Schwinn 190 & 290 Bikes: Why is the resistance not changing correctly?

ID: 14518.4

Follow this troubleshooting guide to help resolve resistance issues on the Schwinn 190 and 290 bikes.

Some common complaints may include:

- *Resistance doesn't change*
- *Resistance isn't displayed on the console*
- *Bike is too easy to pedal*
- *Bike is too difficult to pedal*

Follow these steps to troubleshoot the issue

Tools you may need:
Phillips head screwdriver Flat head screwdriver 6mm hex/Allen wrench, or the wrench from the hardware card included with your machine 2mm hex/Allen wrench

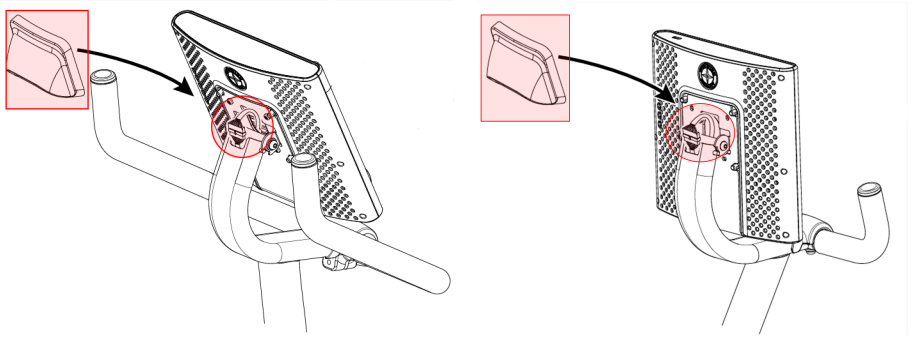
1. Start a workout using the Start button on the console. Pedal your bike and adjust the resistance using the Resistance Up/Down and Quick Level buttons. Observe the console and check if the displayed resistance changes:
    - Resistance displayed as 000, does not change
    - Resistance momentarily changes, then reverts to the original level
    - Resistance is erratic/inconsistent

Resistance displayed on the console is 000 and does not change

Check the cable connection between the console and the base hub board.

1. Remove the console pivot cover from behind the console (**reference 1**) and inspect the cable connection for damage or missing connections.
2. If damage is present, **order Main Mast Cables [14518.B]**.

Reference 1



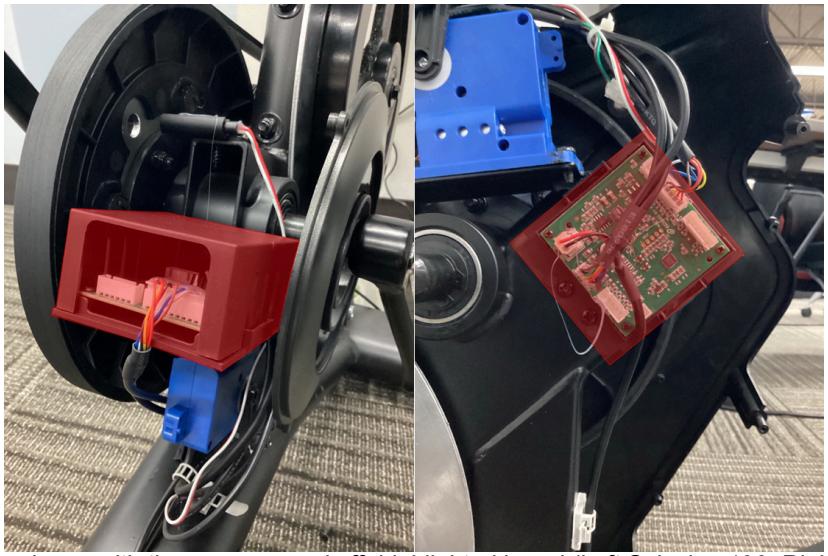
Schwinn 190 (left) and Schwinn 290 (right).
Remove the pivot cover (red square) and inspect the cable connection inside the mast (red arrow).

Resistance level momentarily changes, then reverts to the original level

1. Check if the calibration is lost in the System Menu:
    a. Navigate to the **MFGTEST** menu through the System menu
    b. When "**START TEST SUITE**" is displayed, use the **Down** arrow to select **SNSR_CONTROL** test, then press **START**.
        - If both "**C value**" and "**R value**" are both non-zero and are the same value (or same except for the flashing 1's digit), this indicates that re-calibration will likely fix the issue. Refer to the "Adjusting the Resistance Sensor (Calibration)" procedure in the service manual for instructions on re-calibration **[14518.G]**.
        - If the display reads "C 0" and "R 0", re-calibration will not resolve the issue; order a Base Hub **[14518.H]**
    c. Run the **SNSR_STATUS** test
        - If the AGC value is 127, there may be a problem reading the resistance magnet. Order a Resistance Sensor and Calibration Shim **[14518.I]**.
        - MH1 indicates a problem reading the resistance magnet; order a Resistance Sensor and Calibration Shim **[14518.J]**.
        - MD0 indicates the resistance sensor magnet is missing; order a Resistance Sensor and Calibration Shim **[14518.K]**.

2. If the issue persists, inspect the cable connections at the Base Hub board for damage.
    a. Unplug your machine from power before continuing.
    b. Use a Phillips head screwdriver to remove the side shrouds from the bike. Refer to the "Replace the Shrouds" section of the service manual for instructions.
    c. Locate the Base Hub board (**reference 2**) and gently remove the black cover to inspect the cables and Base Hub for damage.
        - If the Base Hub is damaged, order a Base Hub **[14518.C]**. If any Base Hub cables are damaged, determine where the cable leads:
        - For damaged Base Hub to Console cables (**reference 3**, red arrow), order Main Mast Cables **[14518.D]**
        - For other damaged cables (**reference 3**, yellow or green arrow), order Engine Cables **[14518.E]**.

Reference 2



The Base Hub is shown with the cover on and off, highlighted in red (Left Schwinn 190; Right Schwinn 290).
The Base Hub is located on the frame of the bike near the servo motor. It has a black cover and will have cables coming out of it.

Reference 3

(Base Hub orientation may vary based on model, Schwinn 190 pictured)
The color-coded arrows indicate which Base Hub connections belong to which cables.
***Red**: Main Mast Cables* ***Yellow**: Base Hub to RPM & Resistance Sensors* ***Green**: Power to Base Hub*

Resistance level feels inconsistent or erratic

Use a Phillips head screwdriver to remove the side shrouds, referencing the "Replace the Shrouds" section of the service manual as needed. We are going to inspect a few different areas inside the machine to determine which is causing the issue.

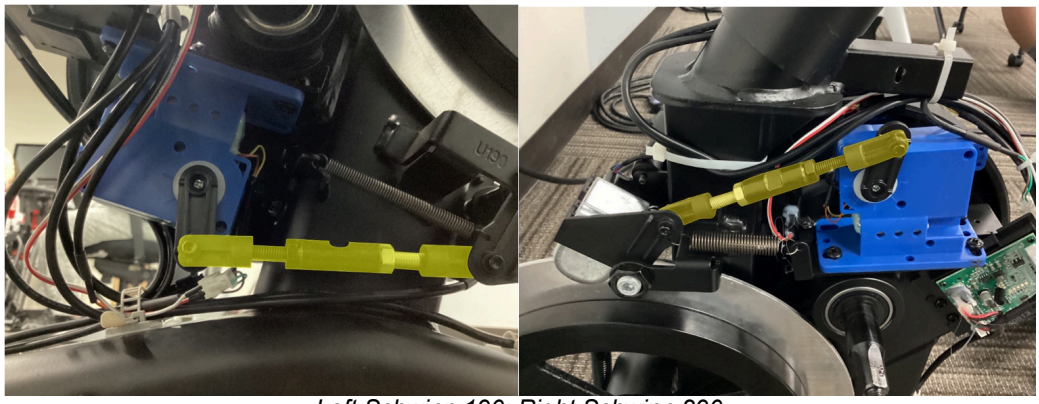
1. Inspect the servo motor and linkage arm, verifying it is in the correct position and all hardware is tightened (**reference 4.1**). Refer to the "Replace the Servo Motor" section of the service manual for correct installation. Check each screw/nut on the assembly, tightening as needed to secure the components **[14518.L]**. If the linkage arm is damaged or missing components, **order a Servo Linkage Assembly** **[14518.M]**.

2. If the issue persists, check the resistance sensor (**reference 4.2**). Ensure all screws are tight and the resistance sensor does not move on its mounting plate. If it is loose, this can cause inconsistent resistance. Tighten the screws as needed with a Phillips head screwdriver **[14518.N]**. Confirm that the cables are firmly connected, and no damage is present to the cables. If the screws are stripped or damage is present to the sensor/housing, **order a Resistance Sensor and Calibration Shim** **[14518.O]**.

3. Check the resistance sensor magnet arm (**reference 4.3**). This arm should pivot around the same pivot as the magne carriage. The arm should rotate as the magnet carriage rotates. Ensure the arm has no excessive movement (or wiggling motion). If the arm is not connected to the magnet carriage ball stud, press the arm onto the ball stud of the magnet carriage. These pieces should have a snug fit when pressed together **[14518.P]**. If the ball stud is loose or broken, **order a Resistance Magnet** **[14518.Q]**. If the arm is cracked and will not secure to the ball stud, **order a Resistance Sensor Arm** **[14518.R]**.

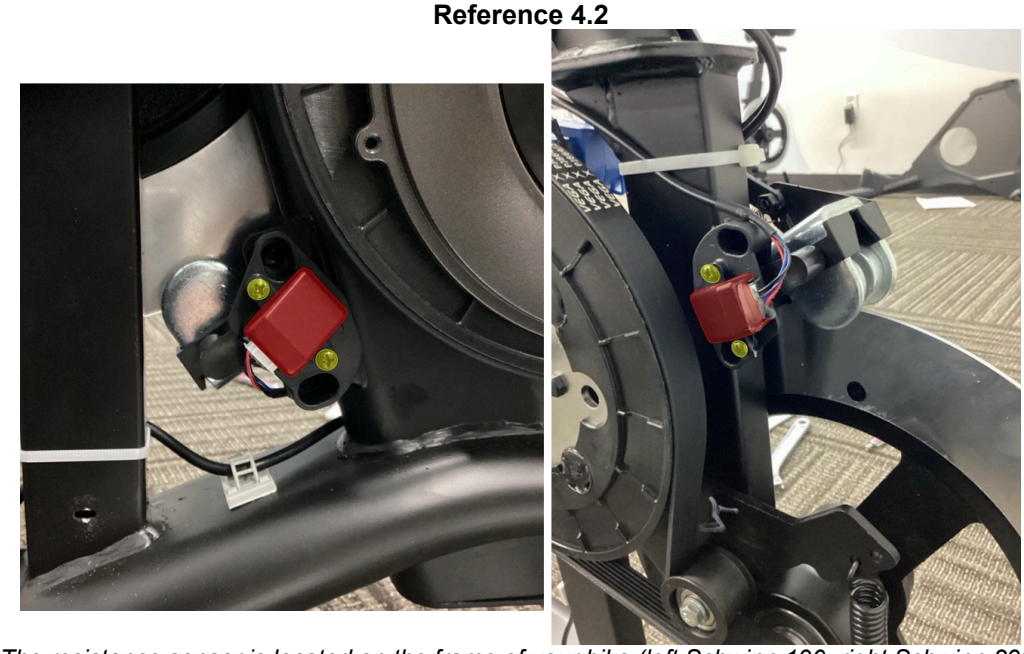
4. Verify the magnet carriage return spring (**reference 4.4**) is connected to the frame and the magnet carriage assembly If it is not connected, reattach the spring to the carriage **[14518.S]**. If the spring is missing, **order a Magnet Carriage Return Spring** **[14518.T]**.

Reference 4.1



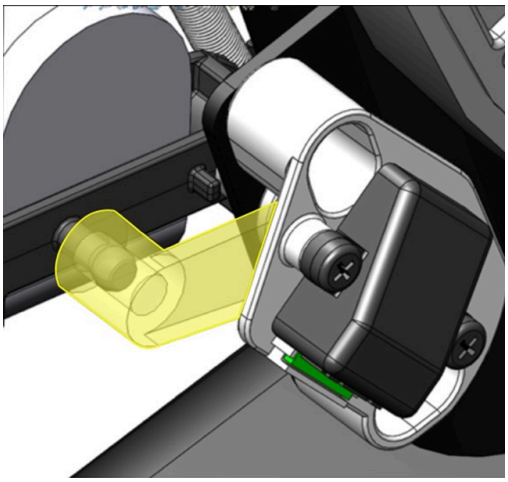
Left Schwinn 190; Right Schwinn 290
The servo motor (blue) is located on the frame of your bike near the drive pulley. The servo and servo linkage arm (yellow) should be undamaged and all hardware fully tightened.

Reference 4.2



The resistance sensor is located on the frame of your bike (left Schwinn 190; right Schwinn 290)
Make sure the resistance sensor (highlighted red) is secured in the housing.
Check the screws (highlighted yellow) and make sure they're fully tightened.

Reference 4.3



The resistance sensor magnet arm (highlighted yellow) is attached to the magnet carriage by a ball stud as shown.

Reference 4.4

The magnet carriage return spring is located between the resistance magnets and servo motor (left Schwinn 190; right Schwinn 290) The spring (highlighted red) should be attached to the magnet carriage (highlighted yellow) as shown above.

5. If the resistance feels jumpy or erratic, leave the shrouds removed and cycle the resistance up or down using the controls on the console. Watch the servo motor and linkage arm, observing its behavior. Look for binding or noise from the servo or linkage. If the servo makes an unusual noise or is jumping erratically, **order a Servo Motor [14518.U]**.
6. If the servo motor makes a buzzing sound or moves while adjusting resistance, watch the servo linkage arm. If it does not move with the servo motor, slightly loosen the linkage arm bolt using a 2mm Allen wrench and test if the issue persists **[14518.V]**.
7. If it feels like the resistance falls away quickly during out-of-saddle riding, or you feel the belt may be slipping, **order an Idler Tensioner Spring and a Drive Belt [14518.W]**.
8. If the issue persists, perform a brake calibration. Refer to the "Adjusting the Resistance Sensor (Calibration)" section of the service manual for instructions **[14518.X]**.

Need to order replacement parts?

1 Customer Care Contact Information

Please contact Customer Care at 1-800-605-3369 for additional help or to order replacement parts.
Some replacement parts may also be available for purchase online here.
A list of part numbers referenced within this guide can be located at the bottom of this page.

Customer Care - Hours of Operation:
Monday - Friday 6:00am - 5:00pm PST

The replacement part will be provided to you at no cost assuming your machine meets the warranty eligibility requirements. A Customer Care Agent will be able to assess your current warranty eligibility and provide you with your options.
Please note that if you did not purchase your machine directly from BowFlex, Schwinn, or Nautilus, we will need a copy of your purchase receipt in order to register your machine for warranty.

2 Parts Reference Table

Part Description	Part SKU
All Models	
Calibration Shim	***8030907***
Drive Belt	***8026589***

Resistance Magnet	***8028713***
Resistance Sensor	***8028711***
Resistance Sensor Arm	***8026328***
Servo Linkage Arm	***8026470***
Tensioner Spring	***8030187***
Schwinn 190 Upright Bike	
Engine Cables	***8028717***
Magnet Carriage Return Spring	***8026600***
Main Mast Cables	***8028718***
Base Hub	***8030107***
Servo Motor	***8026997***
Schwinn 290 Recumbent Bike	
Engine Cables	***8028715***
Magnet Carriage Return Spring	***8028866***
Main Mast Cables	***8028706***
Base Hub	***8030108***
Servo Motor	***8026326***

3 Contact Tech Team / Advanced Troubleshooting

If the issue was not resolved in the steps listed, contact the Tech Team or send an Advanced Troubleshooting case.

Submit a Case with case type Advanced Troubleshooting