

Technical Service Bulletin DATE: May 12, 2023

POWER METERS



TSB#05122023

Title: Indoor Power Meter Battery Compartment Product Models: Stages Indoor Power Meter, Gen 3

Introduction:

The indoor power meter utilizes 2x AA batteries to supply power. Due to the tolerances of AA batteries, the housing of the power meter does not hold all brands of AA batteries tight enough which can cause a temporary circuit disconnection issue during use, known as dropouts. When dropouts occur, the power meter will not function correctly.

- A temporary field fix is to place a single wrap of electrical tape around the center of each battery helping to take up some of the tolerance.
- A permanent fix is developed to install a small spacer inside of the housing for quicker and easier battery installations.

Witnessed Service Concerns:

This issue has occurred intermittently since the launch of the Gen 3 power meter product, only on select batches of AA batteries (Maxell) or when customers replaced yearly batteries with a different brand altogether. Adding tape to the batteries was temporary solution. The new rubber spacer is the cleaner and permanent solution.

Potential Serial #s affected:

1<u>122319</u>0001 to 1<u>092222</u>0999

Service Action:

All power meters within this serial # range must have EITHER:

- A new spacer inserted into the housing.
- Electrical tape wrapped around each AA battery.

Instructions on these options will start on the next page.





A - Taping of batteries

Service Tools & Materials:

- #0 Phillips screwdriver
- Electrical tape
- Scissors/knife/etc. for cutting the tape

Service Procedure

1. With the power meter (user-left crank) pointing straight up, use a #0 Phillips screwdriver to loosen the 2 screws on the power meter battery cover. Remove the cover and the 2 batteries.

After several turns, the screws should be loose enough for the cover to be removed. You do not need to fully remove the screws from the cover.



2. Cut a strip of electrical tape approximately 1.75 to 2 inches (4.5 - 5cm). Stick it to the center of one battery, then carefully roll it onto the battery so that it covers close to the entire circumference **but does not overlap**. **Repeat this process on the second battery**.

Ensure that the tape is applied smoothly and there are no creases or air bubbles.



Note: a small gap between the two ends of the tape is okay. The tape should NOT overlap.





3. Reinsert the taped batteries into the power meter according to the orientation shown on the sticker above the battery housing.



The batteries should slide into place smoothly. If the batteries won't reinsert without force, remove them double-check that there is not too much tape applied.

4. Reinstall the battery cover and tighten both screws until snug using a #0 Phillips screwdriver.

Overtightening the screws may result in stripping the hardware, damaging the battery cover, or power meter connectivity issues.

5. Power on the console and pedal the user-left crank to verify that RPM and power (Watts) data is being transmitted. If not, verify that tape is not too thick on the batteries and that the batteries are oriented properly.

6. Zero reset the power meter. See below for guides:

- <u>Via StagesPower app</u>
- <u>Via SIC1 console</u>
- Via SIC2 console

For a video guide of removing and reinstalling the power meter batteries, see <u>here</u>. **The video does* <u>not</u> show how to tape the batteries.*

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Service Tools & Materials:

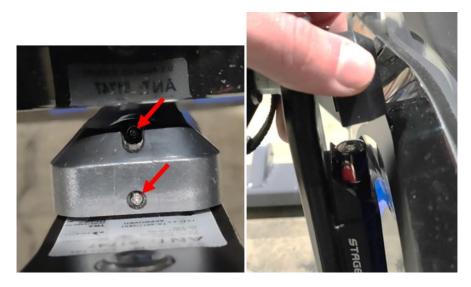
- #0 Phillips screwdriver
- Battery spacer (001-1643)



Service Procedure

1. With the power meter (user-left crank) pointing straight up, use a #0 Phillips screwdriver to loosen the 2 screws on the power meter battery cover. Remove the cover and the 2 batteries.

After several turns, the screws should be loose enough for the cover to be removed. You do not need to fully remove the screws from the cover.



2. Remove the batteries from the housing. Remove any electrical tape from the batteries (if present).



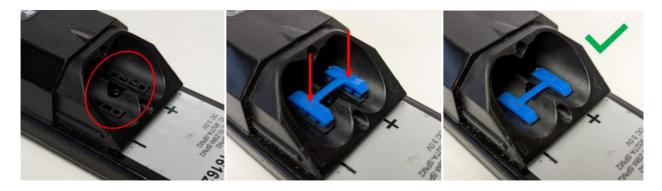




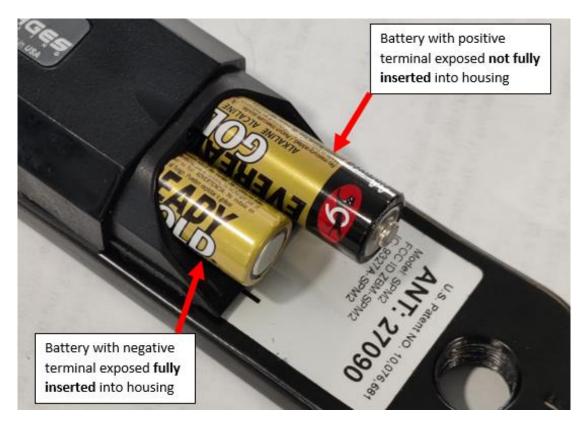


3. There is a gasket set into each individual battery housing. Set the spacer into place so that the fingers of the spacer align with the holes in the gaskets, then press the spacer down into the gaskets until it fully bottoms out.

The spacer is symmetrical; there is no right or left side.



4. Reinsert the batteries one at a time into the power meter ensuring that the exposed terminals match the (+) and (-) symbols on the sticker. For the battery with the negative (-) terminal exposed, press the battery into the housing and rotate the battery a quarter to half turn to relieve any tension on the spacer. For the battery with the positive (+) terminal exposed, leave exposed an extra 1/4in (6mm), - this will ensure that the battery is touching the contact within the battery door after the door is installed.







5. Reinstall the battery door making sure that the grooves on each side of the door align with the tabs outside the housing. Once aligned, use a #0 Phillips screwdriver to tighten until snug.

Overtightening the screws may result in stripping the hardware, damaging the battery cover, or power meter connectivity issues.



Lubricant option for spacer installation:

If issues occur with the batteries not making connection with the power meter, lubrication on the battery spacer can be used. Only the following lubricants can be used:

- Silicone based lubricants.
- PTFE based lubricants.

After installing the spacer, follow the procedure below.

- 1. Place a few drops onto a Q-tip or something similar.
- 2. Wipe the Q-tip onto the top surfaces of the battery spacer only.
- 3. Reinsert the batteries one at a time into the power meter ensuring that the exposed terminals match the (+) and (-) symbols on the sticker.

For the battery with the negative (-) terminal exposed, press the battery into the housing and rotate the battery a quarter to half turn to relieve any tension on the spacer. For the battery with the positive (+) terminal exposed, leave exposed an extra 1/4in (6mm), - this will ensure that the battery is touching the contact within the battery door after the door is installed.

4. Reinstall the battery door making sure that the grooves on each side of the door align with the tabs outside the housing. Once aligned, use a #0 Phillips screwdriver to tighten until snug.

Overtightening the screws may result in stripping the hardware, damaging the battery cover, or power meter connectivity issues.





Verify Functionality of the Power Meter:

- Verify functionality of the power meter by pressing the reset button on the bottom of the power meter.
- The green light on the face of the power meter should begin to flash. If this does not happen, remove the battery door and batteries and attempt the above steps again.
- Power on the Stages console and pedal the power meter to ensure that non-zero data populates the screen.

Please reach out to the Stages Indoor Cycling Customer Support team for more information on replacement part availability and pricing. They can be reached by emailing support@stagesindoorcycling.com or by phone at (800) 778-7218. For customers outside of North America you can contact your regional dealer for more information.