

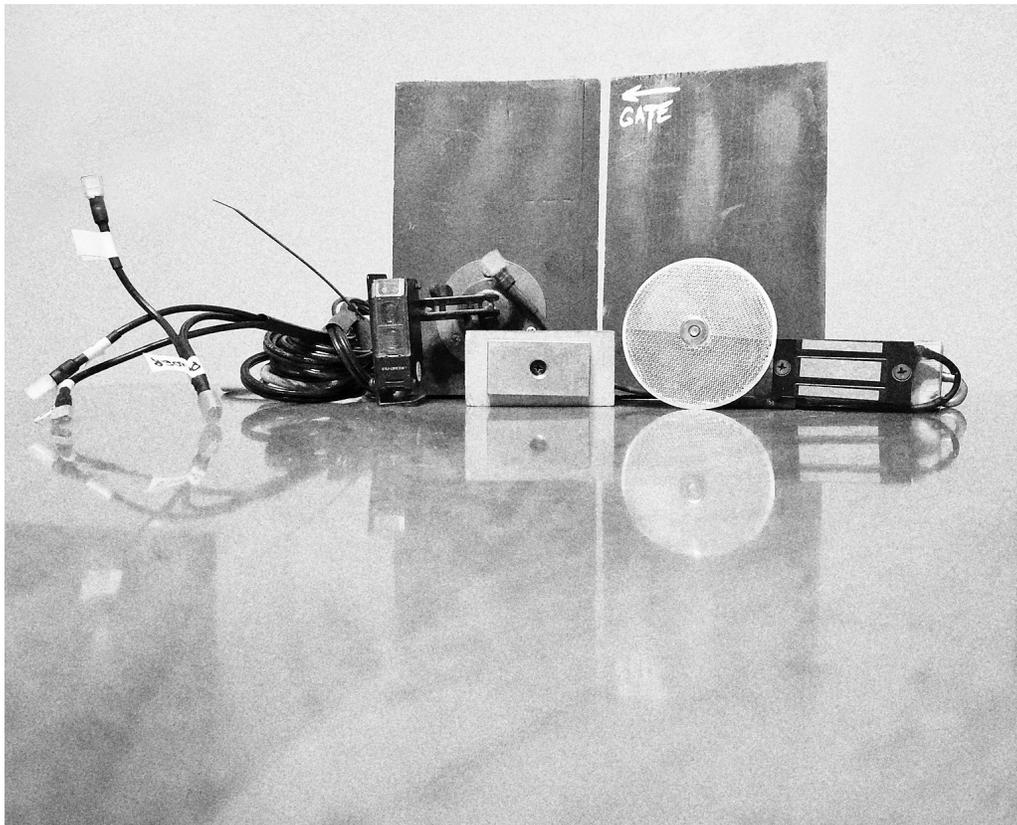
Raytripper

LIVE TRAP TRIGGERING SYSTEM

A FREELY SHARED INNOVATION BY THE RETRIEVERS

OWNER'S MANUAL

REVISED 6/5/2021



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OVERVIEW

Congratulations, you are a new owner of the Raytripper Live Trap Triggering System. The Raytripper is a freely shared innovation by The Retrievers. The Raytripper was designed to replace the manual hanging bait trigger system on Missy Traps (large enclosure traps also designed by the Retrievers). It is now used exclusively on all the traps deployed by the Retrievers to capture lost dogs.

Once you begin to use the Raytripper, you will notice that it can be adapted to replace trigger mechanisms on many other makes and models of traps. It can also be used to trigger improvised traps, such as kennels, residential doors and yard gates.

PARTS LIST

The Raytripper is essentially comprised of a number of pre-manufactured parts. If ever a part of your Raytripper is damaged or broken, this list will help you to find the correct replacement: [Raytripper Parts List](#)

USING THE RAYTRIPPER WITH A MISSY TRAP

Note that instructions may vary depending on whether you're using the original Missy Trap design (drop-door) or the 3rd or 4th Gen Missy (side-swing door).

MODIFICATIONS NECESSARY TO AN ORIGINAL MISSY TRAP

If you have already built a Missy Trap using the hanging bait trigger method, there are a few modifications necessary before using the Raytripper system.

First, you will want to remove the hinged trigger arm from the side of the trap. We have found that dogs may attempt to use the trigger arm to help it climb out of the trap. Because it's not necessary for operation of the trap when using the Raytripper, we recommend removing the trigger arm entirely.

Second, you will want to remove the eyelet screw used as a guide for the rope at the back of the trap and install it at the center of the longest 2x2 crossbar, positioned at the front of the trap. This is where you will hang the electromagnet from when using the Raytripper.

HOW TO OPERATE

Step 1:

Once your Missy Trap has been set up, hang the sensor unit and reflector on opposite sides in the rear of the trap. Always ensure the sensor is placed far enough in the rear of the trap to allow the dog to enter the trap fully, and not risk interfering with the operation of the trap door.

Step 2:

Run the wire harness from the sensor to the front of the trap. We recommend zip tying the cable to the top trap panels instead of running it along the ground, where it might be damaged by wildlife.

3rd/4th Gen Missy:

Zip tie the wire harness to the top of the trap panel that's adjacent to the gate. Bring the rest of the harness about halfway down the panel. Coil any excess cable, if necessary, and zip tie to the panel. Ultimately, the terminal ends should be about halfway up the panel, directly adjacent to the center of the trap door in its open position.

Original Missy:

Run the terminal end of the wire harness along the 2x2 crossbar to the middle of the trap. Ultimately, the terminal ends should be directly above the gate door when it is open.

Step 3:

3rd/4th Gen Missy:

Open the door and attach the magnet to the inside trap panel within easy reach of the door.

Original Missy:

With the supplied length of chain, hang the electromagnet at the center of the 2x2 crossbar. This should be positioned so that when the trap door is in the open position, the magnet hangs above it.

Note: Install an eyelet screw in the 2x2 cross bar to easily hang the chain and magnet. If you are working with a trap previously made for the hanging bait method, simply reuse the eyelet screw that had been used to hang the bait.

Step 4:

3rd/4th Gen Missy:

Attach the target plate to the inside of the side-swing door, about halfway up, taking care that the magnet and target plate have ample space and are not smashed together by the open door.

Original Missy:

Attach the target metal for the electromagnet on the trap door. Ensure that it is positioned so it won't interfere with the door closing properly.

Step 5:

Ensure your power adapter is plugged into an outlet, or if you are using a 12v battery, ensure that the battery harness is connected to the battery terminals.

Note: You may need to run an extension cord from a power outlet to the power adapter if you are not trapping near a power outlet.

Step 6:

You may now plug the power adapter or battery harness into the two plugs (male connectors) extending from the bundled wires on the sensor end. The Raytripper is not polarity sensitive, so you need not worry which plug is positive or negative.

Step 7:

You may now plug the two wires on the electromagnet into the sensor wire harness (female connectors). Again, polarity does not matter.

Note: At this point your electromagnet may or may not have power. The electromagnet will not have power unless the sensor is aligned with the reflector.

Step 8:

Check that there is power to the sensor. You can confirm this by looking at the LED lights on the top of the sensor. (It can be hard to see the LED lights in bright daylight. Shade the sensor with your hand to confirm which light is illuminated.) The RED LED signifies that the sensor has power but is not aligned with the reflector. The AMBER LED signifies that the sensor has power and is aligned with the reflector.

If the RED LED is on, adjust the direction of the sensor and/or reflector until AMBER LED comes on. This means that the invisible beam is now aligned between the sensor and reflector. While adjusting the sensor and reflector you may hear a clicking noise

coming from the sensor. This is normal, and signifies that the sensor was or is properly aligned.

Step 9:

Once the sensor is properly aligned you may open the trap door and connect the electromagnet to the target plate. They should stick together by electromagnetic force.

Step 10:

Test your trap's operation a few times by triggering the sensor. Make sure to watch that the trap door closes freely every time. During this process, your sensor and/or reflector may fall out of alignment if not properly tightened in their positions. If this happens, simply realign the sensor and tighten the thumbscrews on the mounts.

TIPS

- ✓ Do not shove the connectors all the way in, as the wires may break if too much force is used to disconnect them. Just push the plugs together as much as needed to hold a connection.
- ✓ Before using the Raytripper in the field for the first time, practice setting up a few times at home to ensure you are comfortable with its operation.
- ✓ Before and after use, test to ensure the Raytripper is functioning properly. There is nothing more frustrating than finding an equipment failure when you are in the field setting up.
- ✓ When not in use, store the Raytripper in a climate-controlled area during the winter. The wires and connectors can turn brittle in temperature extremes.
- ✓ Always carry a tool kit in case you have breakage in the field. It should include extra wire connectors, wire strippers, crimpers, shrink tubing and a cigarette lighter. Most breakages are easily fixed in the field if you have these tools handy.

- ✓ You may want to purchase a second electromagnet to use as a backup in case of breakage while in the field.

- ✓ You may operate the Raytripper without the sensor if you wish, manually closing the gate. (This is strongly recommended for trapping two dogs at once.) You would not need to mount the sensor or bundled wire harness. Simply attach the magnet and target plate, and plug your power supply directly into the magnet. If needed, you can make an “extension cord” of several feet of wire with female connectors on one end and male on the other. Plug the male end into the power supply and the female end into the magnet.

- ✓ Be sure to keep the area clear directly under the beam. This includes leaves and plants and any item that could spring up into the beam if the dog steps on it, such as the corner of a blanket.

- ✓ Using a strap or zip ties, always secure the sensor and reflector to the trap panel so neither can move if the dog paws at the trap from the outside.

TROUBLESHOOTING

Problem	Cause(s)	Solution(s)
Magnet does not have power	<ul style="list-style-type: none"> → No power to the Raytripper → Sensor not properly aligned → Something is interfering with the beam (check for plants, bedding in the trap, etc.) → Wire harness connection broken, or not properly plugged in 	<ul style="list-style-type: none"> <input type="checkbox"/> Check that the power adapter or fully charged battery is plugged into the wire harness and is receiving power. <input type="checkbox"/> Check that sensor is aligned properly (the AMBER LED should be lit on the sensor unit). <input type="checkbox"/> Check that all connections on the wire harness are in good working order and are properly plugged in.
Sensor does not show AMBER LED light	<ul style="list-style-type: none"> → No power to the sensor → Sensor is not aligned with reflector 	<ul style="list-style-type: none"> <input type="checkbox"/> Ensure the RED LED is on. If not, check that all electrical connections are in good working

		<p>order and battery is charged.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Attempt to align the sensor to the reflector.
Sensor does not show RED LED light	→ No power to the sensor	<ul style="list-style-type: none"> <input type="checkbox"/> Check that the power supply is connected properly and that it is transmitting power. <input type="checkbox"/> Check all electrical connections are in good working order, plugged into the proper places and that battery is charged.

Problem	Cause(s)	Solution(s)
Sensor shows AMBER LED light, but electromagnet does not hold	<ul style="list-style-type: none"> → Electrical connection broken → Electromagnet malfunctioning 	<ul style="list-style-type: none"> <input type="checkbox"/> Check that the magnet is properly plugged into the wire harness. Check all electrical connections. <input type="checkbox"/> Plug electromagnet directly into power source. If the electromagnet still doesn't work, replace it with a new electromagnet.
Electromagnet does not release reliably every time the sensor beam is broken	<ul style="list-style-type: none"> → Original Missy: Trap door is too light → Missy 3 or 4: Magnet and target plate are being smashed together by the side-swing door, and when the beam is broken, the magnet releases but then reengages before the door can pull away 	<ul style="list-style-type: none"> <input type="checkbox"/> Add weights to trap door. <input type="checkbox"/> Close the door slightly so that the magnet and target plate are hanging free while engaged.

Magnet does not release when beam is broken	→ Insufficient power	<input type="checkbox"/> Make sure the battery is fully charged or connect to an electrical outlet

You'll find more technical information about the Raytripper—including a wiring schematic—on our [Raytripper Resources](#) page.