

HID LIGHTING SYSTEMS

Disclaimer

We do not accept responsibility for any physical, mental, or financial damages of any kind you may incur from this tutorial's methods, information, and recommendations. It is always advised to have installation performed by a professional and to follow vehicle safety codes and regulations of your vehicle's registered State, Country. Laws and codes may vary by location. All installations are at your own risk.

SLK R171

- ▣ Low Beams
 - Option 1 : Halogen H7 bulbs (upgradeable to HID)
 - Option 2 : HID lighting system (bulbs changeable for different color temperature [K])
- ▣ High Beams
 - H7 Halogen bulbs (upgradeable to HID)
 - Bi-Xenon HID lighting system with additional H7 high beam bulbs (upgradeable to HID)
- ▣ Fog Lights
 - Option 1 : NON-AMG Option, NON-Cornering = 9006
 - Option 2 : NON-AMG Option, W/Cornering = H7 via adapter
 - Option 3 : AMG Option = 9006
 - Option 3 : SLK55 AMG = 9006

All the 9006 options can be easily upgraded to HID.

The NON-AMG Option, W/Cornering feature is difficult because the H7 bulb sits in a special holder which resembles a 9006 but is larger. The harness plugs into the holder, not into the bulb directly. However the plug on the harness is for 9006 bulbs.

H7 Fog light holder is similar to the BMW low beam HID upgrade adapter

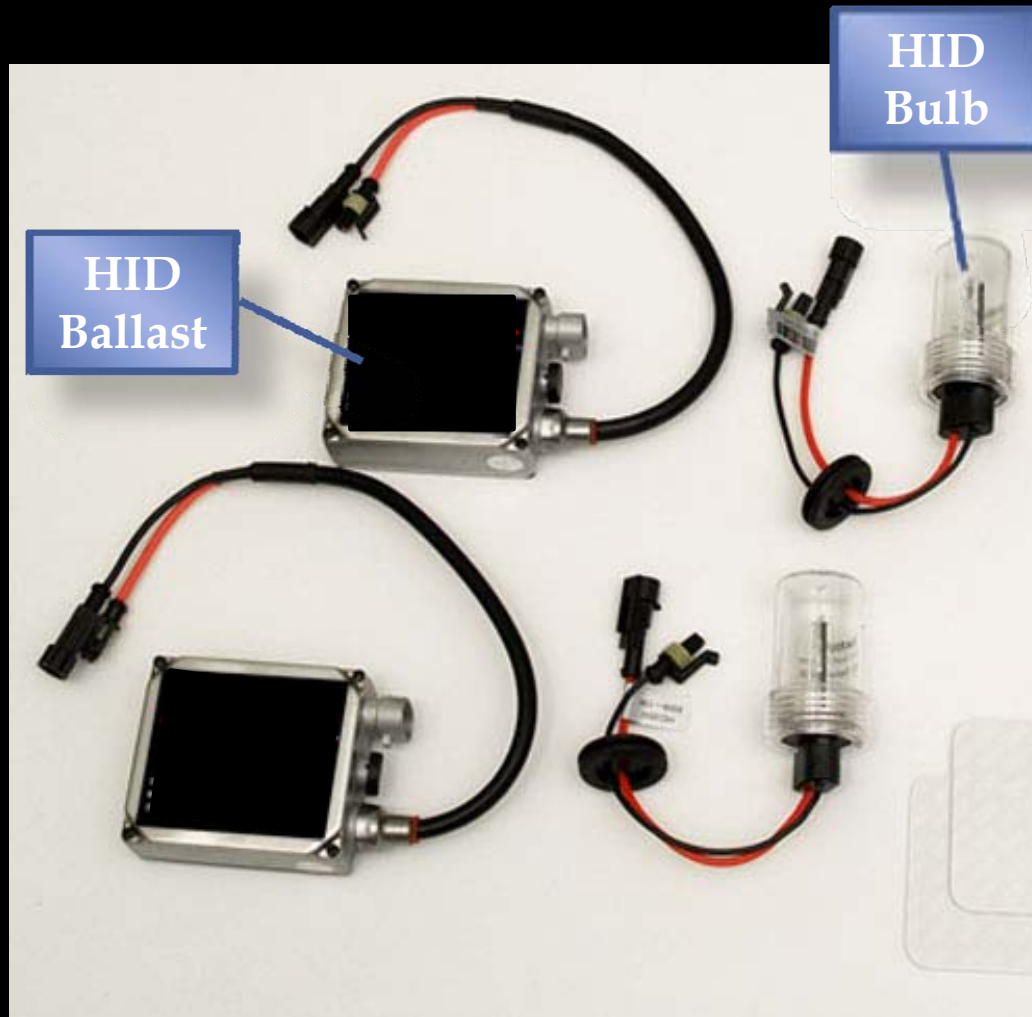


2 Different Types of HID Systems

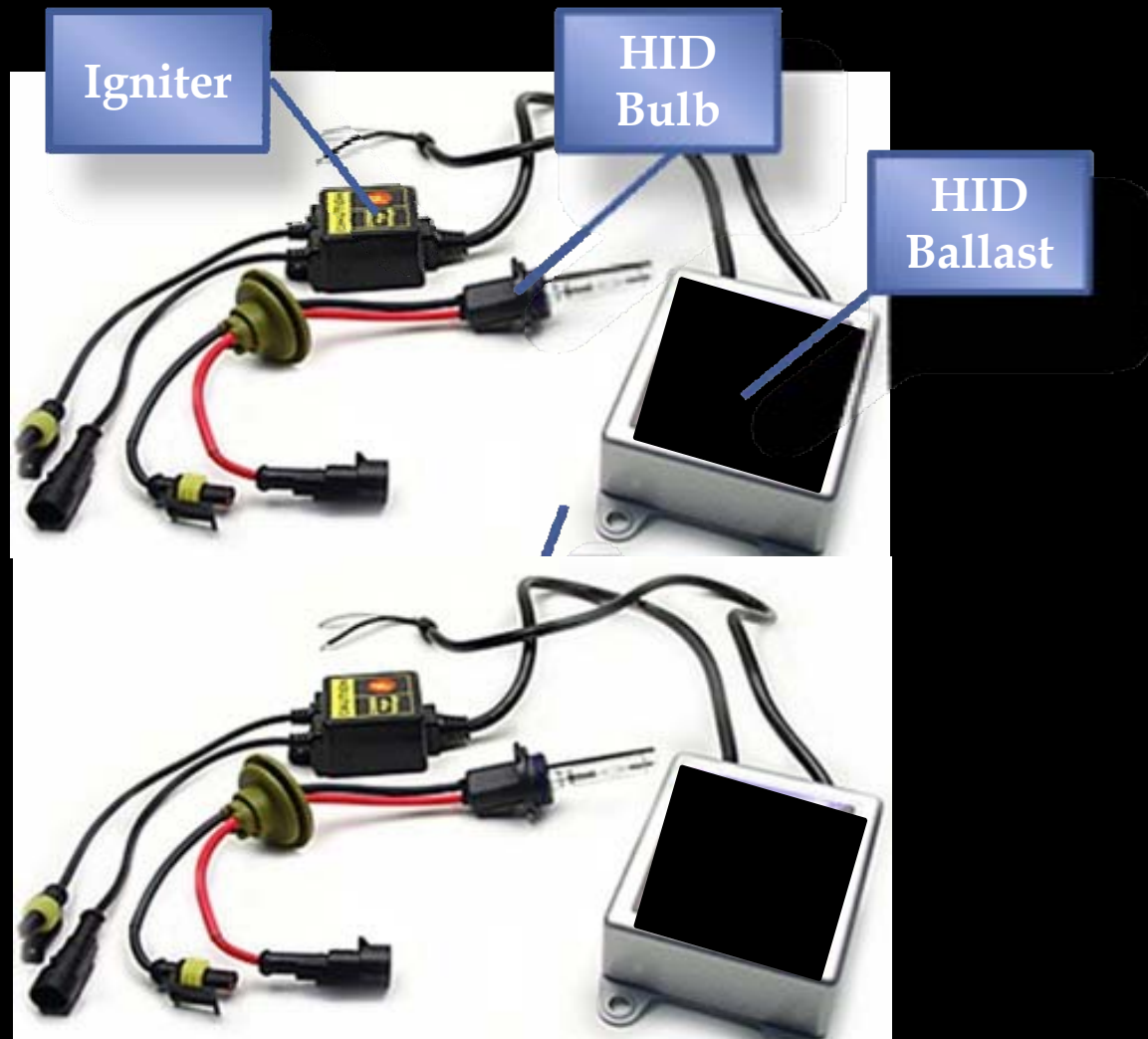
- ▣ #1 = HID Ballast With Built-in Igniter
 - Part list:
 - ▣ HID Ballast
 - ▣ HID Bulb (also called Burner) with built in wires

- ▣ #2 = HID Ballast With Separate Igniter
 - Part List:
 - ▣ HID Ballast
 - ▣ HID Igniter
 - ▣ HID Bulb (also called Burner) with built in wires

#1 = HID Ballast With Built-in Igniter



#2 = HID Ballast With Separate Igniter



Wiring Types

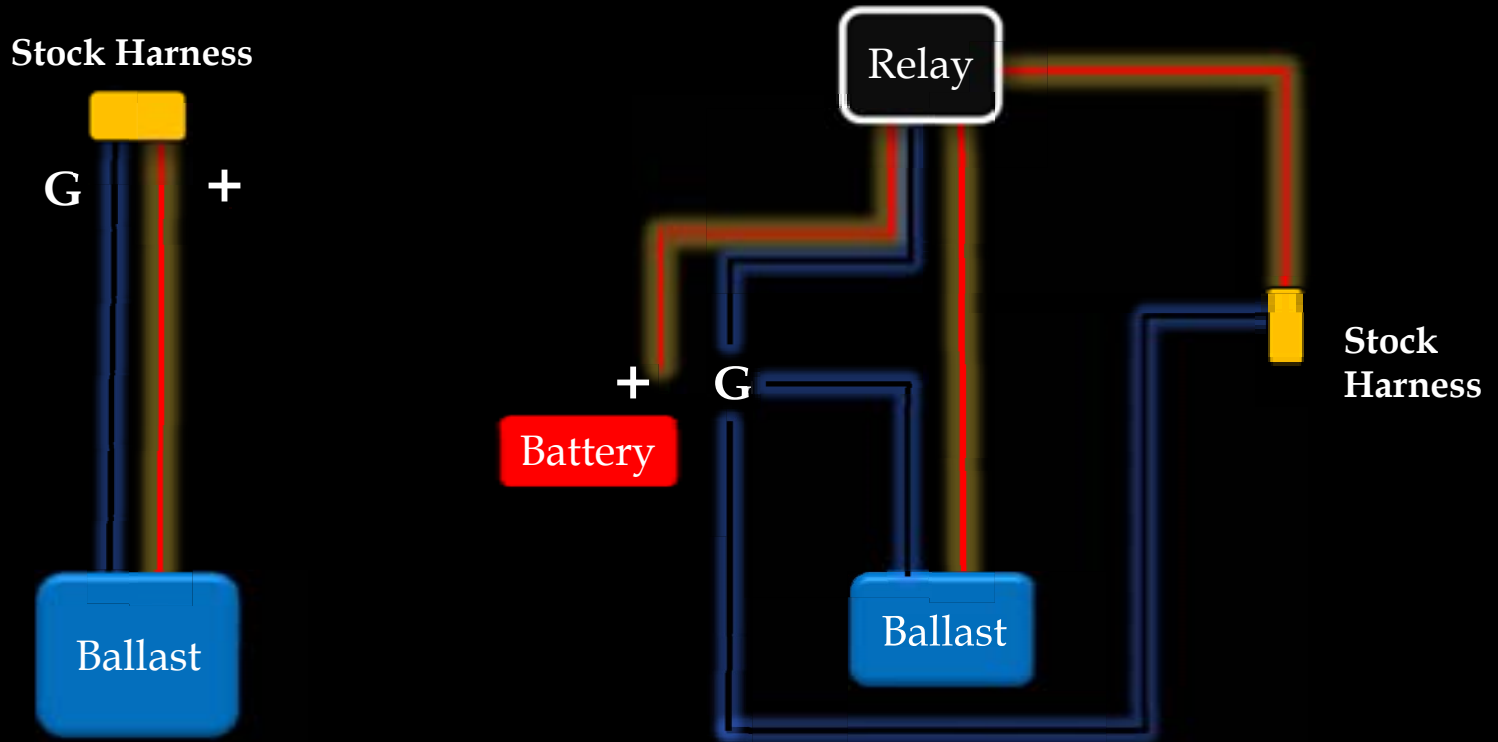
- ▣ A = Stock Harness Power Draw
 - Description:
 - ▣ Harness wire which has on one end a connector that fits directly to your car's stock harness (H7, H3, 9006...so on) and on the other end a connector that fits directly to your Ballast.

- ▣ B = Relay / Battery Power Draw
 - Description:
 - ▣ Harness wire which has on one end a connector that fits directly to your car's stock harness (H7, H3, H1...so on) usually located near the HID bulb, which connects to a relay.
 - ▣ +12v Constant Wire that runs from the battery terminal to the relay & Ground wire to relay.
 - ▣ Wires from Relay that connect to the Ballast

How It All Connects

- ▣ The 2 kinds of HID Systems can be matched with either of the 2 kinds of wiring types in an HID kit.
 - HID Ballast With Built-in Igniter + Stock Harness Power Draw
 - HID Ballast With Built-in Igniter + Relay / Battery Power Draw
 - HID Ballast With Separate Igniter + Stock Harness Power Draw
 - HID Ballast With Separate Igniter + Relay / Battery Power Draw

Wiring Types



A = Stock Harness
Power Draw

B = Relay / Battery
Power Draw

Difference Between Wiring Types

▣ A = Stock Harness Power Draw

- The HID Ballast draws power directly from the car's stock harness. The wattage will vary depending on which bulb is being replaced and what kind of light it is (Low-beam, High-beam, Fog)
- Typically HID Ballasts draw 35w regardless of bulb fitment and type.
 - ▣ Known Issue: some vehicles are equipped with a bulb malfunction computer which monitors the line for burned bulbs or short circuits. Typically 35w HID ballast draw enough power to **NOT cause bulb malfunction errors.**

▣ B = Relay / Battery Power Draw

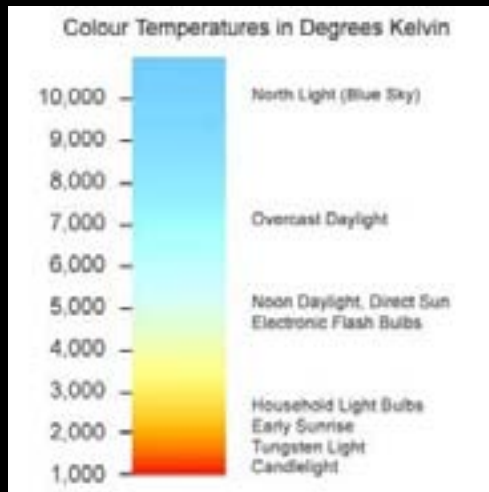
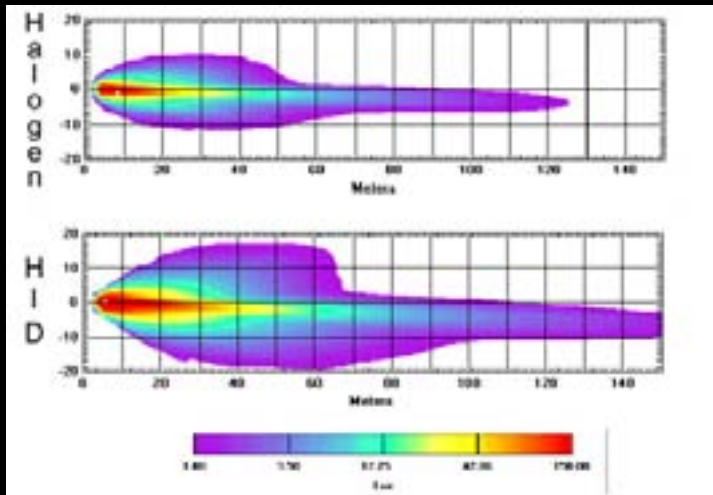
- The HID Ballast draws power directly from the car's battery.
- The car's stock harness becomes a simple trigger switch for the relay to direct power from the battery to the ballast. When the switch is turned on, it send power down the stock harness into the relay which then activates the connection between the battery and the HID ballast. No substantial power is actually being drawn from the stock car's harness as the battery is providing the entire load. To your vehicle this resembles a burnt bulb. This system **WILL typically CAUSE BULB OUT MALFUNCTION ERRORS** on vehicles equipped with a bulb monitoring system.

HID Bulb Types

Will vary on manufacturer



HID Bulb Color Temperature



DON'T BE FOOLED

The higher the degrees Kelvin (K) the lower the light output (Lumens) (L)

Typical Color Temperature (K)
-VS-
Actual Light Output (Lumens)

4300K = 3100 lumens
6000K = 2900 lumens
8000K = 2500 lumens
10000K = 2300 lumens
12000K = 2100 lumens

Some people experience eye fatigue due to low beam headlight outputs of higher color temperatures then 4300K. This is a personal claim so your results may vary and also the reason why automotive manufacturers use 4300K

The figures above are estimates and will vary based on HID bulb and Ballast manufacturers.

Frequently Asked Questions

Which kit is better?

- This is a never ending debate. Every car owner has a threshold on how bright and how custom they want their vehicle to look. Some prefer the stock look of 4300K while others the custom look of 10,000K bulbs. After all, it's your car and your personal style.
- Some prefer the built in ballast with igniter option, others prefer to have the option to swap out the igniter in the rare event that it goes bad. Typically automotive manufacturers do not use Type 2 Ballasts with external igniters.

Which wiring type will work with my car?

- Typically wiring type A - Stock Harness Power Draw works with most vehicle. This is especially true for premium car manufacturers who utilize bulb malfunction monitoring systems.

What if I bought the wiring type B - Relay / Battery Power Draw kit and get the bulb malfunction?

- You can simply convert the type B wiring kit to a type A wiring kit. Locate the power wires that connect from the relay/ground to the Ballast. Now use these wires along with your stock harness adapter to connect directly to the vehicle's stock harness.

Will the malfunctions be cleared after I correct the wiring?

- Yes, typically the error will be cleared once the wiring is corrected or the stock halogen bulb is reinstalled. You may also try to turn off the car/remove key and let the car sit for a few minutes, then check for errors.

What if I want to install an HID kit into a car that has special cornering fog lights that illuminate automatically on turns?

- You will need to have your DEALER disable the feature. HID kits will typically not work with the cornering feature because the bulbs gradually illuminate rather than instantly turn on. This gradual illumination can damage your HID ballasts as they are not designed to gradually turn on.

WHEN IN DOUBT
ASK SOMEONE