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The Future of Performance Lighting

Congratulations on your purchase of the finest HID conversion kits available! This guide is intended to illustrate a typical step-by-step installation of our Bi-Xenon HID conversion kit. The vehicle illustrated is a 2003 Ford Mustang, but the overall installation of the system will be similar in any vehicle. *Professional installation of our HID lighting systems is always recommended as these systems generate high voltages in excess of 20,000 volts!*

Your kit should have included the following items:

- (2) Waterproof digital ballasts
- (2) Genuine heavy duty laser calibrated Xenon bulbs
- A high voltage, high temperature silicone rubber cable assembly
- Mounting hardware
- Installation diagram

If your kit did not include all of the above items, please contact us before attempting installation!

CAUTION: At no time during the installation should you touch or make contact with the Xenon bulbs. By doing so, the oil from your hands could damage them! Keep them in their protective plastic covers until you are ready to install them in the headlamp housings.

STEP 1 – Safety first!

Disconnect the negative (-) battery cable and move the cable far enough away from the battery that it does not accidentally touch the negative (-) battery post during the installation.

STEP 2 – Determine suitable locations for all of the components

Please note that some ballasts have a small box connected to it; this is the ignitor. The wiring from the ballasts and ignitors CANNOT be extended. Therefore, it is best to choose a location for each near the respective headlamp assemblies that will allow the harnesses from the ignitors to reach the Xenon bulbs. Once you have determined suitable locations for the ballasts and ignitors, temporarily lay out the included wiring harness and determine a location near the battery to locate the relay. Extend each of the pigtailed wires to the areas that you intend to mount the ballasts to be sure that they reach.

STEP 3 – Remove the stock headlamp assemblies

This will vary by vehicle. When in doubt, consult your vehicle's service manual for instructions on how to do this.



Remove the retaining clips.



Gently pull the headlamp assembly forward and unplug the headlight, being careful not to damage the retainers on the plug.



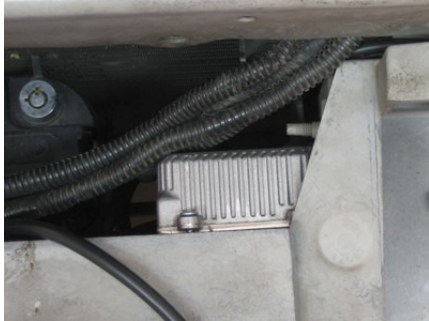
Locate the parking lamp connector on the rear of the headlamp assembly and unplug it, also being careful not to damage the retainers on the plug.

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STEP 4 – Mount the ballasts and ignitors

Use the provided double stick tape OR the mounting screws to securely mount the ballasts and ignitors in place. Although these components are waterproof, mount them so that their cables exit downward whenever possible.



This is an ideal location for the ballast, just to the left of the driver's side headlamp assembly and behind the grill.

Note 1: Some ballast have a clear or blue protective film on them to protect them in shipping. Be sure and remove this film before using the double sided tape.

Note 2: Although these components are waterproof, mount them so that their cables exit downward whenever possible.

*Note 3: The cables from these units have EXTREMELY high voltage present on them when in use. **NEVER** attempt to connect or disconnect them with the system in operation or you risk a serious shock!*



Shown here is an ideal location for the ignitor, just behind the headlamp assembly mounting area.

Note 4: Only one side is shown for clarity. Automotive kits will require mounting two ballast / ignitor assemblies.

STEP 5 – Install the wiring harness

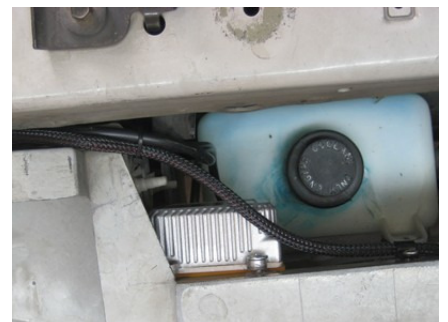
Carefully route the wiring harness to each of the ballasts. Be sure to keep it out of harms way by keeping it clear of moving parts or areas of high heat like the engine, exhaust, or a turbocharger.



The relay is mounted to the driver's side radiator support in this vehicle.



Use cable ties to secure the wiring harness along its route.



Note that the harness is properly anchored and out of harm's way.



Plug the harness into the passenger side ballast & bundle the excess if there is any.



Plug the harness into the OEM headlight connector (yours may differ slightly).



Plug the harness into the driver's side ballast, then tuck these out of the way.

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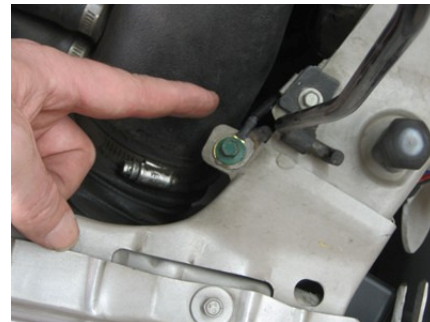
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Route the cables from the ballast and ignitor through to the headlamp assembly.



Ground the harness* to the chassis or body on the driver's side.



Ground the harness* to the chassis or body on the passenger side

***Be sure and ground the harness well on both sides** - poor grounding is an extremely common problem. As pictured in this vehicle, the grounds are connected to factory ground locations. If connecting to the chassis or body, please:

- scrape the paint away from a 3/8" diameter area with a flat blade screwdriver
- coat this paint free area with white lithium grease or Vaseline to inhibit rust
- use a nickel plated star washer between the ring terminal and grounding point
- use a nickel plated screw to securely connect the ring terminal and star washer to the chassis or body

This will promote a low resistance ground connection and ensure reliable operation of your kit for years to come!



Connect the fuse holder to the battery (+)

STEP 6 – Install the Xenon bulbs and headlamp assemblies



Carefully remove the stock bulbs by twisting the retainer counterclockwise. Once the retainer has been removed, pull the bulb straight out of the socket. **



Install the Xenon bulbs, being sure not to touch or come in contact with the glass! Use the provided plastic covers to protect the stock bulbs with.



Plug the headlamp assemblies into the harnesses from the ballast and ignitor and reinstall them, being sure to plug the parking lamp harnesses back in!

****Note:** Some bulbs, such as the H4/9003, use a retaining clip to secure the bulb in place instead of the twist & lock method.

STEP 7 – Reconnect the negative (-) cable to the battery

STEP 8 – Test the system

Turn your headlight switch ON, the Xenon bulbs should flicker momentarily and then light up over the course of about 10 – 20 seconds. After the bulbs have warmed up, turn your bright light switch ON. Both the low and high beams should work as they did with your stock bulbs.

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STEP 9 – Aim your new headlights

We highly recommend that you check your alignment after installing an HID conversion kit to avoid excessive glare. To get the best performance from your new FutureVisionHID.com HID conversion kit, perform the following. All steps must be completed on a flat level surface which is adjacent to a vertical wall – like your driveway and garage door for example. You will need a straight edge, some masking tape, and a tape measure to perform these steps.

- A. Pull the vehicle up, as straight as possible, so that it is within one foot or so (30cm) of the wall. Use a straight edge from the centerline of the vehicle's hood or grille to the wall and mark this on the wall with a vertically placed piece of masking tape about 18 inches (45cm) long. Mark this strip as CENTERLINE.
- B. Pull the vehicle straight back until the headlights are 25 feet (7m 62cm) from the wall. We recommend that you measure to each headlight so that you are sure the vehicle is perpendicular to the wall, otherwise your measurements will be skewed.
- C. Make the following measurements and note them in the spaces provided below. Measure from the:
 1. ground to the center of one of the headlights: _____ inches / cm
 2. center of one of the low beam headlights to the centerline of the vehicle: _____ inches / cm

For vehicles with 4 headlight systems, also measure from the:

 3. center of one of the high beam headlights to the centerline of vehicle: _____ inches / cm
- D. Make a mark on the tape strip labeled CENTERLINE that is exactly 2 inches (5cm) lower than measurement # 1 from above.
- E. Make a level horizontal line on the wall with masking tape using this mark as its height center. This should be the same width as your vehicle. Mark this strip as LOW BEAM.
- F. On this line, mark the tape from the center out both directions per measurement # 2 above.
- G. Place 6 inch (15cm) long pieces of masking tape centered vertically over these marks. Mark these as LOW CENTER. When completed, your tape lines should appear like Diagram 1.

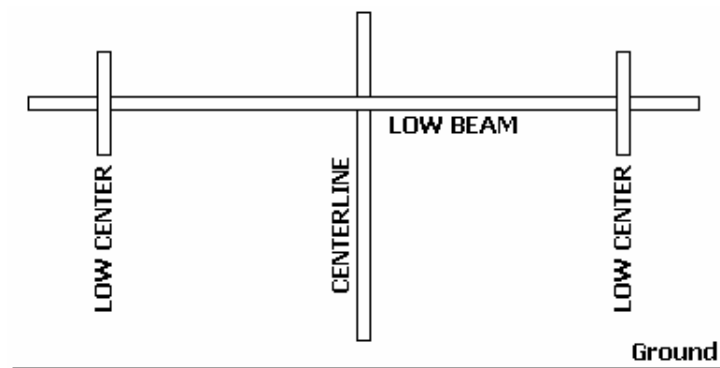


Diagram 1

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For vehicles with 4 headlight systems, also perform Steps H-K:

- H. Make a mark on the CENTERLINE tape that is the same height as measurement # 1 above.
- I. Make a 2nd level horizontal line on the wall with masking tape using this mark as its height center. This should also be the same width as your vehicle. Mark this strip as HIGH BEAM.
- J. On this line, mark the tape from the center out both directions per measurement # 3 above.
- K. Place 6 inch (15cm) long pieces of masking tape centered vertically over these marks. Mark these as HIGH CENTER. When completed, your tape lines should appear like Diagram 2.

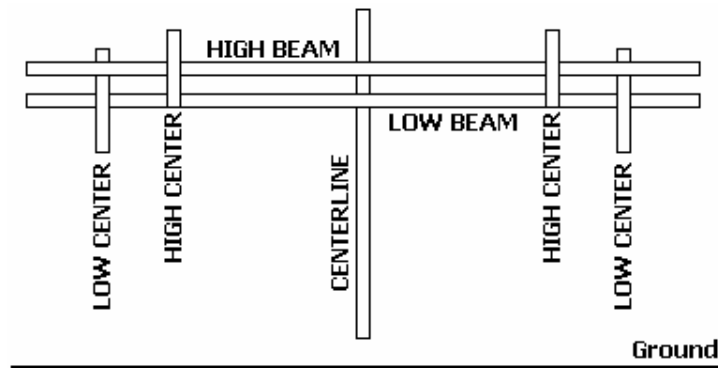


Diagram 2

- L. Adjust the headlights. [Refer to your vehicle's owners manual for specifics on how to make these adjustments.]
 1. Turn the headlights ON and adjust the vertical aim of the headlights so that the top horizontal cutoff of each of the beams is located along the LOW BEAM line on the wall.
 2. Adjust the horizontal aim of the low beam headlights so that the point at which the top cutoff of the beam begins to slope upwards is located as shown in Diagram 3.

For vehicles with 4 headlight systems, also perform the following:

3. Turn the high beams ON and adjust them so that the center of the illuminated region is located at the cross formed by the strips of tape marked HIGH BEAM and HIGH CENTER as shown in Diagram 4.

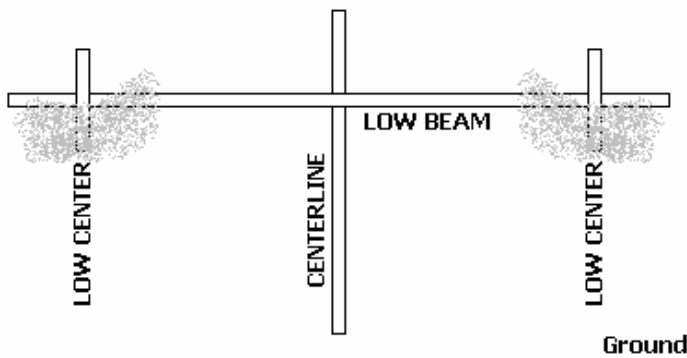


Diagram 3

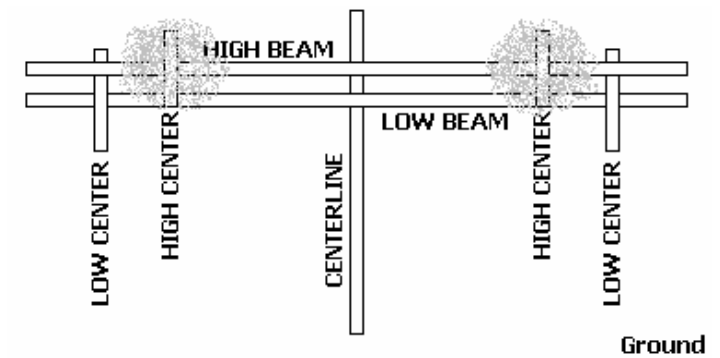


Diagram 4