

Seat Comfort Systems

Ventilation/Heater Installation Instructions

KIT P/N: SCS00000C3

IMPORTANT:

THE VENTILATION SYSTEM DRAWS AIR FROM THE CABIN AND MUST HAVE OPEN ACCESS THROUGH THE BOTTOM OF THE SEAT AND BACK OF SEAT. Not all seats will have open access on the seat pan so please verify that air can be drawn through this area. The seat back should have access holes or mesh on the cover to allow airflow. Placement of the fans is critical and cannot be placed on the rear portion of the seat bottom. This is the area where 60% of the occupant's weight will be placed and will put undue stress on the fans potentially restricting airflow.



Contents

- 2 Fans for the Back Cushion with optional guards
- 2 Fans for the Bottom Cushion with optional guards
- Back Cushion Heat Element
- Bottom Cushion Heat Element
- Wire Harness with Control Unit
- Cool/Heat selector switch
- High/Low selector switch
- Spacer fabric (White Mesh)
- Reticulated Foam (not included with Seat Cover Kit)

GENERAL ADVICE:

- The installer is liable for any damage due to improper fitting or not following these instructions.
- All steps explained in this manual are to be followed with great care. Fitting has to be performed by qualified personnel only. Improper installation will void the limited warranty provided by the manufacturer and may cause physical damage to equipment or people.
- The seat ventilation/heating system has to be connected to the onboard power supply exactly like described in this manual. It is necessary that the system is capable of driving up to 10 Amp continuous current per heated seat.
- Use only those components supplied by the manufacturer. Supplementing other components will void the manufacturer's warranty.
- The seat heating elements have to be fitted without any folds.
- The system shall only be connected to a 12 Volt DC power supply.
- The wire harness has to be fitted to the seat in a way that the full range of movement of the seat is possible without damaging the wire harness. At the same time it has to be made sure, that the wire harness is never going to intrude into the leg space of either the front or back passengers.
- Cars fitted with side airbags have to be treated according to the manufacturer's fitting manuals. The seat ventilation/heating system is only to be attached to the middle of the seat foam. The connections of the side airbag(s) have to be handled thoroughly and should never be connected to any kind of power supply during the fitting process.

VENTILATION METHOD – THEORY

Seat Comfort Systems has developed a universal ventilation system that can easily be installed into most vehicles. There are vehicles where this system is not compatible such as seats that have an airbag sensor in the cushion, seats that have no open access to allow airflow such as rear bench seats. Some seat designs use a solid stamped seat pan eliminating any open air access. Creativity can be used in these cases to channel air to the fans. These instructions cover a basic installation of our system.

There are several car companies that have a ventilation/cooling system in their luxury end platforms. The theory of these is to provide “circulation” of air throughout the contact area of the occupant. When seated, the A/C system blows conditioned air on the occupant. The seating surface acts like a jacket, insulating the body’s heat. The front of the occupant is far more comfortable than the rear and the backside is left to condition itself. The design intent of the ventilation system is to circulate air around the occupant’s contact area which removes moisture from the occupant which gives a cooling sensation and also to remove stored heat in the seat. The system is designed to provide “unnoticeable comfort”. Your customer should be able to feel the airflow while in the high setting but when the system is on low, the occupant should feel comfortable, which means he/she does not notice the temperature of their back or bottom.

The seat cover and ventilation system have to work together. The seat cover must be purchased with breathable covers or breathable panels must be inserted into the cover. The location of the fans must also be determined for optimal performance.

Seat Cover Design:

The seat cover must be altered to allow airflow to pass through. The optimal cooling area is approximately 9”x11”. Not every seat will have this optimal design. If this area is increased, the performance of the cooling will change slightly. The suggested perforation type for the leather insert is “Mercedes Perf” which can be supplied by several leather suppliers. The main issue with the perforation is it must let the air flow easily and the performance will depend on the breathability of the perf. Supplied, is black “reticulated” foam which is sewn to the replacement perforated insert. This foam replaces the standard backing and allows the air to pass through and also keep the factory seat look.

Back Fan Placement:

The placement of the fans varies with every seat design. The fans must be placed in areas where there is weight load is minimal. In general, the “back” fans are placed 2/3 to 3/4 up from the bottom of the seat. This is where the main contact area between the occupant and the back cushion. Depending on the occupant’s back posture, recline angle and seat design, the fans need to be placed where the mid to upper back contacts the seat.

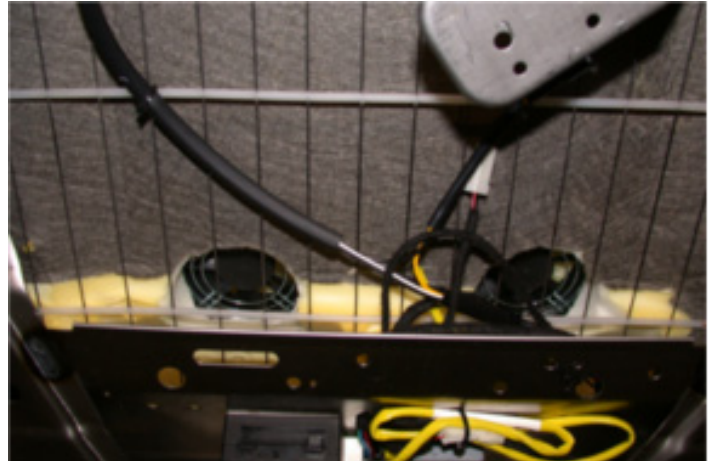
Bottom Fan Placement:

The placement of the bottom cushion fans is critical. In general, the fans need to be placed at least 2/3 to 3/4 towards the front of the cushion. The rear portion of the seat cushion must be avoided because 60% of the occupant’s weight will be centralized in this area. If the fans are placed too far back, the fans will be exposed to extreme stress and there is a possibility that the fans can be restricted and provide insufficient air flow.

STEP 1: LOCATION OF FANS - PLACEMENT

Inspect both surfaces of the foam cushion and verify that an access hole can be cut through the foam cushion. Double check the seat pan for any obstructions that can limit the airflow to the fans.

Verify that the access hole can pass through the seat cushion foam without obstruction



Place the fans towards the front of the cushion, forward of the seating area. This location is usually under the occupants thighs where the load is minimal. Recheck the location for obstruction of the seat pan and confirm that the load area will not be significant. **If the fans are placed under the occupants seat area (Ischea bones), undue stress and possible air restriction will occur and will void the warranty.**

Place fans towards the front of the bottom seat cushion away from the occupant load.



Trace the location of the fans using the fan or a template.



Recheck again the location of the fans and verify before proceeding to the next step

STEP 2: CUTTING THE FOAM AND FANS INSTALLATION

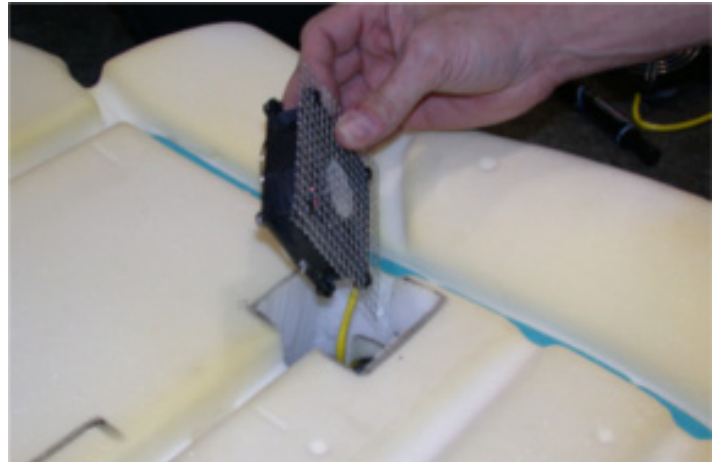
Using a knife, cut through the foam, following the inside trace mark.

Cut on inside of line



Pass the fans through the holes from the back side. Attach the fan screen with the supplied buttons.

Attach the mesh guard using the black push pins



Place the fan into the hole and make sure it fits snugly. Remove the fan and spray the inside of the hole with adhesive and install the fan.

Spray side walls of foam cutout to secure the fan in place



STEP 5: APPLYING SPACER FABRIC AND HEATING ELEMENT

Place and fit the white spacer fabric on the cushion, covering the fan area. Trim any excess material if necessary. Using adhesive, spray the foam area, avoiding the fans, and adhere the spacer material to the foam.

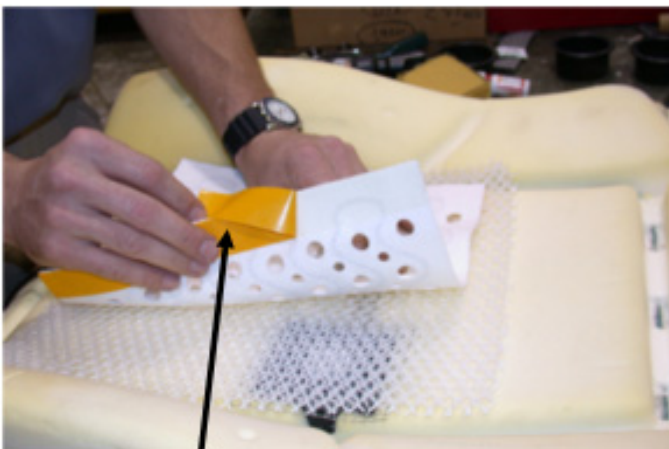
Spray the foam, avoiding the fan area



Lay the spacer material over the seat surface making sure that the material conforms to the cushion and is flat. Trim any overlapping material.



Position the heating element and peel the adhesive strip and apply over the spacer material.



Peel the adhesive backing and apply to the spacer material

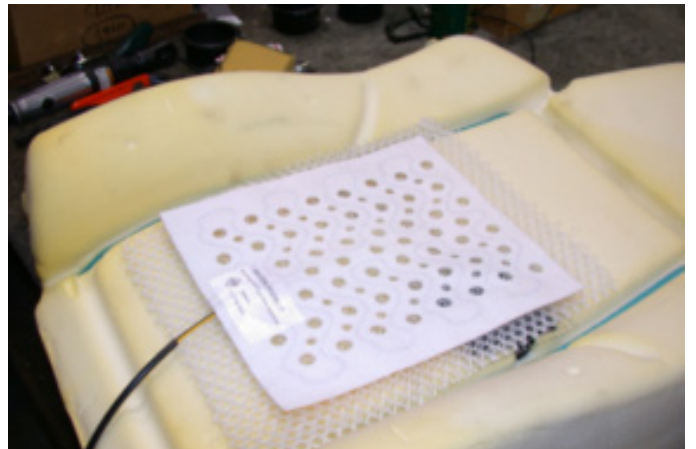


Photo of the completed installation of the fans, spacer material and heat pad

STEP 6: WIRE HARNESS AND SWITCHES

Attach the wire harness to the seat pan area. Attach the heater and fans wires.



Cut a 3/4" hole and install the switches to the side panel. Reference the key to secure the switch in place.

Check for obstruction behind the panel before installing



SEAT COVER ALTERATIONS

The seat cover must be purchased “Ventilation Ready” or the panels must be replaced and perforated to allow the air to flow.



Factory Cloth Seat



Leather seat with Vent/Heat system installed

Photo shows factory cover on the left and new Ventilation Ready on the right. Black reticulated foam is sewn in to replace the factory foam backing.

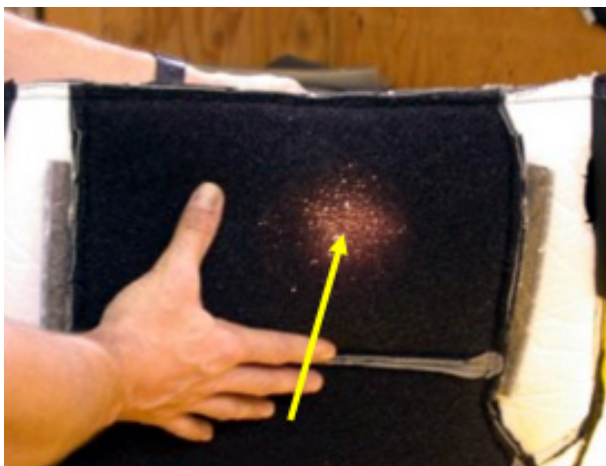


Photo shows perforated leather cover with reticulated foam sewn in. The cover is held up to a light showing the permeability of the cover



Photo shows a breathable panel sewn into the rear of the back cover allowing air to enter into the cover and to the fans.