Mike’s Trebuchet--Instructions

Basics:

* Designed for 50-100 lb counterweight. I generally used 60 lb.
* Designed for a payload of about 1.5-3 lb. Suggestions:
  + “throwing size” water balloon
  + Grapefruit
  + Softball (possibly too dangerous…)
* Can throw water balloons ~300 ft

Safety:

* A possible source of misfire is the ring sliding off the pin too soon or too late…
  + Too late—Flat throwing trajectory, payload shoots straight forward
  + Too soon—Payload may shoot straight up.
* Keep body parts out of the path of the throwing arm at all times. If it somehow accidentally releases, you don’t want the swinging arm hitting your chin/hand/whatever.
* Being directly in front or behind the trebuchet are the potentially dangerous spots, stay to the sides
* Safety goggles

Setup

* Make sure tie clamps on each side of fulcrum are tight.
* Load weights onto the hanger.
  + 20 or 25 lb weight-lifting plates work well.
  + Weights get “threaded” onto the steel rod, sandwiched between the 2 hanging brackets.
  + 3rd hole up on brackets should be good for 20lb weights—if using larger weights, will need to adjust so counterweight does not hit bottom
  + There’s really no great way to load the conterweight—It helps to have 2 people.
  + Secure with the tie clamps on either side
* Make sure the trigger release is attached securely, and make sure the trigger string is threaded through the eye-hole

Operation:

* Pull down the end of the throwing arm, and clip the small rope loop into the release clasp.
* Place the metal ring at the end of the sling onto the pin at the end of the throwing arm
* Place payload in sling “basket” and position basket on the trough at max extent.
* **Double check that everyone is clear from the area in front of and behind the trebuchet**
* Standing to the side of the trebuchet, pull the release string to open the clasp

(Optional) teardown

* Remove the fulcrum rod and throwing arm
* Take out he screws holding the MDF trough in place
* Throughout the trebuchet, some joints are held together with screws+glue and some are held with screws only. Take the screws out of the screw-only joints will let you disassemble into a few large pieces.