



Information Bulletin IB-132D

FITMENT AND USE OF ADDITIONAL AND OPTIONAL VEHICLE LIGHTS (LAMPS)

Summary

- Explanation and use of additional driving lights (including LED light bars) and optional lights that can be fitted to a motor vehicle (excluding motor cycles, side cars and trikes).
- Additional lights added to a vehicle must adhere to Australian Design Rules (ADRs) and the *Road Traffic Code 2000*.

Background

This bulletin is set out to explain the fitment and use of additional driving lights (including LED light bars) and optional lights that may be fitted to a motor vehicle (excluding motor cycles, side cars and trikes). In this bulletin, the terms 'lamps' and 'lights' have the same meaning and are used interchangeably. Additionally, the terms 'high-beam' and 'main-beam' have the same meaning for the purposes of this bulletin.

Additional driving lights (driving lamps)

Additional driving lights (including LED Light Bars) are auxiliary lights that can be fitted to a vehicle for the sole purpose to provide increased illumination to the road ahead of the vehicle over a long distance when the vehicle's head lights are used on high beam.

Additional driving lights are covered by ADR13. Amendments to ADR13, which has aligned with the alternate international standards, now allow for the fitment of one or more (to a maximum of four) additional driving lights removing the previous requirement of additional driving lights to be fitted in pairs of two or four.



Figure 1 - Optional vehicle drive lamps

General Requirements

Any additional driving lights fitted to a vehicle must be designed and securely fitted in a way that:

- Minimises the likelihood of injury to a person making contact with the vehicle in an unfortunate event of a crash with a pedestrian;
- Does not obstruct the driver's view of the road and traffic to the front or side of the vehicle;

- The light emitted does not cause discomfort to the driver either directly or indirectly through devices for indirect vision and/or other reflecting surfaces of the vehicle;
- Must remain switched off when high beam headlights are not in operation; and
- Must automatically switch off when high beam headlights are either turned off or the headlamps are dipped.

Additional driving lights that have daytime running lights incorporated within the light, please refer to the section within this document titled 'Daytime Running Lights' to ensure fitment is in compliance with ADR13/00.

Discomfort includes any glare or reflection that in any way impedes the driver's uninterrupted vision or view of the road ahead or to either side of the vehicle.

Additional driving lights (including LED light bars) are designed to complement vehicle high beams during long distance country driving and therefore are usually installed at the same level as your vehicle headlights or higher. Additional driving lights may ONLY legally be used when there are no other vehicles 200 meters in front of your vehicle, either approaching or moving in the same direction as you. This rule also applies for high beam use (compliance with regulations 185 and 186 of the *Road Traffic Code 2000*), though the majority of drivers will turn off their high beams and, if fitted, additional headlights as soon as another vehicle is visible ahead at any distance in order to be considerate (see Figure 2 and 3).

Using headlights on high-beam

Subject to ADR13 the driver of a vehicle shall not use the vehicle's headlights on high-beam, or allow the vehicle's headlights to be used on high-beam:

- If the driver is driving less than 200 m behind a vehicle travelling in the same direction as the driver;
- If the driver is driving less than 200 m from an oncoming vehicle; or
- If the headlights of an oncoming vehicle are dipped.

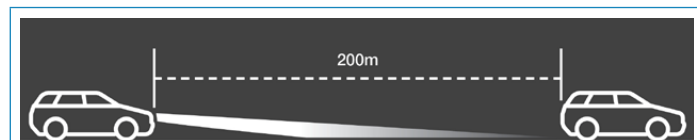


Figure 2 - Using headlights on low-beam when travelling less than 200 m behind another vehicle travelling in the same direction.

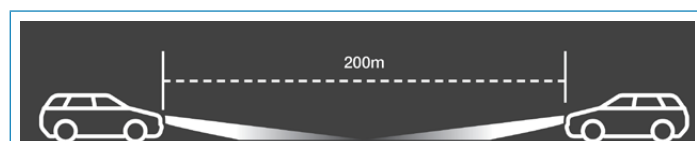


Figure 3 - Using headlights on low-beam when travelling within 200 m of an oncoming vehicle.

Important Note: Some additional driving lights have the capacity to project a high wattage light beam at a far greater distance of 200 m. If fitting a high wattage additional driving light to your vehicle, you must consider the projected distance of the light beam as this can create a substantial safety risk for oncoming drivers who may be impacted by such lights at a far greater distance, and adversely affect vehicles travelling in the same direction in front of your vehicle.

Fitment of Additional Driving Lights (Including LED Light Bars)¹

Number: Up to a maximum of four additional driving lights²

Position: At the front of the vehicle³ and must only be 'front facing'⁴ and not higher than the front edge of the bonnet if fitted to a bull bar or nudge bar.

Fitted symmetrically (same position on both sides of the vehicle).

If installing a single additional driving light (i.e. LED light bar) it must be installed horizontally and located symmetrically about the longitudinal centre line of the vehicle.

Light colour: White

Operation: To be used in conjunction with the vehicle's headlights. All additional driving lights must turn off when the vehicle's headlights are switched to low beam

Any additional driving lights fitted to the vehicle must not obstruct or interfere with the light emitted by any of the headlights, indicators or parking lights fitted to the vehicle.

Attachment points on bull bars and nudge bars

Any additional accessories including additional driving lights must not be installed on top a bull bar or nudge bar where the additional driving lights are higher than the front edge of the bonnet, or protruding forward of the bumper bar, bull bar or nudge bar.

The mounting brackets of any additional driving lights must be rounded and must not have any sharp, pointed or angular edges to ensure that the risk of injury to a pedestrian is minimised should a pedestrian be hit by the vehicle.

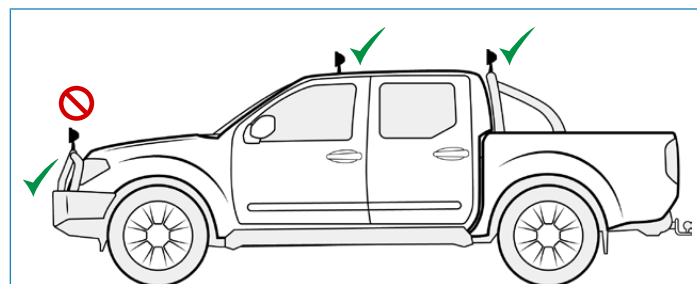


Figure 4 - Shows the locations that additional driving lights may and may not be fitted

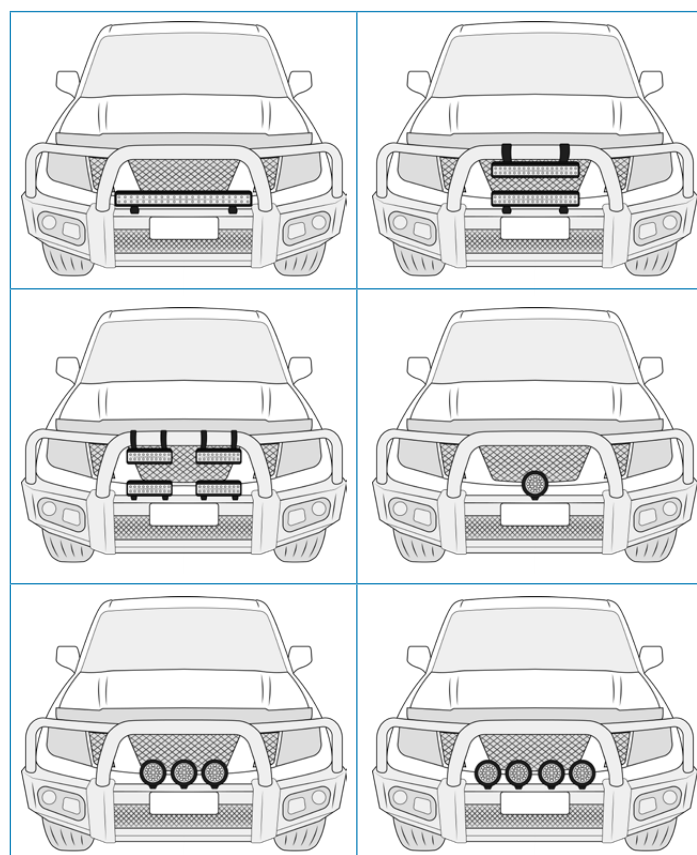


Figure 5 - Shows the correct way of mounting some additional driving lights in a combination of ways; note that the vehicles headlights, indicators or parking lights are not obstructed.

¹ Compliant with the requirements of Australian Design Rule 13, and the *Road Traffic (Vehicles) Regulations 2014 (WA)*

² An LED light bar is considered to be one driving light if all the LEDs operate together simultaneously. If an LED light bar has different parts or sections that can be switched on or off independent of other parts or sections, then each independently controlled section counts as a driving light.

³ At the front of the vehicle. This requirement shall be deemed to be satisfied if the light emitted does not cause discomfort to the driver either directly or indirectly through devices for indirect vision and/or other reflecting surfaces of the vehicle.

⁴ Front facing - these lights must not be fitted to face the opposite direction of the vehicle's forward propulsion direction

Optional front lights

Optional front lights are any of the following types of lights:

- Daytime running lights
- Fog lights
- Cornering lights
- External cabin lights
- Search or work lights
- HID lights
- Backlit badges and logos

Some vehicle manufacturers may fit some of these lights as original equipment; if that is the case the aftermarket fitment of additional lights must not exceed the maximum numbers listed.

There is no restriction on a vehicle being fitted with all of the listed lights provided that each of the lights is fully compliant as stated in this document.

General Requirements

Any additional lights fitted to a vehicle must be designed and securely fitted in a way that:

- Minimises the likelihood of injury to a person making contact with the vehicle;
- Does not obstruct the driver's view of the road and traffic to the front or side of the vehicle.
- The light emitted shall not cause discomfort by reflecting off any of the vehicle's surfaces into the driver's eyes.

Daytime running lights

Daytime running lights are used to increase a vehicles visibility when driving during the day. These lights are available as an optional after-market accessory or manufactured in some new model vehicles.



Figure 6 - Examples of Daytime running lights

The retro-fitting of daytime running lights is acceptable provided the lights comply with ADR 76 and are fitted as per ADR 13.

Colour: White

Number: Two

Position: Fitted symmetrically (same position on both sides of the vehicle) at the front of the vehicle (see Figure 6)

In height: above the ground not less than 250 mm nor more than 1,500 mm. Not more than 400 mm from the sides (extreme outer edge) of the vehicle; at least 600 mm apart between the inner edges, may be reduced to 400 mm where the overall width of the vehicle is less than 1,300 mm.

The angle of the beam may only be outwards 20° and inwards 20° and upwards 10° and downwards 10°.

Daytime running lights shall be switched ON automatically when the device which starts and/or stops the engine is in a position which makes it possible for the engine to operate.

Daytime running lights shall switch OFF automatically when the front fog lights or headlights are switched ON, except when the latter are used to give intermittent luminous warnings at short intervals. All other forward facing lights (as listed above) must not switch on when the daytime running lights are switched ON.

Front fog lights

Front fog lights provide a wide, bar-shaped beam of light with a sharp cutoff (dark above, bright below) at the top, and are generally aimed and mounted low. They are intended for use at low speed to increase the illumination directed towards the road surface and verges in conditions of poor visibility due to rain, fog, dust or snow.

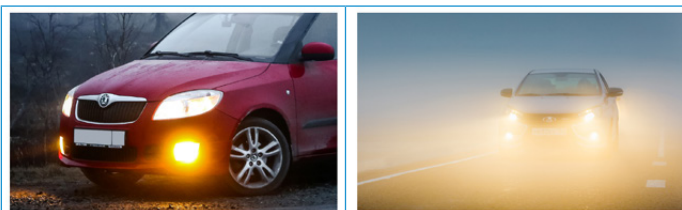


Figure 7 - Examples of Fog lights

Using fog lights (Road Traffic Code 2000)

The driver of a vehicle fitted with a front or rear fog light shall not operate the front or the rear fog light unless the driver is driving in fog or other hazardous weather conditions causing reduced visibility.

In fog, mist or in hazardous weather conditions restricting visibility, the display of light from a front fog light or front fog lights is sufficient compliance with any obligation to display a light from a head light or head lights under regulation 182.

A person shall not drive a motor vehicle, other than a motor cycle, displaying light from a single front fog light, unless two lit lights, complying with the requirements of the Vehicle Standards, are fitted to the front of the vehicle.

A person shall not drive a motor vehicle displaying light from front fog light or front fog lights, if any other light of a power exceeding 7 watts and capable of showing a white light to the front is alight.

The top of the beam must not be higher than the centre of the fog light, when measured 8 m in front of the vehicle.

Colour: White or selective yellow

Number: Two

Position: Fitted symmetrically (same position on both sides of the vehicle) at the front of the vehicle;

No higher than the top of the low beam headlights;

Not more than 400 mm from the sides (extreme outer edge) of the vehicle;

At least 600 mm apart; and not less than 250 mm above the ground.

Fog lights must be able to be operated independently from the headlights and driving lights. As a minimum, they must only be able to operate when the park lights are on.

Cornering lights

Cornering lights provide extra lateral illumination in the direction of an intended turn or lane change. These are actuated in conjunction with the turn signals, though they don't flash and they may also be wired to illuminate when the vehicle is shifted into reverse gear.

Colour: White or Amber

Number: Two

Position: Fitted symmetrically (same position on both sides of the vehicle) at the front of the vehicle.

Not more than 400 mm from the sides (extreme outer edge) of the vehicle; at least 600 mm apart; and not less than 250 mm above the ground.

Not more than 900 mm above the ground. The angle of the beam may only be 30° to 60° outwards and upwards 10° and downwards 10°.

No higher than the passing beam (dipped beam) headlamp.

The cornering lights must be connected so that they cannot be activated unless the main-beam headlights or the dipped-beam headlights are switched ON at the same time.

The cornering lights on one side of the vehicle may only be switched ON automatically when the direction indicators on the same side of the vehicle are switched ON and/or when the steering angle is changed from the straight-ahead position towards the same side of the vehicle.

The cornering light shall be switched OFF automatically when the direction indicator is switched OFF and/or the steering angle has returned in the straight-ahead position.

When the reversing light is switched ON, both cornering lights may be switched on simultaneously, independently from the steering wheel or direction indicator position. In this case, the cornering lights shall be switched OFF when the reversing light is switched OFF.

The cornering lights shall not be activated at vehicle speeds above 40 km/h.

External cabin lights

These lights are for denoting the presence of a large vehicle to other road users.

Colour: Amber

Prescence: Optional on motor vehicles more than 2,100 mm wide. (Prohibited on other vehicles).

Number: Up to five

Position: Facing forward, spaced symmetrically above the median longitudinal plane of the vehicle, not less than 120 mm centre to centre fixed to or above the cabin roof.

Search or work lights

Additional lights intended to be used for temporary purposes (such as the reading of signs, handling or adjusting of loads or providing additional illumination in off-road situations) may be fitted to a vehicle in any location.

Note: The fitment of LED light bars as work lights facing forward is prohibited unless installed below the driver's eyes.

General Requirements

Work lights must be fitted with a tell-tale illuminated labelled rocker switch (see Figure 8) to warn the driver the light is on.



Figure 8 - Examples of illuminated labelled rocker switches

Any additional lights as work lights fitted to a vehicle must be designed and securely fitted in a way that;

- Minimises the likelihood of injury to a person making contact with the vehicle; and
- Does not obstruct the driver's view of the road and traffic to the front of the vehicle.

These requirements are all intended to improve the safety of the driver and other road users.

A driver must not use, or allow to be used, any light fitted to or in the driver's vehicle to dazzle, or in a way that is likely to dazzle, another road user.

High intensity discharge (HID) lights



Figure 9 - Examples of High intensity discharge (HID) lights

HID lights produce more light to the amount of power they consume than other light types. ADRs specify minimum design and performance standards in HID lights for road vehicles.

ADRs mandate specific performance and orientation requirements for such light assemblies due, in part, to the higher light intensity/output and the potential for these types of lights to severely dazzle oncoming road users.

Simply retro-fitting original or aftermarket conversions of HID lights and/or light assemblies to the dipped beam (low beam) circuit of a vehicle does not guarantee that they will comply with the specific set of ADR performance requirements applicable to the vehicle which may make them non-compliant for road use.

HID lights producing more than 2,000 lumens (a measure of light) may be fitted to dipped beam (low beam) lights on road vehicles. However, the vehicle's lights must also align to ADR13 and have headlight cleaning devices (washer jets or wiper) and have self-levelling systems to prevent the brighter lights being projected into oncoming vehicles. A vehicle retro fitted with HID headlights is considered a modified vehicle.

The vehicle is required to be examined and a modification certificate issued and must meet the full requirements of ADR13 and be fitted with a self-levelling device and a cleaning device.

The road rules prohibit against dazzling another road user with bright vehicle lights. Higher powered lights with a higher end white colour are not allowed for road use. Commercially available high performance light products ensure that lighting kits, packages and globes are marked 'not for road use' however, some products available online have no warnings or consumer information notices.

LED headlight replacements globes

Similar to HID lights, LED lights produce more light to the amount of power they consume. The retro-fitting of aftermarket conversions of LED lights and/or light assemblies to the dipped beam (low beam) circuit of a vehicle does not guarantee that they will comply with ADR performance requirements applicable to the vehicle which may make them non-compliant for road use. The fitting of such lights and/or light assemblies is considered altering a vehicle from the manufacturer's specifications which classifies the vehicle as a modified vehicle. The vehicle is required to be examined to determine if the vehicle meets the requirements under ADR13.

Backlit badges and logos

The Australian Motor Vehicle Certification Board (AMVCB) have recently determined that a badge fitted to a vehicle which indicates the make/model or other information, which had a backlight (a 'backlit badge'), would not be considered a lamp under ADR13.

The Commonwealth Government in conjunction with the States and Territories have determined and allowed backlit lights if when fitted, meet the requirements below:

- The light source shall be integrated with the logo/badge;
- The colour of the light source shall be:
 - White to front;
 - Amber to sides; or
 - Red to the rear;
- The light source shall be not more than 60 candela;
- The light source shall not flash;
- The badge and light source shall be fitted more than 200 mm from the nearest lamp;
- The light emitted shall not cause discomfort to the driver either directly or indirectly through the devices for indirect vision and/or other reflecting surfaces of the vehicle;

- The size of the light source shall be within the dimensions of the badge or logo and not overly large so as to affect the prominence of other mandatory lamps; and
- The light source shall be connected such that it operates with the front lighting system.

This interpretation applies to all categories of vehicles covered by ADR 13.



Figure 10 - Examples of backlit badges and logos

Related documents and links

Department of Transport and Major Infrastructure

www.transport.wa.gov.au

Australian Design Rules:

www.infrastructure.gov.au

Correspondence and Enquiries

Department of Transport and Major Infrastructure

Vehicle Safety and Standards Section

Telephone 13 11 56