

FAQs About Xenon Headlamp Systems

Does Xenon produce more glare?

Xenon does not produce more glare than a halogen system. Federal requirements, which limit the amount of headlamp glare, are identical for Xenon and halogen headlamp systems. The American Automotive Association (AAA) study on glare clearly outlines root causes for glare. Xenon is blue because of light energy distribution produced by gases inside of the bulb. The radiation output of an Xenon bulb has a line spectrum with some of the peaks in the visible blue region.

Are all blue headlamps Xenon systems?

There are blue-coated (halogen) bulbs available that try to mimic Xenon color/appearance. The blue color of Xenon is not due to a bulb coating, but rather is a result of the high voltage arc and discharge of internal gases.

How do I know my Xenon system is legal?

The outer lens of a headlamp is required to be marked with the light source used. If your car is equipped with an Xenon system, the markings D1S, D1R, D2S or D2R, depending on type of lamp design, should be displayed on the lens. The letters "DOT" should also appear on the lens to indicate compliance to U.S. Department of Transportation regulations. If the product is labeled with the disclaimer "for off-road use only," it is not legal for highway use.

How is Xenon different from Xenon look-alike bulbs?

It is somewhat difficult for an on-coming driver to determine if a vehicle is equipped with an Xenon system or halogen bulbs that are designed to mimic the appearance of Xenon. This is due to the fact that current versions of Xenon look-alike halogen bulbs closely parallel the color temperature of Xenon systems. However, a vehicle equipped with an Xenon system can usually be differentiated from an Xenon look-alike halogen system by the significant increase in foreground and side lighting resulting in better roadway illumination for the driver.

How do I know my vehicle is equipped with Xenon system?

Xenon headlamps are easily recognizable because of their distinctive bluish white appearance vs. a more yellowish appearance of standard halogen systems. Headlights equipped with Xenon put more light on the road than standard halogen systems. Xenon systems "flash" blue and change color during the first few seconds of vehicle start-up.

Can I upgrade my halogen system to a Xenon system?

Certain vehicles are designed with an optional Xenon system. Visit www.mvlc.info to see the vehicles equipped with an OEM Xenon system. There are some aftermarket Xenon lighting systems made by reputable lighting companies that meet all legal requirements required by federal regulations. These lighting companies are often the suppliers to OEM vehicle manufacturers as well.

Why is Xenon blue?

Xenon is blue because of light energy distribution produced by gases inside of the bulb. The radiation output of Xenon bulb has a line spectrum with some of the peaks in the visible blue region.

Can I replace my halogen bulb with an Xenon bulb?

A full Xenon lighting system consists of the following components:

- Xenon light source
- Ballast
- Igniter
- Reflector
- Lens

All of these components are designed to work together as a system and meet federal regulations. Simply substituting a Xenon bulb for any other light source does not provide a legal headlamp beam pattern.

For more details on Xenon technology, please visit www.mvlc.info



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The MVL is administered by the
Motor & Equipment Manufacturers Association



The Facts About Xenon* Lights



Produced by the Motor Vehicle Lighting Council



* Also known as HID

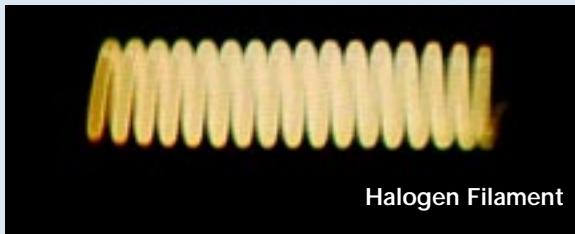
What Is the MVLC?

The Motor Vehicle Lighting Council is a coalition of the leading global automotive lighting and component manufacturers and related education and research institutions who are committed to bringing new lighting advancements to the market in order to increase the performance and safety benefits of today's and tomorrow's cars and trucks.

The Council supports ongoing research initiatives to understand the issue of glare and aims to educate the public to help create a better understanding of the benefits of Xenon and other advanced lighting technologies.

What Is Xenon Technology?

Unlike halogen incandescent light sources, the Xenon light source does not have a filament. Instead, it creates light from an electrical discharge between two electrodes in a microenvironment of xenon gas, elements and compounds that are hermetically sealed in a tiny quartz capsule. The arc tube is



encased in a special glass jacket that filters the light to eliminate harmful ultraviolet rays. The light is emitted by an electrically energized gas — a plasma discharge — formed and sustained between two electrodes.

Xenon System Components

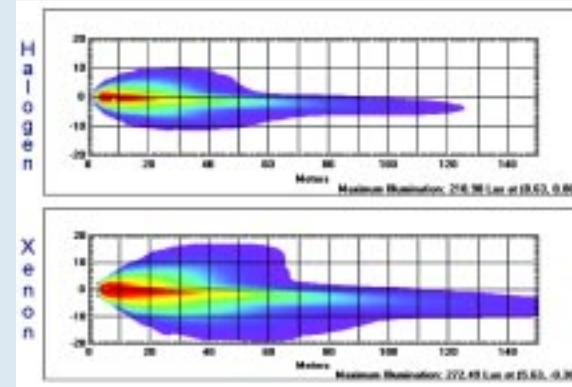


Two lamp types are offered: D1 lamps with an integrated starter and D2 lamps with a plain plastic base. In both, there is an S-type specifically designed for projector optics and an R-type for reflector optic systems. The Xenon system includes an electronic ballast that controls the arc ignition process and sustains the arc in normal operation.



System Features/Benefits

Increased Light Output: Offers up to 70 percent more light than standard halogen headlight sources. This additional light output is most often used to make wider beam patterns with more even light distribution.



Illumination: Blue-white Xenon light is closer to natural daylight than halogen.



Xenon produces up to 70 percent more light output and a wider beam which potentially increases safety.

Lower Wattage: Less power draw for more light.

Light Source Life: Xenon offers very long product life, designed to last at least 3,000 hours.

Durability: Lack of coil in light source provides increased durability and resistance to shock and vibration. Xenon is durable, reliable and maintenance free for the life of the vehicle.

Component Replacement: Light source and ballast can be replaced separately.

Xenon Market Acceptance

Xenon has been accepted as the technology of choice for high performance forward lighting systems. It is now commonly found on luxury and high performance models around the world.

More than 15 percent of new vehicles sold in Europe and Japan are equipped with Xenon lighting. In North America, the Xenon new car application rate is 6 percent, and nearly 1 million vehicles were sold with Xenon in 2003. Xenon is still concentrated in the luxury segments in North America. Xenon headlamps are gaining acceptance in segments other than the luxury market, however, including minivans, midsize sedans and compact vehicles.