

# 5. Maintenance and Service

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## 5.1 Maintenance and Service

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### WARNING

- When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.
- Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.
- Do not touch any parts that are not specified in these directions. Touching unspecified locations may lead to electric shock or cause short circuits.
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.
- Exercise due caution in performing soldering procedures. If soldering iron is handled carelessly, there could be fires or burns.
- Proceed very carefully when heating thermal contraction tube. Careless operations can result in fires or burns.

### CAUTION

- When fastening plastic parts, be careful not to tighten screws and nuts excessively. Otherwise parts may be damaged, resulting in injuries from fragments, etc.
- Be careful not to get hand or finger caught when removing or attaching the parts.
- Disconnection and connection of connectors will be performed within the narrow cabinet space. Take due care not to scratch or otherwise injure yourself.
- Take care when carrying the removed Control Units. Such heavy lifting carries a risk of injury to back or shoulders.

### IMPORTANT

- After the volume has been replaced, be sure to set the volume value on the test mode calibration screen and the input test screen and check variations in the volume value
- After adjusting or replacing a microswitch, always check ON/OFF of the switch on the input test screen of the test mode
- Handle parts inside the Control Unit very carefully. Be especially careful to avoid damage, deformation or loss of these parts. If any one of these parts is lost or defective, it can result in damages and/or faulty operations

If the operability of the Control Unit is unsatisfactory, or if settings on the test mode calibration screen are ineffective, the problem could be a defective mechanism, displacement of the position where volume or microswitch has been fastened or malfunctioning of volume or microswitch.

Carry out the following procedure to replace Control Unit or microswitch. Also be sure to grease the mechanical components of the Control Unit once every 3 months.

## 5.2 Parts Replacement

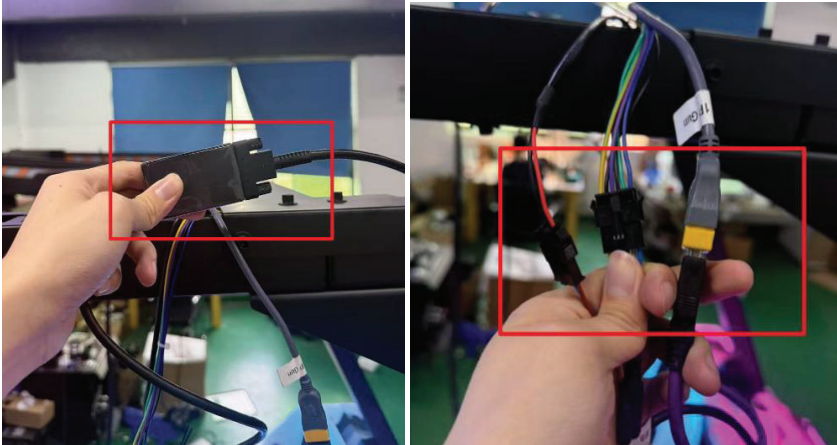
**NOTE:** Please turn the machine OFF before operating any parts replacement.

### 5.2.1 Replacement of Gun Assembly:

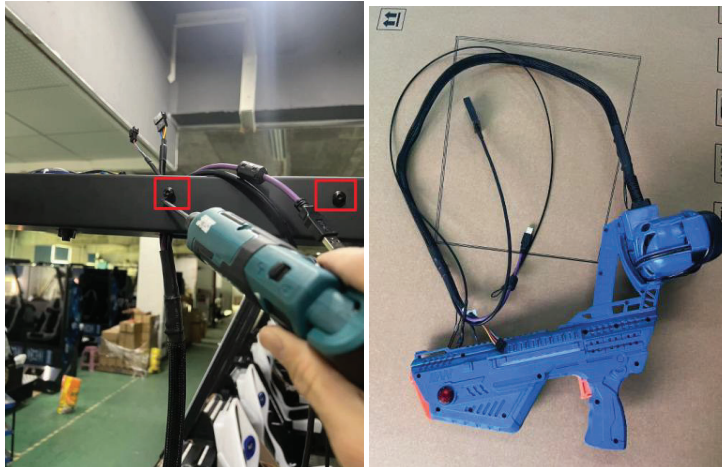
1) Remove the upper cover and case of beam.



2) Disconnect the below cables.



3) Remove the screws before removing the original gun.



4) Thread the gun sheet rope through the green hole in the following picture.



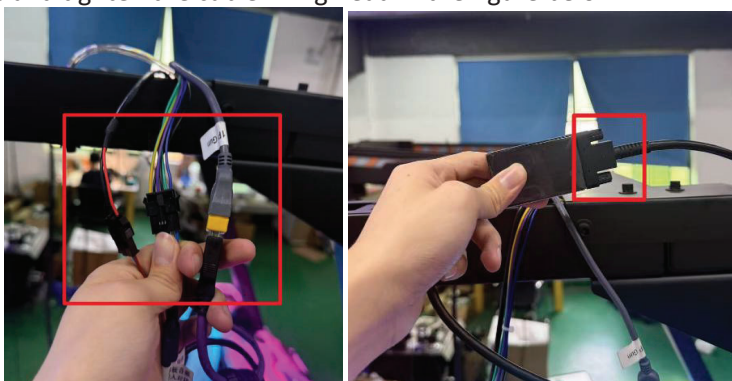
5) Thread the gun ASSY wires through the yellow hole in the following picture.



6) Secure the wire rope and harness of the gun in place.



7) Connect the wires and tighten the cable fixing head in the figure below.



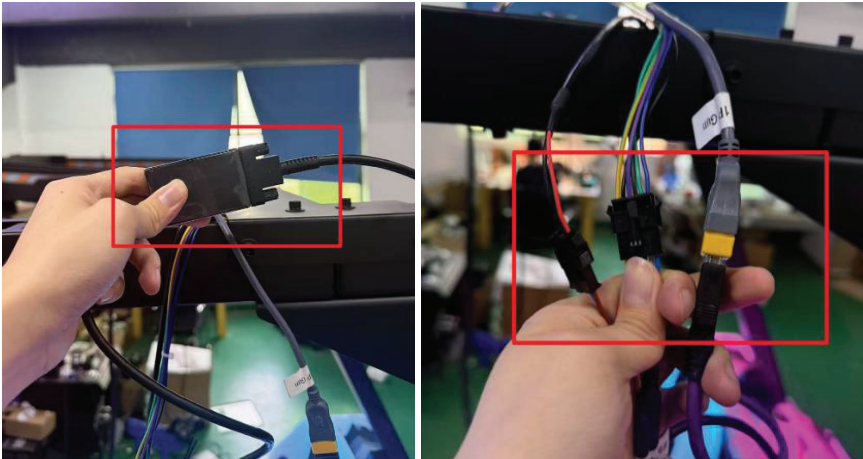
8) Fix the upper cover and case to the beam.

## 5.2.2 Replacement of Front HMD (Head-mounted Display) Cable:

1) Power-off, remove the upper cover and case of beam.



2) Disconnect the below wires.



3) Remove the screws of front cable WH for HMD.



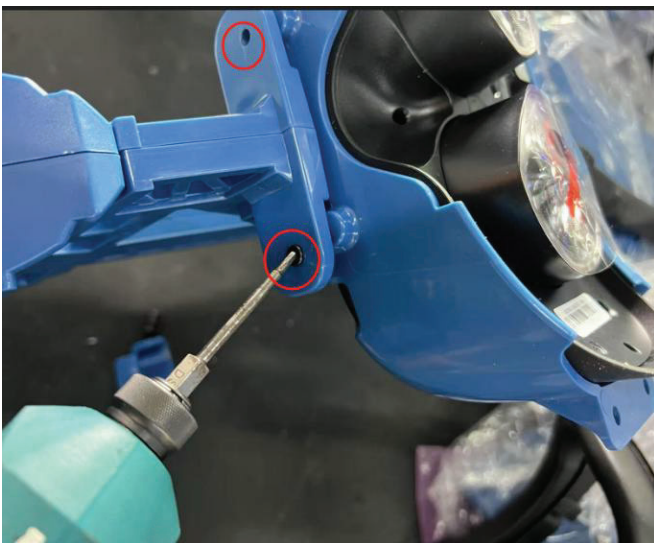
4) Remove the back cover of HMD



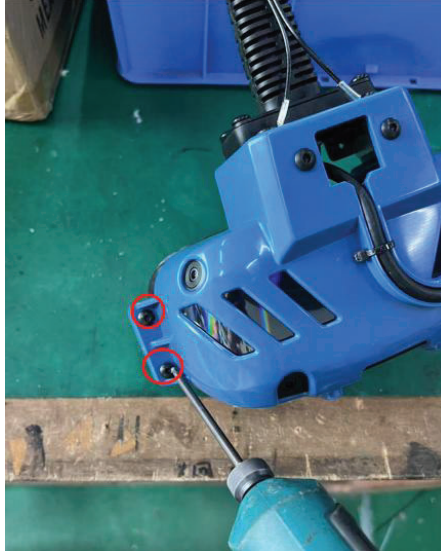
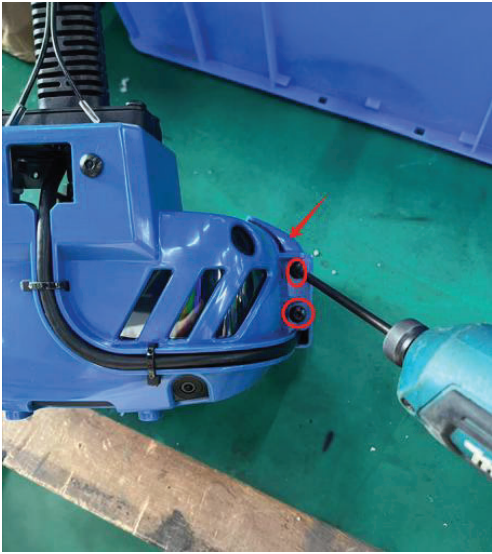
5) Disconnect the wires of gun



6) Remove the screws of HMD frame then remove the HMD ASSY



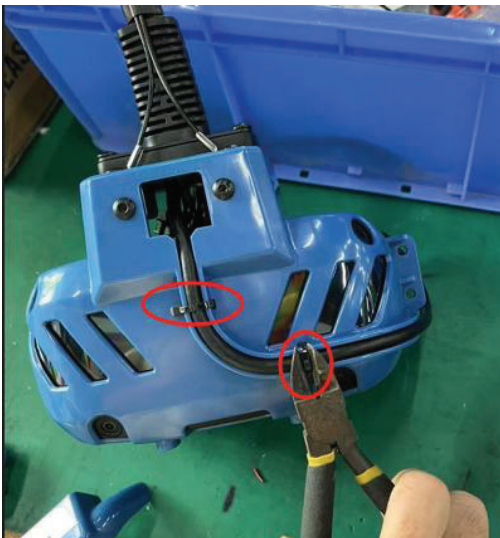
7) Remove the left & right limit.



8) Remove the mask of HMD



9) Cut off the cable tie strap



10) Remove the HMD cable from HMD



11) Replace the New HMD cable and reinstall it in reverse order.

### **5.2.3 Replacement of HMD (Head-mounted Display):**

1) Remove the back cover of HMD



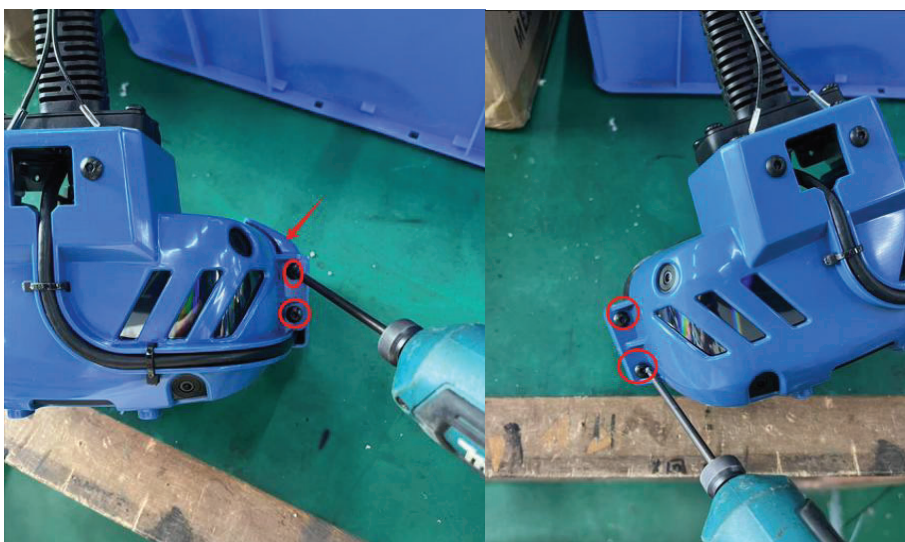
2) Disconnect the wires of gun.



3) Remove the screws of HMD frame then remove the HMD ASSY



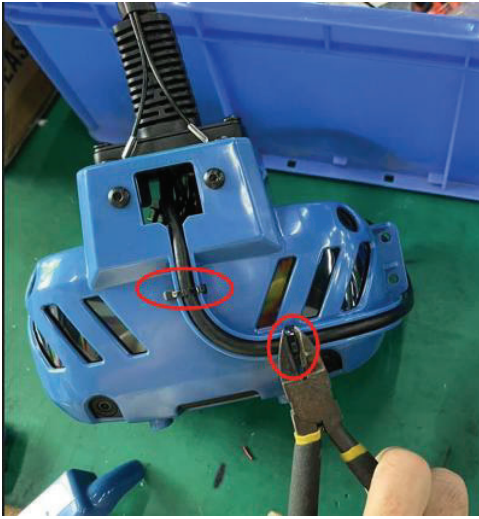
4) Remove the left & right limit.



5) Remove the mask of HMD



6) Cut off the cable tie strap



7) Remove the HMD cable from HMD



8) Remove the HMD from the frame



9) Replace the New HMD cable and reinstall it in reverse order.

## 5.3 Air Compressor Maintenance Guide

As with all air-driven motion games, the compressor and general air circuit requires semi-regular maintenance. This guide is to be used to ensure your game stays in A1 condition:

### 5.3.1 Air Connections:

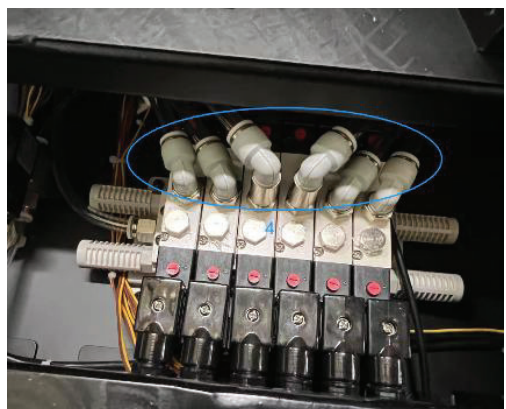
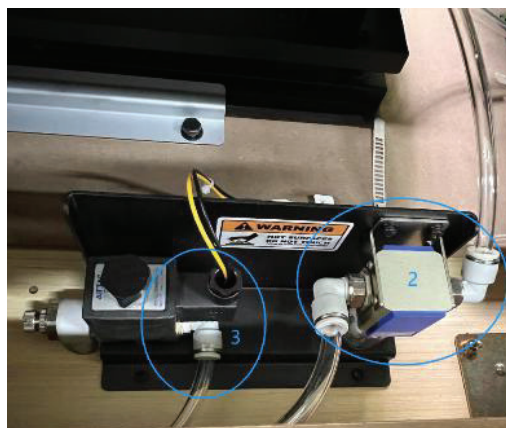
Check the inlet and outlet pipes to ensure they are all secure and show no signs of damage or wear.

Position	Name
1	Outlet valve
2	Gas Source unit (Input and output connections)
3	Drain valve input
4	Input and Output control valves



It is also prudent to check that there is no water in the output tubes between the compressor, gas source and control valves.

**NOTE:** Only the drain valve should contain water residue.



## 5.3.2 Drain Valve:

### Drain Valve:

Check the proper operation of the drain valve.

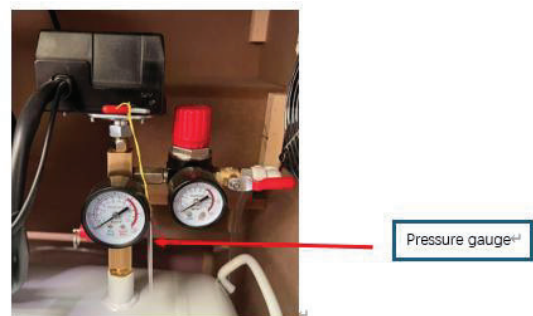
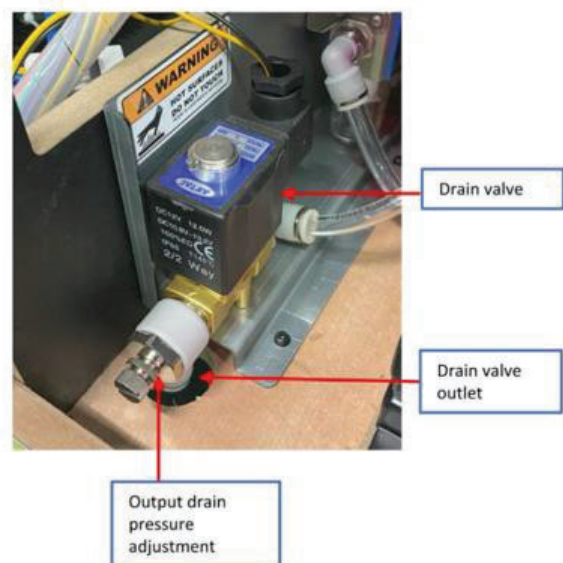
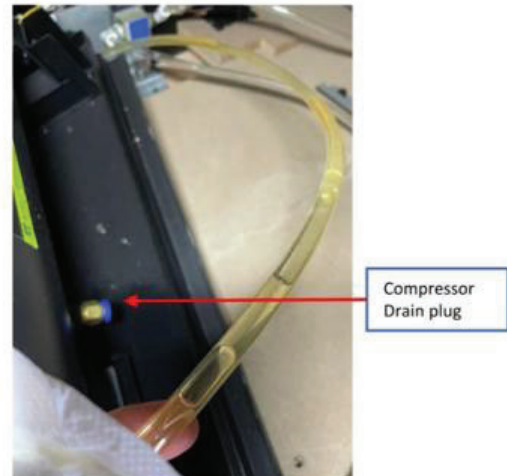
- Remove the 2x 13mm hex fixings from the compressor plate and pull the compressor out and turn it 90 degrees to access the back.
- Check the pipe is connected securely into the drain plug at the base of the compressor and at the drain valve to the left of the compressor.
- The drain valve should have a 12v supply and will be hot under normal operation.
- When the power is turned off to the game, the drain valve should open, and air should expel from the valve into the water tray below.
- When the game is turned ON, this valve will also open for Approx. 5 seconds to clear any residue from the tank.
- There is an adjustment to the valve that can attenuate the output pressure of the air from the compressor tank to the output tray.
- To increase the output pressure, loosen the locking nut, and turn the screw adjustment counter-clockwise until the desired pressure is set. Now close the locking nut so it is secure.

### NOTE:

Only the drain valve should contain water residue.

If the compressor expels a lot of water into the tray, or the tube seems to have more corroded water than normal, you may have to remove the compressor and drain the tank manually by removing the plug in the base and tipping the compressor on its side.

**Warning:** Before removing the compressor, ALWAYS ensure the tank is empty of air by checking the regulated pressure gauge.



### 5.3.3 Compressor Pressure:

It is paramount to correct operation and safety that the regulated tank and output pressures are correct.

- Power on the game and the compressor tank should charge to the regulated pressure of Approx 700kPa (7 BAR)



**WARNING:** If it goes past this and into the red then turn game OFF immediately and seek advice from Sega.

- The output pressure can be attenuated but should be around 300kPa (3 BAR) and no more than 500kPa (5 BAR)
- Use the Red dial on top of the gauge to increase and decrease the pressure noting the +/- markings.
- Ensure the stop valve works correctly.
  - Perpendicular to the outlet and pipe = Closed
  - In line with outlet and pipe = Open (Normal operation)



Regulated pressure<sup>↕</sup>



Output pressure dial<sup>↕</sup>



Output pressure<sup>↕</sup>

Output valve open/close lever.<sup>↕</sup>  
↓  
Picture shows the valve in the open position.<sup>↕</sup>

To check this, turn the lever from the open position to closed and remove the outlet pipe from the coupling.

Please open the lever and check that air expels correctly from the compressor.

### **5.3.4 Electrical Checks:**

Compressors generate a lot of current which translates to heat, plus the motor will get hot, so regular checks of electrical connections and mechanical integrity is of upmost importance to safety and prolonged operation.

- Check that the ON/OFF pressure switch operates correctly.

are left for **ON** / Turn vertically for **OFF**

#### **Power OFF the Compressor:**

- Remove the screw in the top and lift off the lid to access the internal area of the pressure switch.
- Check that all terminals are tight using a crosshead screwdriver.



#### **Final Checks:**

- Check the compressor motor casing for any cracks or wear
- Check there is no abnormal vibrations when the compressor is running
- Check that all connections between the motor and compressor housing are secure and not loose.
- Check all other bolts around the compressor.

If you have any concerns on the content of this guide, or have any other questions, please contact your local distributor for advice.