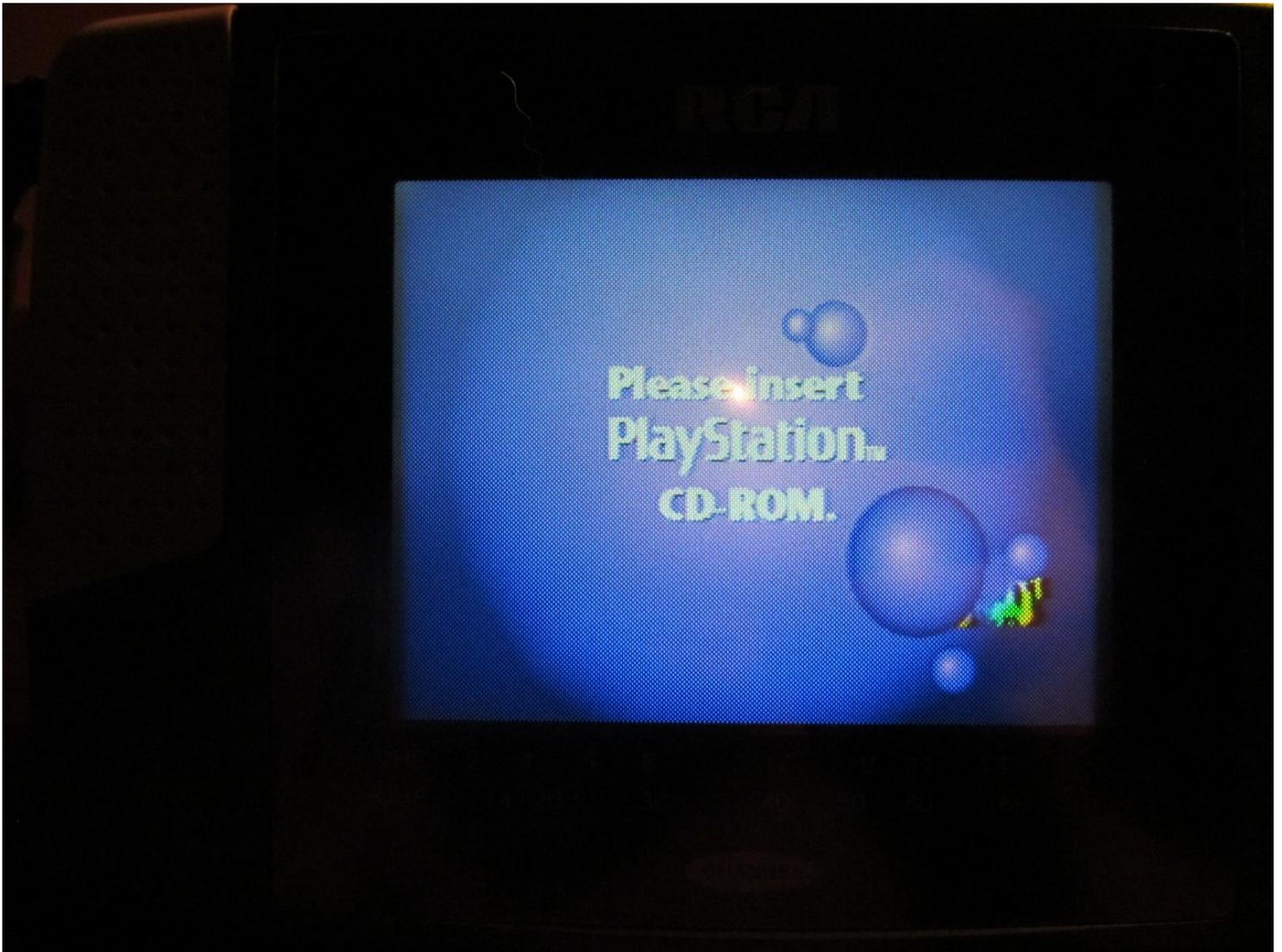




# PlayStation SCPH-5501 Motor Speed Adjustment (KSM-440ADM/AEM+)

Is your PlayStation SCPH-550x having trouble...

Written By: Nick



# INTRODUCTION

Is your PlayStation SCPH-550x having trouble reading games? This guide will show you how to extend the life of the existing laser you already have so you can either get another system, or replace the failed laser unit. On many of these older Playstations, this is a known failure point.

In the case of the system used for the guide, it was only recovered to 50-60% read after adjustment. The laser needs to be replaced and cannot be reliability re-adjusted.

## Guide notes

- **This is often a temporary or partial fix! While you may permanently repair the system, it is very unlikely to hold up over the long term.**
- ***THIS WILL NOT RECOVER KSM-440AAM and ACM laser assemblies. These fail due to a plastic optical block known for physically degrading. You must replace the laser unit on these - no way around it.***
- **This guide is intended to be used on the KSM-440ADM laser, or newer.** These use a magnesium optical block, and do not wear down like the plastic block.
- If you have an issue with this laser beyond the ability to adjust it, the KSM-440BAM laser may work, depending on which system you own. As this assembly is designed for the PSOne, it must be gapped to fit these units with spacers. **Note: If you do this, the laser trimpot on the board MUST be adjusted.**

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## TOOLS:

### Essential Electronics Toolkit (1)

*Phillips #2 for disassembly, #1 for laser speed adjustment.*

### Multimeter (1)

*Used for factory trimpot check and final current adjustment.*

### 6-in-1 Screwdriver (1)

**Use the Phillips #2 bit**

*Optional when using the Essential Electronics toolkit.*

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## Step 1 — Is your system recoverable?



⚠ Before starting, make sure you have a die cast laser. **Plastic lasers are not repairable.**

- If your laser is plastic: **You must replace the laser due to uneven wear.**
- If you have a **Die cast laser**, this fix may improve the read rate. However, this is an age based failure. **Note: In some cases, the laser resistance will need to be adjusted.**

## Step 2 — Opening the system



- Remove the **6 screws** from the bottom of the PlayStation. Use a **Phillips #2** screwdriver.
- Lift the top cover off.

### Step 3 — Disconnect the laser



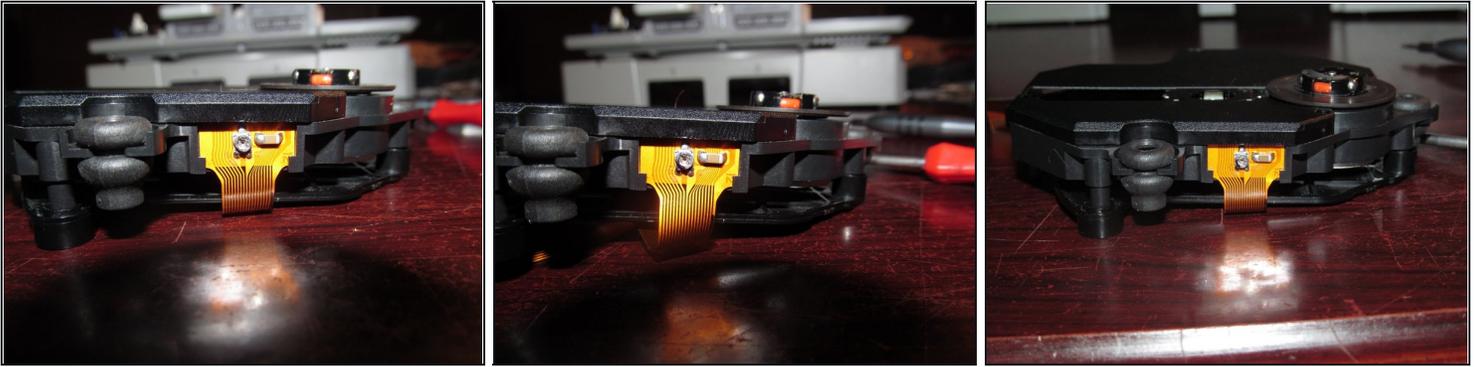
- Disconnect the laser from the system.

### Step 4 — Repair sanity check



- With the laser removed from the system, remove the 2 **Phillips PH1 screws**. **Check if the laser is plastic.**
- ⓘ **If the laser is plastic, it cannot be repaired and must be replaced. The example shown can be adjusted.**

## Step 5 — Adjust the motor trimpot



**⚠ Only adjust it enough to reliably read games and music CDs again. If the speed is too slow, the laser can physically "burn" your games or kill the laser.**

**⚠ Consider anything less than a 80-90% read rate a failure. These are hard to reliably recover.**

- **Before starting, mark the original adjustment point and write down the factory setting as tested.** It will be difficult to take it back to stock without this information.
- Adjust the trimpot incrementally using a **Phillips PH1 or other compatible bit**. Do this until the laser is reading games more consistently.

## Step 6 — Test the repaired system



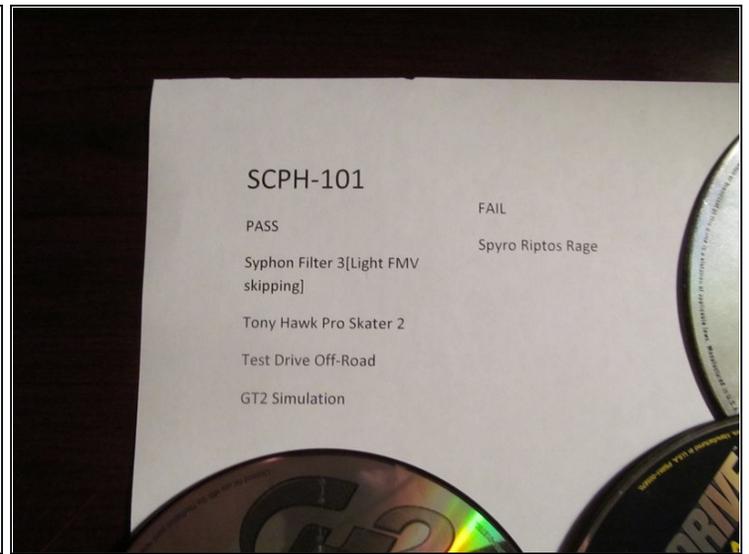
★ *If possible, test on a known good system first.*

i **Improving the read percentage:** If you are not happy with the results, keep adjusting the motor. Repeat until you are happy with the passing read rate, or the motor doesn't spin.

★ If you see the ***Insert PlayStation CD-ROM*** screen, the motor is running slow. Adjust the speed to be ***faster***.

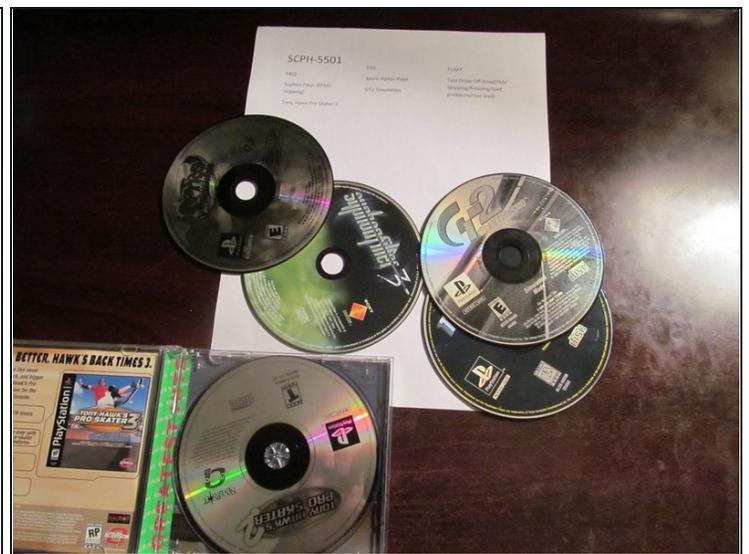
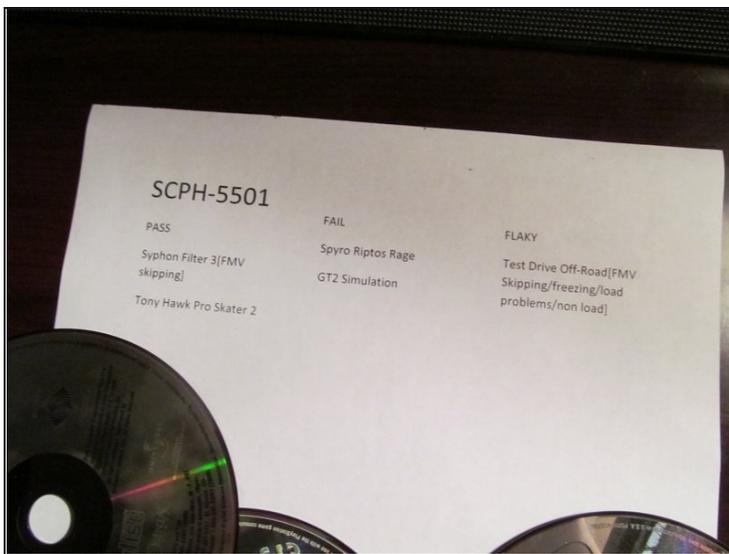
- Partially reassemble the system and test it. If it is sufficient, reassemble the system.
- To test the read percentage, get a few known good games and see which ones load. ***A minimum of 5 test games is recommended. Only adjust the laser again after each full test is done.***
- If the game loads, test play the system for a few minutes to check the stability. ***Important: Some early revisions have FMV issues - THIS IS EXPECTED.***

## Step 7 — Test data - control system (SCPH-101)



- Control system results

## Step 8 — Test data - repaired system (SCPH-5501)



- Repaired SCPH-5501 results

To reassemble your device, follow these instructions in reverse order.