

A Cool Idea

by Dave Galey

The engine installation in my Eagle is a standard truck motor. To explain the difference; a truck motor has the turbo-charger mounted on top of the air box whereas the typical bus installation has the turbo-charger mounted at the rear with a flat horn to the air box. This way the bus may have a lower head room and thus maintain a flat floor. One might ask, "Why use a truck motor?" The answer is, "There are more bargains to be had in take-outs from trucks."

Two problems arise from these bargains. 1) The additional height of the

truck motor must be accommodated. This height is a result from the top mounted turbo-charger. 2) Some form of insulation must be provided to keep the turbo-charger generated heat from invading the living space of your coach.

The first problem is customarily solved by opening up the floor under the bed area. A typical raised bed support framing reinforces the opening cut into the floor to allow the turbo-charger to occupy this space. This has the additional advantage of permitting easier access for engine maintenance. See Figure 1.

The second problem has not been quite

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so easy to solve until recently. In the past we have added urethane foam insulation to not only the side wall of the structure shown in figure 1, but the bed platform also. One layer of inch and a half urethane foam didn't do the job so we added another layer. A total of three inches of foam just wasn't adequate and we were running out of space.

When we had a 6V92 engine installed, we had the motor wrapped with typical sewn

fiberglass, fiberfrax, silicone and stainless steel wire installation. These insulation wraps are typically \$500 to \$800 and require an experienced installer to add to the engine. They were originally developed for yacht installation to minimize the heat in the engine room. I have also been advised that an exhaust wrap will add power, this may be true but I couldn't perceive any difference.

After installing my 8V92, most of the original engine wrap would not fit so I opted to simply go with the added urethane insulation as mentioned above. This was not a good idea. After several trips, my co-pilot complained of the high temperature build up in the bed room. Since this was once the source of a coach fire, a paranoia syndrome became pretty intense.

Since my genes are rife with thriftiness, (being a cheapskate, that is), I was not prepared to spring for another \$800 for an engine wrap, but I did get an ultimatum from the co-pilot, "Do something about that heat or you fly solo hereafter!" After commiserating with one of my mechanic friends, he mentioned a material that was applied wet and molded over the manifolds and turbo and which was cured by the engine itself. He promised to find out what it was called and let me know.

In the past, I have used a material called Rollboard, which is a form of ceramic insulation like blotter material, so I called Concours West, the company which sells Rollboard. Bingo! This was the material I was looking for! Later I learned they had an advertisement for E.H.P. Rollboard in *Bus Conversions Magazine*. (I'm gonna hafta start lookin' at that magazine . . . duh.)

I called Penn Lenson, a partner in Concours West, and found out the characteristics of this magic material. It comes as a wet blanket, two foot by three foot, by one-quarter inch thick, in a polyethylene sleeve. And, its price is nearly \$100 per unit. I was also advised you could put your hand on a treated exhaust pipe with the motor running without being burned. After pondering this information, I figured this was a bargain compared to the fiberglass engine wrap, so I ordered two blankets. Plus, this material has

Top: Engine before the wrap.
Below: Engine after the wrap.

the advantage of being fireproof.

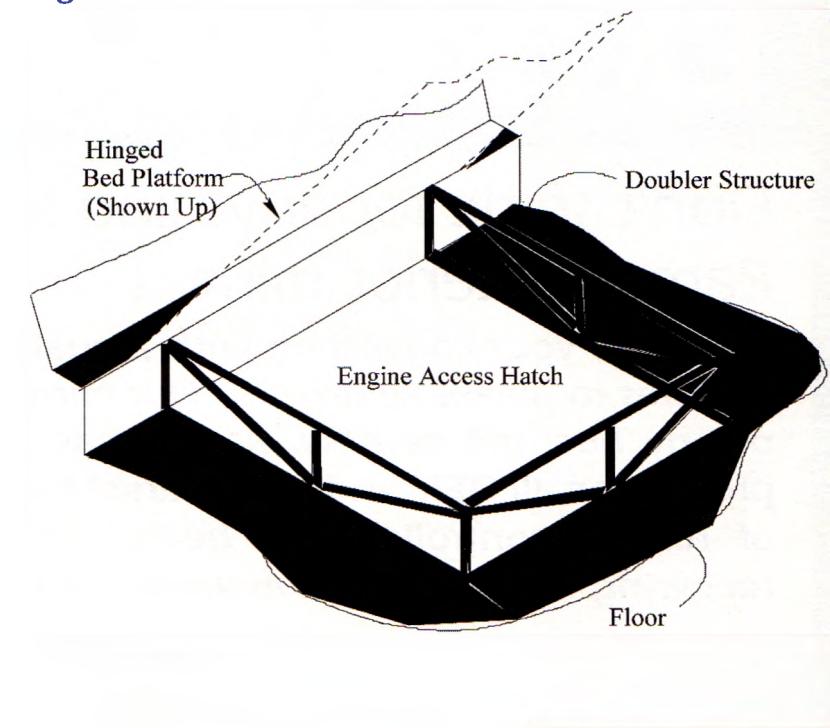
Since, Penn is almost a neighbor, he delivered them in person and gave me a few pointers how to install the material. The next day I began the job. The bed platform was raised and I began the application. First, however, I used masking paper and mashed it around the parts I was wrapping in order to approximate a template. I then used this template to cut the EHP blanket. It cut quite easily with just a pocket knife. A razor knife would also do the job.

One of the cautions, was to place paper beneath any area the material might drip to avoid a whitish stain on the part. The material molded pretty easy around straight section, but there were shapes where it had to be pieced together because of compound contours. The material has no adhesive properties so masking tape was used to hold it in place until it dried. After drying, it hardens into the molded shape. In order to insure it remains where it is placed, Concours West supplies stainless steel band clamps to wrap around the insulation. As an experiment on my own, I used metallic duct tape which can be seen in the picture of the finished installation. Our experience is the wet blanket as installed, is as effective as the fiberglass wrap, less labor intensive, less money and may be done by a rank amateur, (well almost rank.) I highly recommend it.

One of the neat things about EHP, is that it is a do-it-yourself material. By the way, for the curious, EHP stand for Engine Heat Protection. For further information, Concours West may be reached at (562)433-2121. Their address is 5915 Seaside Walk, Long Beach, CA 90803. Their web address is: <http://www.concourswest.com>.

Dave Galey has an engineering degree from the University of Oklahoma and 20 years experience as an aircraft structural designer. He has worked on many of his friends' buses and has converted several buses for other people. Among his many books are the Bus Converter's Bible and The Joys of Busing. ■

Figure 1



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