Fall and Winter of 2014/2015

Greetings! And thank you for purchasing Hotronic's Power Plus FootWarmer!

As the new season approaches, now is as good a time as any to check your FootWarmer and get ready for the chill that is likely to come! The following steps will help guide you through the process.

Checking Your S/e/m Series FootWarmer

A) BRING all your FOOTWARMER ITEMS TOGETHER

1. Collect your two Battery Packs, the Recharger, and your pair of Heating Elements (that are likely installed on your insoles).

B) VISUALLY INSPECT all your FOOTWARMER ITEMS

1. Visually inspect your Recharger, Battery Packs, and Heating Elements.
2. ***What you want to see are:***
   a. *Recharger power cords and plugs that are in good condition without any knicks, cuts, cracks, splits, or other damage as well as Recharger casing that is smooth and intact without any deformed, melted, or cracked surfaces.*
   b. *Battery Packs with 3 straight male contacts in the plug holes as well as Battery Pack casings that are smooth and intact without any deformed, melted, or cracked surfaces. Also, the black top lids should be securely glued to the lower casings.*
   c. *Heating Elements with power cords and plugs that are in good condition without knicks, cuts, cracks, splits, or other damage. Also, if the bottom of the Heating Element's green oval disk is visible to you, then what you want to see are power cord gluing and soldering spots that are in solid contact with the bottom of the green disk.* (Note: Bends and kinks in the power cords are almost always OK. Rarely have they been found to cause a failure.)
3. *Do all visual inspection points look to be in proper physical condition?*

1) Check your RECHARGER SELF-TESTING SYSTEM

A. Check your Recharger S/e/m Series by plugging it into a good wall outlet while watching the Recharger LEDs closely at the same time.

B. ***What you want to see*** *is the Recharger performing its own* ***self-test*** *with brief red LEDs followed by brief green LEDs and then LEDs off. Confirm this several times.*

C. Does your Recharger perform the self-test properly?

2) Check your RECHARGER POWER CORDS *(Electronically)*

A. With a positive self-test confirmed, keep the Recharger plugged into the wall outlet. Then, if you have a good Battery Pack that you *know* is being recharged by the Recharger, attach that Battery Pack separately onto each of the Recharger's power cords.

B. ***What you want to see*** *is each corresponding Recharger LED turning on red when your known, good Battery Pack is attached to each power cord. This confirms electronic contact between the batteries and Recharger.*

C. Do your Recharger power cords function properly and cause each corresponding Recharger LED to turn on red continuously? (Note: This Step 2 is very similar to Step 4 below but is used in this instance to test the Recharger power cords and plugs.)

3) Check your BATTERY PACK ON / OFF BUTTONS

A. Check the **physical function and feel** of your Battery Pack's ON and OFF Buttons by simply pressing-and-releasing each Button several times.

B. ***What you want*** *is a crisp "click" and "feel" and not a "locked" Button.*

C. Do the ON and OFF Buttons function properly with a crisp "click" and "feel"?

4) Check your BATTERY PACK BATTERIES

A. Check your Battery Pack **BATTERIES** by plugging your known good Recharger into a good wall outlet and each of your Battery Packs onto your Recharger.

B. ***What you want to see*** *is each Battery Pack's corresponding Recharger LED* ***turning on red continuously****.*

- *If the corresponding Recharger LED* ***does not turn on red****, then the Battery Pack BATTERIES are not seen by the Recharger and are not being recharged.*
- *If the corresponding Recharger LED* ***begins flashing red****, then the Battery Pack is not compatible with the Recharger. (This may take upwards of 20 minutes before flashing might occur.)*
- *If the corresponding Recharger LED* ***turns to green****, then one or more of the Battery Pack BATTERIES has reached a full charge. (See Battery Pack Conditioning Charge below.)*
- *A corresponding green Recharger LED also indicates trickle current recharging.*

C. Do your Battery Pack BATTERIES function properly and cause the corresponding Recharger LED to turn on red continuously?

5) Check your BATTERY PACK SETTINGS

A. For this test, it is very important to:
   1. **First recharge your Battery Pack minimally for 10 minutes** before performing this test.
   2. **Then keep your Battery Pack plugged onto the Recharger** for the entire test.
   3. Otherwise, the test results can be very inaccurate.

B. ***What you want to see in the following steps*** *is each SETTING LED turning on red when selected and then turning off when deselected. You also want to see the corresponding Recharger LED staying on red (or green) continuously throughout the entire system check.*
   1. *First turn your Battery Pack on. (Setting 1 LED turns on red).*
   2. *Then change your Battery Pack Setting from 1 to 2 to 3 and then 4.*
   3. *Now change your Battery Pack Setting from 4 to 3 to 2 to 1 and then off.*

C. Do your Battery Pack SETTINGS function properly?

6) & 7) Check your SYSTEM *FOR HEAT (Battery Packs & Heating Elements)*

A. If you are using your **fingertips as a thermometer** (versus an infrared thermometer), it is very important to:
   1. First **fully recharge your Battery Packs** as per the Operating Instructions.
   2. Then plug your Heating Elements into your Battery Packs, turn your Battery Packs to Continuous Setting 4, and **wait minimally 15 minutes** for your Elements to generate heat well above your skin surface temperature. Otherwise, your fingertips will likely fail as a heat sensing device. (*For Continuous Setting 4, see your Operating Instructions or the side of your Battery Pack.)*
   3. After minimally 15 minutes, first use your fingertips around the circumference of each Element to detect ambient temperatures and then in the center of each Element disk to detect heat generated *above* ambient conditions.
   4. Note: If your Elements are uninstalled and not on a pair of insoles, your fingertips may detect heat well within 15 minutes.

B. If you are using an **infrared thermometer**, it is very important to:
   1. First **fully recharge your Battery Packs** as per the Operating Instructions.
   2. Then plug your Heating Elements into your Battery Packs, turn your Battery Packs to Continuous Setting 4, and **wait several minutes** for your Elements to generate heat.
   3. After several minutes, first use your infrared thermometer around the circumference of each Element to detect ambient temperatures and then in the center of each Element disk to detect heat generated *above* ambient conditions.
   4. Note: If your Elements are uninstalled and not on a pair of insoles, your infrared thermometer may detect heat well within several minutes.

C. ***What you want to see*** *is both your Battery Packs and Heating Elements working together to generate heat in the Elements.*
   - *It is possible that an Element has failed, but it is also possible that a good Element does not generate heat because something has failed in the Battery Pack, even if the Battery Pack has passed all of the above tests.*

- *Therefore, if one Heating Element does NOT generate heat while the other Element does, then switch the two Battery Packs to confirm if the problem is with the Heating Element or the Battery Pack.*

D. Do your Battery Packs and Heating Elements generate heat in the Elements?

8a) Give your BATTERY PACKS A CONDITIONING CHARGE

A. When your Battery Packs are new or have not been used for 2 months or more, it is very important to charge your Battery Packs for 24 to 72 hours uninterrupted *(a Conditioning Charge)*. This brings new, unused, or unconditioned Battery Pack BATTERIES to full duration and temperature potential.

B. ***What you want to do*** *is plug your Recharger into a good wall outlet and confirm the Recharger self-test functions properly. Then plug your Battery Packs onto the Recharger and confirm that each corresponding Recharger LED turns on continuous red. Now leave the Battery Packs on the Recharger for 24 to 72 hours uninterrupted. The Recharger LEDs will turn green within 3 hours and stay on green continuously throughout the remainder of the Conditioning Charge.*

C. Did both of your Battery Packs complete the Conditioning Charge?

D. *More about recharging your Battery Packs:*

- *RECOMMENDED OVERNIGHT RECHARGING PROMPTLY AFTER EACH USE: Hotronic's Recommended Process of Overnight Recharging After Each Use helps maintain your properly conditioned Battery Packs throughout the season and during long periods of non-use. To further optimize charge levels after a week or more of non-use, repeat Overnight Recharging Process the night before next use.*
- *FULLY CHARGED IN 3 HOURS OR LESS: Hotronic's White Plug Recharger detects when one or more batteries within Battery Pack are fully charged and automatically switches to trickle current recharging after approximately 3 hours or less of full current recharging. A fully charged, properly conditioned Battery Pack reaches full duration and temperature potential. A fully charged, unconditioned Battery Pack does NOT reach full duration and temperature potential.*
- *SUMMER AND LONG TERM STORAGE: Recharge your Battery Packs as per the Operating Instructions for recommended Overnight Recharging Process, turn your Battery Packs off, and store them without your Recharger or Heating Elements plugged in. RECOMMENDED BEST STORAGE TEMPERATURES range from 5° - 25°C (40° - 80°F).*

8b) Give your BATTERY PACKS A DURATION TEST

A. Even when your FootWarmer passes all of the above system checks and your Battery Packs have been given a Conditioning Charge, you still may not know if your Battery Packs perform as expected within our published duration range. If desired, you can check the duration performance of your Battery Packs.

B. ***What you want to do*** *is first re-confirm that your entire S/e/m Series FootWarmer has passed all of the above tests and your Battery Packs have been given a Conditioning Charge.*

1. *Then plug your Heating Elements into your Battery Packs.*
2. *Turn your Battery Packs to Continuous Setting 4 (see your Operating Instructions or the side of your Battery Pack).*
3. *Set an external timer for the minimum duration of your Battery Pack model (see Chart below).*

4. *When the minimum duration is reached, confirm each Battery Pack is still on Continuous Setting 4 (all LEDs are still flashing simultaneously) and your Elements are still generating heat. Record the results in the Chart below.*
5. *Also when the minimum duration is reached, reset the external timer for the first of multiple 15 minute intervals.*
6. *As each subsequent 15 minute interval is reached, again confirm each Battery Pack is still on Continuous Setting 4 and your Elements are still generating heat. Record the results in the Chart until Continuous Setting 4 is no longer on and the Elements are no longer generating heat.*

C. *Do your Battery Packs (#1 and #2) each fall within the model's published duration range for Setting 4?*

Battery Pack Model →	**S/e/m4**	**S/e/m3**	**Results**
Published Duration Range →	S4: 150 to 270 e4: 150 to 240 m4: 150 to 225	S3: 120 to 210 e3: 120 to 210 m3: 120 to 180	☑ ☑ #1 #2
Minimum Duration →	150 minutes	120 minutes	□ □
+15 minute interval	165	135	□ □
+15 minute interval	180	150	□ □
+15 minute interval	195	165	□ □
+15 minute interval	210	180	□ □
+15 minute interval	225	195	□ □
+15 minute interval	240	210	□ □
+15 minute interval	255	225	□ □
+15 minute interval	270	240	□ □
+15 minute interval	285	255	□ □

In all of your efforts above, we hope you have found your S/e/m Series FootWarmer to be functioning properly! Should you find otherwise, please feel free to Contact Us at your convenience (www.hotronic.com/support/contact.html).

Sincerely,

Hotronic