on margosupplies.com and scrolling down to the Cannon Control Sign-in.

Users can also change their password using the "Forgot Password?" prompt.

CONTROL OPTIONS -
# #1400 MARGO ELECTRA WITH CELLULAR CONTROL

The Basics

Once logged in, you will be taken to the dashboard which is where you will find:

- Tips and Tricks for a Successful Deployment
- Safety
- Wifi Users Start Here
- Troubleshooting
- How to Add Cannon Control to Your Home Screen
- Future Features

By clicking the tabs icon in the top right corner, you will see a drop down menu with the following tab options:

- Dashboard
- Map
- Devices
- Logout
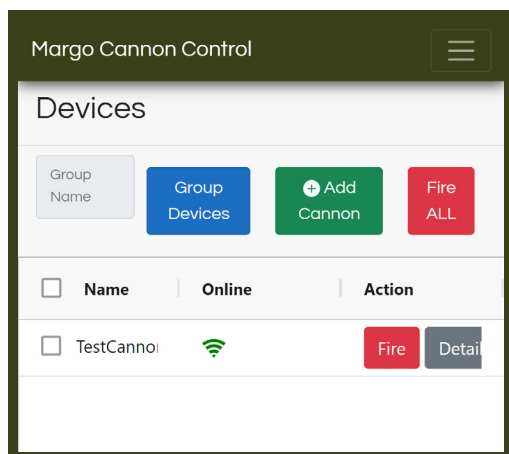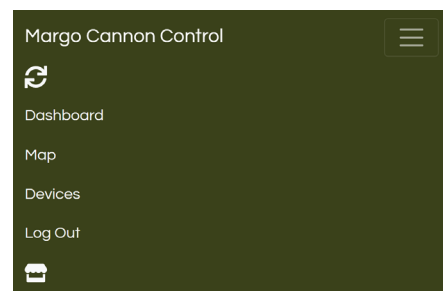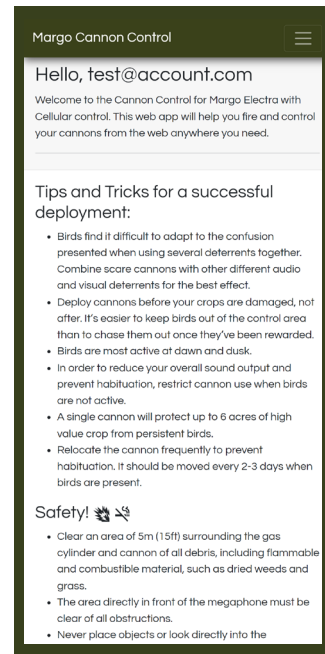
Devices

From this screen, you can add cannons to your account as well as filter through existing cannons and view them in a list or map view.

To access details about a specific cannon, simply click on the cannon details or ID.

To change from list view to map view, click the three lines in the top right corner and select Map.

CONTROL OPTIONS -
#1400 MARGO ELECTRA WITH CELLULAR CONTROL

Devices

	Group Name	Group Devices	+ Add Cannon	Fire ALL

☐	Name	Online	Action	
☐	TestCannon	📶	Fire	Detail

ID:	e00fce686c03d33e4eb0d5c4
Battery Voltage:	14.2V
Temperature:	62.80C (145.04 F)
Life Counter:	64
Misfire Counter:	0
Tank Counter: ⓘ	3 Reset
Notes:	Try writing some notes here

RGB Signal

🔄 Change Timer

Longitude: -113.8466
Latitude: 50.5299
Accuracy: 17.42
Signal: 100%

570 Ave E 104 St E

✈ High River Airport

Devices - Details

- **Fire ALL** - Fires all cannons associated with your account.

- **Rename Cannon** - Double click the name to rename your cannon. We recommend something meaningful like "West Runway #1".

- **Fire Cannon** - Pressing the red "Fire Cannon" button will tell the cannon to fire with the desired number of shots.

- **Battery Voltage** - As measured by the cannon control box.

- **Life Counter** - The lifetime number of shots from this cannon.

- **Misfire Counter** - This is the total number of missed shots from this cannon. This most likely indicates that the cannon is out of Propane or low voltage.

- **Tank Counter** - This is manually reset when a propane tank is refilled and gives an indication of when propane needs to be replaced (approximately 15,000 shots per 20lb propane tank).

- **RGB Signal** - This will cause a rainbow LED to appear on desired cannon. This is helpful in identifying cannons and testing without firing.

- **Change Timer** - This button takes you to the Change Timer menu where you can change the fire intervals as needed.

- **Geolocation** - Shows the Latitude and Longitude of the cannon. This information is updated hourly by the device.

CONTROL OPTIONS -
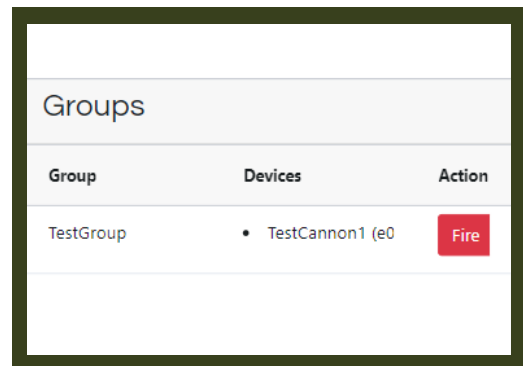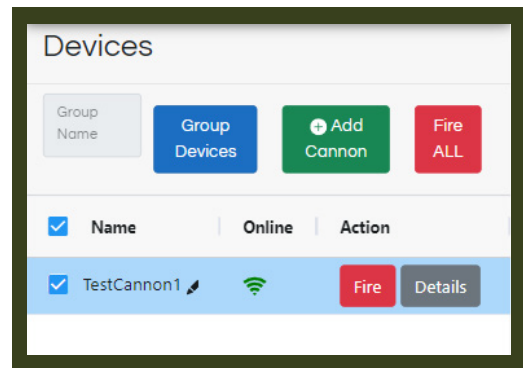# #1400 MARGO ELECTRA WITH CELLULAR CONTROL
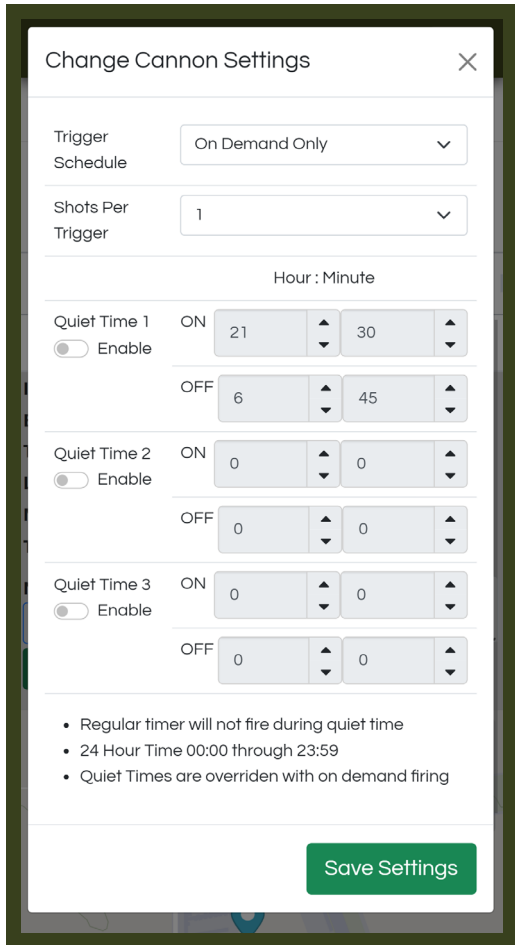

Change Timer - Change Cannon Settings

- **Trigger Schedule** - How often you want the cannon to automatically fire on a timer.

- **Shots Per Trigger** - The number of times you want the cannon to fire in a specific interval. Default value is 3. Values 1 -4 are accepted.

- **Quiet Time(s)** - Quiet times override the schedule. Cannon will not fire during these times. Please note: pressing "Fire Cannon" in the app will always fire the cannon.

- **Save Settings** - Click to apply changes to cannon.

Groups

- **Add Groups** - In the Devices menu, manually select the cannons you want to group (a blue check mark will appear when they are selected). Give the group a name. Then click Group Devices.

- **Fire** - This will fire all cannons in the group.

CONTROL OPTIONS - #1400 MARGO ELECTRA WITH CELLULAR CONTROL
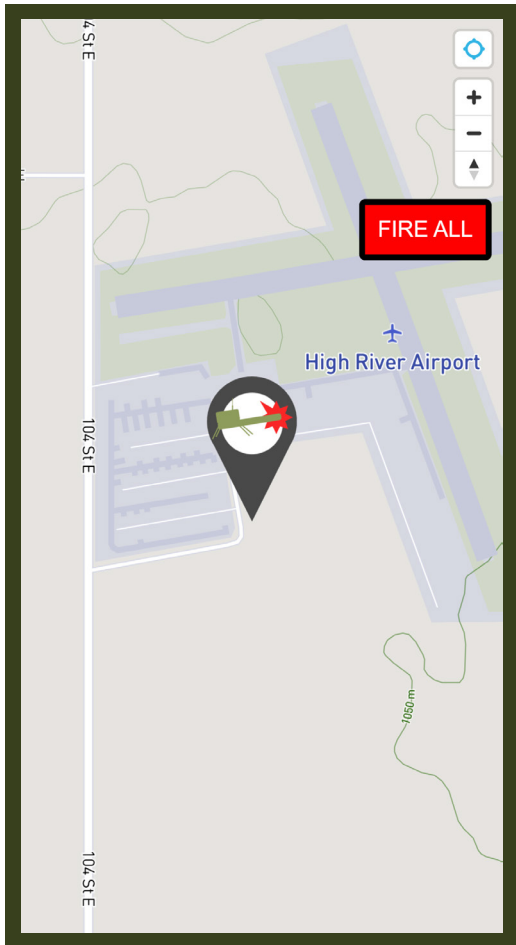
Maps

- **To View Specific Cannon** - When in the Devices menu, click on the cannon details for the cannon you want to view. This will bring up the geolocation of the cannon you desire.

- **Maps Page** - This will show an overall map with the location of the device you are using and all cannons associated with your account.

- **Your Location** - Click on the ◇ icon to be taken to your location.

- **Fire All** - This will fire all cannons associated with your account.

- **Fire Specific Cannon** - You can also zoom into a cannon and fire that specific cannon by clicking the 📍 icon.

Add Cannons

- **Cannon ID** - Insert your unique cannon ID or scan the QR Code.

- **Cannon Name** - Name your cannon. We recommend something meaningful like "West Runway #1". Or use the "Generate Name" button.

- **Add** - Click the "Add" button to add your cannon to your account.

CONTROL OPTIONS -
# #1400 MARGO ELECTRA WITH CELLULAR CONTROL

ADDING THE MARGO CANNON CONTROL TO DESKTOP & HOME SCREEN

Android Devices (Chrome)

If you use Google Chrome on your Android device, you can add a shortcut to quickly open the Margo Cannon Control Web App.

1. Open Google Chrome (Mobile or Desktop)

2. Find the settings menu by clicking the three dots in the upper right hand corner on desktop.

3. Click "Add to Home screen"
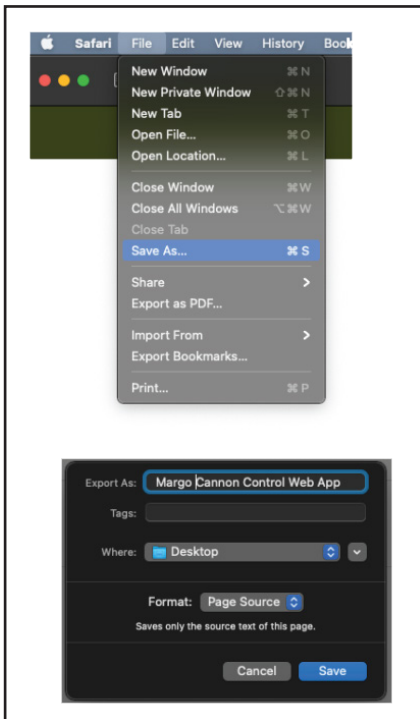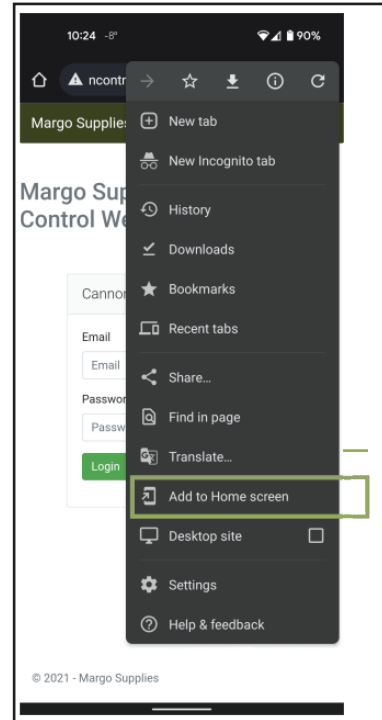
iOS Devices (Safari)

If you use Safari on your iOS device, you can add a shortcut to quickly open the Margo Cannon Control Web App on your desktop.

1. Open Safari (Desktop)

2. Navigate to the Cannon Control App

3. Click File > "Save As..." and a dialogue box will open asking you to name the shortcut, enter the name you wish to use.

4. Change the format to " Page Source"

5. Click "Save". A shortcut will be added to your desktop for quick access to the Cannon Control Web App.

CONTROL OPTIONS -
#1500 ELECTRA WITH PUSH BUTTON CONTROL
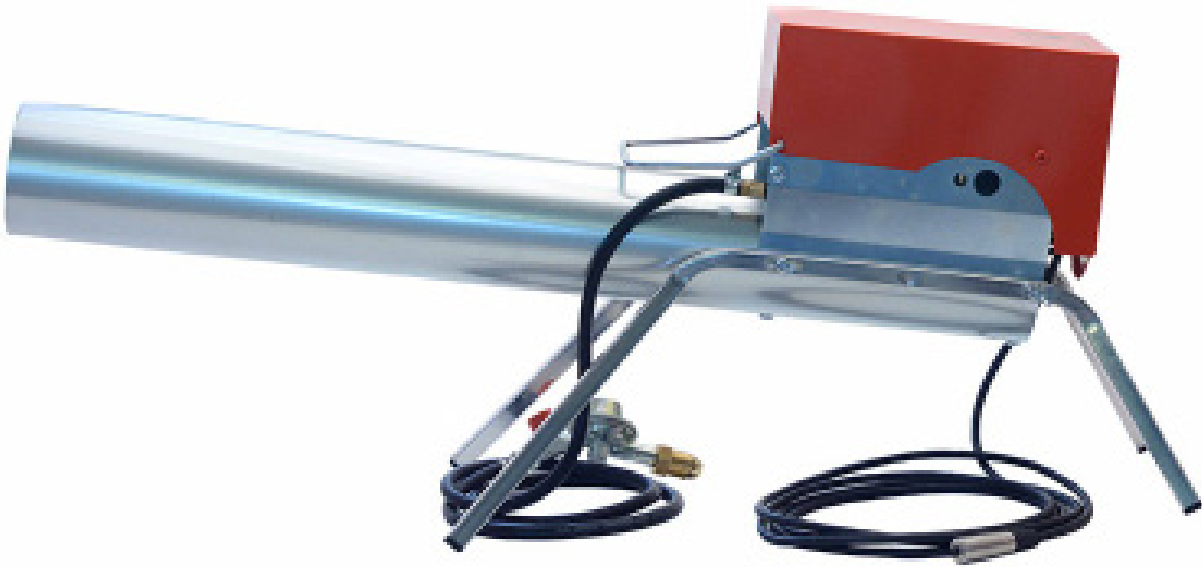
► The Electra Scare Cannon can be fired on demand by a Push Button Radio Controller. This device must be hardwired into the Control Box through the extra power "in" slot.

► Once hardwired, you can fire your Margo Electra Scare Cannon On Demand by simply pushing the push button control.

NOTE: On Demand must be selected to remotely detonate cannon. Please see page 6 for programming information.

MARGO ELECTRA BASE MODEL (#1100) INSTRUCTIONS ARE APPLICABLE TO ALL MARGO ELECTRA CANNON MODELS.

MAINTENANCE

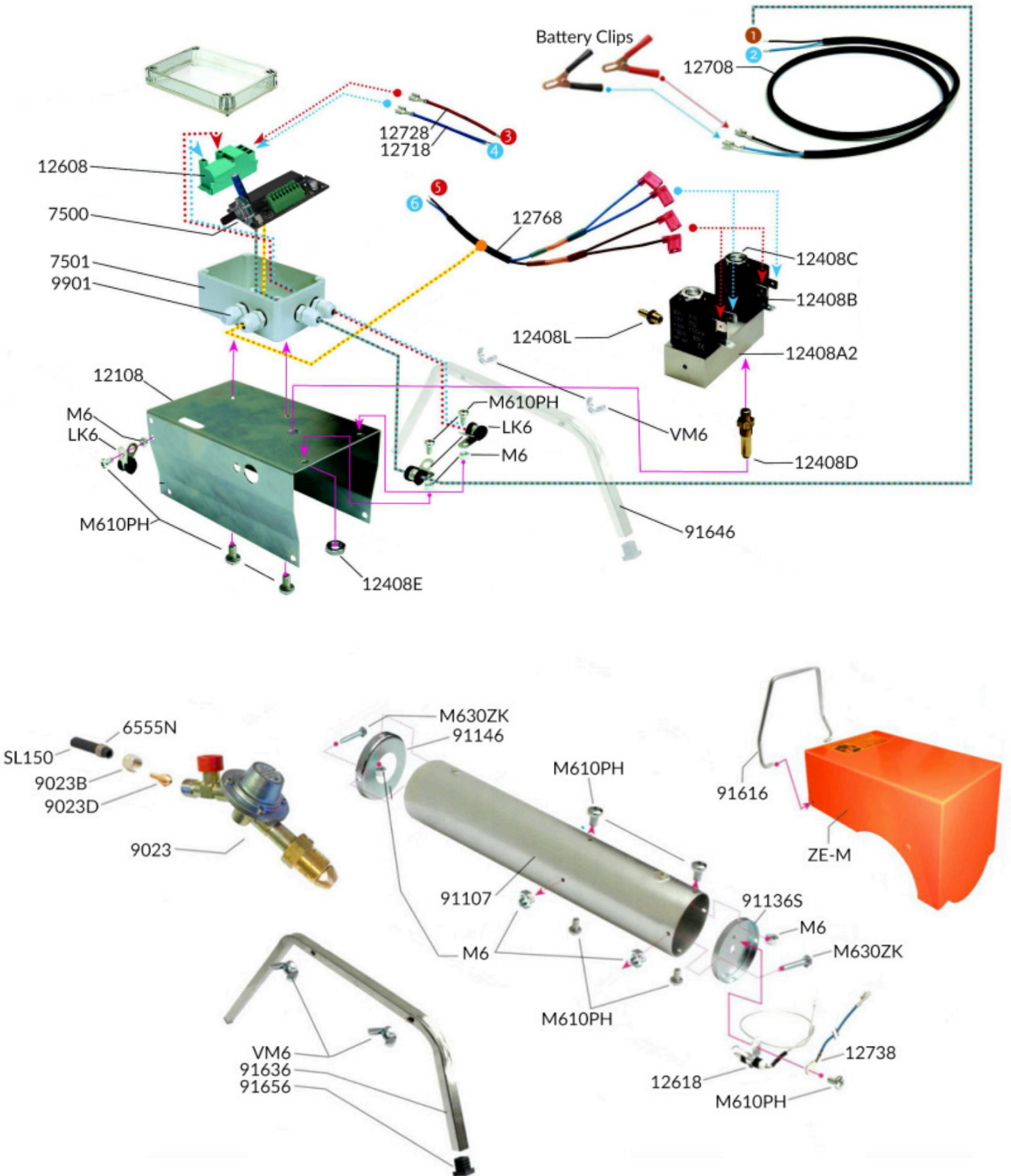## IMPORTANT: DISCONNECT CANNON FROM GAS WHEN STORING

A full maintenance check should be performed at least once a year. When the cannon is not in use, it should be stored in a cool, dry place.

NOTE:

- ▶ Store in a dry area when not in use.
- ▶ Never use flammable cleaning agents on this device.
- ▶ Do not use a stream jet sprayer to clean.
- ▶ Check the barrel of the cannon for mouse nests before use if it has been in storage.
- ▶ Ensure all nuts, bolts and screws are tight.
- ▶ Inspect the gas hose for defects and leaks. Replace old or cracked hose with new hose. Only use specialty hose from Margo Supplies.
- ▶ Check gas regulator for damage or leaks. Repair or replace parts before use.
- ▶ Check for corrosion on or around the Electrode (#12618). Clean with a wire brush or emery cloth.
- ▶ Always wear hearing protection while operating on or while in the vicinity of the cannon.

PARTS DIAGRAM

Battery Clips

12708

12728
12718

12608

7500

7501
9901

12768

12408C
12408B
12408L
12408A2

12108

M6
LK6

M610PH
LK6
M6

M610PH

VM6

12408D

12408E

91646

6555N
SL150
9023B
9023D

9023

M630ZK
91146

M610PH

91107

M6

M610PH

91136S
M6
M630ZK

91616

ZE-M

VM6
91636
91656

12618
M610PH

12738

PARTS LIST

MAIN BODY/CONTROL UNIT

12108	Main Body
7501	Control Unit Encolsure
9901	Cord Grip
7501	Electra Bud Enclosure
7500	Printed Circuit Board
12708	Battery Cable
6555N	Hose Clamp
LK6	Small Hose Clamp
M610PH	Metal Screw (M4 x 10)
M410CK	Metal Screw (M4 x 10)
M3595Z	Metal Screw (M3.5 x 9.5)
M6	Hexagonal Nut (M6)
12778	Positive & Negative Battery Clips

FRAME

91107	Barrel
91136S	Rear Cover
91146	Iris Cover
ZE-M	Metal Lid
91616	Handle
91363	Base Frame (left)
91646	Base Frame (right)
91656	Cap
VM6	Butterfly Nut (M6)
M630ZK	Metal Screw (M6 x 30)
M610PH	Metal Screw (M6 x 10)
M6	Hexagonal Nut (M6)

GAS VALVE

12409	Double Solenoid Valve (Complete)
12408A2	Double Solenoid Valve (Body)
12408B	Coil
12408C	Nut (Solenoid Valve)
12408D	Injector Nozzle
12408E	Nut (M12)
12408K	Filter
12408L	Supply Nipple
12768	Wire Harness (Double Valve)

IGNITION

12608	Ignition Module
12618	Electrode
12718	10cm Blue Wire (Ignition)
12728	10cm Red Wire (Ignition)
12738	30cm Blue Wire (Ignition)
M610PH	Metal Screw (M6 x 10)

GAS REGULATOR

011	Protective Cover
9023	Complete Regulator Unit with HFP
9023B	3/8" Nut
9023D	Nipple
SL100	150cm Hose

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
	Gas tank valve is not open.	• Open the gas valve.
	Gas tank is empty or does not have enough pressure.	• Fill or replace gas tank.
	Hose Fracture Protector Button hasn't been pushed.	• Push the Hose Fracture Protector Button (red) one or more times.
	Poor gas mixture.	• Gas mixture in the gas tank is not correct, replace the gas tank.
Cannon operates but there is no explosion or sound.	Gas valve is blocked or partially blocked.	• Open up the blockage with a thin wire, approximately 0.6mm in diameter.
	Ignition gives a weak or no spark at all.	• Check the Electrode for effectiveness. The porcelain base could be broken. Replace id necessary. Clean corrosion on any of the connection points between the barrel, electrode and the ground wire. Separate all pieces to clean contact points with an emery cloth. If the elctrode os wet, be sure to dry it well.
	The gas valve will not operate.	• Check connection points. If properly connected, call the dealer for repair.
	Debris in combustion chamber or other opening.	• Remove debris and other blockages from around the cannon. Common instances are mouse or spider nests.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Cannon is connected yet fails to operate.	Battery cable is not connected properly.	• Ensure the battery terminals are connected. The black battery clip is negative and the red battery clip is positive.
	Low battery.	• Recharge or connect a new battery.
Cannon works, but gives dull explosions.	Wind is too strong; gas/air mixture is disturbed.	• Place cannon down wind, out of wind, or behind a screen.
	Gas valve is blocked.	• Open blockage with a thin wire, approximately 0.6mm in diameter.
Cannon is leaking.	The coupling nut on the regulator is not tight.	• Tighten the coupling nut.
	Gas hose is damaged.	• Replace the hose.
Poor radio reception.	Antenna placement is off.	• Ensure the antenna is standing as high as possible.
	Cannon placement is off.	• Ensure the cannon is not placed near high voltage power lines or other high power equipment.