

# Load & PWM calibration

Trotter Elite, Sport & Pro

Calibration Instructions

**THIS DOCUMENT IS FOR INTERNAL USE ONLY!**

**! WARNING:** This procedure should only be performed by a trained technician.

**Note:**

This procedure explains how to adjust and calibrate the PWM value(PT4-MAX SPD) and LOAD(PT8-CURR SENSE) potentiometers.

This procedure is performed by our supplier and should not have to be done in the feild. Only perform these adjustments once you have been trained and fully understand their functions.

**! NOTE:** IR COMP and DISPLAY CALIBRATION should be performed before attempting these adjustments..

**TROUBLESHOOTING CHART**

PROBLEM	ADJUST
· Will not calibrate	PT4 down
· Safety Sentry® activates with light weight people	PT8 up
· Safety Sentry does NOT activate*	PT8 down

\*(Make sure Safety Sentry® is ON halt time is set, a Polar® signal in NOT present, the running belt is not touched and no keys are pressed during this period).

**WHAT IS PWM value?:**  
(PT4 MAX SPD)

The PWM value is what the console looks at when performing the belt speed calibration. You will notice this number on the display when calibration is performed. The console will store these numbers in memory and uses them for belt speed adjustments. The absolute maximum number the PWM will read is 250. For normal operation we do not want to see this number go over 230 at max speed with no load. If the pot is set higher than 230, the console will not calibrate.

**WHAT IS LOAD?:**

(PT8 CURR SENSE)

The LOAD value is used by the Safety Sentry® system. Once the Safety Sentry® system is activated it looks for a Polar® signal, waits for any keys to be pressed and monitors the current or LOAD to the drive motor. When a user is walking or running on the belt, the current to the drive motor is adjusting constantly to maintain a consistent belt speed and smooth feeling for the user.

The LOAD value should be between 30 and 40. The Safety Sentry® system monitors the LOAD value and works properly when it senses the value changing from below 40 to above 40.

If LOAD is set too low, a light person may not cross the 40 threshold. If it is set above 40, with no load, the Safety Sentry® system will not be able to activate.

(Calibration procedure on following page...)

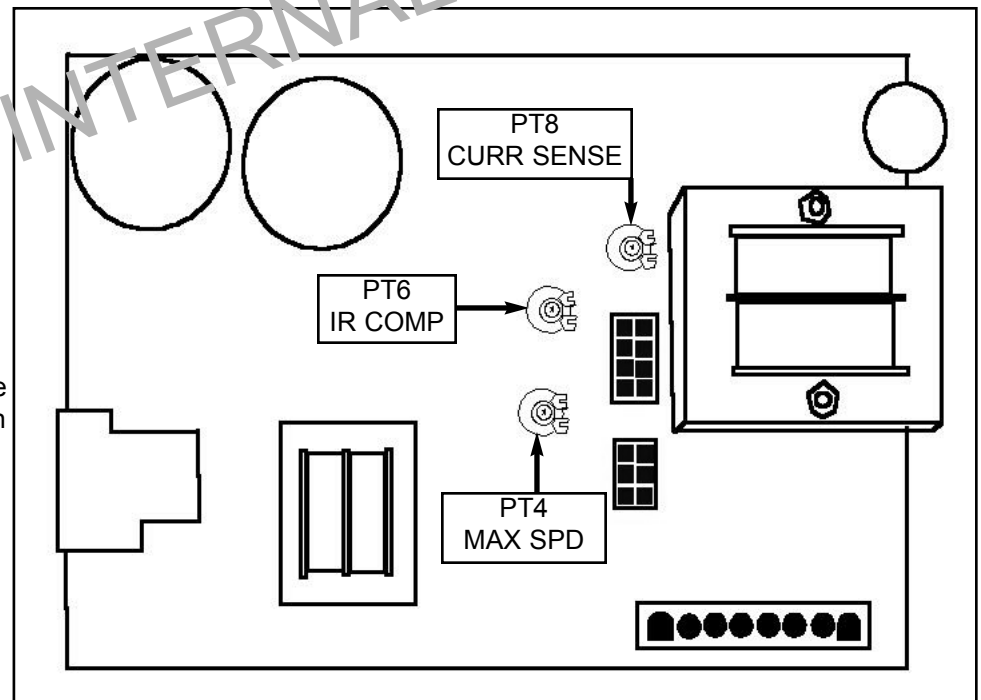


Figure 1

PWM controller



## Tools Required:

Phillips head screwdriver  
Electrically Insulated flat head screwdriver

## Procedure:

(Note: Main text is written for Trotter Elite and Pro, *Sport is in italics*)

### 1). Perform Calibration and IR comp adjustment

- A. Refer to the appropriate Owners Manual for your treadmill.
- B. Perform IR comp adjust first
- C. Perform Calibration next

### 2). Remove the motor cover.

- A. Using a Phillips head screwdriver, loosen, but do not remove, the three screws on each motor cover side (left and right)
- B. Lift the motor cover up and off of the treadmill. The screws will stay in place.
- C. Pull up on and remove lower board shield. It is held in place with three plugs.

### 3). Check PWM adjustment

- A. Hold down any key and turn on treadmill to enter test mode, (*wait for Sport model to cycle to the end*)
- B. Press the **CAL** key to display "PWM", the PWM value will now be displayed. (*PWM value is displayed in lower right corner*)
- C. Press the Speed Up key until the actual display speed reaches the max speed of the treadmill. (varies per treadmill, 10.0, 11.0 or 12.4 MPH)
- D. The PWM value should be below 230. If value is below 230, proceed to Step 5.  
If not continue to step 4.

### 4). Adjust PWM value

- A. With belt speed at it's maximum, locate the potentiometer labeled "PT4 MAX SPD"
- B. Using your insulated screwdriver, slightly turn the potentiometer counter clockwise.

**NOTE: Adjust very SLOWLY, sudden or large changes of the MAX SPD pot can demagnetize the drive motor.**

- C. You should notice the belt speed decrease
- D. Using the UP arrow key on the console, Increase the belt speed back to the maximum value.
- E. The PWM value should now be lower than 230. If not, repeat steps B through D until the value is corrected.
- F. Proceed to step 5).

### 5). Check LOAD value

- A. Hold down any key and turn on treadmill to enter test mode (*wait for Sport model to cycle to the end*)
- B. Press the Speed Up key until the actual display speed reaches the max speed of the treadmill. (varies per treadmill, 10.0, 11.0 or 12.4 MPH)

C. Press the **METS** key to display "LOAD", the LOAD value will now be displayed. (*LOAD value is displayed in the upper panel*)D. The LOAD value should be between **30** and **40**

### 6). Adjust LOAD value

- A. With belt speed at it's maximum, locate the potentiometer labeled "PT8 CURR SENSE"
- B. Determine if your LOAD value is within the 30-40 range. If it is, continue to step 7, if not continue to C.
- C. Using your insulated screwdriver, slightly turn the potentiometer. To decrease the value turn clockwise. To increase the value turn counter clockwise
- D. Check display for LOAD value, continue adjusting until LOAD is between 30 and 40

### 7). Calibrate treadmill

- A. Refer to your Owners Manual for calibration procedure.

### 8). Secure the motor cover

- A. Lower the motor cover into position over the six mounting screws.
- B. Using a Phillips head screwdriver, tighten the three screws on each side.

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