Xbox One Controller Repair Manual

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Introduction

The purpose of this manual is to describe the process and tools required for disassembling Xbox One controllers. Direct repair of Xbox One controllers voids the user warranty as stated on the sticker located in the battery compartment. This should be taken into consideration when using this manual. The skill level for most of the disassembly and repair is fairly high. Specialty tools are required. For complete disassembly a Torx (T6 and T8) is required. This is true for all model numbers covered.

At this point another general warning will be given about the skill level required for successfully repairing an Xbox One controller. Another reminder is that removing the sticker in the controller battery compartment will void the warranty. Finally, complete repair of some components will require soldering. The process for completing these repairs will also not be covered in detail but will be noted in section 3. The goals of this manual are to describe the repair processes for general problems associated with these controllers. Most simple fix repairs include disassembly and reassembly (also maybe some minor cleaning). The least amount of time a repair could take is 30 minutes for someone new to the repair process.

Tools For Disassembly (* for recommended not required):

1. Torx (hollow) Bits: T6H and T7H

2. Contact Solution (DeoxIt is a good brand)*
3. Plastic prying/opening tools (for not damaging plastic)*
4. Tweezers*
5. Bowls/Containers for holding screws during the repair process (a magnetic tray may also be helpful)*
6. A well lit work space*

Disassembly

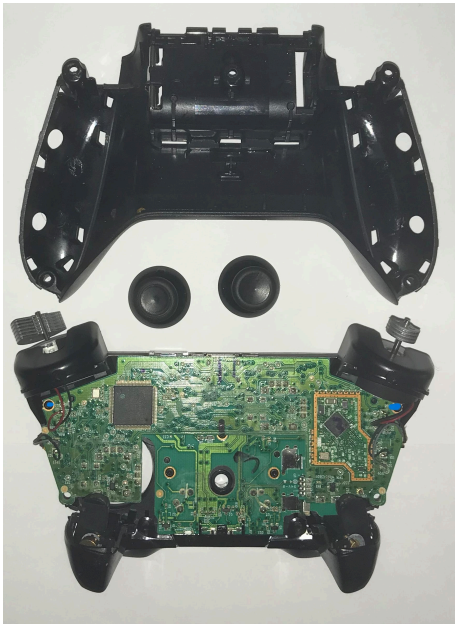
Specifically this manual will refer to the Models 1537 and 1708 The controllers covered in this manual belong to the original Xbox One, and the Xbox One S. The order of the disassembly processes will go in order that the controllers were released. First will be model 1537 and next will be 1708. Parts between models 1537 and 1708- generally- can be shared. A complete list of compatibility will be listed in section 4 of the manual.

Model 1537

1. Remove the rear facia plates. This can be done with hands or a prying tool. The plastic clips that hold these on are quite persistent.
2. Undo the T7H screws that hold the case of the controller together. There are five in total. They are marked in blue below.

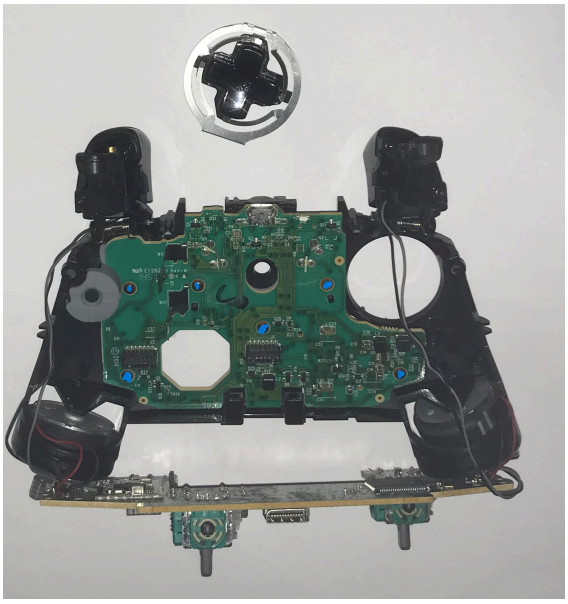
a. 

3. Remove the internals from the case (separate the top and bottom). Be careful not to let the rumble motors fall out at this point. They are held in place by friction.
4. At this point it is best to remove the bumper assembly and the sync button. Press the home button while lifting up on the plastic clips. There are two on top and one on bottom.
5. Remove the two screws (T6H) that hold the bottom circuit board in place. There are two screws marked in blue again.

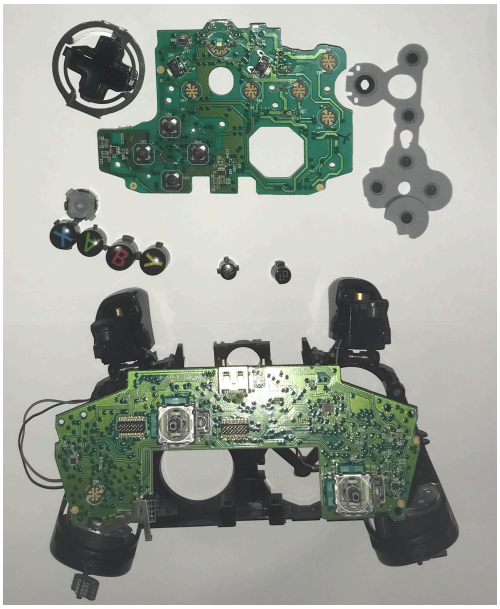
a. 

b. 

6. The thumb sticks can be pulled off of the joystick assembly at any point.
7. Remove the bottom circuit board. There is a plastic connector that jumps the two boards together like a cartridge. Pull the board out of this connector and flip it up. The jumper wires connecting the rumble packs will have to be freed from their tape/channels so that the circuit can be moved out of the way without disconnecting anything.

a. 

8. At this point there are a total of 12 screws left. Six T6H screws hold the top circuit board in place. They are marked in blue again. Not marked in blue are the four screws holding the trigger covers on. Underneath these are the trigger rumble packs. It is highly advised that these are not removed as it risks damage to the jumper wires connecting the motors to the circuits. For most repairs they can be left in place and worked around.
9. After these six screws have been removed, the top circuit can be removed. The silicon button springs and plastic buttons will fall out. Note the buttons are notched differently. They can only fit in the correct slot.

10. The controller is disassembled.
    a. 

Model 1708

1. The process for disassembling a model 1708 is about the same. The screw locations are all the same with the major variations being the bumper assembly, top facia plate, and some use regular Torx screws (instead of the hollow).
2. Remove the rear facia plates. This can be done with hands or a prying tool. The plastic clips that hold these on are quite persistent.
3. Undo the T7H screws that hold the case of the controller together. There are five in total. They are marked in blue below.

a. 

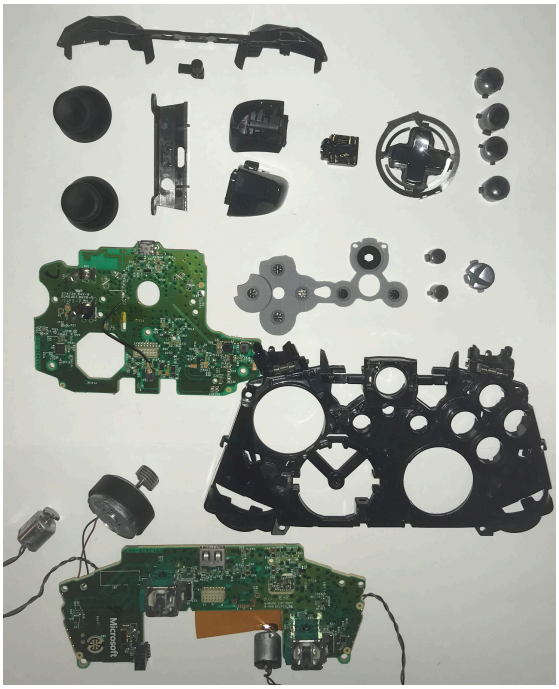
4. Remove the internals from the case (separate the top and bottom). Be careful not to let the rumble motors fall out at this point. They are held in place by friction.
5. At this point it is best to remove the bumper assembly and the sync button. Press the home button while lifting up on the plastic clips. There are two on top and one on bottom.
6. Remove the two screws (T6H) that hold the bottom circuit board in place. There are two screws marked in blue again.

a. 

7. Remove the bottom circuit. Note the jumper wire circled in the last step. This jumper wire needs to be disconnected from its button clasp connector. Just like the 1537 there is also a connector between the two circuits. Disconnect the jumper wire then pull up on the circuit board. Just like the 1537 it may be helpful to free the trigger rumble motor wires.

The example shown does not have any rumble motors connected to the controller. In this case the bottom motherboard can be removed and set aside.

8. Like the 1537 six more screws hold the bottom circuit on. See section on model 1537 for reference images.
9. Just like model 1537 the top circuit can be set aside and the buttons will fall out.
10. Model 1708 disassembled.

a. 


Controller Completely Disassembled

Noting Design Differences

Model 1708 and 1537 differ on more than appearances. The 1708 is an overall updated design while model 1537 is basically a retrofitted Xbox 360 controller. Both show signs of a product rushed to market, but overall the 1708 is an improvement on the 1537.

General Repairs

Most repairs will involve replacing, reseating, or cleaning a button. Overall these controllers are very sturdy. Any circuits can be cleaned with 99% rubbing alcohol. It is important

that 99% is used so as to not damage the electronics. Q-tips and/or paper towels are useful as well. Any plastic- i.e. the buttons, the case- can be washed with dish soap and warm water. The silicon spring is also safe to clean this way. If there are issues with a button's function, contact solution should be used to clean out click buttons. If cleaning the controller does not work, then something is wrong with one of the circuits. That is beyond the scope of this manual.

Repairs Requiring Soldering

Some repairs may require soldering. Most of the repairs that require soldering are very difficult and will not be explained. With access to a soldering iron, repairing the jumper wires that attach a rumble motor requires fairly low skill. Just use caution not to damage any of the surface mount components. Another repair that can be difficult to attempt, but is possible is reattaching the jumper wire on a model 1708. This is a very difficult task. The trace on the printed circuit board (PCB) needs to become slightly more exposed so the solder will stick to it. To do this the tip of a soldering iron is used to slightly melt the PCB and expose the trace. The jumper wire can be soldered directly back to this point.

Part Compatibility Chart

Below is a part compatibility chart. Each model number is compared to the other. Basically only the buttons can be shared. With the exception of the home button. A home button from a 1708 will fit in a 1537, but a home button from a 1537 will not fit in a 1708.

	Model 1537		Model 1708
Model 1708		Model 1537	
Case Top		Case Top	
Case Bottom		Case Bottom	
Battery Cover		Battery Cover	
Rear Facia Plates		Rear Facia Plates	
A,B,X,Y		A,B,X,Y	
Start/Select		Start/Select	
Bumpers		Bumpers	
Trigger Covers		Trigger Covers	
D-Pad		D-Pad	
Home Button		Home Button	
Top Circuit		Top Circuit	
Bottom Circuit		Bottom Circuit	
Sync Button		Sync Button	
		Sync Cover	
Rumble Motors		Rumble Motors	
Trigger Rumble		Trigger Rumble	

Notes on Reassembly

The assembly process is the same as disassembly but in reverse. Follow the steps backwards. Be mindful of the rumble motors and/or jumper wires. Make sure to seat the circuit connector properly. Do not overtighten the screws. Everything should be attached to the skeleton frame of the controller before the controller case is put back on.