

SYNERGY[®] **PRO+PLUS12V**

12V HEATED RIDING APPAREL

USER'S MANUAL & INSTALLATION GUIDE



Synergy [®] Pro-Plus 12V Heated Apparel Introduction	Page 2-3
Synergy [®] Pro-Plus 12V Power Lead Wiring Harness Installation	Page 4
Connecting Apparel to Synergy [®] Pro-Plus 12V Wiring Harness	Page 5
Pro-Plus Heated Jacket or Vest Liner	Page 6-7
Pro-Plus Heated Pant Liner	Page 8-9
Pro-Plus Heated Jacket/Vest and Pant Liner Connection	Page 10-11
Pro-Plus Heated Glove Liners	Page 12
Synergy [®] Pro-Plus 12V LED Smart Controller Usage	Page 13-14
Troubleshooting Synergy [®] Pro-Plus 12V Heated Apparel	Page 14-16
Synergy [®] Pro-Plus 12V Care & Storage Instructions	Page 16-17
Synergy [®] Pro-Plus 12V Warranty Policy	Page 17
Synergy [®] Pro-Plus 12V Accessories	Page 18-19

SYNERGY[®] PRO+PLUS 12V

Synergy[®] Pro-Plus 12-Volt Heated Riding Apparel

Tourmaster[®] Synergy[®] Pro-Plus apparel is designed to operate from your vehicle's standard 12-volt electrical system to provide unmatched levels of warmth and comfort. With Synergy[®] Pro-Plus apparel, wearers can be warm without the bulk and discomfort typically caused by excessive layers of clothing. Providing increased warmth and mobility in cold temperatures, Synergy[®] Pro-Plus 12-volt apparel helps reduce fatigue while increasing safety and enjoyment.

Each Synergy[®] Pro-Plus garment is heated using a series of strategically placed flexible carbon fiber heating elements, connected using thermoplastic elastomer wire for maximum comfort and efficiency.

For the best possible heating performance, it is recommended that Synergy[®] Pro-Plus apparel be form-fitting without hindering riders' movement and comfort. For the effective and efficient transferring of heat to the person's body, it is recommended that layering under the heated apparel be kept to a minimum. Heavy thick layers, such as sweatshirts and sweatpants, increase the space between the garment and the wearer, decreasing the effectiveness of the heating elements.

 **WARNING:** Connecting Tourmaster[®] Synergy[®] Pro-Plus 12V heated riding apparel to any other power source besides your vehicle's 12V battery system will damage the heating elements, void the warranty, and may cause injury or death. In addition, Tourmaster[®] Synergy[®] Pro-Plus 12V apparel cannot be combined with any other brand of heated apparel.

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New for Tourmaster[®] Synergy[®] Pro-Plus 12v heated riding apparel is the use of an optional 12v lithium-ion battery power source. 12v lithium battery information can be found on the back cover of this manual and is available from your preferred Tourmaster[®] dealer.

Run times for each garment using compatible 12v lithium-ion battery are as follows, and approximation based on full charge.

SYNERGY[®] PRO-PLUS 12-VOLT LITHIUM-ION RUNTIMES

SYNERGY [®] GARMENT	LOW	MEDIUM	HIGH
JACKET	5.0 Hours	2.5 Hours	1.5 Hours
VEST	5.0 Hours	2.5 Hours	1.5 Hours
PANTS	3.0 Hours	2.0 Hours	1.5 Hours

1. Locate the battery compartment on each garment.
 - On the jacket/vest, this compartment is on the lower left torso, and is accessible by a waterproof zipper.
 - On pants, this compartment is located on the left side just below the waist.
- 2a. On the jacket/vest, locate the male connecting plug, and feed through the yellow port found on the inside of the jacket.
- 2b. On the pants, the male connecting plug is found inside the battery compartment. No additional steps are needed.
3. Firmly plug the male end of the connector into the female port found on the Tourmaster[®] Synergy[®] Pro-Plus 12v lithium-ion battery.
4. With the lithium-ion battery firmly installed, safely secure the battery inside the holding compartment by zipping closed.
5. Power on, and use the garment using the same steps when connecting directly to the bike's power source.

NOTE: To charge your Tourmaster[®] Synergy[®] Pro-Plus lithium-ion battery, simply plug the male connector into the female port of the battery, and plug charger into a suitable wall outlet. The battery is fully charged when light on charger turns from RED to GREEN. Approximate full charge time is 3:50 hours.

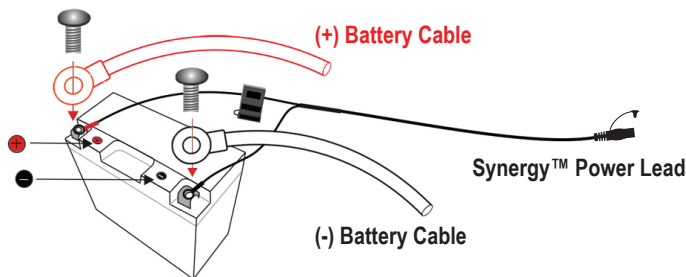
(NOTE: Tourmaster[®] Synergy[®] Pro-Plus 12v gloves, glove liners, and sock liners will power from the 12v lithium-ion battery when connected to jacket/vest/pants. Connecting additional accessories to the jacket/vest/pants will decrease runtime.)

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Synergy[®] Pro-Plus Power Lead Wiring Harness Installation

Please use the following instructions in conjunction with your vehicle's factory supplied owners manual to properly install the Synergy[®] Pro-Plus power lead wiring harness.

⚠ WARNING: To avoid any safety hazards, electrical malfunctions or damage to the vehicle, it is important the following disconnection and reconnection steps be followed step by step during installation. Have the vehicle's manufacturer supplied owner's manual available.



1. Turn off vehicle and remove the key from the ignition.
2. Locate and access the vehicle's 12-volt battery, in accordance with your vehicle's manufacturer supplied owner's manual.
3. Disconnect the vehicle's **negative (-)** cable from the battery by removing the attachment screw and lifting the cable off of the battery terminal.
4. Disconnect the vehicle's **positive (+)** cable from the battery by removing the attachment screw and lifting the cable off of the battery terminal.
5. Connect the **positive (+)** wire from the Synergy[®] Pro-Plus power lead wiring harness to the **positive (+)** battery terminal and then reconnect the vehicle's **positive (+)** cable to the **positive (+)** battery terminal. Be sure to securely fasten the attachment screw. (The **positive (+)** wire from the Synergy[®] Pro-Plus power lead wiring harness is marked with a red colored end and is connected to the 15 Amp fuse)

6. Connect the **negative (-)** wire from the Synergy[®] Pro-Plus power lead wiring harness to the **negative (-)** battery terminal and then reconnect the vehicle's **negative (-)** cable to the **negative (-)** battery terminal. Be sure to securely fasten the attachment screw. *(The **negative (-)** wire from the Synergy[®] Pro-Plus power lead wiring harness is marked with a black colored end)*
7. Route the electrical connector of the Synergy[®] Pro-Plus power lead wiring harness to the left side of the vehicle's seat. To ease connection with Synergy[®] Pro-Plus garments, allow a minimum of 2" of the cable to extend from under the seat.
8. Secure the Synergy[®] Pro-Plus power lead wiring harness to the frame or other rigid portions of the vehicle with nylon cable ties or electrical tape.
9. Return any vehicle body panels or equipment to their original location per your vehicle's manufacturer supplied owner's manual.

 **CAUTION:** It is important that the wiring be routed away from moving parts or hot areas that could cause potential damage.

Connecting To The Synergy[®] Pro-Plus Power Lead

Synergy[®] Jacket or Vest Liner

Connecting Synergy[®] Pro-Plus apparel to the Synergy[®] Pro-Plus power lead or connecting multiple Synergy[®] Pro-Plus garments together is quick and easy.

While connecting Synergy[®] Pro-Plus garments to the Synergy[®] Pro-Plus power lead, it is recommended that the wearer be seated in or on their vehicle and be wearing the Synergy[®] Pro-Plus apparel.

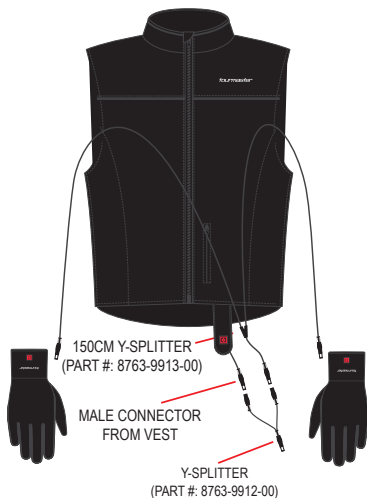
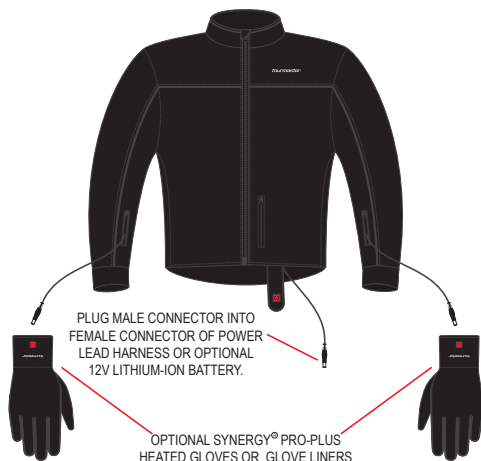
 **WARNING:** Make sure that the vehicle's motor is running before connecting Synergy[®] Pro-Plus garments to the Synergy[®] Pro-Plus power lead. Failure to do so may create a power surge that could damage the garment's circuitry and heating elements.

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Connecting Your Synergy[®] Pro-Plus 12-Volt Heated Garment

The following diagrams and instructions are designed to provide you with multiple connecting options for your Synergy[®] Pro-Plus 12V heated apparel.



Option 1: Synergy[®] BT Pro-Plus 12V Heated Jacket (with optional gloves or glove liners) or Vest Connection Instructions

The following connection instructions apply to both Synergy[®] BT Pro-Plus jacket and vest when used separately from Synergy[®] BT Pro-Plus Pant. (For connection with pant, see pages 10-11)

1. Remove male end of connecting plug located inside zippered storage pocket found on left side of the interior of the jacket and vest.
2. With vehicle motor running, firmly plug the male end of connecting cord into the female plug of the power lead harness that has been properly installed on your vehicle's battery system using the instructions provided in this manual (see pages 4-5).
- 3a. **(OPTIONAL):** If you have purchased Synergy[®] Pro-Plus gloves or glove liners and wish to use them with your Synergy[®] BT Pro-Plus heated jacket at this time, follow the instructions below:
 1. Locate and remove male ends of connecting plugs found inside zippered storage pockets on lower sleeves of your Synergy[®] BT Pro-Plus jacket.
 2. Firmly insert male ends of connecting plugs into the female ports on your Synergy[®] Pro-Plus gloves or glove liners.
- 3b. **(OPTIONAL):** To use Synergy[®] Pro-Plus gloves or glove liners with Synergy[®] BT Pro-Plus heated vest, you will need to purchase a 150cm Y-splitter (Part# 8763-9913-00) and standard Y-splitter (Part# 8763-9912-00) to complete the connection. (See diagram for order of connections)
4. With garment securely connected, your jacket or vest is safe to turn on and operate using the built-in waterproof 3-setting LED smart soft touch controller or Bluetooth[®] App. (**Smart soft touch controller instructions can be found on page 13-14. Bluetooth[®] operating instructions on separate sheet included with garment.**)

NOTE: Firmly plug in all connectors to ensure no metal is showing.

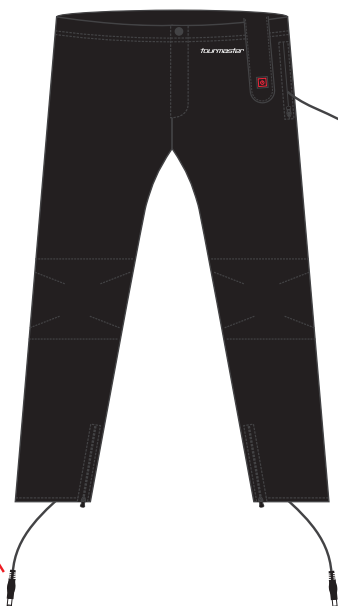


CAUTION: Prior to use, double check that wiring does not interfere with normal operation of your vehicle.

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SYNERGY[®] PRO-PLUS PANTS ARE EQUIPPED WITH CONNECTING CORDS FOR USE WITH HEATED INSOLES OR SOCK LINERS. SEE MANUAL FOR POWER REQUIREMENTS.



PLUG MALE CONNECTOR INTO FEMALE CONNECTOR OF POWER LEAD HARNESS OR OPTIONAL 12V LITHIUM-ION BATTERY.

Option 2: Synergy[®] BT Pro-Plus 12V Heated Pant Connection Instructions

The following connection instructions apply to the Synergy[®] BT Pro-Plus pant when used separately from Synergy[®] BT Pro-Plus jacket or vest. (For connection with jacket or vest, see pages 6-7)

1. Remove male end of connecting plug located inside zippered storage pocket found on left side of the exterior upper leg.
2. With the vehicle motor running, firmly plug the male end of connecting cord into the female plug of the power lead harness that has been properly installed on your vehicle's battery system using the instructions provided in this manual (see pages 4-5).

(NOTE: Synergy[®] BT Pro-Plus heated pants are equipped with male connecting plugs on each leg opening. These plugs can be used to connect to motorcycle specific 12V heated insoles or Synergy[®] Pro-Plus heated socks. The power rating and draw of the insoles and socks must not exceed 6 watts and 0.5 amps per foot. Exceeding limits will void warranty.)

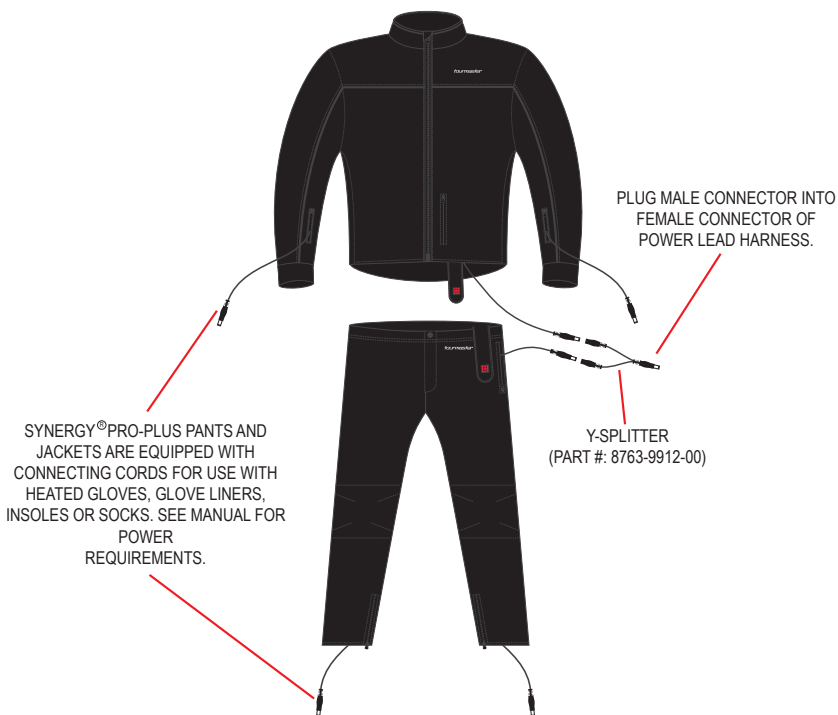
3. With garment securely connected, your jacket or vest is safe to turn on and operate using the built-in waterproof 3-setting LED smart soft touch controller or Bluetooth[®] app. (Smart soft touch controller instructions can be found on pages 13-14. Bluetooth[®] operating instructions on separate sheet included with garment.)

NOTE: Firmly plug in all connectors to ensure no metal is showing.

 **CAUTION:** Prior to use, double check that wiring does not interfere with normal operation of your vehicle.

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Option 3: Synergy[®] BT Pro-Plus 12V Heated Jacket/Pant Connection Instructions

The following connection instructions apply to persons using a Synergy[®] BT Pro-Plus jacket or vest and Synergy[®] BT Pro-Plus pants in tandem.

1. Install single power harness to your vehicle's battery system using installation instruction provided on pages 4-5 of this manual.
2. Connect male plug of the Y-splitter (part #8763-9912-00) firmly into the female plug of the power harness. (When operating both a jacket/vest and pant, the Y-splitter must be used for proper installation and operation.)
3. With the vehicle motor running, firmly plug male end of jacket connecting cord into female plug of your choice from the Y-splitter attached to power harness. (NOTE: At this time, it is safe to connect your Synergy[®] Pro-Plus gloves or glove liners as explained in the Option 1 connection instructions on page 7.)
4. Firmly plug male end of pant connecting cord into the remaining female plug of the Y-splitter attached to the power harness.

NOTE: Synergy[®] Pro-Plus heated pants are equipped with male connecting plugs on each leg opening. These plugs can be used to connect to motorcycle specific 12V heated insoles or Synergy[®] Pro-Plus heated socks. The power rating and draw of the insoles or socks must not exceed 6 watts and 0.5 amps per foot. Exceeding limits will void warranty.)

5. With garment securely connected, your jacket or vest is safe to turn on and operate using the built-in waterproof 3-setting LED smart soft touch controller or Bluetooth[®] app. (Smart soft touch controller instructions can be found on pages 13-14. Bluetooth[®] operating instructions on separate sheet included with garment.)

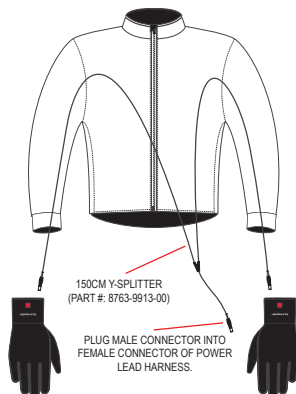
NOTE: Firmly plug in all connectors to ensure no metal is showing.

 **CAUTION:** Prior to use, double check that wiring does not interfere with normal operation of your vehicle.

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Option 4: Synergy Pro-Plus 12V Heated Gloves or Glove Liners Connection Instructions



1. Install single power harness to your vehicle's battery system using installation instructions provided on pages 4-5 of this manual.
(NOTE: Synergy[®] Pro-Plus 12V battery harness (part #8763-9901-00) available for purchase separately from your authorized Tourmaster[®] Synergy[®] dealer or online at: www.TOURMASTER.com)
2. Connect male plug of the 150cm extended glove splitter (part #8763-9913-00) firmly into the female plug of the power harness.
3. Route one male end of the 150cm extended glove-splitter through each of the jacket sleeves, with the male ends exiting the jacket cuffs.
4. Firmly insert male ends of connecting plugs into the appropriate female ports of your Synergy[®] Pro-Plus gloves or glove liners.
5. With garment securely connected, your Synergy[®] Pro-Plus gloves or glove liners are safe to turn on and operate using the built-in waterproof 3-setting LED smart controller. (Instructions on using controller can be found on pages 13-14)

NOTE: Firmly plug in all connectors to ensure no metal is showing.



CAUTION: Prior to use, double check that wiring does not interfere with normal operation of your vehicle.

SYNERGY[®] PRO-PLUS LED SMART SOFT TOUCH CONTROLLER

Your Synergy[®] Pro-Plus 12V heated apparel is constructed with a built-in 3-setting waterproof LED smart soft touch controller. The integrated LED smart soft touch controller is used to power on and off the garment, as well as manage the power and heat levels.

Powering on Synergy[®] Pro-Plus Heated Apparel:

WARNING: Before plugging your Synergy[®] Pro-Plus garments into the vehicle's battery harness, make sure the vehicle's motor is running and all electrical systems appear to be working correctly.

1. To power on each Synergy[®] Pro-Plus garment, locate the built-in LED smart controller.
2. Gently press and hold down the center of the controller until the LED button turns red.
3. When LED button turns red, release the controller button.
4. Your Synergy[®] Pro-Plus garment is now ON, and is currently set at 100% power level.

Note: In addition to the LED Smart Soft Touch Controller, Synergy[®] BT Pro-Plus heated jacket, vest, and pant can be operated using Bluetooth[®] APP available. See separate insert included with your garment for APP instructions.

Bluetooth[®] APP download information and operating instructions can also be found on the inside of your Synergy[®] BT Pro-Plus jacket/vest/pant.

Adjusting Power Level:

NOTE: Each Synergy[®] Pro-Plus garment is equipped with a 3-level LED controller. (Note: Sock liners do not have power button, and have only one heat setting). To adjust the temperature settings, simply press the center of the smart soft touch button until you have selected the most appropriate setting for your riding conditions. The below chart indicates what LED color represents what temperature setting, as well as approximate temperature for the specified setting.

SYNERGY [®] PRO-PLUS 12-VOLT HEATED APPAREL POWER USAGE AND TEMPERATURE SPECIFICATIONS						
SYNERGY [®] GARMENT	POWER SUPPLY	POWER IN WATTS	POWER IN AMPS	GARMENT SURFACE TEMPERATURE AT 77°F/25°C AMBIENT TEMPERATURE		
				LED COLOR	LED COLOR	APPROX. TEMP
JACKET	12-VOLT DC	42 WATTS	3.5 AMPS			
VEST	12-VOLT DC	37.2 WATTS	3.1 AMPS	RED	HIGH	126°F / 52°C
PANT	12-VOLT DC	38.4 WATTS	3.2 AMPS	YELLOW	MEDIUM	113°F / 45°C
GLOVES	12-VOLT DC	13.2 WATTS	1.2 AMPS	GREEN	LOW	100°F / 38°C
GLOVE LINERS*	12-VOLT DC	12.2 WATTS	1.2 AMPS	ONE SETTING*	HIGH	126°F / 52°C
SOCK LINERS*	12-VOLT DC	8.2 WATTS	.6 AMPS	ONE SETTING*	HIGH	126°F / 52°C

Powering Off Synergy[®] Pro-Plus Heated Apparel:

WARNING: Before turning vehicle motor off, power down all Synergy[®] Pro-Plus garments to prevent voltage spikes that could cause damage to your heated apparel.

1. To power down your Synergy[®] Pro-Plus garment, simply press and hold down the center of the controller until the LED button turns off.
2. Once the LED light is off, the garment is safe to disconnect from the vehicle's battery harness.

TROUBLESHOOTING

The overall performance of electrically heated apparel depends heavily on the fit of the garment, the condition of each electrical component, and the peak amperage output potential of your vehicle's electrical system.

Older vehicles or vehicles with smaller engine displacements may be incapable of powering certain combinations of electric apparel to their full heating potential. In addition, some electrical systems do not provide peak electrical output during low RPM situations or at idle, causing fluctuations in the level of heat provided by the garments.

To determine the peak amperage and power output characteristics of your vehicle's electrical system, consult the vehicle's manufacturer supplied owner's manual. Additionally, other accessories use power. Make sure you know how much power all accessories are using.

Garment Fails To Heat-Up Or Reach Maximum Heating Levels

Improper Fit:

Electrically heated garments must be snug and form fitting. Garments that are too large for the wearer will not make optimum contact with the wearer's body resulting in reduced heat levels.

Improper Layering:

Electrically heated apparel is most effective when worn over one thin layer of clothing. Synergy[®] apparel worn over thick clothing such as sweatshirts, jeans or sweatpants will not make optimum contact with the wearer's body resulting in reduced heat levels.

Temperature Control Set Incorrectly:

Synergy[®] apparel is designed to operate across a wide spectrum of temperature levels, check that the temperature controller is set to the desired heating level.



Low Vehicle Power Output:

Older vehicles or vehicles with smaller engine displacements may be incapable of electrically powering certain combinations of electric apparel to their full potential. In addition, some electrical systems do not provide peak electrical output during low RPM situations or at idle, causing fluctuations in the level of heat provided by the garments. If your motorcycle is equipped with CANBUS, then it is very likely that your Synergy[®] apparel is exceeding the amperage capability of the CANBUS system. If this is the case, you will need to use the Synergy[®] wiring harness provided and connect directly to the battery.

Loose Connections:

Loose connections result in an intermittent flow of electrical power from the vehicle to the garments resulting in reduced heat levels.

Check each of the garment's connections, including the connection to the temperature control and the power lead wiring harness. Press firmly to ensure solid connections have been made. Make sure connections are clean.

If the situation persists, turn off the vehicle and double-check the power lead wiring harness electrical connections at the battery. Also check the integrity of the wiring, insulation, and the fuse.

To access the fuse for inspection or replacement, first locate the fuse box connected to the **positive (+)** wire of the Synergy[®] power lead wiring harness. Open the fuse box lid to view the condition of the fuse circuit. If the circuit has been broken, the fuse must be replaced. To replace the fuse, simply remove the bad fuse and replace with a fresh 15-Amp fuse, available from hardware stores or auto parts suppliers. Close the fuse box lid and secure the Synergy[®] power lead wiring harness to the frame or other rigid portions of the vehicle with nylon cable ties or electrical tape.



CAUTION: It is important that the wiring be routed away from moving parts or hot areas that could cause potential damage.



WARNING: Do not exceed a maximum fuse amperage of 15-Amps. Fuses greater than 15-Amps may create a power surge that could damage the heating elements, void the warranty, and may cause serious injury or death to the wearer.

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TROUBLESHOOTING (cont'd)

Damaged Heating Elements:

Damaged heating elements may cause garments to heat intermittently or completely fail to heat.

Should your heating elements not operate properly, contact your local Tourmaster[®] dealer for assistance.



CAUTION: Do not attempt to repair any electrically heated garment. This will void the warranty and can result in high temperatures, which may cause minor to severe burning.

Damaged Temperature Control

A damaged temperature control may cause garments to heat intermittently or completely fail to heat.

Inspect the garment's temperature control for damaged buttons or electrical connections.

Should your temperature control not operate properly, please contact your local Tourmaster[®] dealer for assistance.

WASHING AND CARE INSTRUCTIONS

To ensure maximum lifespan of your Synergy[®] Pro-Plus 12V Heated Apparel, please follow the washing and care instructions provided.

(NOTE: Following instructions do not apply to glove and sock liners. Glove/Sock liners are hand wash and hand dry only.)

1. Place the connecting cord inside the designated storage pocket inside the garment, then close the pocket securely.
2. Machine wash (cold water/gentle cycle).
It is recommended that garments be washed using machine-safe laundry mesh washing bag.
3. Do not bleach or iron.
4. Do not twist.
5. Machine dry on low setting.
Hang drying is the preferred drying method, and will extend product's life span.

STORAGE INSTRUCTIONS

For convenient storage, each Synergy[®] Pro-Plus 12V heated garment comes packaged in a reusable zippered storage pouch. To ensure long-term performance, it is recommended that the following steps be taken when storing Synergy[®] Pro-Plus heated apparel:

1. Disconnect garment from the battery power harness that is attached to the vehicle.
2. Make sure garment is 100% dry before storing.
3. Fold garment and carefully place inside reusable storage pouch.
4. Zip storage pouch closed and store in a cool dry place.



NOTICE: Do not crumple or roll up garments for long term storage as this could damage the heating elements.

TOURMASTER[®]'S 1-YEAR LIMITED WARRANTY

Tourmaster[®] warrants that the temperature control, heating elements, and electrical connectors of all Synergy[®] heated apparel to be free from material defects in design and manufacture under normal use for one year from your date of purchase, subject to the conditions below:

This warranty is provided to the original end user purchasing from an authorized Tourmaster[®] dealer and is not transferable. Proof of purchase is required.

Tourmaster[®] is not responsible for any failure caused by any third party product or component, whether authorized or not.

This warranty is void if the product is not used in accordance with the product instruction manual or if it is damaged as a result of improper installation, misuse, unauthorized repair, modifications, or an accident.

Tourmaster[®] will, at its option, repair or replace products which meet the necessary warranty criteria.

To obtain warranty service, contact your local authorized Tourmaster[®] dealer.

Tourmaster[®] is not responsible for any vehicle damage or wear and tear caused by the use of Synergy[®] electrically heated garments and its components.

SYNERGY[®] PRO+PLUS 12V

**SYNERGY[®] PRO-PLUS 12V HEATED APPAREL
ACCESSORIES AVAILABLE**



**12v Lithium-ion
Battery**

**Part#
8780-0105-00**



**12v Lithium-ion
Battery Charger**

**Part#
8776-0105-00**



Battery Harness

**Part#
8763-9901-00**



**150CM Glove/
Insole Splitter**

**Part#
8763-9913-00**



Y-Splitter

**Part#
8763-9912-00**



**SAE/Coax
Adaptor**

**Part#
8763-9921-00**



BMW Adaptor

**Part#
8763-9920-00**



**12V Car
Adaptor**

**Part#
8763-9922-00**

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