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AULA 5da4db91-4ed7-4ec5-b570-6265e6e7a2a0

AULA x LEOBOG Reaper Keyboard Switches User Manual

Model: 5da4db91-4ed7-4ec5-b570-6265e6e7a2a0

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of your AULA x LEOBOG Reaper Keyboard Switches. These 5-pin pre-lubed mechanical switches are designed for optimal performance in gaming keyboards and are compatible with MX keycaps.

2. PRODUCT FEATURES



Image 2.1: AULA x LEOBOG Reaper Keyboard Switch. This image displays the overall design of a single switch, highlighting its distinct color scheme and structure.

- **Mechanical Linear Switches:** Engineered with an initial force of 36gf and a bottom force of 55gf, these switches provide stable keystrokes and responsive feedback, ideal for users preferring speed and precise control. Their linear design ensures a smooth typing experience.
- **Factory Pre-Lubricated & Sturdy Spring:** The switches are factory-lubricated, maintaining a smooth feel during use. Equipped with a durable stainless steel spring, they offer consistent and resilient linear key presses.
- **POM Stem & PC and Nylon Housing:** Featuring a POM stem for high elasticity and low friction, these switches deliver an ultra-smooth, scratch-free key experience. The combination of a low-density modified PC top shell and a nylon bottom shell minimizes rebound noise and ensures a subtle, consistent sound upon bottoming out.
- **Compatible With MX Construction Keycaps:** Designed with universal MX construction, these switches are compatible with most keycaps featuring an (X) cross stem. They are suitable for hot-swappable mechanical keyboards, allowing for customization.
- **Built-In LED Slots & Long Lifespan:** Integrated LED slots facilitate backlight illumination through keycaps, enhancing the gaming environment. Laboratory tests indicate a lifespan of up to 60 million keystrokes, ensuring long-term reliability for both office and gaming use.

3. SETUP AND INSTALLATION

Installing AULA x LEOBOG Reaper Keyboard Switches requires careful handling to prevent damage to the switch pins or the keyboard's PCB (Printed Circuit Board).

3.1 Tools Required

- Keycap Puller (if replacing existing keycaps)
- Switch Puller (if replacing existing switches)
- Small flat-head screwdriver or similar tool (for gentle prying, if needed)
- Anti-static wrist strap (recommended for sensitive electronics)

3.2 Installation Steps

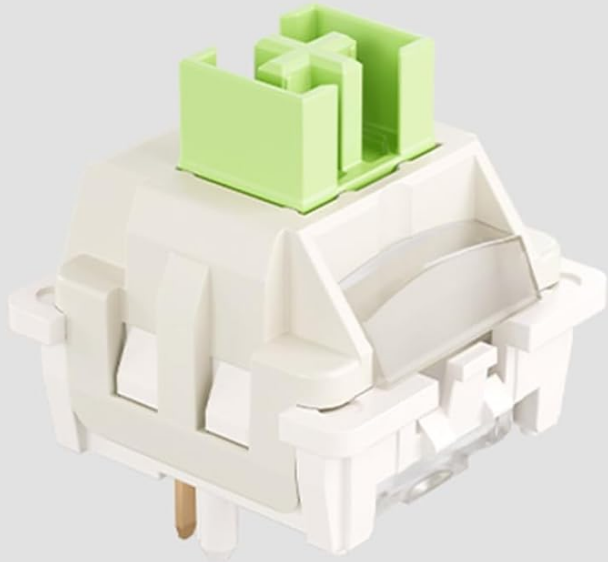
1. **Prepare Your Keyboard:** Ensure your mechanical keyboard is unplugged from the computer. If it's a wireless keyboard, turn it off and remove the battery.
2. **Remove Keycaps (if applicable):** Use a keycap puller to gently remove the keycaps from the switches you intend to replace. Pull straight up to avoid damaging the keycap or switch stem.
3. **Remove Old Switches (if applicable):** For hot-swappable keyboards, use a switch puller. Insert the puller's prongs into the clips on the top and bottom (or sides) of the switch. Squeeze the clips and gently pull the switch straight up from the PCB. Avoid wiggling the switch excessively.
4. **Inspect New Switches:** Before installation, carefully inspect the two metal pins on the bottom of each AULA x LEOBOG Reaper switch. Ensure they are straight and not bent. If a pin is slightly bent, gently straighten it with tweezers or small pliers.
5. **Align and Insert New Switches:** Align the two metal pins of the new switch with the corresponding holes on the keyboard's PCB. Ensure the switch is oriented correctly (usually, the LED slot or brand logo faces the same direction as other switches). Gently press the switch down until it clicks into place. You should feel it seat firmly. Do not force it.
6. **Test Switches:** After installing a few switches, or all of them, plug your keyboard back in and test each installed switch to ensure it registers correctly. You can use an online keyboard tester tool.
7. **Reinstall Keycaps:** Once all switches are installed and tested, gently press the keycaps back onto the switch stems until they are fully seated.

Caution: Bent pins are a common issue during installation. Always ensure pins are straight before inserting. Forcing a switch with bent pins can damage the keyboard's PCB sockets.

4. OPERATING PRINCIPLES

The AULA x LEOBOG Reaper switches are linear mechanical switches. This means they provide a smooth, consistent keystroke from top to bottom without a tactile bump or audible click.

4.1 Keystroke Mechanics



Name: reaper axis
 Axis type: linear axis
 Initial pressure: 36 gf Min
 Conduction pressure: 45gf
 Axis material: POM material
 Total travel: 3.6mm
 Conduction stroke: 1.8mm
 Bottom pressure: 55gf

LEOBOG REAPER SHAFT

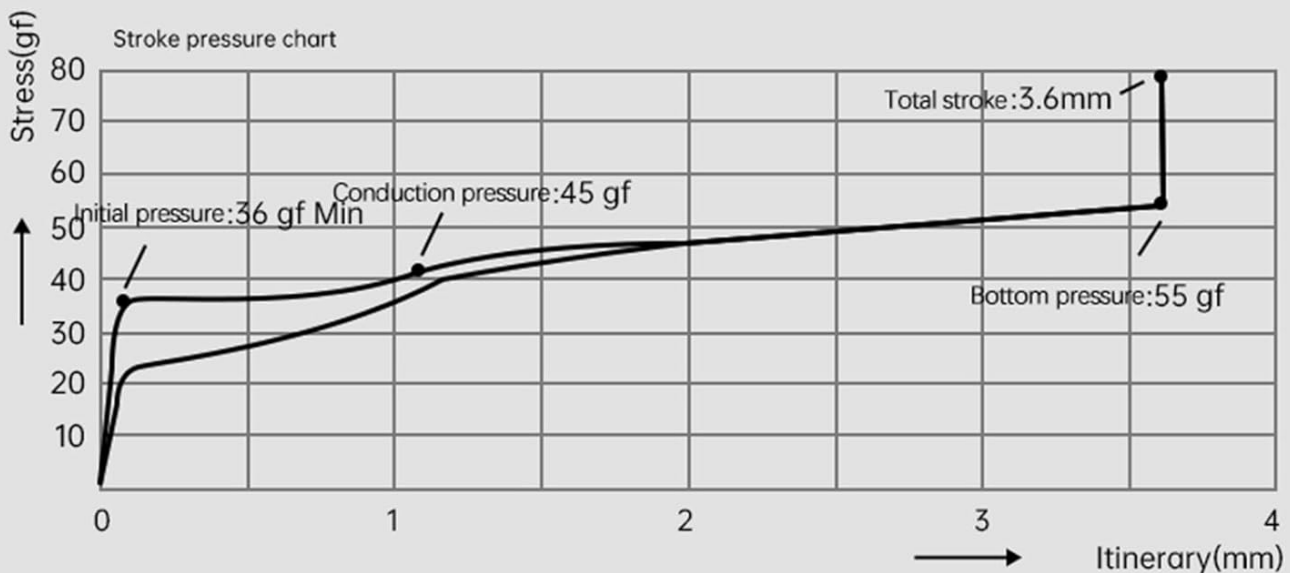


Image 4.1: LEOBOG Reaper Switch Force Curve and Specifications. This diagram illustrates the key operational characteristics of the switch, such as actuation and bottom-out forces.

- **Linear Feel:** When a key is pressed, the switch stem moves straight down without any interruption or feedback until it bottoms out. This provides a fluid and fast typing or gaming experience.
- **Actuation Point:** The switch registers a key press when the stem travels approximately 1.8mm (conduction stroke). This is the point at which the electrical circuit is completed.
- **Bottom-Out Force:** The force required to fully depress the switch to its lowest point is 55gf (grams-force). The total travel distance is 3.6mm.
- **Pre-Lubrication:** The factory pre-lubrication ensures a smooth travel and reduces friction, contributing to the consistent linear feel and sound profile.

These characteristics make the Reaper switches suitable for users who prefer a quiet, smooth, and fast key press, often favored in gaming for rapid, repetitive inputs.

5. MAINTENANCE AND CARE

Proper maintenance can extend the lifespan and maintain the performance of your AULA x LEOBOG Reaper Keyboard Switches.

5.1 General Cleaning

- **Regular Dusting:** Use a can of compressed air to blow away dust and debris from between the keycaps and around the switches. Do this regularly, especially if your keyboard is exposed to dust.
- **Keycap Cleaning:** Periodically remove keycaps (using a keycap puller) and clean them with mild soap and water. Ensure they are completely dry before reattaching.
- **Switch Top Cleaning:** With keycaps removed, use a soft brush or cotton swab lightly dampened with isopropyl alcohol to clean around the switch stems and housings. Avoid getting liquid inside the switch.

5.2 Lubrication (Advanced)

While AULA x LEOBOG Reaper switches come factory pre-lubricated, some enthusiasts may choose to re-lube or add more lubricant for a customized feel. This is an advanced procedure and should only be attempted if you are comfortable disassembling switches.

- **Recommended Lubricant:** Use specialized switch lubricants (e.g., Krytox GPL 205g0 for linear switches).
- **Disassembly:** Use a switch opener tool to carefully open the switch housing.
- **Application:** Apply a thin, even coat of lubricant to the stem rails, spring, and inside of the switch housing. Avoid over-lubricating, as this can negatively affect switch performance.
- **Reassembly:** Carefully reassemble the switch, ensuring all components are correctly aligned.

Note: Disassembling switches may void certain warranties if not done correctly. Proceed with caution.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your mechanical keyboard switches.

6.1 Switch Not Registering / Intermittent Input

- **Bent Pins:** This is the most common cause. Carefully remove the keycap and then the switch. Inspect the two metal pins on the bottom of the switch. If bent, gently straighten them with tweezers. Reinsert the switch, ensuring the pins align perfectly with the PCB sockets.
- **Improper Seating:** The switch may not be fully seated in the hot-swap socket. Gently press down on the switch until it clicks firmly into place.
- **Debris in Socket:** Dust or debris might be obstructing the connection. With the switch removed, use compressed air to clear the socket.
- **Faulty Switch:** Although rare, a switch might be defective. Try swapping it with a known working switch from another less-used key to confirm if the issue is with the switch itself or the PCB socket.

6.2 Inconsistent Feel or Sound

- **Uneven Lubrication:** While factory-lubed, variations can occur. If a switch feels scratchy or sounds different, consider re-lubricating it (refer to Section 5.2).
- **Spring Ping:** Some springs can produce a metallic "ping" sound. This can often be mitigated by lubricating the spring.
- **Keycap Interference:** Ensure keycaps are fully seated and not rubbing against the switch housing or adjacent keycaps.

6.3 Broken Prongs

Some users have reported receiving switches with broken metal prongs, potentially due to packaging. If you receive switches with broken prongs:

- **Do Not Attempt to Use:** Switches with broken prongs cannot make proper electrical contact and may damage your keyboard's PCB.
- **Contact Support:** Immediately contact the seller or manufacturer for a replacement. Provide details and, if possible, photos of the damaged switches.

7. SPECIFICATIONS

Detailed technical specifications for the AULA x LEOBOG Reaper Keyboard Switches.

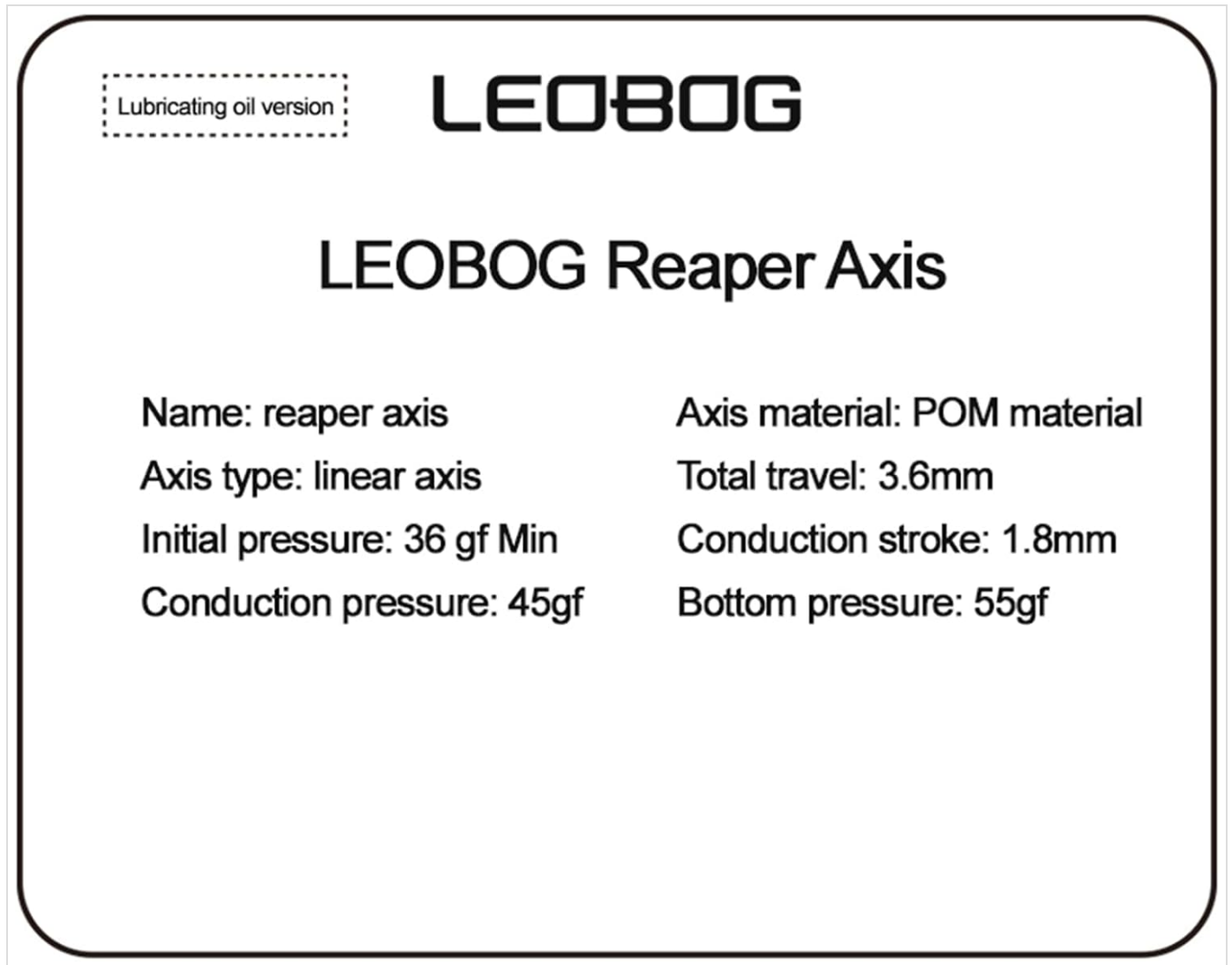


Image 7.1: LEOBOG Reaper Axis Detailed Specifications. This image provides a clear view of the technical data for the switch.

Specification	Value
Brand	AULA
Model Number	5da4db91-4ed7-4ec5-b570-6265e6e7a2a0
Contact Type	Normally Open
Terminal	Solder (compatible with hot-swap sockets)
Item Dimensions (L x W x H)	1 x 1 x 1 inches (per switch)

Specification	Value
Mounting Type	PCB Mount
Actuator Type	Push Button (Linear)
Contact Material	Stainless Steel
International Protection Rating	IP65 (Dust and water resistant)
Number of Positions	5 (5-pin design)
Control Method	Touch
Color	White (housing) / Light Green (stem)
Number of Items	100 (in a pack)
Item Weight	6.3 ounces (for 100 switches)
Initial Force	36gf
Conduction Pressure	45gf
Total Travel	3.6mm
Conduction Stroke	1.8mm
Bottom Pressure	55gf
Lifespan	Up to 60 million keystrokes

8. WARRANTY AND SUPPORT

For warranty information and customer support regarding your AULA x LEOBOG Reaper Keyboard Switches, please refer to the purchase documentation or contact the seller directly. Keep your proof of purchase for any warranty claims. For general inquiries or technical assistance, you may also visit the official AULA website or contact their customer service channels.

Please note that specific warranty terms may vary based on region and retailer.

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This manual is for informational purposes only. Specifications are subject to change without notice.