

## **ESD Safety**

Electrostatic Discharge (ESD) is a common but often overlooked hazard when repairing electronic devices. Understanding and following basic ESD safety measures can help you avoid accidental damage to your device's components.

### **1. What is ESD?**

- ESD is the sudden release of static electricity between two objects with different electrical charges. It can occur when you touch electronic components without proper precautions.
- Static discharge can damage sensitive electronic parts inside devices, such as motherboards, CPUs, and memory chips.

### **2. Basic ESD Safety Measures**

#### **Prepare an ESD-Safe Workspace**

Choose a clean, flat surface: Avoid working on carpets, rugs, or other surfaces prone to static build-up.

#### **Ground Yourself**

Use an anti-static wrist strap: Attach the strap to your wrist and connect it to a grounded metal surface. This safely discharges any static electricity from your body.

Discharge yourself manually: If you don't have a wrist strap, touch a grounded metal object (e.g., a metal table leg) before handling components.

#### **Handle Components Carefully**

Avoid touching pins and connectors: Hold components by their edges to minimise the risk of static transfer.

Wear ESD-safe gloves or use your bare hands: If gloves are unavailable, ensure your hands are clean and free of oils.

#### **Use ESD-Safe Tools and Storage**

Use anti-static tools: Opt for ESD-safe screwdrivers, tweezers, and prying tools.

Store components properly: Place sensitive parts in anti-static bags or containers when not in use.

### **3. Things to Avoid**

- Avoid wearing static-prone clothing: Synthetic materials like polyester can generate static electricity. Wear cotton clothing instead.
- Keep unnecessary items away: Plastic bags, paper, and other static-generating materials should be kept out of your work area.
- Don't work on carpeted floors: If unavoidable, use an anti-static mat.

### **4. Tips for Common Repairs**

- Replacing a screen: Before touching connectors or cables, ground yourself to avoid damaging delicate circuits.
- Installing new components: Always use an anti-static bag for new parts and ensure your workspace is grounded.
- Battery replacement: Static discharge near batteries can pose additional risks. Ground yourself and handle batteries with care.

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## **Broken Glass Safety**

When dealing with broken glass during device repairs, it's essential to prioritise safety. The following guidelines will help you minimise the risk of injury and complete your repair effectively and safely.

### **1. Assess the Damage**

Before beginning the repair, carefully inspect the broken device to determine:

- The extent of the damage.
- Whether glass shards are loose or embedded.
- If other components (e.g., LCD, internal hardware) are affected.

### **2. Prepare a Safe Workspace**

Set up a clean, stable, and well-lit workspace:

- Use a flat surface with enough space to organise tools and components.
- Cover the workspace with a protective mat or thick fabric to catch any falling shards.
- Keep children and pets away from the area.

### **3. Use the Right Tools**

Having the appropriate tools ensures a safer and more efficient repair:

- **Plastic prying tools:** Avoid metal tools that can further damage the device or cause sparks.
- **Tweezers:** To pick up small shards of glass.
- **Adhesive tape:** For lifting tiny glass fragments from surfaces or the device.
- **Vacuum cleaner with HEPA filter:** To clean up fine glass particles (avoid regular vacuums that may scatter the shards).

### **4. Handle Broken Glass Properly**

- **Remove loose shards carefully:** Use tweezers or tape to pick up pieces. Do not use bare hands.
- **Contain the debris:** Place broken glass in a rigid, sealable container (e.g., a plastic jar) instead of regular trash bags.
- **Avoid blowing on shards:** This can spread fine particles into the air.

### **5. Work Methodically**

- Proceed slowly and deliberately to avoid mishaps.
- Keep track of screws, parts, and glass fragments.
- Follow the repair instructions specific to your device model.

### **6. Clean Up Thoroughly**

After completing the repair:

- Wipe the area with a damp cloth to collect fine particles.
- Dispose of broken glass responsibly—check local regulations for hazardous material disposal.

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## Correct Battery Disposal

### **Safety Precautions**

- **Drain the battery completely:** Before you remove the battery from your old device, ensure to fully discharge the battery to 0%.
- **Power Off the Device:** If you cannot discharge the battery to 0%, ensure the device is completely turned off before starting the replacement.
- **Avoid Metal Objects:** Work on a non-conductive surface and avoid using metal tools near the battery terminals.
- **Do Not Puncture the Battery:** Handle the old battery with care and do not use sharp tools near the battery.

### **Disposal of Old Batteries**

- **Recycle Properly:** Batteries are a hazardous material. Dispose of them correctly at your local waste & recycling centre or retailer that accepts batteries for disposal.
- **Transport Safely:** Store the old battery in a non-conductive container during transport to prevent short circuits.

### **When to Seek Professional Help**

- If the battery is swollen or leaking.
- If you are unsure how to access or replace the battery safely.
- If the device does not power on after replacement.