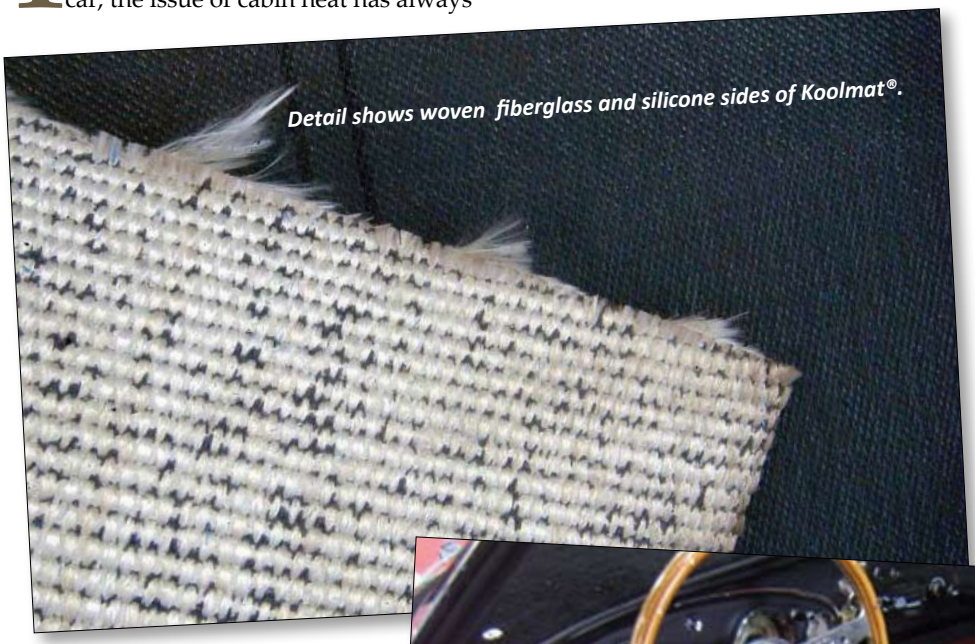
# A COOL RIDE WITH KOOLMAT®

**Baird Foster**
**Moorestown, New Jersey**
***HEALEY MARQUE Contributing Editor***

It's hard to believe that my wife and I have owned, driven, and enjoyed our Austin-Healey series BJ7 for almost 20 years, since 1990. And as much as we enjoy touring in the car, the issue of cabin heat has always been a tough one on those 85+ degree F, oven-like summer days. Our spray bottle air conditioner just doesn't do the cooling job we'd like. Therefore, heat reduction was one of the items I addressed early on, with the materials available at the time.

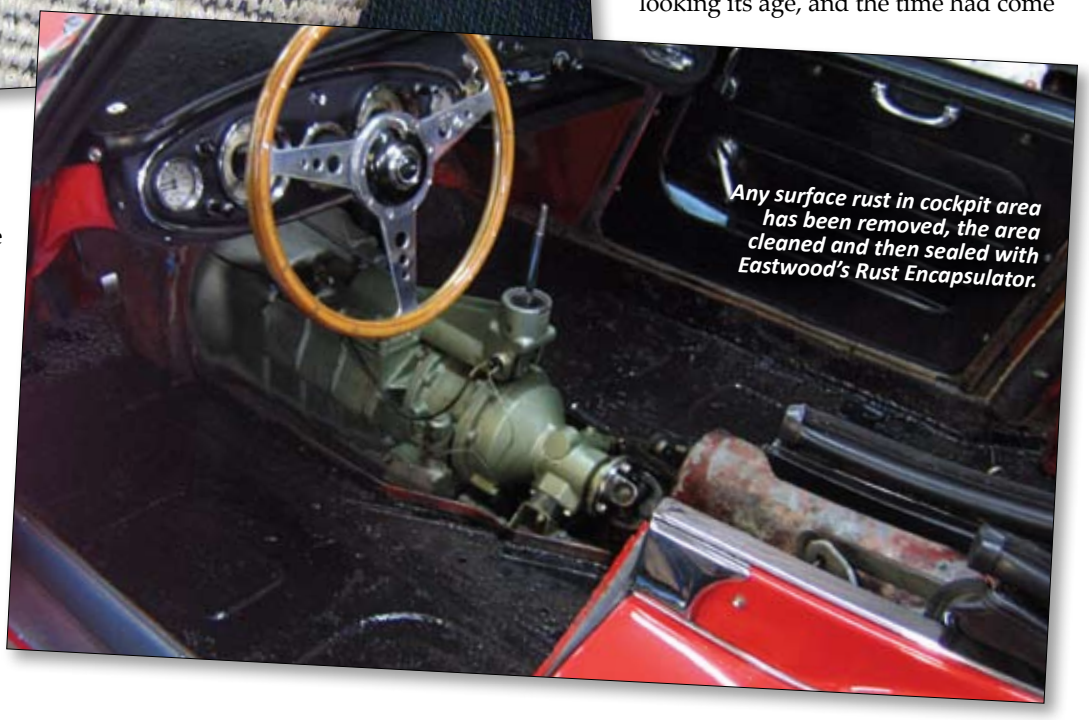


*Detail shows woven fiberglass and silicone sides of Koolmat®.*

Before we bought the car, it had undergone a restoration by a previous owner in the early to mid-1980s. The floor and transmission tunnel carpet had the old jute material as insulation underneath. The asbestos insulation in the engine bay and above the muffler was intact, but provided little help in keeping the cabin cool.

Early on in our ownership I laid down some ⅜-inch, very dense foam called "backpacker's foam." It was lightweight and intended for use as a bedroll for the hiker/camper. I applied it to the floor, to the firewall, and most importantly, to the transmission tunnel, under the carpet. This was an improvement and provided some measure of comfort in our trips to events and tours. But hey! Those 20 years have taken their toll on our ability to tolerate heat, and I thought that surely 20 years of technological advancement must have produced a more effective product.

Over the years, our BJ7 has undergone a steady "rolling restoration" on nearly everything, including complete engine and transmission rebuilds and a recent bare-metal re-spray. Now the carpet was looking its age, and the time had come



*Any surface rust in cockpit area has been removed, the area cleaned and then sealed with Eastwood's Rust Encapsulator.*

to replace it, over some new insulation. An Internet search (another very handy technological advancement!) led me to Koolmat®, a high-temperature composite insulation made of silicone and cured directly to the surface of a fiberglass mat. The two materials are permanently joined together without adhesives. Koolmat® won't separate, tear, or easily puncture, and it is protected by a U.S. patent. The product is used by NASA, NHRA, and NASCAR, so I figured that it should work in my Healey.

Less than ⅛-inch thick and weighing less than ¾ lbs. per square foot, the thin material of Koolmat® makes it ideal for cockpit interior insulation. It can withstand a torch test of 1,000 degrees F for five minutes before the silicone tacks up. (I held it over our kitchen gas stove with the fiberglass to the flame for several minutes, and nothing happened; the silicone merely felt a bit warm to the touch.) An added bonus of the product is that it affords noise reduction – a claimed 23 fewer decibels – surely a help in a Healey.

*Interior prior to replacement of tunnel.*

*Koolmat® has been cut to sized pattern and laid out prior to installation.*

On the Koolmat® website **www.koolmat.com**, Tsikuris Classics in Lakeland, Florida, is listed as a supplier for Austin-Healey (email **tsikurisclassics@aol.com**). When I spoke with its knowledgeable and helpful owner, Paul, I learned that I needed about 14 linear feet (the material comes in a 30-inch width) for my BJ7. It cost about $35/linear foot, plus shipping. As it does not come precut, Paul marked out the necessary patterns on the roll; I ordered an extra two feet for a "just in case" scenario. Paul noted that from his wide experience with Healey restorations, generic pre-cut kits may not always fit properly and to measure carefully my car's floor areas before cutting his patterns. (Cutting Koolmat® is very easy using heavier duty scissors.)

Helpful hints included the following: Remove the transmission tunnel before covering with Koolmat® to make the application easier; use 3M Super Spray adhesive #8090 for applying the material to a clean surface (the white fiberglass side is glued to the floor); and use clear silicone to seal seams and at edges (Permatex RTV silicone works well).

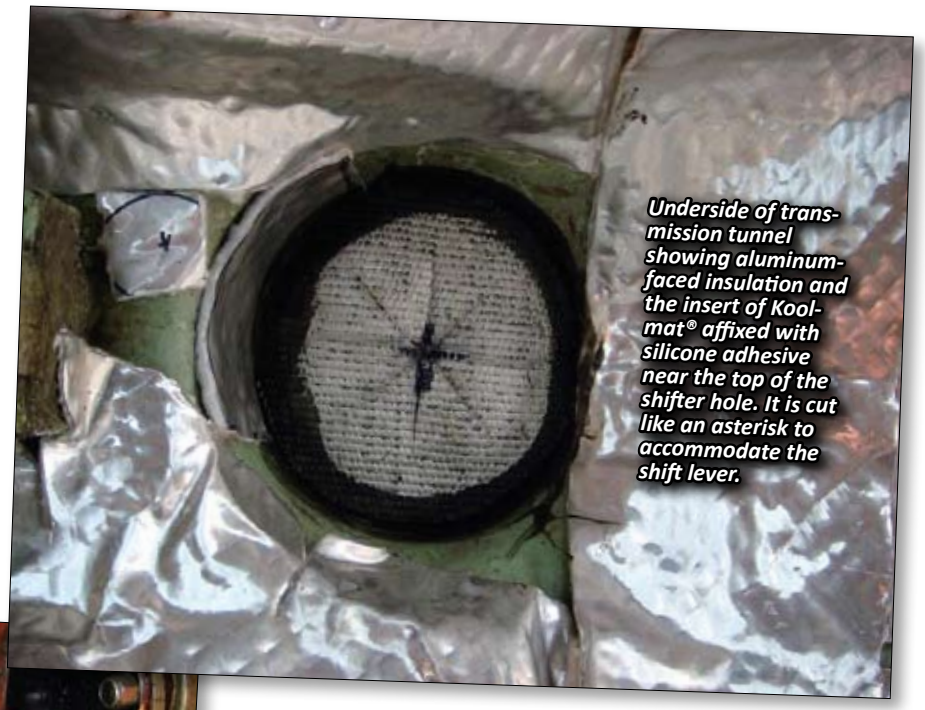
To replace the transmission tunnel to the floor and firewall, use a bead of silicone on the flange of the tunnel. Screw it down tightly, being sure that the shift lever is centered in the

*Transmission tunnel with Koolmat® fitted. Note flap created for transmission dipstick access and seams sealed with silicone.*

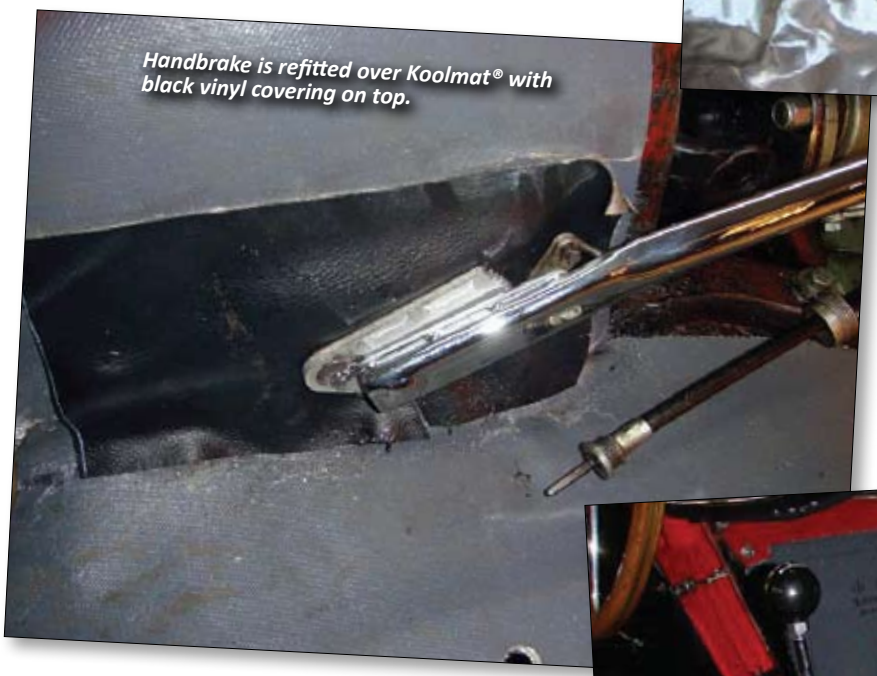
tunnel hole. The goal is to allow no heated air to enter the cockpit area. (Should the tunnel need removing in the future, simply cut through the silicone bead.)

Koolmat® should be tightly secured to the floor and firewall for optimum results. After installation, a light test on the firewall revealed no holes. Create a dark cockpit area and have an assistant shine a light on the outside of the firewall. Any visible light indicates a hole through which heat can enter.

Beneficial features of the product include that it is abrasion and oil resistant, waterproof, and non-absorbent. When (not if) you get water inside your car, your floor will be protected. A silicone seal along the edges will ensure a fairly waterproof installation. The seat slides were removed and replaced on top of the Koolmat® with the holes sealed with silicone; ditto for the handbrake.



*Underside of transmission tunnel showing aluminum-faced insulation and the insert of Koolmat® affixed with silicone adhesive near the top of the shifter hole. It is cut like an asterisk to accommodate the shift lever.*

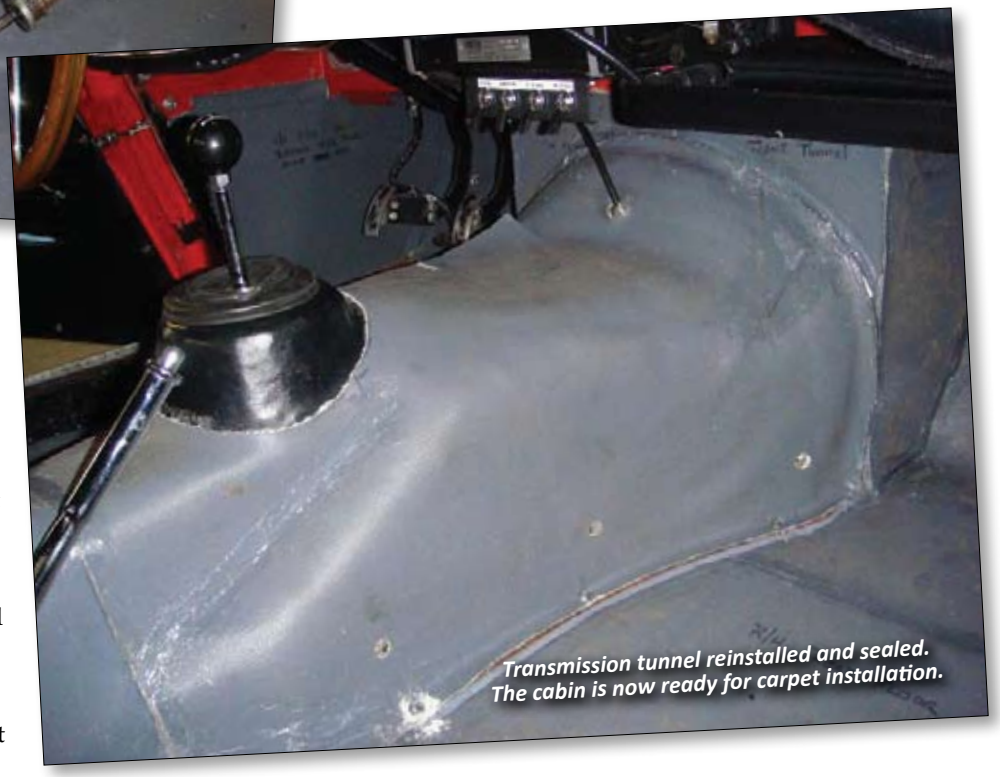


*Handbrake is refitted over Koolmat® with black vinyl covering on top.*

Note: If you will be gluing rubber-backed carpet on top of Koolmat®, the silicone surface should be scuffed with coarse sandpaper and cleaned off with lacquer thinner. Two applications of super adhesive spray to both surfaces may be necessary for proper adhesion.

Another insulation product sold by D&H Heat Technology of Monroeville, NC, doing business as Koolmat®, is an item called "Splitfoil." This is an aluminum-faced, fiberglass sheet with pressure tape on the back. This is applied with the aluminum side facing the heat source and is good to 1,000 degrees F. The product number is FGS-125 and is available in ⅛ x 24 x 51-inch sheets at about $35. This is an excellent choice for insulation on the inside of the transmission tunnel, as well as over the muffler.

The installation of insulation and new carpet was expertly done for me by Edwin Sweeney of Motorcar Garage, Maple Shade, New Jersey (**www.Motorcar-Garage.com**). His photos and mine illustrate how the Koolmat® installation was accomplished, with excellent results. For a cooler, quieter ride in your hot Healey, consider installing Koolmat®. HM



*Transmission tunnel reinstalled and sealed. The cabin is now ready for carpet installation.*