# Required Components

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|  | **BOM**   1. Gazillion Tornado Bubble Machine 2. 3.5 mm Mono jack 3. 2x 8 cm lengths of wire 4. 4x AA batteries (Not shown in picture) |

# Required Tools

* Drill with ¼” drill bit
* Wire Strippers
* Flush Cutters
* Narrow flat headed screwdriver (the screws are triangle, but a flat head should work)
* Soldering Iron
* Solder
* Ruler
* Hot glue gun

# Required Personal Protective Equipment (PPE)

* Safety Glasses

# Assembly Instructions

## Step 1

Carefully take the bubble machine out of the box without damaging it. The toy will be put back in the packaging once adapted.

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| bubble blower out of package |

## Step 2

Remove and set aside the 5 screws from the sides of the bubble blower. There are two on the other side not shown in the picture.

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| **a picture of the back of the green bubble blower with 5 screw holes** |

## Step 3

Separate the two halves of the outside of the bubble blower and set the front half aside.

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| A picture of the bubble blower with the two outside halves disassembled |

## Step 4

Locate the switch.

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| a picture of the small switch inside the bubble blower |

## Step 5

Gently wiggle the switch and slide it downward until it is free.

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| **a picture of the switch being disassembled** |

## Step 6

Lay the bubble blower on its side.

A picture containing indoor, kitchen appliance

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## Step 7

Cut 2 pieces of wire 8 cm long. Use wire strippers to strip 1cm off each end of the wires.

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## Step 8

Locate the two red wires. Carefully cut a small slit in the one shown above. You can peel off the rubber as needed.

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## Step 9

Next, wrap one of the new wires around the newly exposed wire and solder them together. Once cooled, add tape over the joint.

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## Step 10

Solder one end of your second wire to the same location as this red wire shown below.

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## Step 11

Slide the switch back in the holder.

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| **A picture containing person, indoor, hand  Description automatically generated** |

## Step 12

Insert the yellow button back into the back of the machine.

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## Step 13

Reattach the back green half of the bubble machine.

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| A picture containing indoor, cup  Description automatically generated |

## Step 14

Glue the previously existing red and black wires to the wall to keep them out of the way.

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## Step 15

Reattach the purple base. Once aligned, feed the two wires through the base.

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| A picture containing fan, device  Description automatically generated |

## Step 16

Solder the two wires onto the two legs of the jack closest to the mono jack hole.

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| A close-up of a car steering wheel  Description automatically generated with low confidence |

## Step 17

Using a 1/4" drill bit, drill a hole in the base that can be reached by the mono jack. Cut away any loose plastic.

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| A picture containing indoor, blue, purple, dryer  Description automatically generated |

## Step 18

Remove the nut from the mono jack and push the mono jack through the hole. Reinstall the nut and tighten to secure.

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## Step 19

Glue wires to the leg of the stand.

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| **A picture containing fan, device  Description automatically generated** |

## Step 20

Reattach the front side of the bubble machine using the 5 screws.

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| **A picture containing indoor, green  Description automatically generated** |

## Step 21

Remove 4 screws on the back of the machine to add 4 AA batteries. Then put the screws back in.

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| **A picture containing green, indoor  Description automatically generated** |

## Step 22

Test the bubble blower. Then, repackage the device.

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| **A picture containing text, indoor, drink, plastic  Description automatically generated** |