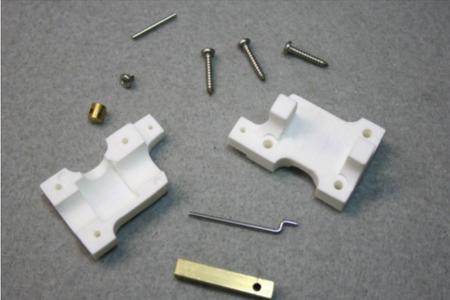
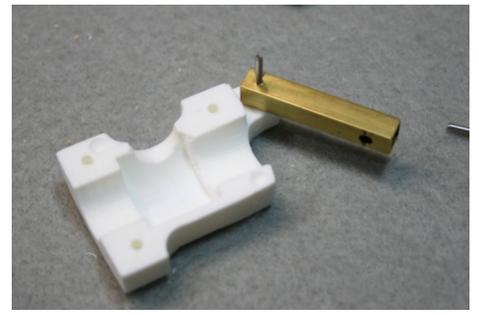
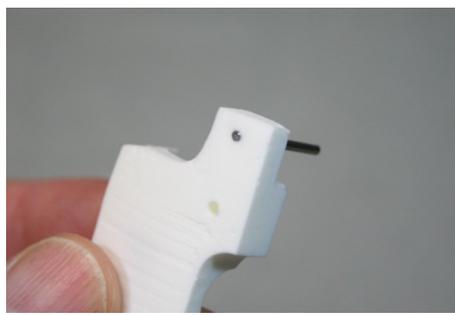
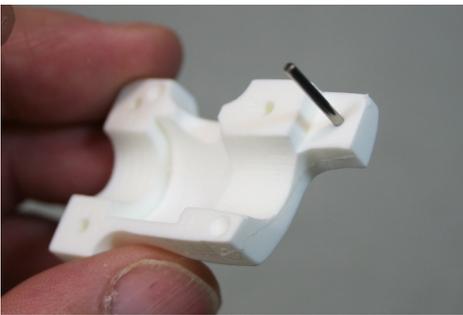


Poppet Trigger Housing

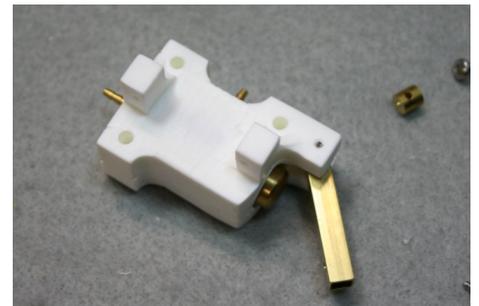
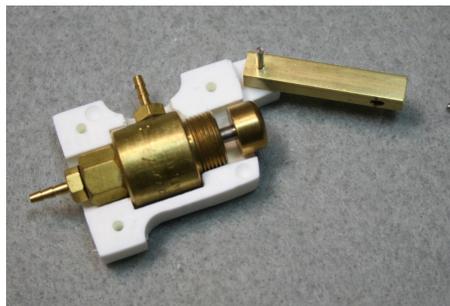
An easy way to connect a Clippard MAV-2 Poppet Valve to a Turnigy TGY-9025MG or similar metal gear mini servo to fire your cannon using a stick on your transmitter. This model servo needs to be made water-resistant before installing it for use underwater. Some mini servos are factory water resistant.



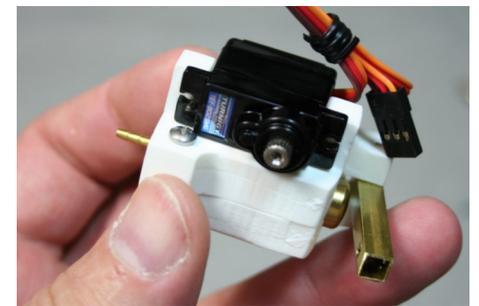
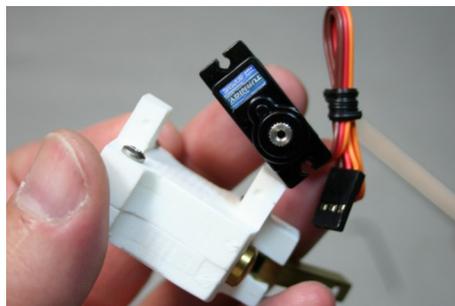
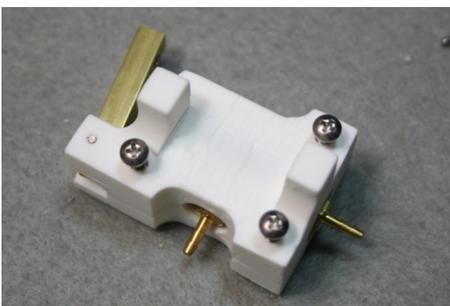
Poppet Trigger Housing (left). Clippard MAV-2 poppet with two 1/16" 10-32 hose barbs with washers, two 1/16 inch hose clamps and button with set screw & wrench (center). Mini servo. Use this servo arm.



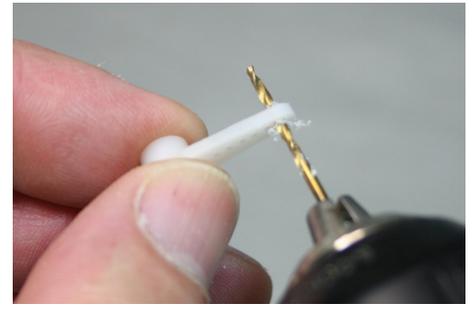
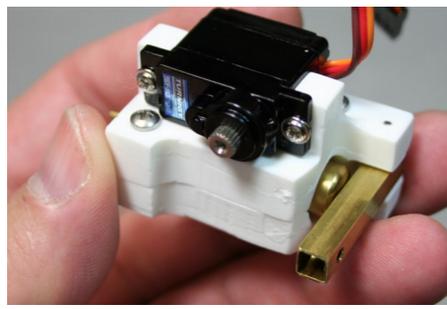
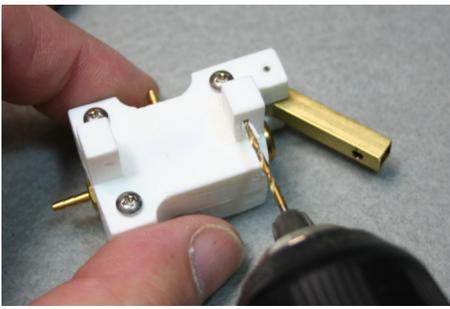
Insert the 1/16-inch pin into the base until flush with underside. Slide smaller hole of the brass arm over the pin.



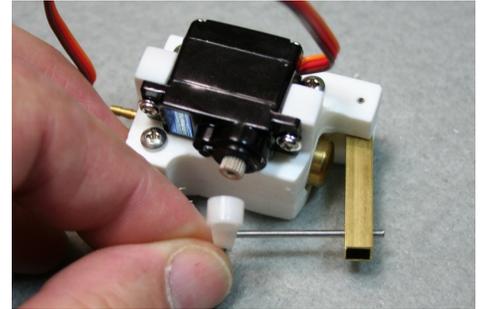
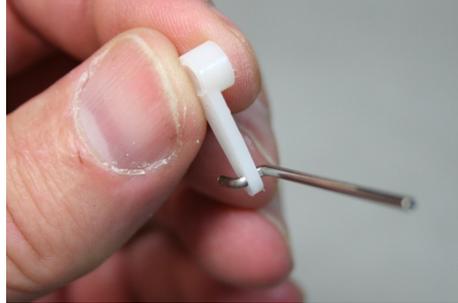
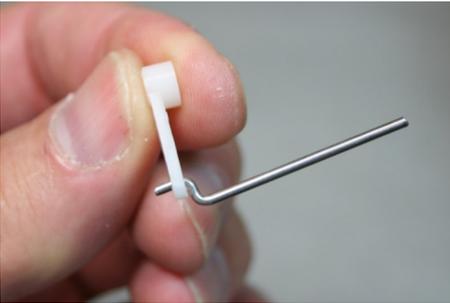
Attach the button to the valve stem. Screw in the two 1/16 x 10-32 hose barbs with their washers and tighten. Lay the assembled valve into the lower body half. Set the upper half over the body engaging the 1/16-inch pin.



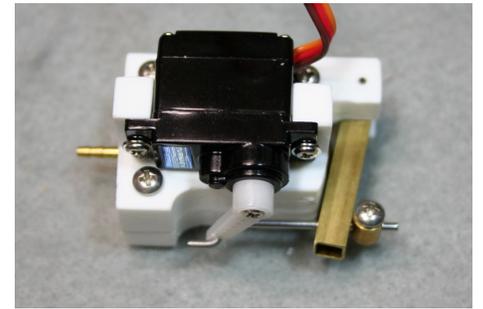
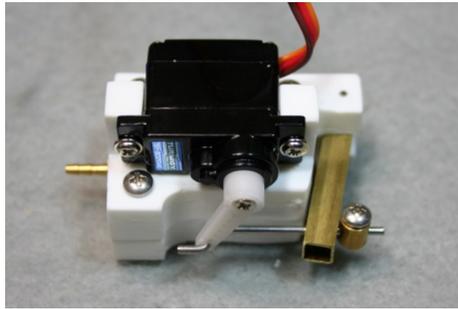
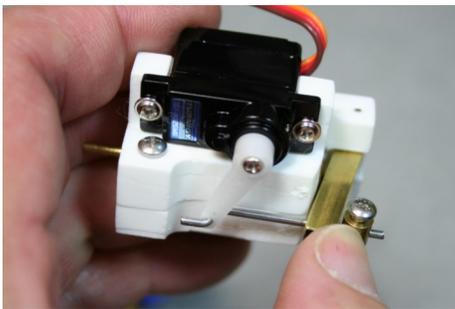
Insert and tighten three screws. The servo mount is dimpled for two 1/16-inch holes to hold the 9025MG servo. Other servos may fit but may have different mounting hole configurations. Check that the dimples match the mounting hole locations of your servo.



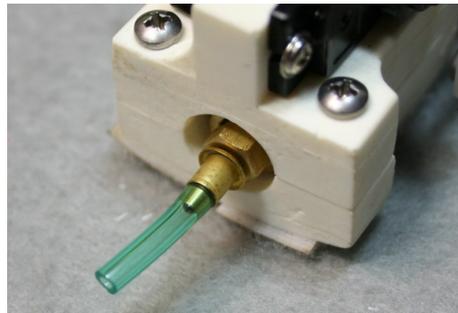
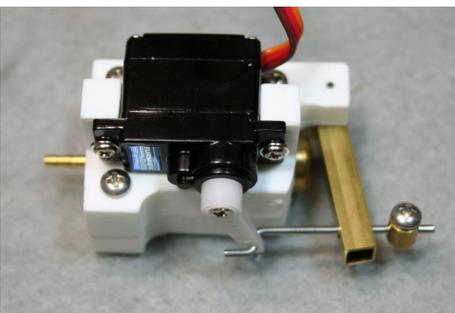
Drill two 1/16-inch holes to mount the servo. Attach the servo with its two screws. “Center” the servo. Drill the outer-end hole of the servo arm with a 1/16-inch drill so the arm can accept the 1/16-inch pushrod.



Insert the pushrod into the underside of the servo arm and onto the center of the Z-bend. First, insert the pushrod into the brass arm hole, then push the servo arm over the stem pointing straight-down.



Attach the arm with the small machine screw. Slip the brass ez-connector over the pushrod. With the servo in the “fire” position, space the arm slightly away from the valve body and tighten the ez-connector screw. This allows the servo to press the button, but not to bind the brass arm against the housing.

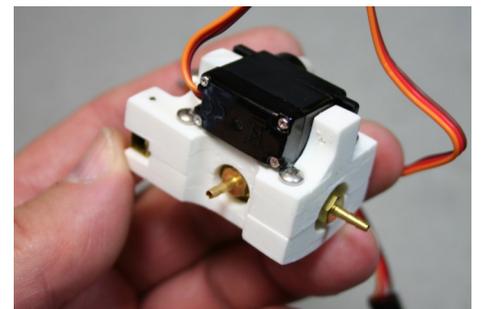


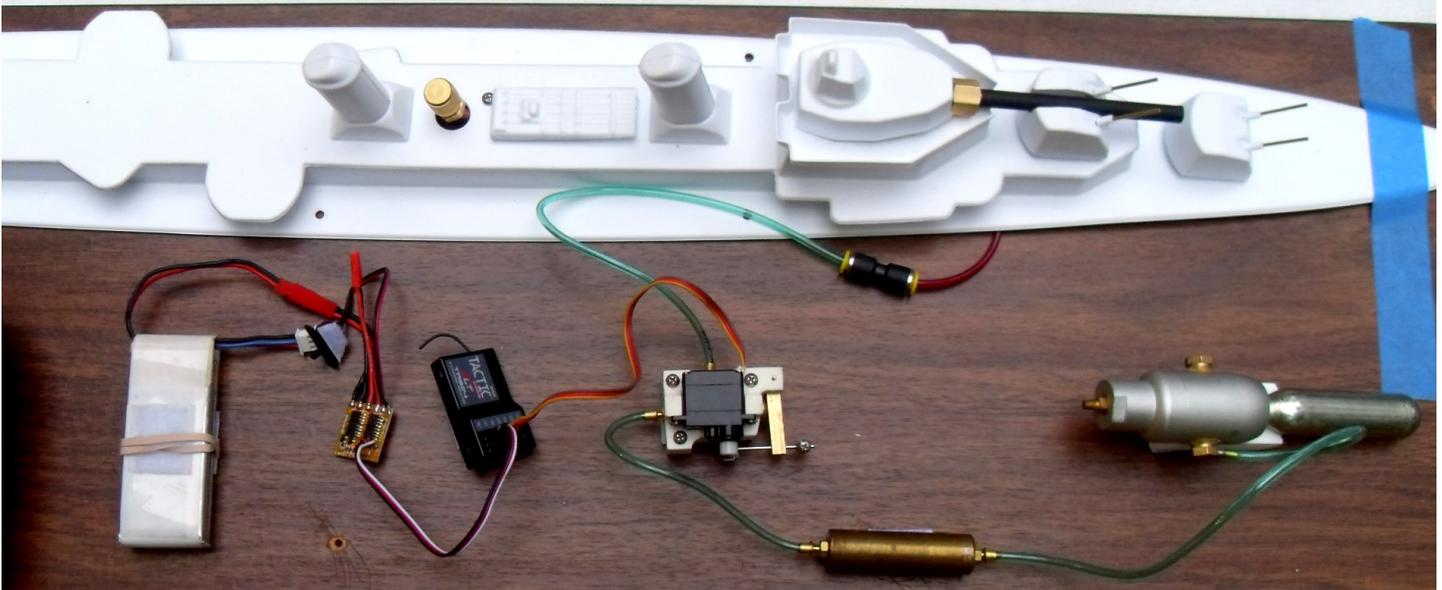
Released from “fire” (letting go of the transmitter stick) it returns to release the button. Attach 1/16” air hose and brass hose clamps. The assembly weighs 2.5 ounces. Put a spot of grease between the button top & brass arm.



Attach to the bottom of the hull or to the accessory tray with hook & loop.

CO2 enters at the bottom of the valve and is sent to your cannon out of the side of the valve, on the left in this last photo.





A typical poppet valve set up to fire a cannon. In this example, a 7.4v 2-cell LiPo battery is connected to a 10amp ESC Electronic Speed Control plugged into the receiver throttle channel. (The rudder servo would be plugged into the receiver rudder channel. The bilge pump would be plugged into another channel designated to turn the bilge pump on and off.) The ESC also provides power to the receiver. The Poppet Trigger Assembly servo is plugged into the firing channel of the receiver. Usually, to one of the sticks of the transmitter. You might drive and steer with the left stick and fire with the right by flicking it down from center. From the right, a 12g or 16g CO2 cartridge supplies CO2 at about 800psi to the regulator it is screwed into which reduces the pressure to 150psi. This travels to a 1/2 cubic inch accumulator tank. The tank holds a reserve of 150psi gas for a better pressure impulse to the cannon when the valve is opened. The accumulator tank is connected to the MAV-2 valve and when “fired” sends 150psi gas to the cannon as long as the servo arm presses on the valve’s button. Only a flick of the transmitter stick is needed to fire the gun. The yellow and black connector on the 1/16-inch air line is a Clippard 1/16-inch quick-disconnect which helps detach the deck-mounted cannon’s air hose from the hull mounted CO2 firing system. Back on the Accessory page, click on this photo to view a video of the system in operation.

UPDATE:

A 3S 11.1V LiPo battery should be used to run the ship. It will give you the additional power needed to reach combat speed for the destroyer and will make the bilge pump more effective. However, the ESC’s BEC (Battery Eliminator Circuitry) can’t handle 11.1 volts without causing servo chatter or other problems. You would need to install a 5 volt regulator (UBEC) between the battery and the receiver. Since the regulator (UBEC) is powering the receiver, you would unplug the red-wire brass connector on the ESC’s black plug that plugs into the receiver. Do this on the motor ESC and pump ESC if used. If you don’t know how to do this, just ask!

The **Destroyer Board** has a built-in regulator and modular ESCs for the motors and pump. It will function properly on both 7.4V 2S LiPo or 11.1V 3S LiPo batteries.