

Correct as at 27th April 2026. It may be superseded at any time.

Extract taken from: In-service certification (WoF and CoF) > Heavy PSVs > Lighting > Headlamps

4-1 Headlamps

Reasons for rejection

Mandatory and permitted equipment

1. A vehicle other than class LE is not fitted with one pair of dipped-beam headlamps.
2. A vehicle other than class LE is fitted with more than:
 - a) one pair of dipped-beam headlamps (Note 10) , or
 - b) two pairs of dipped-beam headlamps if the vehicle was first registered anywhere between 1 January 1977 and 31 March 1980, or
 - c) two pairs of main-beam headlamps.
3. A vehicle other than class LE is fitted with a headlamp that is not in a pair.
4. A vehicle of class LE is not fitted with one dipped-beam headlamp.
5. A vehicle of class LE is fitted with more than:
 - a) two dipped-beam headlamps, or
 - b) two main-beam headlamps.
6. A vehicle (eg a vintage or veteran vehicle) does not meet standard headlamp requirements, and:
 - a) does not have a valid vehicle identity card with a lighting equipment endorsement, or
 - b) does not meet the conditions of the lighting equipment endorsement in its vehicle identity card.
7. A device that allows the headlamps to flash alternately is fitted to a vehicle that is not an emergency vehicle or a pilot vehicle.
8. A vehicle is fitted with a dipped-beam headlamp where the maximum intensity of the beam is projected to the right.

Condition

(see Note 5)

9. A lamp is insecure, obscured, or contains dirt or moisture in the form of large droplets, runs or puddles.
10. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
11. A lens or reflector is damaged or has deteriorated so that light output is reduced.
12. A main-beam headlamp warning device is obscured from the driver's vision.

Performance

13. When switched on, a headlamp emits a light that is:

- a) not substantially white or amber, or
- b) not approximately equal in colour or intensity from the other lamp in a pair, or
- c) not steady, or
- d) not bright enough to illuminate the road ahead, eg due to modification, deterioration or an incorrect light source, or
- e) too bright, eg due to the fitment of an HID or LED conversion kit (Note 8) or other incorrect light source (see also reason for rejection 19 below).

14. When the dipped-beam headlamps are switched on (with wheels pointing straight ahead):

- a) a lamp does not operate, or
- b) more than two lamps operate on dipped beam, or
- c) more than four lamps operate on dipped beam on a vehicle first registered anywhere between 1 January 1977 and 31 March 1980, or
- d) the light beam produces an incorrect beam pattern, is not focused, or is reduced or altered, or
- e) the centreline of the light beam is too far to the left or slopes down too far so that the headlamp is no longer capable of illuminating the road at least 50m ahead (Figure 4-1-2), or
- f) the centreline of the light beam projects to the right of the vehicle's centreline, or projects from the lamp at an angle other than:
 - i. as specified by the vehicle or lamp manufacturer, or
 - ii. as specified in Table 4-1-1.

15. When the main-beam headlamps are switched on (with wheels pointing straight ahead):

- a) a lamp does not operate, or
- b) more than two lamps operate on main beam on a class LE vehicle, or
- c) more than four lamps operate on main beam on a vehicle of group M or N, or
- d) a vehicle first registered anywhere between 1 February 1977 and 31 March 1980 has a second pair of dipped-beam headlamps that continue to operate, or
- e) the centreline of the light beam projects to the right of the vehicle's centreline or up from the horizontal, or
- f) the light beam produces an incorrect beam pattern, is not focused or is reduced or altered, or
- g) the lamps are not capable of being switched to dipped beam or turned off from the driver's seating position, or
- h) a main-beam headlamp warning device, if fitted as original equipment, does not indicate to the driver that the main-beam headlamps are switched on.

16. A device fitted to a vehicle that allows the headlamps to flash alternately:

- a) does not indicate to the driver that the device is activated, or
- b) flashes:
 - i. faster than two flashes per second, or
 - ii. slower than one flash per second, or

iii. at a varying frequency.

17. Where a headlamp comprises an array of light sources (eg LEDs) fewer than 75% of these operate.

Modifications

18. An overlay has been applied that reduces or distorts the light emitted from the lamp (eg a tinted cover).

19. A headlamp is retrofitted with a type of light source other than that specified by the vehicle manufacturer or the headlamp manufacturer (eg a headlamp designed for a halogen bulb is fitted with any other type of light source such as an HID or LED bulb, or any other light source such as LED strips or non-OEM angel eyes) (Note 8).

20. Retrofitted headlamps are not fitted:

- a) as a pair, or
- b) symmetrically, or
- c) as far towards each side of the vehicle as is practicable.

21. A retrofitted dipped-beam headlamp on a vehicle with a GVM of 12,000 kg or less is positioned at a height exceeding 1.2m from the ground (Note 9).

Note 1

An **original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (ie non-OE).

Note 2

If the dipped-beam headlamps are able to be adjusted from the driver's seating position, the alignment must be checked with the adjustment at its highest position.

Note 3

If the vehicle is fitted with self-levelling suspension, the alignment must be checked with the suspension at its normal level.

Note 4

Modify means to change a vehicle from its original state by altering, substituting, adding or removing a structure, system, component or equipment, but does not include repair.

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Headlamp means a lamp designed to illuminate the road ahead of a vehicle, and that is a:

- a) dipped-beam headlamp (single lamp), or
- b) main-beam (high-beam) headlamp (single lamp), and includes a driving lamp, or
- c) combination of a dipped-beam headlamp and a main-beam headlamp (dual-lamp unit).

Dipped-beam headlamp means a headlamp that is designed to emit a dipped beam, which is a beam of light that is angled downwards in such a way that it prevents undue dazzle or discomfort to oncoming drivers and other road users.

Main-beam headlamp means a headlamp that is designed to illuminate the road over a long distance ahead of the vehicle.

Note 5

If a headlamp is fitted with a readily removable cover, other than a clear protective cover, this must be removed for inspection of the headlamp.

Note 6

A vehicle originally manufactured with a headlamp arrangement that differs from what is required or permitted in this section may retain the original headlamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Note 7

A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply or be removed from the vehicle.

Note 8

A high-intensity discharge (HID or Xenon HID) **or LED** conversion kit consists of an HID **or LED** bulb which fits into the original headlamp unit in place of the original bulb with no change to the headlamp lens, reflector or housing.

It is illegal to fit an HID **or LED** conversion kit to a vehicle as it brings the headlamp out of standards compliance by producing poor beam patterns and light that is **often** far too bright to be safe. The bulbs can also produce light that is noticeably blue and not the required substantially white or amber colour. Vehicle and headlamp manufacturers do not permit this modification, and these kits cannot be LVV certified.

It is permitted to replace a complete halogen headlamp unit with a complete HID or LED headlamp unit. If the vehicle is required to meet an approved safety standard for headlamps, only approved headlamps can be retrofitted (see Figure 4-1-1).

Note 9

The dipped-beam headlamps may be positioned at a height exceeding 1.2m if a road maintenance implement (eg, snowplough or roadsweeper) fitted to the front of the vehicle would obscure headlamps placed at a height of 1.2m or less.

Note 10

It is acceptable for a pair of dipped-beam headlamps to consist of one symmetric and one asymmetric dipped-beam headlamp. However, in some cases this may result in one lamp being noticeably brighter than the other lamp in the pair. In that case, the vehicle inspector may determine that the dipped beams differ noticeably in light intensity, and the lamps fail the inspection. Note that a beamsetter's luxmeter cannot measure the light intensity of a dipped beam headlamp.

Table 4-1-1. Allowable dipped-beam headlamp alignment

	Headlamp type	Distance from ground to centre of light source	Dip rate of beam centre: lower and upper limits		
			Percent (%)	mm/3 m	Degrees (°)
EITHER	Any headlamp dipped beam	N/A	That specified by the vehicle or headlamp manufacturer		
OR	Headlamp with an older style symmetric dipped-beam pattern (see Figure 4-1-2)	N/A	3.0–3.5	90–105	1.7–2.0
OR	Headlamp with a modern symmetric or asymmetric dipped-beam pattern and distance from ground to centre of light source (see Figure 4-1-2)	less than 0.8 m	1.0–1.5	30–45	0.57–0.85
		0.8–1.2 m	1.0–2.0	30–60	0.57–1.15
		more than 1.2 m	2.0–2.5	60–75	1.15–1.43

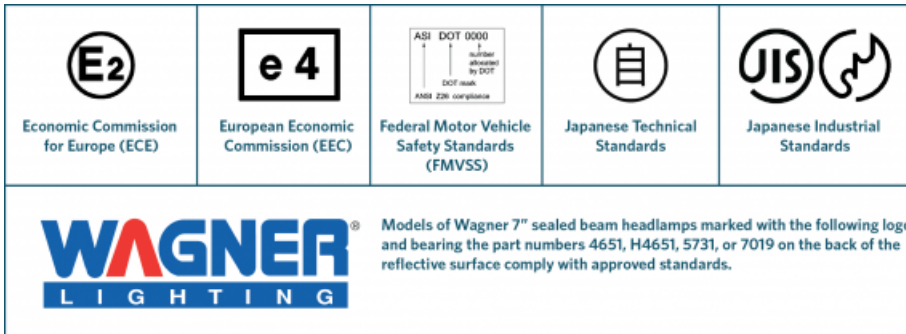
Table 4-1-2. Dipped-beam angle conversions

Percent (%)	mm/3 m	Degrees (°)
1.0	30	0.6
1.1	33	0.6
1.2	36	0.7
1.3	39	0.7
1.4	42	0.8
1.5	45	0.9
1.6	48	0.9
1.7	51	1.0
1.8	54	1.0
1.9	57	1.1
2.0	60	1.1
2.1	63	1.2
2.2	66	1.3
2.3	69	1.3
2.4	72	1.4
2.5	75	1.4
2.6	78	1.5
2.7	81	1.5

Percent (%)	mm/3 m	Degrees (°)
2.8	84	1.6
2.9	87	1.7
3.0	90	1.7
3.1	93	1.8
3.2	96	1.8
3.3	99	1.9
3.4	102	1.9
3.5	105	2.0

Figure 4-1-1. Approved headlamp standard markings

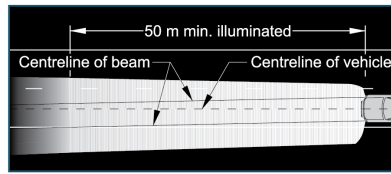
The following standard markings may assist in determining compliance with approved standards.



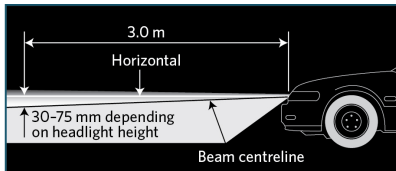
Vehicles required to comply with an approved headlamp standard are:

- vehicles of class MA and NA manufactured on or after 1 January 1992
- vehicles of class MB, MC, MD1, MD2, MD3, MD4, ME, NB and NC manufactured on or after 1 January 1996.

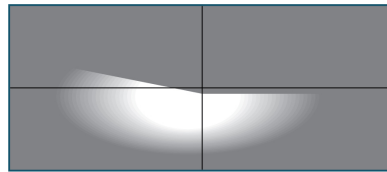
Figure 4-1-2. Minimum illuminated area



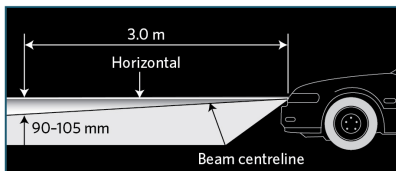
Minimum illuminated area



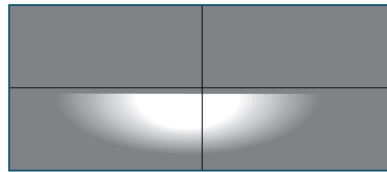
Asymmetric dipped beam



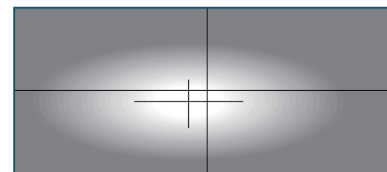
Asymmetric dipped beam headlamp pattern on light board



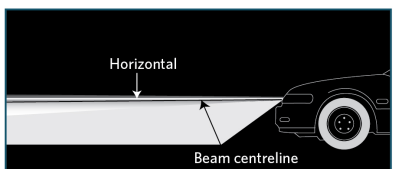
Symmetric dipped beam



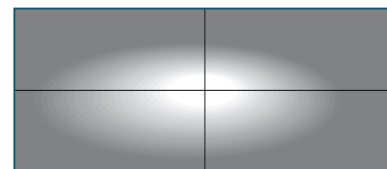
Modern symmetric dipped beam headlamp pattern on light board



Older-style symmetric dipped beam headlamp pattern on light board



Main (high) beam



Main (high) beam headlamp pattern on light board

Summary of legislation

Applicable legislation

- [Land Transport Rule: Vehicle Lighting 2004](#)
- New Zealand Gazette, 28 August 1980, issue 103, page 2569.

Mandatory and permitted equipment

1. A vehicle other than of class LE:

- a) must be fitted with one pair of dipped-beam headlamps, and

- b) may be fitted with one or two pairs of main-beam headlamps.
2. A vehicle of class LE:
- a) must be fitted with one or two dipped-beam headlamps, and
 - b) may be fitted with one or two main-beam headlamps.
3. A vehicle first registered anywhere between 1 February 1977 and 31 March 1980 may be fitted with a second pair of dipped-beam headlamps that:
- a) do not operate when the main-beam headlamps are switched on, and
 - b) may operate independently of the first pair of dipped-beam headlamps.
4. A vehicle (eg a vintage or veteran vehicle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:
- a) the vehicle has a valid vehicle identity card with a lighting equipment endorsement, and
 - b) the vehicle meets the conditions of that endorsement.
5. A vehicle required to meet an approved safety standard for lighting must continue to meet an approved safety standard for lighting.
6. A retrofitted dipped-beam headlamp on a vehicle with a GVM of 12,000 kg or less must be fitted at a height not exceeding 1.2 m from the ground (Note 9).
7. A warning device may be fitted that indicates that the main-beam headlamps are switched on.
8. An emergency vehicle or a pilot vehicle may be fitted with a device that allows the headlamps to flash alternately, provided it is also fitted with equipment that indicates to the driver that the device is activated.
9. A retrofitted pair of headlamps must be symmetrically mounted as far towards each side of the vehicle as is practicable.

Prohibited equipment

10. A dipped-beam headlamp designed solely for a left-hand drive vehicle, where the maximum intensity of the beam is dispersed to the right, must not be fitted.

Condition (Note 5)

11. A headlamp must:
- a) be in sound condition, and
 - b) not be obscured.

Performance

12. A headlamp must operate in a way that is appropriate for the lamp and the vehicle.
13. A headlamp must emit a steady light.
14. A headlamp must provide sufficient illumination and light output to illuminate the road ahead.
15. If fitted with a device that allows headlamps to flash alternately, the lamps must flash at a fixed frequency.
16. A pair of headlamps must emit light that is approximately of equal colour and intensity when switched on.

17. A headlamp must emit a beam that is substantially white or amber.
18. A main-beam headlamp must be capable of being dipped or turned off from the driver's position.
19. A warning device that indicates that the main-beam lamps are in operation must be in good working order.
20. When the headlamps are switched on and the vehicle's front wheels are pointing in the straight-ahead position:
 - a) the centre of a headlamp beam must be either parallel to or to the left of the longitudinal centreline of the vehicle, and
 - b) the centre of a main-beam headlamp beam must be either parallel to or dipping down from the horizontal, and
 - c) the centre of a dipped-beam headlamp beam must dip at an angle specified by the vehicle or lamp manufacturer, or:
 - i. 3–3.5% for a symmetric beam pattern, or
 - ii. 1–1.5% for an asymmetric beam pattern where the centre of the light source is less than 0.8 m from the ground, or
 - iii. 1–2% for an asymmetric beam pattern where the centre of the light source is 0.8–1.2 m from the ground, or
 - iv. 2–2.5% for an asymmetric beam pattern where the centre of the light source is above 1.2 m from the ground.
21. The dipped-beam headlamps must illuminate the road ahead for 50 m in normal darkness.
22. Where a headlamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.
23. A device fitted to a vehicle that allows the headlamps to flash must:
 - a) make the headlamps flash alternately at a frequency of 1–2 Hertz, and
 - b) incorporate equipment that indicates to the driver that the device is activated.
24. A headlamp must be fitted with a light source that is specified by the vehicle manufacturer or the headlamp manufacturer.

Modifications (Note 4)

25. A headlamp that is affected by a modification must meet equipment, condition and performance requirements.