

V15: High output light source lamps

Information Bulletin

Introduction

The purpose of this bulletin is to outline requirements for high output lamps or complete lamp assemblies when fitted to a dipped beam (passing beam or low-beam) headlamp circuit of a vehicle as an in-service modification.

Vehicles detected with non-complying vehicle lighting may be defected or refused registration in the Northern Territory.

Australian Design Rules (ADRs)

ADRs specify minimum design and performance standards for road vehicles. Vehicle lighting ADRs include:

- ADR 13—Installation of Lighting and Light-signalling Devices on other than L-Group Vehicles
- ADR 19—Installation of Lighting & Light-signalling Devices on L-Group Vehicles

Background

Dipped beam headlamps are required to illuminate the road ahead of the vehicle without causing undue dazzle or discomfort to oncoming drivers and other road users.

As light technology advances away from tungsten and halogen lamps and production costs decrease, some vehicle manufacturers/Original Equipment Manufacturers (OEM) are offering high output dipped beam headlamps as standard equipment.

New light source technology includes:

- "Gas-discharge light source" - a light source where the element for visible radiation is a discharge arc producing electro-luminescence/fluorescence (i.e. Xenon, Bi-Xenon - up to 3 times brighter than halogen).
- "Light-emitting diode (LED) light source" - a light source where the element for visible radiation is one or more solid state junctions producing injection-luminescence/fluorescence (low heat generation).
- Laser - a light source where a blue laser excites yellow phosphorus producing an intense white light (up to 2 times brighter than high intensity discharge (HID) lamps).

ADRs mandate specific performance and orientation requirements for such lamps to regulate the higher light intensity/output which has the potential to severely dazzle oncoming road users.

Retro-fitting original headlamps with non-ADR complying aftermarket globes or non-standard lamp assemblies to the dipped beam (low beam) circuit of a vehicle does not guarantee that the headlamp will comply with the specific set of ADR performance requirements. This could render the vehicle unsuitable for road use.

The ADRs provide specific performance and safety requirements for high output light source lamps to include self-levelling and headlamp cleaning devices for lamps producing more than 2000 lumens (a measure of light output).

Requirements

For road vehicles, high output source lamps and assemblies intended for use as dipped beam (low beam) lamps must be certified to comply with the following ADRs (where applicable):

[ADR 13/00 - Installation of Lighting and Light-signalling Devices on other than L-Group Vehicles](#)

[ADR 19/xx – Installation of Lighting and Light-signalling Devices on L-Group Vehicles](#)

[ADR 46/00 - Headlamps](#)

[ADR 51/00 - Filament Lamps](#)

[ADR 54/00—Headlamps for Mopeds](#)

[ADR 55/00—Headlamps for Motor Cycles](#)

[ADR 67/00—Installation of Lighting and Light-Signalling Devices on Three-Wheeled Vehicles](#)

[ADR 75/00 - Headlamp Cleaners](#)

[ADR 77/00 - Gas Discharge Headlamps](#)

[ADR 78/00 - Gas Discharge Light Sources](#)

(xx denotes various versions of the ADR)

Aftermarket Light Emitting Diode (LED) Lamps

Aftermarket LED replacement globes and headlamp assemblies advertised for “Off Road Use Only” are not ADR compliant and are not suitable for on-road use.

Aftermarket HID conversion kits

(dipped beam (low beam) lamps with a high voltage power unit or 'ballast')

Where aftermarket HID conversion kits are used, evidence of compliance with applicable ADRs must be provided by the kit manufacturer or supplier where:

1. the HID conversion kit fits into the original manufacturer equipment (OEM) headlamp housing in place of the original dipped beam (low beam) lamp; and
2. there is no change to the headlamp lens, reflector or housing.

Certification evidence from a suitably qualified Chartered Professional Engineer (CPEng) or approved engineering signatory verifying compliance with the above ADR requirements must be produced to the department prior to the modification being approved.

An application to modify a vehicle (VS32(hv) or VS32(lv)) can be found at the following website:

<https://nt.gov.au/driving/industry/vehicle-information-bulletins-and-forms>

More information

For more information, contact the department on 08 8924 7157 or email vehiclestandards.mvr@nt.gov.au