

## Safety Statements Check Corporation

READ BEFORE INSTALLING HEATING ELEMENT ASSEMBLIES!

### **DANGER**

- **Circulation and or sensory compromised persons SHALL NOT use this system/product at any time. There is a High Risk of Thermal Burns.**
- Check Corporation wire heating element assemblies are specific to each seat and are not to be cut. They are designed to fit specific vehicle seats according to the model and production year of the vehicle. For a full list of vehicles that your kit is compatible with, please call customer service at 877-607-8941.
- Some front passenger seats are outfitted with occupant detection sensors which are not compatible with any after-market seat heater. Consult with Check Corporation to determine the appropriate heating element assembly for each specific vehicle.
- Heating elements should NEVER be installed onto foam where an occupant detection sensor is visible on the Top surface of the foam, even if the heating element would not touch the sensor. Heating elements are to be placed onto foam bun only. The heating elements may adversely affect or cause the sensors or airbag system to not function correctly, thereby causing severe injury or death.

### **WARNING**

- **Do not modify this product.**
- **Do not connect this product to factory seat heater parts**

### **NOTICE**

- The heating elements must be connected to switched or keyed ignition power only, to prevent battery drain when vehicle is off.

### **NOTICE**

- **BONDED SEATS (UPHOLSTERY GLUED TO FOAM BUN)**

Never remove the cover of a bonded seat. The cover of a bonded seat cannot be installed again once it has been removed. If installation of a heating element assembly is to be attempted in this kind of seat, cut an opening in the foam bun large enough for the element to fit 1/2" underneath the cover. A professional should only attempt this, as mistakes often result in the replacement of the seat foam and cover.

### **WARNING**

- **CLOTH UPHOLSTERY**

If your upholstery is thin, and does not have at least 1/4" of foam sewn onto the backside of the upholstery, it is required that you apply a minimum of 1/4" thick layer of foam to the entire insert area between the heating element and the upholstery. This will eliminate read-through and make sure the temperature is at an appropriate level.

## **DANGER**

- IF THESE SAFETY CONDITIONS CANNOT BE MET, DO NOT ATTEMPT INSTALLATION
- To prevent OVERHEATING AND/OR A FIRE follow these instructions carefully: Cushion and back heating elements are wired to operate in series only. Do not change the wiring to power the heating elements in parallel.

## **WARNING**

- Remove paper adhesive liner from the cushion and back heating elements before installing them onto the foam bun. This is mandatory as the heating pattern is maintained by the adhesion of the heating elements to the foam bun of the seat. If the heating elements are not secured they could develop hot spots.
- The paper liner is combustible and is not intended to be installed with the heating elements.
- The Heating elements must NOT be folded into seat listing channels except where cutouts were designed into the element. Do not fold the heating elements against themselves.

## **DANGER**

- **IF THE KIT HAS A CUSHION AND BACK HEATING ELEMENT THEN BOTH MUST BE USED. NEVER OPERATE CUSHION OR BACK ELEMENT SEPARATELY. SINGLE ELEMENT HEATERS AVAILABLE IF NEEDED.**
- **HEATING ELEMENT ASSEMBLIES SHOULD NEVER BE INSTALLED ONTO FOAM WHERE AN OCCUPANT DETECTION SENSOR IS VISIBLE ON THE TOP SURFACE OF THE FOAM. EVEN IF THE HEATING ELEMENT WOULD NOT TOUCH THE SENSOR.**
- **RELEASE PAPER MUST BE COMPLETELY REMOVED. FAILING TO COMPLETELY REMOVE PAPER IS A FIRE HAZARD AND NULLIFIES AND VOIDS WARRANTY.**
- **THE SEAT LISTING WIRES SHOULD NOT LIE DIRECTLY ON TOP OF THE HEATING ELEMENTS. IF THE LISTING WIRES MUST CROSS THE PADS IN THE CHANNELS, ADD SOME FOAM FOR PROTECTION OF THE HEATING ELEMENT.**



# SEAT HEATER AND MASSAGE KIT INSTALLATION MANUAL

## Installation Instructions for Leather and Cloth Seating

**- Read Carefully Before Starting Installation -**

### Limited Warranty

This Product is warranted to be free from defects in manufacturing and workmanship and is guaranteed to work for three years or 36,000 miles, or whichever occurs first. This Limited Warranty covers the repair or replacement of the seat heater components and massage motors only and does not cover any costs related to or damage resulting from the installation of the seat heater and motor. Seat heaters and motors must only be used in the seat applications for which they were designed, tested and approved by Check Corporation, and failure to properly install the designated product, or improper installation or misuse of any component, will void this Limited Warranty. Installer shall indemnify and hold Check Corporation harmless from any and all installations contrary to automobile OEM, automobile dealership, and Check Corporation issued instructions.

MANUFACTURER'S LIMITED REPAIR/REPLACEMENT WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR DUTIES OR WARRANTIES ARISING FROM A COURSE OF DEALING, USAGE OF TRADE OR COMMON LAW. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR PROXIMATE, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO DAMAGES FOR LOSS OF PROFITS OR PRODUCTION OR INJURY TO PERSON OR PROPERTY. THE CONSUMER OF THIS PRODUCT SHOULD CONTACT ITS INSTALLATION DEALER FOR ANY WARRANTY CLAIM AND RETURN WARRANTY CARD TO VALIDATE WARRANTY.

**- Before You Start -**

**REVIEW ALL INSTALLATION INSTRUCTIONS AND PRODUCT WARNINGS BEFORE INSTALLATION!**

### **- Seat Heaters Specification -**

Check Corporation heating element assemblies are specific to each seat. They are designed to fit specific vehicle seats according to the model and production year of the vehicle.

- 12v automotive system ( 11 – 15 volts )
- Maximum power requirements vary by kit and range between 51W (3.7A @ 13.8V) and 84W (6.1A @ 13.8V)
- Temperature range measured at seat surface during normal operation \*\*

Premium (High)	110°F (± 3 °F) or 43°C (± 2 °C)
Premium (Medium)	105°F (± 3 °F) or 41°C (± 2 °C)
Premium (Low)	100°F (± 3 °F) or 38°C (± 2 °C)

- Heating elements meet FMVSS 302 flammability requirements
- Connectors are indexed to prevent improper mating

\*\* Performance varies with seat materials used and the density and amount of sew foam between the heating elements and the surface of the seat.

## **- The Skills You Need -**

Automotive electrical experience or a basic understanding of electrical systems and the ability to disassemble and reassemble automotive seating is recommended.

### **Recommended tools:**

- Multi-meter, terminal crimpers, wire strippers, screw driver, wrenches, electrical tape, marker or pencil, drill, wire cutters, torque, socket and allen wrenches, hog ring pliers, and utility knife, needle nose pliers, ratchet, deep socket, and rotary tool with an 1/8" bit.

## **- Parts list -**

	DESCRIPTION	QUANTITY
1	CUSHION ELEMENT	1
2	BACK ELEMENT	1
3	FOAM WITH ADHESIVE	1
4	ELECTRONIC CONTROLLER	1
5	SWITCH HARNESS	1
6	SWITCH	1
7	POWER HARNESS (TO FUSE)	1
8	MESSAGE MOTOR ASSEMBLY-2 MOTORS	2
9	ELEMENT EXTENSION HARNESS	1
10	MOTOR EXTENSION HARNESS	1
11	HARDWARE PACKAGE	1
12	SUPER GLUE	1
13	MOTOR POSITION TEMPLATE	1
14	OWNERS MANUAL	1
15	SERVICE MANUAL	1

### **NOTE:**

The heating elements work best with a ¼" to ½" piece of foam between them and the seat cover material. Thicker foam will increase the heat up time. Normally foam is sewn into the seat cover at the factory.

# - ! WARNING ! -

## **PLEASE READ BEFORE INSTALLING HEATING ELEMENT AND MOTOR ASSEMBLIES!**

- The thickness of the back foam bun at the motor locations must be more than 1 ½". This foam thickness will ensure that the motors do not touch the seat frame suspension or lumbar of the seat back after installation.
- Massage motors are specifically designed for use in the back foam bun. Never install motors in cushion bun.
- Some front passenger seats are outfitted with occupant detection sensors which are not compatible with any after-market seat heater. Consult with Check Corporation to determine the appropriate heating element assembly for each specific vehicle. See seat heater "selection guide" for details at [www.checkcorp.com](http://www.checkcorp.com)
- Heating elements and motors should **NEVER** be installed onto foam where an occupant detection sensor is visible on the Top surface of the foam, even if the heating element would not touch the sensor. Heating elements are to be placed onto foam bun only. The heating elements may adversely affect or cause the sensors or airbag system to not function correctly, thereby causing severe injury or death.
- Never remove the cover of a bonded seat. The cover of a bonded seat cannot be installed again once it has been removed. If installation of a heating element assembly is to be attempted in this kind of seat, cut an opening in the foam bun large enough for the element to fit ½" underneath the cover. A professional should only attempt this, as mistakes often result in the replacement of the seat foam and cover.
- Check and determine that the heating elements will fit under the seat trim covers in the desired areas. The listing channels or the Velcro hold-downs should line up with the cutouts in the heating elements. This is not important if the heating elements do not cross over a listing channel or Velcro hold-down. See figure 3.

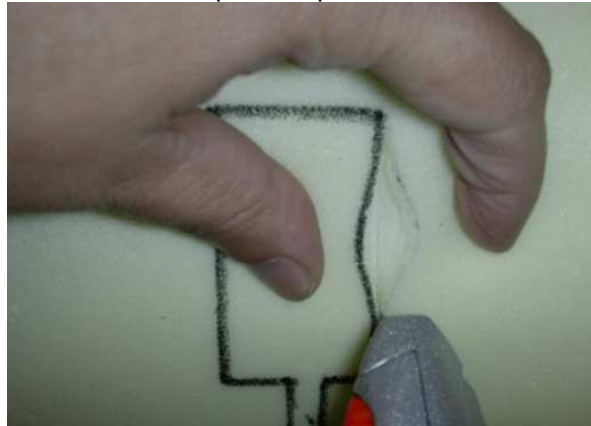
### **IF ABOVE CONDITIONS CANNOT BE MET, DO NOT ATTEMPT INSTALLATION.**

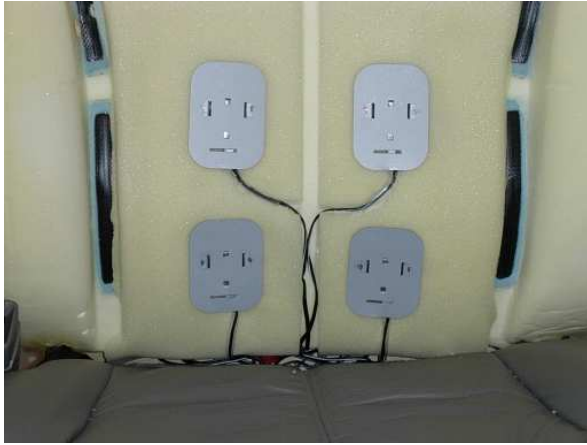
- **To prevent OVERHEATING AND/OR A FIRE follow these instructions carefully:**
  - Remove paper adhesive liner from the cushion and back heating elements before installing them onto the foam bun. This is mandatory as the heating pattern is maintained by the adhesion of the heating elements to the foam bun of the seat. If the heating elements are not secured they could develop hot spots.
  - The paper liner is combustible and is not intended to be installed with the heating elements.
  - The Heating elements must not be folded into seat listing channels except where cutouts were designed into the element. Do not fold the heating elements against themselves.
  - Cushion and back heating elements are wired to operate in series only. Do not change the wiring to power the heating elements in parallel.

**IN THE EVENT THAT THESE WARNINGS ARE DISREGARDED, THE WARRANTY BECOMES NULL AND VOID. MISUSE OF THIS PRODUCT MAY CAUSE SERIOUS INJURY TO PERSON OR PROPERTY.**

## - Installation -

- 1** Pre-wire all components on your workbench and test with a multi-meter for continuity. Do NOT use a battery charger as a power source. Use a 12V D.C. power source. If there are any problems, see the troubleshooting page. **NEVER OPERATE CUSHION OR BACK ELEMENT SEPARATELY. CHECK CORPORATION HAS SINGLE ELEMENT HEATERS AVAILABLE IF NEEDED.**
- 2** Locate the desired IGNITION SWITCHED fuse outlet and connect using the supplied fuse accessory and wire ends. Only one seat per fuse outlet. Each seat requires its own 7.5A inline fuse (supplied with kit).  
*\*SEE Add-A-Fuse Installation\**
- 3** Disconnect and isolate the negative (ground) battery cable, pump the brakes a few times, and wait five minutes for the system to discharge. It is important to do this before disconnecting any airbag connectors.
- 4** Remove Seat(s) from vehicle. Care should be taken, as the sharp edges of the seat frame will scratch the interior trim. Use duct tape or padding to cover sharp areas before removing seat.
- 5** Remove the seat covers and verify that the heating elements and motors fit. **HEATING ELEMENT ASSEMBLIES SHOULD NEVER BE INSTALLED ONTO FOAM WHERE AN OCCUPANT DETECTION SENSOR IS VISIBLE ON THE TOP SURFACE OF THE FOAM. EVEN IF THE HEATING ELEMENT WOULD NOT TOUCH THE SENSOR. BACK FOAM THICKNESS MUST BE AT LEAST 1 1/2" AT MOTOR LOCATIONS FOR PROPER INSTALLATION.**
- 6** Install the ground wire ring terminal, from the power harness, to the fuse box ground screw. Clean terminals and grounding point of paint, grease, and dirt to ensure a good electrical connection. **NEVER DRILL THROUGH THE FLOOR.**
- 7** By using the template provided, locate and trace motor locations onto back foam bun. Using a standard carpenter's blade, cut and remove foam for motor placement. The required depth for the motors is 1 1/8".





**8** There are two sets of motors, one for the upper back and one for the lower back. Mark the motors before placing them into the seat to ensure that one set is installed into the upper back and another set is installed into the lower back. The upper motors connect to the purple and red wire. The lower motors connect to the brown and red wire.

**9** Using the “Super Glue”, apply a light layer of adhesive on the flat plate of the domed side of the motor (see picture), ensure entire flat plate is covered. Place the motor into the depression and apply modest pressure for two minutes while the glue bonds. **BE SURE TO GLUE AND PLACE ONE MOTOR AT A TIME AS THE ADHESIVE IS QUICK-DRYING.** After installing the motors, cut a ¼” deep channel down the foam to cradle the motor wires.

**10** Remove the adhesive release paper from the sheet “Foam with Adhesive”. Place the foam over the motors making sure that no part is left exposed.

**11** Locate area for heating elements by tracing element outline onto foam bun. Be sure that the cushion element is placed on the cushion bun, and that the back element is placed on the back bun.

**12** Remove the adhesive release paper. This paper must be removed, as IT WILL BURN. Attach the heating elements to the foam bun (not the seat cover) by pushing down on the pads causing the adhesive to stick completely to the foam bun. **NOTE:** Element may be hard to handle if you tear release paper off all at once. Paper can be peeled away in increments as you apply the element to the foam bun. Apply cushion element rear to front and back element bottom to top. **RELEASE PAPER MUST BE COMPLETELY REMOVED. FAILING TO COMPLETELY REMOVE PAPER IS A FIRE HAZARD AND NULLIFIES AND VOIDS WARRANTY.**

**13** Re-install seat trim covers. Do not install hog rings through the heating element. **THE SEAT LISTING WIRES SHOULD NOT LIE DIRECTLY ON TOP OF THE HEATING ELEMENTS. IF THE LISTING WIRES MUST CROSS THE PADS IN THE CHANNELS, ADD SOME FOAM FOR PROTECTION.**

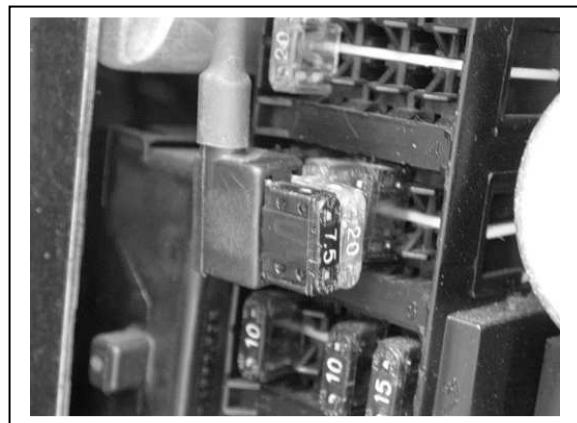
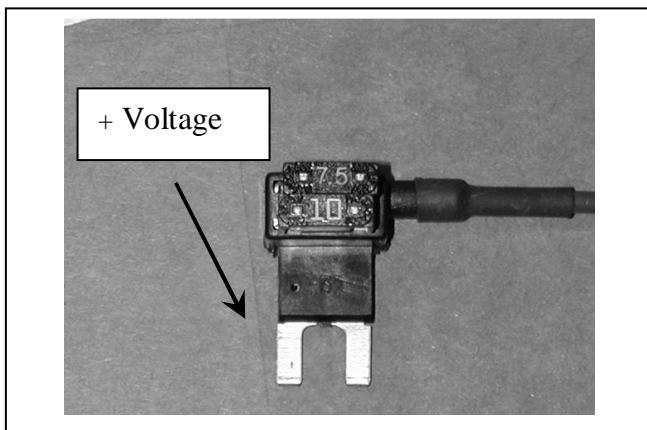
**14** Install the seat into the vehicle. Reconnect airbag connectors and then the ground of the battery. Connect the extension harnesses to the controller as shown in the wiring diagram.

**15** Mate all remaining connectors (as shown in the wiring diagram). Ensure the upper set of motors connects to purple/red wires and the lower set of motors connects to brown/red wires from the motor extension harness. **SECURE THE WIRE WITH THE TIES PROVIDED. CHECK THAT THE RECLINING OF THE SEATS, OR THE MOVEMENT OF THE SEAT FRAME DOES NOT PULL, FRAY, OR CUT THE WIRES**

**16** **TEST SEAT FUNCTIONS; RECLINE, FORWARD, REVERSE, UP, DOWN, ETC. MAKING SURE THAT NO STRAIN IS PLACED ON ANY OF THE SYSTEM'S WIRES.** Make sure all of the anchor bolts are tight to the manufacturer's specification.

**17** **OPERATION OF THE SYSTEM.** After turning the system on, you must sit in the seat and should be able to feel heat within 1-5 minutes depending on the thickness of the trim cover material over the element. The thicker the trim cover, the longer it takes to feel the heat. If the occupant feels too much heat we suggest setting the heater to low as everyone has a unique tolerance for heat. Cycle through the four motor settings to verify that the system is functioning properly.

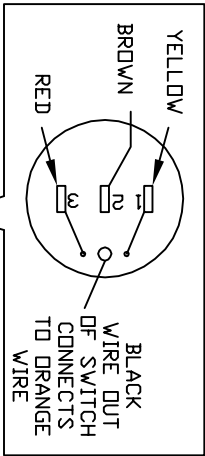
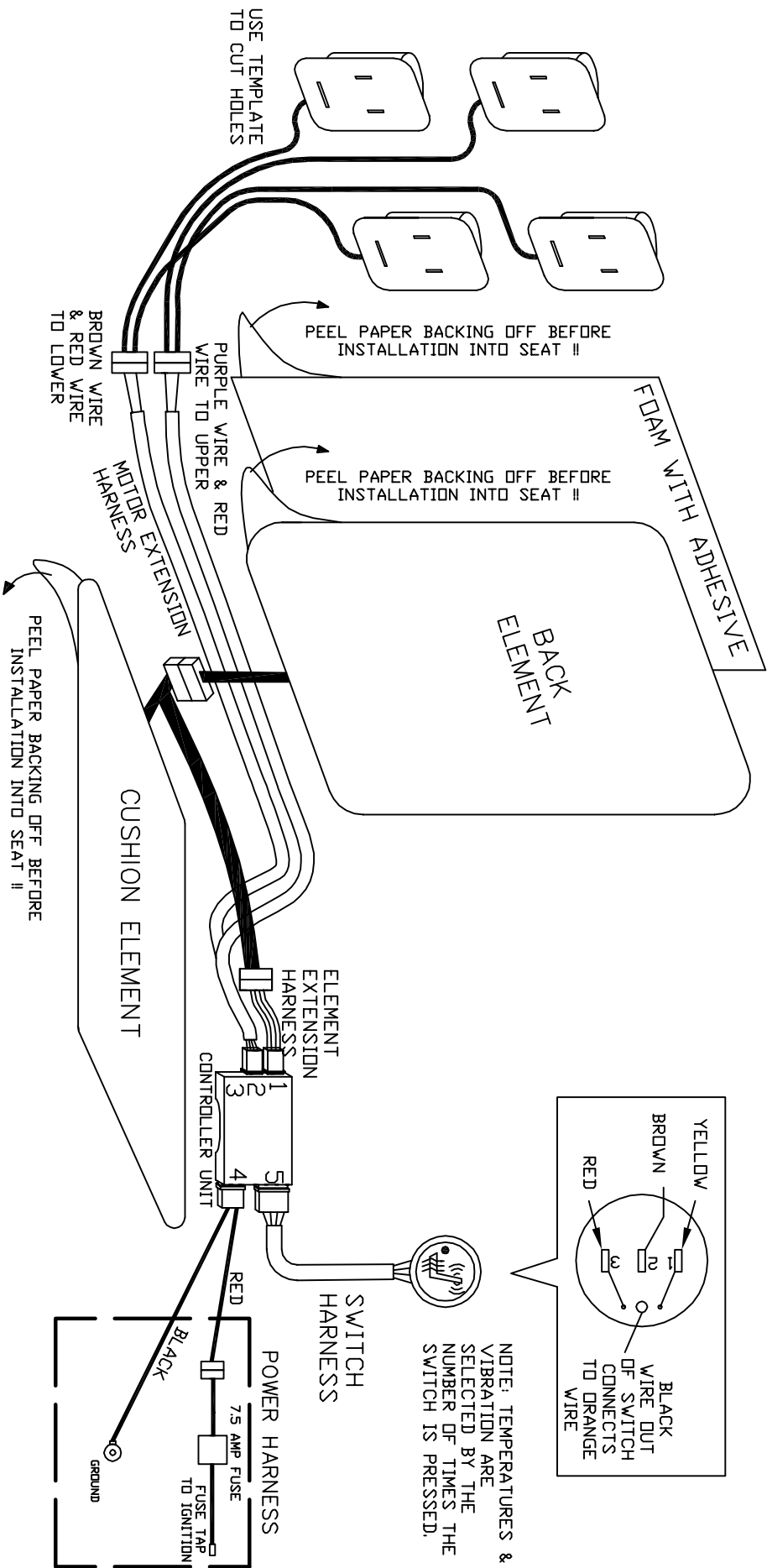
### - Add-A-Fuse Installation -



Above: Add-A-Fuse Accessory. Prong indicated must go to the +12V "hot" side of the fuse receptacle.

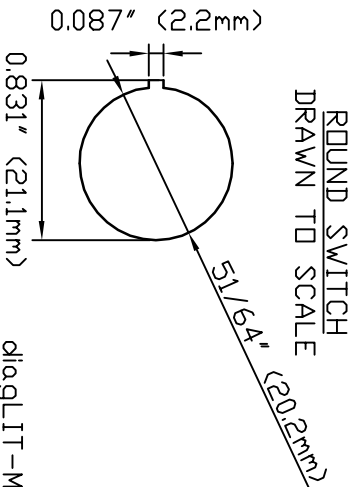


# SEAT HEATER & MASSAGE KIT EC4 WIRING DIAGRAM



## SWITCH OPENINGS

5/164" Drill Bit with 3/8" Shank available from Advantage # ADVPLEX385164 PHONE 407-678-1177



## **- Troubleshooting of the Electrical System -**

### **If the system does not heat up, check the following:**

To test the unit you must sit in it for at least a 5-minute period in which the heat has time to reach the seat surface.

- Check the add-a-fuse added during the installation.
- Ensure that all connections are properly mated and that the 12V DC and ground wires are properly installed. (See wiring diagram)

### **If the heating elements, switch, and seat harness test OK, then a power problem exists, check the following:**

- Using a multi-meter or a test light, start at the fuse adapter or fuse tap and trace back through all of the connectors and the switch to determine where the power loss is occurring. Repair as necessary.

### **If the LED is blinking on more than it is off, check for the following:**

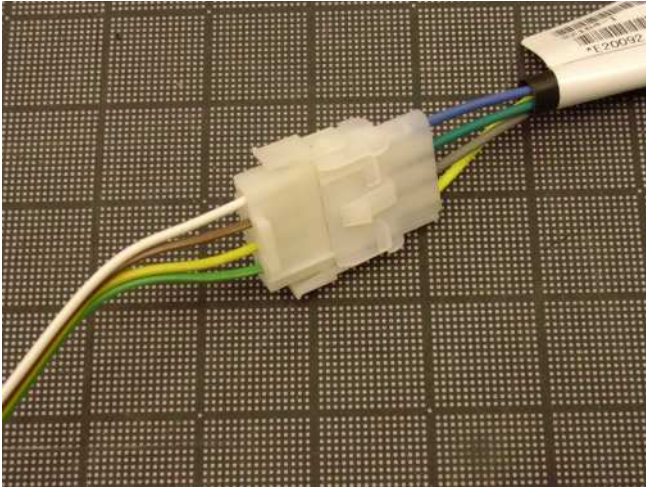
- A break in the heating element circuit. To check for this, pull on the brown, blue & yellow wires at all connectors to verify they are properly seated in the connector. Don't forget the connector on the back element. Also check for continuity at the 4 pin connector. The cushion and back elements must be connected and use a multi-meter set to ohms. See Figures 1-2.
- A low voltage condition on the controller input from the fuse box. To verify the voltage input, use a multi-meter set to volts, across red AND black wires at control module (it should read 11-14V).
- A poor ground connection. Check connections or try another grounding point. Another possible cause is the fuse used for power is computer controlled (try another fuse location). If a new installation the control module is probably working fine. Disconnect power to reset controller and clear old faults.

### **If the LED is blinking off more than it is on, check for the following:**

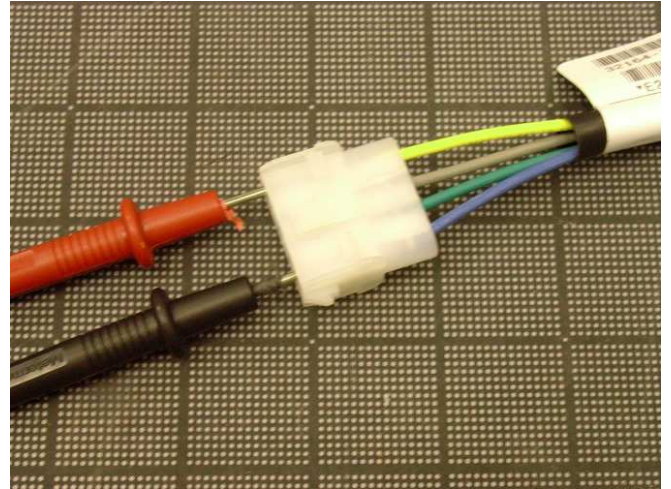
- There is a problem with the heat sensor circuit. Pull on grey & green wires at connectors to verify that they are properly seated in the connector. If possible swap in another control module to see if the LED(s) is(are) still flashing. If so, then the problem is inside the cushion element (replace). If a new installation the control module is probably working fine. Make sure power is off to controller when changing it out.

**IF YOU HAVE ANY QUESTIONS REGARDING THE INSTALLATION OF CHECK CORPORATION SEAT HEATERS, PLEASE CALL OUR HOTLINE AT 1-800-927-6787, 8AM TO 5PM EASTERN STANDARD TIME.**

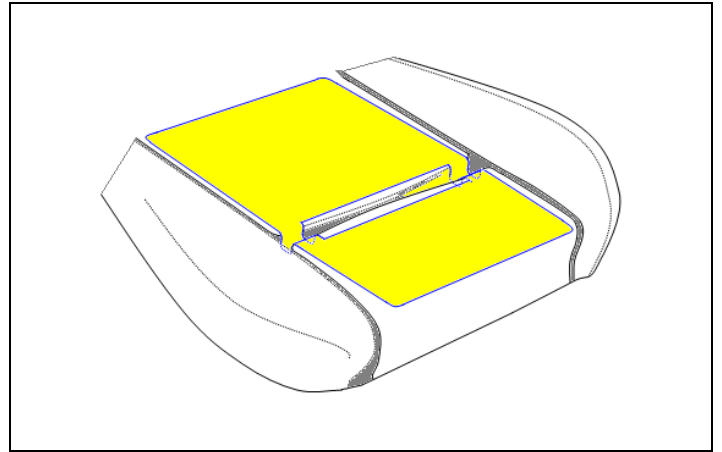
- Troubleshooting (Figures) -



1) This is the 4 Pin connector at the end of the element harness. Disconnect the bonded wire harness and use a multi-meter to check for continuity.



2) Set the multi-meter to ohms, and touch the red and black probes to the yellow and blue pins. The meter should show that there is continuity through the heating wire; if it does not, there is a break in the heating wire.



3) The listing channels or the Velcro hold-downs should line up with the cutouts in the heating elements. Seat heater adheres 100% to the foam bun following the surface into the listing gaps. Opening in heater is aligned with gap.