

## **A brief on the Brite Box application for the third generation (3G) Dodge Ram pickup . . . .**

**We have heard occasional complaints that the Brite Box application for the truck described above requires two units (one for each side of the vehicle), while the first (1G) and second (2G) trucks required only one unit that worked both the vehicle's headlights. Is this an attempt on our part to double our sales, or is there a reason for this? Obviously there is a reason and it is that this vehicle has a self-diagnosing, computerized lighting system that is very unique. As a result, it takes two special for this application Brite Boxes to preserve the integrity of the stock lighting system. We would like to stress that like any other maker of aftermarket products, we have to design our products to match the vehicle, and not the other way around. A brief description of how this system works:**

**Computerized control: When you turn on the headlight switch of this vehicle, it sends a coded signal to a computer, which then sends voltage to the headlight bulbs. In contrast, the 1G and 2G headlight switches sent power or ground directly to the headlights. Additionally, this system is self diagnosing in that it monitors the "health" of the headlight filaments, parking lights and brake lights. If one of these light filaments goes out, the computer informs the driver of the fault by illuminating a "Lamp Out" light in the instrument cluster.**

**Side to side isolation: The headlight circuits of this vehicle are electrically isolated from left to right. There are two reasons for doing this: 1) Isolation provides a margin of safety in the event of a short circuit, blown fuse, or other problem in a headlight. Should such a fault occur, isolation allows the other headlight to remain unaffected. Most European cars have had headlight isolation since the 60's. 2) Isolation was required to allow the computer to look at each filament for self diagnostics. Without isolation, BOTH high beam filaments or BOTH low beam filaments would have to go out before the computer could recognize a fault condition in those circuits and illuminate the "Lamp Out" light.**

**First Brite Box install in 3G body style: When the 3G truck was introduced in 2002 as a 1500 model, one of our dealers attempted to install a standard model Brite Box into a vehicle. He immediately found out about the side to side isolation as the Brite Box only worked the headlight it was installed on. More alarming was the fact that even though the low beams stayed on with high beams, when the headlights were switched from high beams to low beams the headlights TURNED COMPLETELY OFF for 1/2 to 3/4 of a second! The computer was doing a global reset in response to seeing both filaments on at the same time. Having the headlights shut off was not acceptable in anyone's book. Obviously this reset issue would have to be solved to make a Brite Box for this vehicle.**

**After a few months of research we were able to understand how this system functioned, and were then able to produce a Brite Box that worked perfectly in the vehicle. It is important to note that along with solving the computer reset issue, these Brite Boxes are also 100% compatible with the self diagnosing capabilities of the computer. Unfortunately, there was nothing we could do to eliminate the need for two units without compromising the original design of the headlight system.**

**It is interesting to note that the power enhancement industry has encountered similar issues with their products as these trucks have evolved. In 1G and 2G trucks, more power could be added by simply turning a screw on the fuel pump (pre 1994 1G - free!) or purchasing a torque plate and boost fitting (1994 - 1998 2G) for about \$200.00. With the introduction of the 2G (1998 1/2 - 2002) 24 valve motor, more power required a electronic box (many types available) that started at about \$400.00. In the 3G trucks, the simplest "pressure" type electronic boxes sell for between four and five hundred dollars, and the more sophisticated "timing and duration" boxes cost in excess of \$700.00! At the date this brief was written, one (not to be named) manufacturer of power boxes has repeatedly delayed introduction of their timing and duration box for various technical reasons. Obviously, the advances in truck design has also raised the sophistication of aftermarket products that have to be compatible with these modern designs.**

**It is our opinion that despite the fact the Brite Box application for this truck requires two computer compatible boxes, the installation of Brite Box is one of the most cost effective accessories you can install on this truck. Unlike most other accessories, Brite Box is a SAFETY item that you quite possibly will use every time you drive your truck at night. One cannot argue that better lighting provides safer driving conditions at night. How many other accessories are potential lifesavers?**

**We would also like to inform you that in October 2004, we will be introducing a Brite Box kit for this vehicle that will keep the factory installed fog lights on when the high beams are turned on. If you have any questions, please call Baker Auto Accessories at 970.879.4200.**