Note #208 - BMW Deadbolt Door Lock Circuits

• **WARNING!!!** Never use a testlight on a BMW. Probing the wrong wire can result in all of the actuators being damaged! (Including the trunk and fuel door). Use a multi-meter only.

• Do not remove and / or handle any door lock module. Most of them have an inertia switch which detects a crash or roll-over and will permanently affect the door locks if triggered.

• Be aware of dead bolt door locks in a BMW. This system appeared in some BMW's as early as the 1985-86 models. When the doors are locked from the driver's door key cylinder switch, a pin can be mechanically inserted into the door lock mechanism which will prevent the actuators from being unlocked except from the key. The rest of the doors in the vehicle will be dead bolted electrically. If an attempt is made to unlock the doors electrically (i.e. from the alarm's remote control), the actuators will be permanently damaged. There are a couple of ways to test and detect if the BMW vehicle has the dead bolt door lock system.
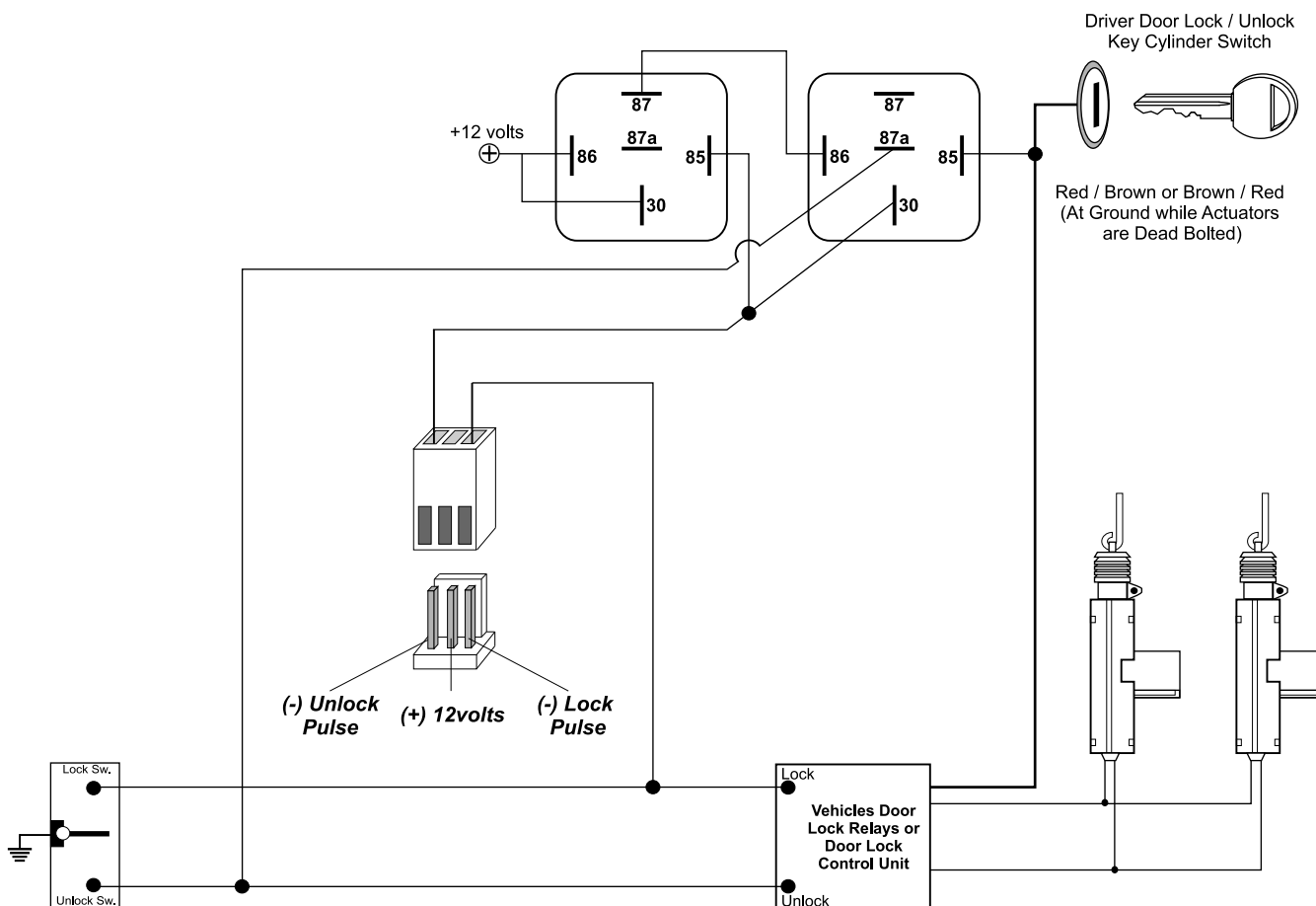
1) Turn the key cylinder switch in the driver's door to mechanically lock the driver door. After all of the other doors in the vehicle lock electrically, turn the key cylinder switch to the lock position again. If another "click" is heard, such as if the doors are trying to relock, then it is most likely that the vehicle does have the dead bolt door lock mechanism.

2) Turn the key cylinder switch in the driver's door to mechanically lock the door. After all of the other doors in the vehicle lock electrically, turn the key cylinder switch one step further than the lock position. If another "click" is heard, such as if the doors are trying to relock, then it is most likely that the vehicle does have the dead bolt door lock mechanism.

Fortunately, there is a switch in the door handle that goes to ground while the door lock mechanisms are in this dead bolt condition. This ground can be used as a relay bias (negative potential) to interrupt the unlock operation of a remote alarm or keyless entry system. Use one of the following diagrams to ensure that the unlock pulse from the alarm or keyless entry is interrupted to prevent the door lock actuators from being damaged:

• Negative Pulse Type door lock system (Diagram is below)
• Positive Pulse Type door lock system (Diagram is on the following page)
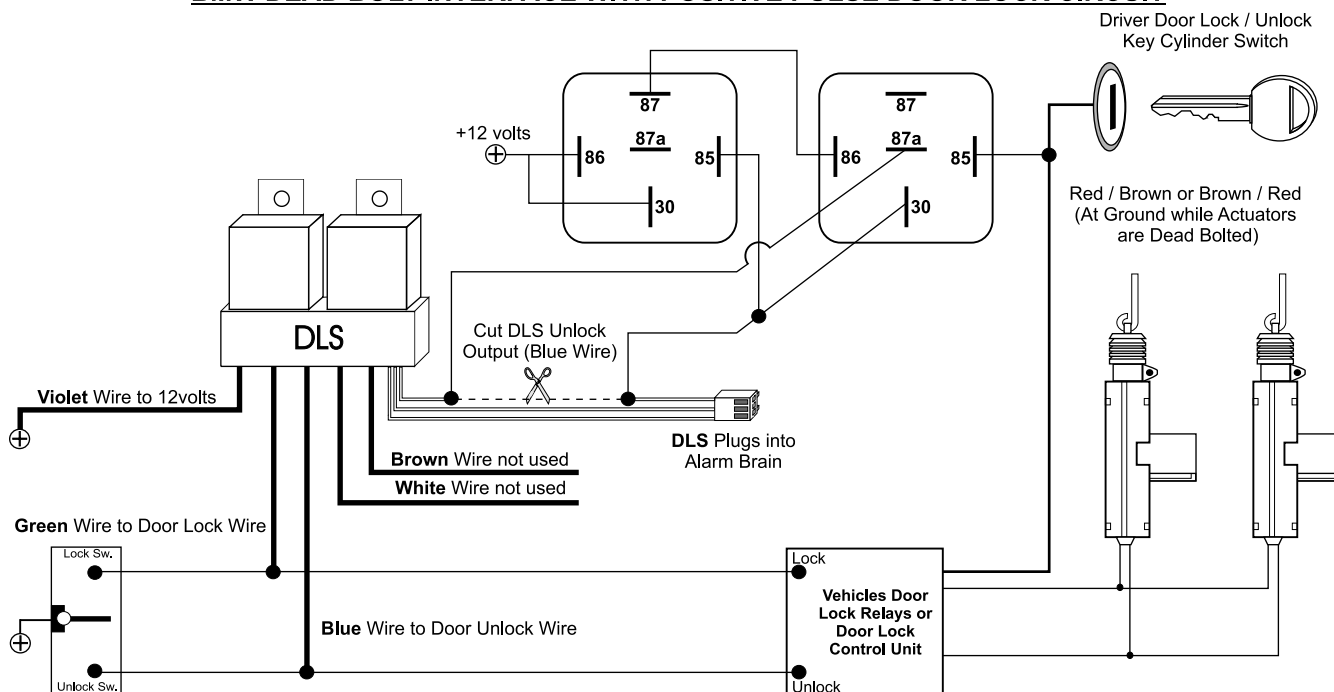• Reversal Rest at Ground Type door lock system (Diagram is on the following page)

BMW DEAD BOLT INTERFACE WITH NEGATIVE PULSE DOOR LOCK CIRCUIT

CONNECTION: The diagram above shows how to use the (-) lock and unlock outputs from the alarm or keyless entry to operate a Negative Pulse type BMW door lock system. The relays are used to open the unlock circuit from the DLS output if the doors are dead bolted from the door lock key cylinder switch. This will prevent damage to the door lock actuators if there is an unlock output while the actuators are dead bolted.
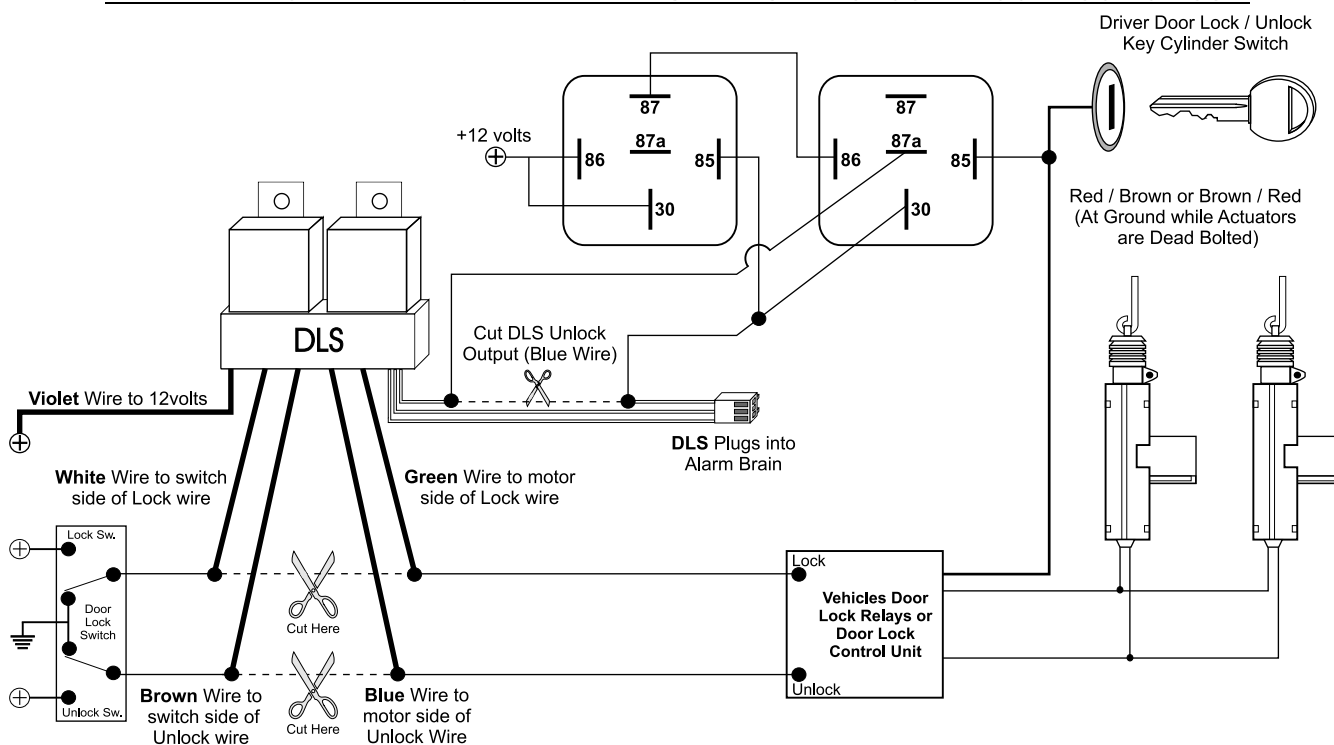
Note #208 - BMW Deadbolt Door Lock Circuits (continued)

BMW DEAD BOLT INTERFACE WITH POSITIVE PULSE DOOR LOCK CIRCUIT

CONNECTION: The diagram above shows how to connect the optional model "DLS" to a Positive Pulse type BMW door lock system. If the relays are going to be wired directly without the optional model "DLS", then use the "DLS" wiring diagram NOTE #200 to see how the relay coils are wired to the alarm brain outputs & how the wires from the relay contacts are wired to interface with the door lock system. The extra relays shown in the diagram are used to open the unlock circuit from the DLS output if the doors are dead bolted from the door lock key cylinder switch. This will prevent damage to the door lock actuators if there is an unlock output while the actuators are dead bolted.

BMW DEAD BOLT INTERFACE WITH REVERSAL REST AT GROUND DOOR LOCK CIRCUIT

CONNECTION: The diagram above shows how to connect the optional model "DLS" to a Reversal Rest at Ground type BMW door lock system. If the relays are going to be wired directly without the optional model "DLS" then use the "DLS" wiring diagram NOTE #200 to see how the relay coils are wired to the alarm brain outputs & how the wires from the relay contacts are wired to interface with the door lock system. The extra relays shown in the diagram are used to open the unlock circuit from the DLS output if the doors are dead bolted from the door lock key cylinder switch. This will prevent damage to the door lock actuators if there is an unlock output while the actuators are dead bolted.