Practising Headlight Safety: When to Switch Between High and Low Beams

Your car’s headlights are your eyes while driving in the dark. They show a clear picture of the road you're driving on, making it easier to take road turns or drive smoothly at night. However, their function exceeds navigation; they allow you to see what's ahead of you, such as pedestrians, animals, and other vehicles on the road.

Headlights consist of high and low beams, designed for specific situations. While this enhances safe driving at night, a lack of knowledge of headlight functions can lead to unpleasant outcomes. To avoid accidents and keep the road safe, it's crucial to understand how high and low beams work and when to use them.

High Beams and Low Beams Explained

High beams are used for long-range visibility, providing light for approximately 350-400 feet ahead to illuminate dark roads. They are angled high and built to illuminate the road and beyond, making spotting hazards from a distance easier. However, their brightness can blind drivers, so it’s crucial to know when to use them.

Low beams, on the other hand, are used for short-range visibility. They illuminate the road for approximately 160-200 feet ahead, with the lights angled downwards to avoid blinding other road users. They're designed for use in city streets or when you're close to other cars, providing sufficient visibility without overwhelming others with unneeded brightness.

Both beams are vital when driving, but knowing when to use them is the focal point.

When to Use High Beams

High beams are your go-to option when driving on dark, empty roads with no other cars around. They are also excellent for navigating open highways, rural roads, or back roads with poor or no street lights, especially when driving above 25 mph. They provide extra visibility to quickly spot hazards from a distance, especially when driving at high speeds.

These are some perfect scenarios to turn on high beams.

- **Rural roads**: When driving through farmlands or rural areas at dusk, high beams help you quickly spot hidden bends or animals crossing the streets, giving you enough time to react.
- **Midnight highway drives:** When cruising through an interstate road with no car in sight, turn on high beams. They can help detect road signs or debris 400 feet ahead. When one is driving at 66 mph, they are likely to cover about 88 feet per second. Low beams in this situation may not give drivers enough time to react if there is an obstacle on the highway.
- **Construction zone at nighttime:** Some zones have poor or no lighting. High beams can reveal barriers or night workers. However, do this when there are no vehicles are around or approaching on an opposing lane.

Extra safety tip: Avoid using high beams when it is foggy, rainy, or snowy. They deflect water particles, worsening visibility. In these conditions, turn on low beams or fog lights.

When to Use Low Beams

By default, low beams are used for most driving, especially when there are other road users. They are less intense; they light up the road without overwhelming other drivers with excessive brightness. They are best used in these conditions.

- **City drives at night:** When driving downtown with proper lighting everywhere, low beams provide more visibility without negatively affecting pedestrians or other drivers.
- **Following another vehicle:** Low beams help prevent glare in their mirrors when driving behind other vehicles. As a general rule, it is recommended that you dim your headlights 200-300 feet ahead of a vehicle.
- **Oncoming vehicle:** Switch to low beams when a car is approximately within 500 feet on a different lane and is approaching from the opposite direction on a dark road to prevent them from squinting.
- **Bad weather:** Low beams or fog lights are your best options when it's foggy or rainy, as they help reduce glare and improve visibility. For example, when driving through a suburban area after a storm, low beams help spot puddles, fallen branches, or kids on bikes without blinding anyone on the sidewalk.

How to Safely Switch Between High and Low Beams

Switching between high and low beams is simple but requires proper knowledge and focus. Here's how to do it right.

Understand Your Car's Setup

Most vehicles use a steering column switch that reads "push for high beams, pull for low beams." In contrast, some cars have an automatic switch mode for this function. However, don't rely on it constantly, as it can fail. Check your owner's manual to learn how to operate the headlight function.

Be Vigilant

Staying focused while driving will help you notice other vehicles' headlights or taillights early enough. Switch from high to low beams when you see a car approaching. Whenever you approach a bend, switch to low beams when you spot another vehicle's oncoming light.

Use Dashboard Indicator Light

A dashboard indicator shows which beam is currently active. The high beam indicator light, usually a blue icon with lines, indicates the high beam is engaged. Dim your lights the moment you see a vehicle.

Show Courtesy

Dimming lights early sends a message to other drivers that you're paying attention. Similarly, when you notice another driver has their high beams engaged, quickly flashing your high beams can help them realise and correct their mistake without blinding them.

Automatic Dimming Technology: Why Drivers Shouldn't Rely on It

Automatic high beams (AHB) are a sweet addition to a car's tech features. They consist of cameras and sensors that detect vehicles around them and help to switch between beams. Brands such as Ford, Toyota, Honda, Audi, BMW, and Mercedes-Benz have incorporated them into their safety systems.

Systems like the Ford Co-Pilot360, Honda Sensing Suite, or Toyota Safety Sense are a few examples of safety systems that feature Automatic Dimming Technology. Toyota's AHB, for example, can detect headlights 400 meters away and taillights within a 100 meters, helping drivers to dim their lights fast enough.

However, while these features are sometimes effective, they are flawed. City areas with many streetlights can trick the AHB into leaving high beams turned on in the wrong situations. It can also cause the beams to blink rapidly, which can distract drivers and compromise safety.

When approaching curves, AHB can fail to detect the glow from incoming vehicles on time, preventing drivers from dimming lights when needed. Do not fail to operate your beams manually if they start malfunctioning. Always relying on AHB is like depending on autopilot in a storm; they can help, but your brain works better.

LED Headlight Technology: Bright, Efficient, but Tricky

LED headlights are a valuable addition to the automobile world. They are brighter, energy-saving, and last longer than halogens or HID bulbs. Their crisp lighting and glow make it easier to detect hazards on the road. However, the intensity of their brightness can be overwhelming. If not used carefully, LED lights can cause temporary blindness to other road users, increasing the chances of accidents.

Keep these in mind when driving with LED headlights.

- **Alignment issues:** Misaligned LED lights can reflect directly into another driver's eye, causing temporary blindness. If you notice other vehicles constantly flashing their beams at you to an unusual extent, have your headlamps checked and adjusted at a shop.
- **Dim early**: LED headlights are brighter than regular headlights, so their glare is more intense. Switch to low beams quicker than you would with halogens, especially when vehicles are on opposing lanes.

- **Be cautious of the weather:** LED headlights function excellently in most weather conditions. However, when it's foggy or rainy, they can cause glare. Ensure you switch to low beams or fog lights in these conditions.

Some cars feature an adaptive LED system that adjusts the beams to avoid intense illumination while illuminating the road. Most cars, however, don't have them, so as a responsible driver, be vigilant and adjust your beams when needed.

While headlights represent your eyes at night, they also signal to other road users. Knowing how to navigate high and low beams protects your eyes and other drivers and makes the road safe for everyone.