

## Lighting 4-1 Headlamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004
- *New Zealand Gazette*, 28 August 1980, issue 108, page 2569

#### Mandatory and permitted equipment

1. A motorcycle:
  - a) must be fitted with one or two dipped-beam headlamps, and
  - b) may be fitted with one or two main-beam headlamps.
2. A motorcycle (eg a vintage or veteran motorcycle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:
  - a) the motorcycle has a valid vehicle identity card with a lighting equipment endorsement, and
  - b) the motorcycle meets the conditions of that endorsement.
3. A warning device may be fitted that indicates that the main-beam headlamps are switched on.
4. 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.
5. A retrofitted pair of headlamps must be symmetrically mounted as far towards each side of the motorcycle as is practicable.
6. A retrofitted dipped-beam headlamp must be positioned at a height not exceeding 1.2 m from the ground.

#### Prohibited equipment

7. 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

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

#### Performance

9. A headlamp must operate in a way that is appropriate for the lamp and the vehicle.
10. A headlamp must emit a steady light.
11. A headlamp must provide sufficient illumination and light output to illuminate the road ahead.
12. If fitted with a device that allows headlamps to flash alternately, the lamps must flash at a fixed frequency.

### Reasons for rejection

#### Mandatory and permitted equipment

1. A motorcycle is not fitted with one dipped-beam headlamp.
2. A motorcycle is fitted with more than:
  - a) two dipped-beam headlamps, or
  - b) two main-beam headlamps.
3. A motorcycle (eg a vintage or veteran motorcycle) 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.
4. A retrofitted pair of headlamps is not fitted:
  - a) symmetrically, or
  - b) as far towards each side of the motorcycle as practicable.
5. A retrofitted dipped-beam headlamp is positioned at a height exceeding 1.2 m from the ground.
6. A device that allows the headlamps to flash alternately is fitted to a motorcycle that is not an emergency vehicle or a pilot vehicle.
7. A motorcycle is fitted with a dipped-beam headlamp that projects the maximum intensity of the beam to the right.

#### Condition (Note 4)

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

## Lighting

## 4-1 Headlamps (cont.)

13. A pair of headlamps must emit light that is approximately of equal colour and intensity when switched on.
14. A headlamp must emit a beam that is substantially white or amber.
15. A main-beam headlamp must be capable of being dipped or turned off from the driver's position.
16. A warning device that indicates that the main-beam lamps are in operation must be in good working order.
17. When the headlamps are switched on and the motorcycle's front wheel is pointing in the straight ahead position:
  - a) the headlamp beam must be either parallel to or to the left of the longitudinal centreline of the motorcycle, 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 motorcycle 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.
18. The dipped beam headlamps must illuminate the road ahead for 50 m in normal darkness.
19. A device fitted to a motorcycle 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.
20. A headlamp must be fitted with a light source that is specified by the motorcycle manufacturer or the headlamp manufacturer.

**Modifications**

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

**Reasons for rejection****Performance**

12. When switched on, a headlamp emits light that is:
  - a) not substantially white or amber, or
  - b) different 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 causing significant dazzle to other road users, eg due to an incorrect light source, or
  - f) altered, eg due to damage or modification.
13. When the dipped-beam headlamps are switched on (with wheels pointing straight ahead):
  - a) a lamp does not operate, or
  - b) more than the two lamps operate on dipped beam, or
  - c) more than four lamps operate on dipped beam on a motorcycle 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 50 m ahead (**Figure 4-1-1**), or
  - f) the centreline of a lamp's beam projects to the right of the motorcycle's centreline, or slopes down from the lamp at an angle other than :
    - i. as specified by the motorcycle or lamp manufacturer, or
    - ii. as specified in **Table 4-1-1**.

## Reasons for rejection

14. When the main-beam headlamps are switched on (with wheels pointing straight ahead):
- a lamp does not operate, or
  - more than two lamps operate on main beam, or
  - the centreline of a lamp's beam projects to the right of the motorcycle's centreline or up from the horizontal, or
  - the lightbeam produces an incorrect beam pattern, is not focused, or is reduced or altered, or
  - the lamps are not capable of being switched to dipped beam or switched off from the driver's seating position, or
  - a main-beam headlamp warning device does not indicate to the driver that the main-beam headlamps are switched on.
15. A device fitted to a motorcycle that allows the headlamps to flash alternately:
- does not indicate to the driver that the device is activated, or
  - flashes:
    - faster than two flashes per second, or
    - slower than one flash per second, or
    - at a varying frequency.

**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 motorcycle or headlamp manufacturer		
OR	Headlamp with symmetric dipped-beam pattern	N/A	3.0-3.5	90-105	1.7-2.0
OR	Headlamp with asymmetric dipped-beam pattern and distance from ground to centre of light source	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

## Lighting 4-1 Headlamps (cont.)

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

Percent (%)	mm/3 m	Degrees (°)	Percent (%)	mm/3 m	Degrees (°)
1.0	30	0.6	2.3	69	1.3
1.1	33	0.6	2.4	72	1.4
1.2	36	0.7	2.5	75	1.4
1.3	39	0.7	2.6	78	1.5
1.4	42	0.8	2.7	81	1.5
1.5	45	0.9	2.8	84	1.6
1.6	48	0.9	2.9	87	1.7
1.7	51	1.0	3.0	90	1.7
1.8	54	1.0	3.1	93	1.8
1.9	57	1.1	3.2	96	1.8
2.0	60	1.1	3.3	99	1.9
2.1	63	1.2	3.4	102	1.9
2.2	66	1.3	3.5	105	2.0

**Note 1** 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 2** If the motorcycle is fitted with self-levelling suspension, the alignment must be checked with the suspension at its normal level.

**Note 3** Definitions

**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.

**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.

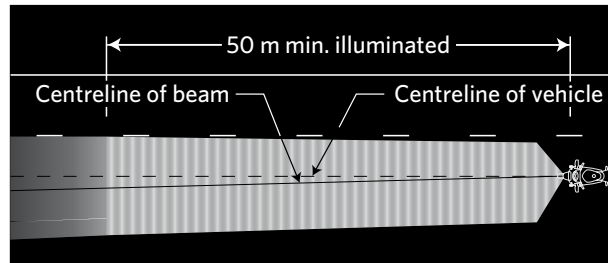
**An original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (non-OE).

**Note 4** If a headlamp is fitted with a readily removable cover, other than a clear plastic cover, this must be removed for inspection of the headlamp.

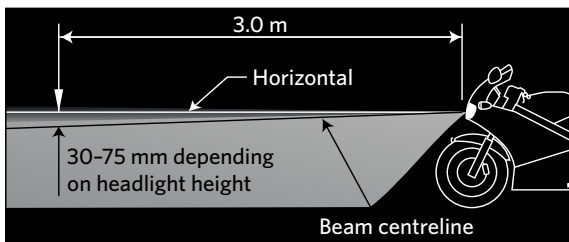
**Note 5** A vehicle originally manufactured with a headlamp arrangement that differs from what is required or permitted in this section may retain the original headlamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.



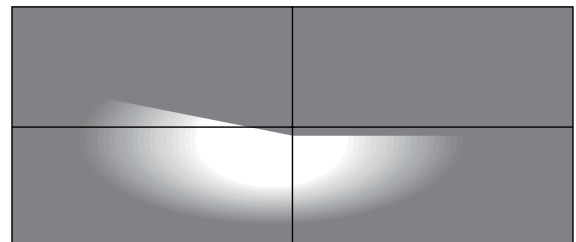
**Note 6** A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply or be removed from the vehicle.



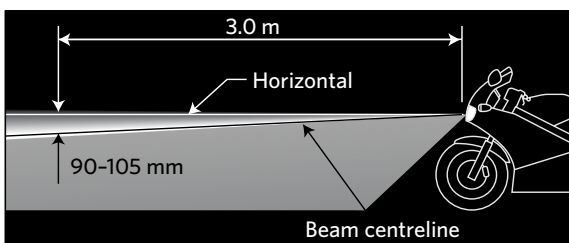
**Figure 4-1-1. Minimum illuminated area**



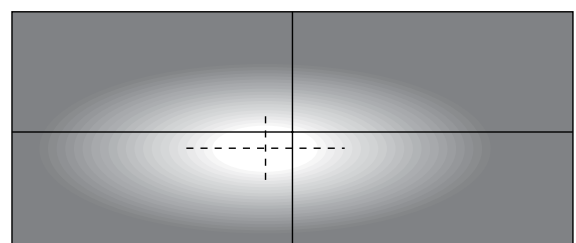
**Figure 4-1-2. Asymmetric dipped beam**



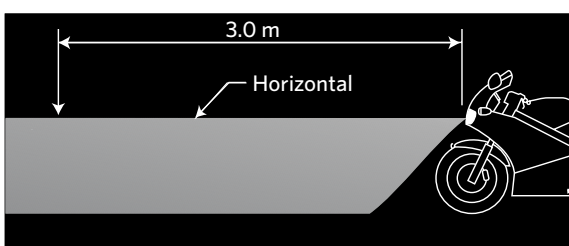
**Figure 4-1-3. Asymmetric dipped-beam headlamp pattern on light board**



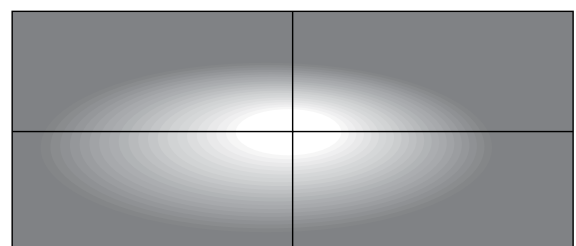
**Figure 4-1-4. Symmetric dipped beam**



**Figure 4-1-5. Symmetric dipped-beam headlamp pattern on light board**



**Figure 4-1-6. Main (high) beam**



**Figure 4-1-7. Main-beam (high-beam) headlamp pattern on light board**



## Lighting

## 4-2 Front and rear fog lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Permitted equipment

1. One or two front fog lamps.
2. One or two rear fog lamps.
3. A retrofitted pair of fog lamps must be symmetrically mounted as far as practicable towards each side of the motorcycle.
4. A retrofitted front fog lamp must not be positioned higher than the dipped-beam headlamps.
5. A motorcycle may be fitted with a warning device that indicates that a front or rear fog lamp is in operation.

#### Condition

6. A front fog lamp must be in sound condition.
7. A rear fog lamp must be in sound condition if it emits a light.
8. A fog lamp must not be obscured.
9. **Note** If a front fog lamp is fitted with a readily removable cover, this must be removed if necessary to allow inspection of the fog lamp.

#### Performance

10. A fog lamp must operate in a way that is appropriate for the lamp and the vehicle.
11. A fog lamp must emit a steady light.
12. A front fog lamp must provide sufficient light output to illuminate the road ahead in conditions of severely reduced visibility.
13. A rear fog lamp must provide sufficient light output to indicate the presence of the vehicle on the road in conditions of severely reduced visibility.
14. The light emitted from a front fog lamp must be substantially white or amber.
15. The light emitted from a rear fog lamp must be diffuse and substantially red in colour.
16. A pair of fog lamps must emit light that is approximately equal in colour and intensity.
17. The centre of a front fog lamp beam must be parallel to or to the left of the longitudinal centreline of the motorcycle.
18. The centre of a front fog lamp beam must be permanently dipped at an angle of at least 3%.
19. A fog lamp must be able to be turned off from the driver's seating position.
20. A front or rear fog lamp warning device must be in good working order.

### Reasons for rejection

#### Permitted equipment

1. A motorcycle is fitted with more than:
  - a) two front fog lamps, or
  - b) two rear fog lamps.
2. A retrofitted pair of fog lamps is not:
  - a) fitted symmetrically, or
  - b) fitted as far towards each side of the motorcycle as is practicable, or
  - c) positioned higher than the dipped-beam headlamps.

#### Condition (Note 1)

3. A lamp is insecure, obscured, or contains visible moisture or dirt.
4. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
5. A reflector is damaged or has deteriorated so that light output is reduced.
6. A fog lamp warning device, if fitted, is obscured from the driver's vision.

#### Performance

7. When switched on, a front fog lamp does not operate.
8. When switched on, a front fog lamp emits light that:
  - a) is not projected to the front, or
  - b) produces an incorrect beam pattern (**Figure 4-2-1**), or
  - c) is not substantially white or amber to the front, or
  - d) is a different colour or intensity from the other lamp in the pair, or
  - e) is not steady, or
  - f) is not bright enough to illuminate the road ahead in conditions of severely reduced visibility, eg due to modification, deterioration or an incorrect light source, or
  - g) is too bright, and could dazzle other road users, eg due to an incorrect light source, or

## Lighting

### 4-2 Front and rear fog lamps (cont.)

21. Where a fog lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

#### Modifications

22. A fog lamp that is affected by a modification:
- must meet equipment, condition and performance requirements, and
  - does not require LVV specialist certification.

## Reasons for rejection

- is altered, eg due to damage or modification, or
  - has a beam centre to the right of the motorcycle's centreline, or
  - has a beam that is not permanently dipped, or
  - has a beam centre that dips at an angle of less than 3% (**Figure 4-2-1**).
9. When switched on, a rear fog lamp emits light that is:
- not projected to the rear, or
  - not diffuse, or
  - not substantially red, or
  - different in colour or intensity from the other lamp when fitted in a pair, or
  - not steady, or
  - not bright enough to indicate the presence of the motorcycle from the rear in conditions of severely reduced visibility, eg due to modification, deterioration or an incorrect light source, or
  - is altered, eg due to damage or modification.
10. A fog lamp cannot be switched off from the driver's seating position.
11. Where a fog lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.
12. A fog lamp warning device, if fitted, does not operate.

**Note 1** If a front fog lamp is fitted with a readily removable cover, other than a clear protective cover, this must be removed for inspection of the fog lamp.

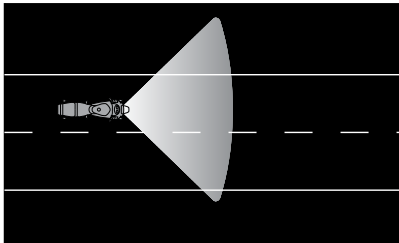
**Note 2** Definition

**Fog lamp** means a front or rear lamp designed to aid the driver or other road users in conditions of severely reduced visibility, including fog or snow, but not including clear atmospheric conditions under the hours of darkness.

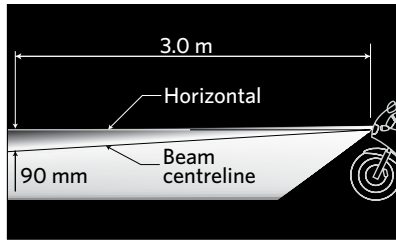
**Note 3** A rear fog lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

**Note 4** A vehicle originally manufactured with a front or rear-fog-lamp arrangement that differs from what is required or permitted in this section may retain the original fog lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

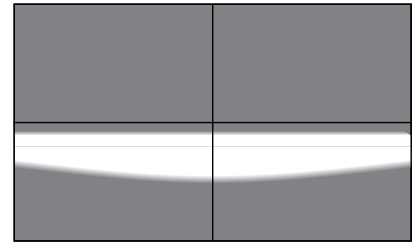
**Note 5** A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply or be removed from the vehicle.



(a) Pattern on road



(b) Beam dip angle



(c) Pattern on lightboard

Figure 4-2-1. Front fog lamp light characteristics



## Lighting 4-3 Cornering lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Permitted equipment

1. One pair of cornering lamps fitted as OE.

#### Condition

2. A cornering lamp must:
  - a) be in sound condition and
  - b) not be obscured.

#### Performance

3. A cornering lamp must operate in a way that is appropriate for the lamp and the vehicle.
4. A cornering lamp must emit light that is substantially white or amber.
5. A pair of cornering lamps must emit light that is approximately equal in colour and intensity.
6. A cornering lamp must emit a steady light.
7. A cornering lamp must provide sufficient light output to illuminate the road ahead in the direction of the turn.
8. A cornering lamp must be correctly aligned.
9. Where a cornering lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

#### Modifications

10. A cornering lamp that is affected by a modification:
  - a) must meet equipment, condition and performance requirements, and
  - b) does not require LVV specialist certification.

### Reasons for rejection

#### Permitted equipment

1. A motorcycle is fitted with:
  - a) only one lamp, or
  - b) more than one pair of lamps, or
  - c) a lamp that:
    - i. was not originally fitted by the motorcycle manufacturer, or
    - ii. is not fitted in the original position.

#### Condition

2. A lamp is insecure, obscured, or contains visible moisture or dirt.
3. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
4. A lamp's reflector is damaged or has deteriorated so that light output is reduced.

#### Performance

5. When activated by switching on the direction indicator lamp or by turning the handle bars, a cornering lamp:
  - a) does not operate, or
  - b) does not operate in the direction of the turn.
6. A cornering lamp emits light that is:
  - a) not substantially white or amber, or
  - b) different in colour or intensity from the other lamp in the pair, or
  - c) not steady, or
  - d) not bright enough to illuminate the road ahead in the direction of the turn, eg due to modification, deterioration or an incorrect light source, or
  - e) too bright, causing dazzle to other road users, eg due to an incorrect light source or misalignment, or
  - f) altered, eg due to damage or modification.
7. Where a cornering lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

**Note 1** Definitions

**Cornering lamp** means a lamp designed to emit light at the front of a vehicle to supplement the vehicle's headlamps by illuminating the road ahead in the direction of the turn.

**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 (non-OE).

**Note 2** A vehicle originally manufactured with a cornering lamp arrangement that differs from what is required or permitted in this section may retain the original cornering lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

**Note 3** 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.

## Lighting

## 4-4 Daytime running lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Permitted equipment

1. One or two daytime running lamps fitted to the front of the motorcycle.

#### Condition

2. A daytime running lamp must:
  - a) be in sound condition, and
  - b) not be obscured.
3. Where a daytime running lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

#### Performance

4. A daytime running lamp must operate in a way that is appropriate for the lamp and the vehicle.
5. A daytime running lamp must emit light that is substantially white or amber.
6. A pair of daytime running lamps must emit light that is of approximately equal colour and intensity.
7. A daytime running lamp must emit a steady light.
8. A daytime running lamp must provide sufficient light output to make the motorcycle more easily seen during the daytime.
9. A daytime running lamp must be correctly aligned.
10. A daytime running lamp must not operate when a front fog lamp or a headlamp is in use.

#### Modifications

11. A daytime running lamp that is affected by a modification:
  - a) must meet equipment, condition and performance requirements, and
  - b) does not require LVV specialist certification.

### Reasons for rejection

#### Permitted equipment

1. A motorcycle is fitted with more than two lamps.
2. A lamp is fitted in a position other than at the front of the motorcycle.
3. A retrofitted lamp is not:
  - a) symmetrically mounted, or
  - b) mounted as far towards each side of the vehicle as practicable.

#### Condition

4. A lamp is insecure, obscured, or contains visible moisture or dirt.
5. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
6. A lamp's reflector is damaged or has deteriorated so that light output is reduced.

#### Performance

7. When switched on, a daytime running lamp does not operate.
8. When switched on, a daytime running lamp emits light that is:
  - a) projected in a direction other than to the front, or
  - b) not substantially white or amber, or
  - c) different in colour or intensity from the other lamp in the pair, or
  - d) not steady, or
  - e) not bright enough to make the motorcycle more easily seen during the daytime, eg due to modification, deterioration or an incorrect light source, or
  - f) too bright causing significant dazzle to other road users, eg due to an incorrect light source, or
  - g) altered, eg due to damage or modification.
9. Where a daytime running lamp comprises an array of light sources, fewer than 75% of these operate.
10. A daytime running lamp continues to operate when the headlamps or fog lamps are switched on.

## Lighting

### 4-4 Daytime running lamps (cont.)

**Note 1** Definition

**Daytime running lamp** means a lamp designed to emit a low-intensity light forward of a vehicle to make it more easily seen in daytime.

**Note 2** A vehicle originally manufactured with a daytime running lamp arrangement that differs from what is required or permitted in this section may retain the original daytime running lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

**Note 3** 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.

## Lighting 4-5 Direction indicator lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Mandatory and permitted equipment

- A motorcycle first registered in New Zealand before 1 January 1978 may be fitted with one pair to the front and one pair to the rear of the vehicle.
- A motorcycle first registered in New Zealand on or after 1 January 1978 must be fitted with one or two pairs of lamps to the front and one or two pairs of lamps to the rear of the vehicle.
- A retrofitted pair of lamps must be:
  - symmetrically mounted as far towards each side of the motorcycle as is practicable, and
  - at a height from the ground not exceeding 1.5 m, or if this is not practicable due to the shape of the bodywork, not exceeding 2.1 m.
- A suitable device must be fitted that indicates to the driver the failure of a mandatory lamp.
- A motorcycle (eg a vintage or veteran motorcycle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:
  - the motorcycle has a valid vehicle identity card with a lighting equipment endorsement, and
  - the motorcycle meets the conditions of that endorsement.
- On motorcycles of American origin, the stop lamp and direction indicator lamp functions may be combined in one lamp.

#### Condition

- A direction indicator lamp must:
  - be in sound condition, and
  - not be obscured.

#### Performance

- A direction indicator lamp must operate in a way that is appropriate for the lamp and the vehicle.
- A direction indicator lamp must emit a light that is substantially:
  - white or amber to the front, and
  - red or amber to the rear, and
  - amber to the side.
- A lamp must flash at a fixed frequency in the range of 1-2 Hertz.
- Each lamp in a pair must, when operated, emit a light of approximately equal intensity, colour and frequency.
- The lamp-failure indicating device must function.

### Reasons for rejection

#### Mandatory and permitted equipment

- A motorcycle first registered in New Zealand on or after 1 January 1978, other than one that is exempted (**Table 4-5-1**) is not fitted with:
  - one pair of lamps to the front, and
  - one pair of lamps to the rear.
- A motorcycle first registered in New Zealand before 1 January 1978 is fitted with more than:
  - one pair of lamps to the front, or
  - one pair of lamps to the rear, or
  - two side-facing lamps on each side of the motorcycle.
- A motorcycle first registered in New Zealand on or after 1 January 1978 is fitted with more than:
  - two pairs of lamps to the front, or
  - two pairs of lamps to the rear, or
  - two side-facing lamps on each side of the motorcycle.
- A motorcycle is fitted with a lamp that is not in a pair.
- A motorcycle is not fitted with a suitable device that indicates to the driver that a lamp has failed.
- A retrofitted lamp:
  - is not symmetrically mounted, or
  - is not mounted as far towards each side of the motorcycle as is practicable, or
  - is fitted at a height from the ground exceeding 1.5 m (or 2.1 m where fitting below 1.5 m is not practicable due to the shape of the bodywork of the motorcycle).
- A motorcycle (eg a vintage or veteran motorcycle) does not meet standard direction indicator lamp requirements, and:
  - does not have a valid vehicle identity card with a lighting equipment endorsement, or
  - does not meet the conditions of the lighting equipment endorsement in its vehicle identity card.

## Lighting

## 4-5 Direction indicator lamps (cont.)

13. A lamp must emit a light that is visible from 100 m during normal daylight and 200 m in normal darkness.
14. A retrofitted mandatory lamp must emit a light that is visible within angles of:
  - a) 15° above and below the horizontal, and
  - b) 45° inboard, and
  - c) 80° outboard.
15. If a motorcycle of American origin is fitted with combined stop and indicator lamps, the indicator lamps must override the stop lamps so that the stop lamps operate as direction indicators.
16. Where a lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

### Modifications

17. A direction indicator lamp that is affected by a modification must meet equipment, condition and performance requirements.

## Reasons for rejection

### Condition

8. A lamp is insecure, obscured, or contains visible moisture or dirt.
9. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
10. A lamp's reflector is damaged or has deteriorated so that light output is reduced.
11. A visual lamp failure warning device is obscured from the driver's vision.

### Performance

12. When switched on, a direction indicator lamp:
  - a) does not operate, or
  - b) does not begin flashing within one second of switching on, or
  - c) flashes:
    - i. faster than two flashes per second, or
    - ii. slower than one flash per second, or
    - iii. at a different rate from other lamps on the same side.
13. When switched on, a direction indicator lamp emits a light that is:
  - a) not substantially white or amber to the front, or
  - b) not substantially amber or red to the rear, or
  - c) not substantially amber to the side, or
  - d) different in colour or intensity from the other lamp in a pair, or
  - e) not bright enough to be visible from 100 m in normal daylight and from 200 m in normal darkness, eg due to modification, deterioration or an incorrect light source, or
  - f) too bright, causing significant dazzle to other road users, eg due to an incorrect light source, or
  - g) altered, eg due to damage or modification.

## Reasons for rejection

14. A mandatory lamp that is not OE and not mounted in the original position emits a light that is not visible within:
  - a) 15° above and below the horizontal, or
  - b) 45° inboard and 80° outboard.
15. A mandatory lamp's visibility angles are reduced due to modification of the motorcycle so that emitted light is not visible within:
  - a) 15° above and below the horizontal (**Figure 4-5-1**), or
  - b) 45° inboard and 80° outboard (**Figure 4-5-2**).
16. On a lamp of American origin fitted with combined stop and indicator lamps, the stop lamp function is not overridden by the indicator function.
17. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.
18. A lamp-failure warning device does not operate.

**Table 4-5-1. Motorcycles exempted from direction indicator lamp requirements**

Bajaj Super 150	Honda XR250 Enduro	Montesa 348	Yamaha IT175
Bultaco Sherpa T250	Honda XR500 Enduro	Suzuki DS80	Yamaha IT400
Bultaco Sherpa T350	Kawasaki KLX 250 Enduro	Suzuki DR 370	Yamaha Trials TY175
Bultaco Frontera 250	Kawasaki KV75	Suzuki DR400	Yamaha Trials TY250
Bultaco Frontera 370	Kawasaki KT250	Suzuki PE 175	Yamaha TT250
DKW 125 Enduro	Mini Buffalo	Suzuki PE 250	Yamaha TT500 Enduro
Gemini MA 50	Montesa 250H6	Suzuki RL 250	Zundapp K 550
Honda NC50 Express	Montesa 360H6	Suzuki TF 100	
Honda XR185 Enduro	Montesa 247T	Suzuki TF 125	
Honda XR200 Enduro	Montesa 247	Suzuki TF 185	

**Note 1** Definitions

**Direction indicator lamp** means a lamp designed to emit a flashing light to signal the intention of the driver to change the direction of the vehicle to the right or to the left.

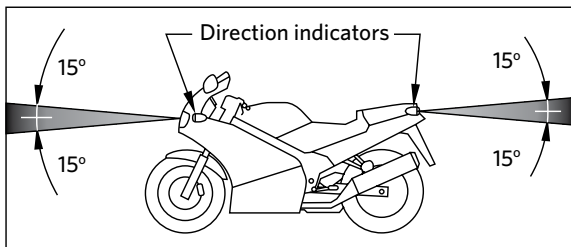
**Modify** means to change a vehicle from its original state by altering, substituting, adding or removing a structure, system, component, or equipment, but does not include repair.

**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.

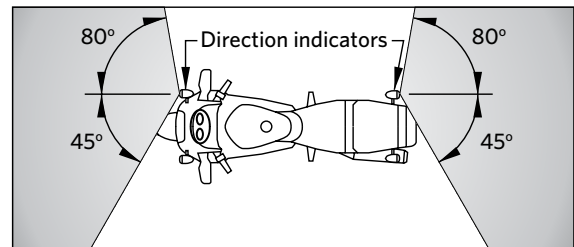
**An original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (non-OE).

## Lighting 4-5 Direction indicator lamps (cont.)

- Note 2** A permitted (ie non-mandatory) rear or a non-OE side-facing direction indicator lamp that does not comply with equipment, condition and performance requirements must be made to comply or disabled so that it does not emit a light.
- Note 3** A vehicle originally manufactured with a direction indicator lamp arrangement that differs from what is required or permitted in this section may retain the original direction indicator lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.
- Note 4** Motorcycles first registered in New Zealand before 27 February 2005 may have rear direction indicator lamps that also function as reversing lamps.
- Note 5** 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.



**Figure 4-5-1. Direction indicator vertical beam angles**



**Figure 4-5-2. Direction indicator horizontal beam angles**

## Lighting 4-6 Forward-facing position lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Mandatory and permitted equipment

- One pair of lamps must be fitted to:
  - a motorcycle first registered in New Zealand on or after 1 January 1978 that exceeds 1.5 m in width
  - a motorcycle that exceeds 2 m in width.
- One or two lamps may be fitted to:
  - a motorcycle that does not exceed 1.5 m in width
  - a motorcycle first registered in New Zealand before 1 January 1978 that does not exceed 2 m in width.
- A motorcycle (eg a vintage or veteran motorcycle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:
  - the motorcycle has a valid vehicle identity card with a lighting equipment endorsement, and
  - the motorcycle meets the conditions of that endorsement.
- A retrofitted pair of lamps must be symmetrically mounted as far towards each side of the motorcycle as practicable.
- A retrofitted lamp must be mounted at a height from the ground not exceeding 1.5 m, or if this is not practicable due to the shape of the bodywork of the motorcycle, not exceeding 2.1 m.

#### Condition

- A forward-facing position lamp must:
  - be in sound condition, and
  - not be obscured.

#### Performance

- A forward-facing position lamp must operate in a way that is appropriate for the lamp and the vehicle.
- A lamp must emit a light that is:
  - diffuse, and
  - substantially white or amber, and
  - steady, and
  - sufficient to indicate to other road users the presence and dimensions of the motorcycle, and
  - visible from 200 m in normal darkness, and
  - of approximately equal intensity and colour to the other lamp of a pair.
- Where a lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

### Reasons for rejection

#### Mandatory and permitted equipment

- One pair of lamps is not fitted to:
  - a motorcycle first registered in New Zealand on or after 1 January 1978 that exceeds 1.5 m in width, or
  - a motorcycle that exceeds 2 m in width.
- A motorcycle is fitted with more than:
  - one pair of lamps, or
  - two single lamps.
- A motorcycle (eg a vintage or veteran motorcycle) does not meet standard forward-facing position lamp requirements, and:
  - does not have a valid vehicle identity card with a lighting equipment endorsement, or
  - does not meet the conditions of the lighting equipment endorsement in its vehicle identity card.
- A retrofitted lamp is mounted at a height from the ground exceeding 1.5 m (or 2.1 m where fitting below 1.5 m is not practicable due to the shape of the bodywork of the motorcycle).
- A retrofitted pair of lamps is not:
  - symmetrically mounted, or
  - mounted as far towards each side of the motorcycle as is practicable.

#### Condition

- A lamp is insecure, obscured, or contains visible moisture or dirt.
- A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
- A lamp's reflector is damaged or has deteriorated so that light output is reduced.

#### Performance

- When switched on, a forward-facing position lamp does not operate.

## Lighting

## 4-6 Forward-facing position lamps (cont.)

## Modifications

10. A forward-facing position lamp that is affected by a modification must meet the equipment, condition and performance requirements.

## Reasons for rejection

10. When switched on, a forward-facing position lamp emits a light that is:
- not substantially white or amber, or
  - not diffuse, or
  - not projected to the front, or
  - different in colour or intensity from the other lamp in a pair, or
  - not steady, or
  - not bright enough to be visible from 200 m in normal darkness, eg due to modification, deterioration or an incorrect light source.
11. A mandatory lamp that is not OE and not mounted in the original position emits a light that is not visible within (**Figure 4-6-1**):
- 15° above and below the horizontal, or
  - 45° inboard and 80° outboard.
12. A mandatory lamp's visibility angles are reduced due to modification of the motorcycle so that emitted light is not visible within:
- 15° above and below the horizontal, or
  - 45° inboard and 80° outboard.
13. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

**Note 1** Definitions

**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.

**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).

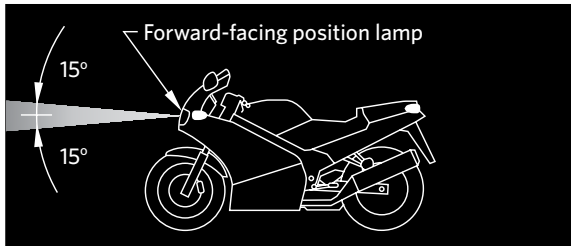
**Position lamp** means a low-intensity lamp that is designed to indicate to road users the presence and dimensions of a vehicle, being:

- a forward-facing position lamp (front side lamp), or
- a rearward-facing position lamp (rear side lamp or tail lamp), or
- a side-marker lamp, or
- an end-outline marker lamp (including cab roof lamp).

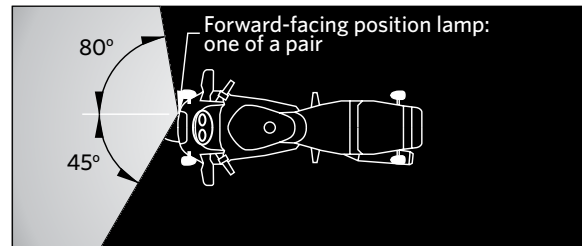


**Note 2** A vehicle originally manufactured with a forward-facing position lamp arrangement that differs from what is required or permitted in this section may retain the original forward-facing position lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

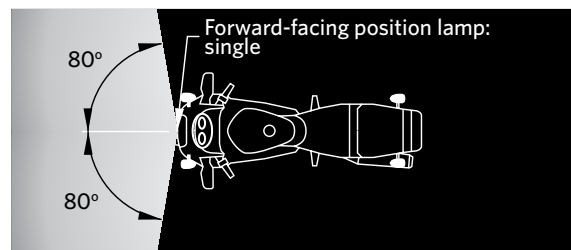
**Note 3** A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply or be removed from the vehicle.



(a) Vertical beam angles



(b) Horizontal beam angles: one of a pair



(c) Horizontal beam angles: single lamp

Figure 4-6-1. Forward-facing position lamp beam angles



## Lighting 4-7 Rearward-facing position lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Mandatory and permitted equipment

- A motorcycle first registered in New Zealand on or after 1 January 1978 and that is more than 1.5 m wide must be fitted with one or two pairs of rearward-facing position lamps.
- A motorcycle that was first registered in New Zealand before 1 January 1978 or that does not exceed 1.5 m in width must be fitted with at least one rearward-facing position lamp.
- A motorcycle (eg a vintage or veteran motorcycle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:
  - the motorcycle has a valid vehicle identity card with a lighting equipment endorsement, and
  - the motorcycle meets the conditions of that endorsement.
- A retrofitted pair of lamps must be:
  - symmetrically mounted as far towards each side of the motorcycle as is practicable, and
  - mounted at a height from the ground not exceeding 1.5 m, or if this is not practicable due to the shape of the bodywork of the motorcycle, not exceeding 2.1 m.

#### Condition

- A rearward-facing position lamp must:
  - be in sound condition, and
  - not be obscured.

#### Performance

- A rearward-facing position lamp must operate in a way that is appropriate for the lamp and the vehicle.
- A lamp must emit a diffuse light that is substantially red.
- A lamp must emit a steady light.
- A lamp must provide sufficient light output to indicate to other road users the presence and dimensions of the motorcycle.
- A lamp must emit light that is visible from a distance of 200 m in normal darkness.
- A retrofitted mandatory lamp must be visible within angles of 15° above and below the horizontal, and within 45° inboard and 80° outboard.
- Each lamp in a pair must, when operated, emit a light of approximately equal intensity and colour.
- Where a lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

### Reasons for rejection

#### Mandatory and permitted equipment

- A motorcycle first registered in New Zealand on or after 1 January 1978 that is more than 1.5 m wide:
  - is not fitted with one pair of lamps, or
  - is fitted with more than two pairs of lamps, or
  - is fitted with a lamp that is not in a pair.
- A motorcycle first registered in New Zealand before 1 January 1978 or that is less than 1.5 m wide is not fitted with at least one lamp.
- A motorcycle (eg a vintage or veteran motorcycle) does not meet standard rearward-facing position lamp requirements, and:
  - does not have a valid vehicle identity card with a lighting equipment endorsement, or
  - does not meet the conditions of the lighting equipment endorsement in its vehicle identity card.
- A retrofitted lamp is mounted at a height from the ground exceeding 1.5 m (or 2.1 m where fitting below 1.5 m is not practicable due to the shape of the bodywork of the motorcycle).
- A retrofitted pair of lamps is not:
  - symmetrically mounted, or
  - mounted as far towards each side of the motorcycle as is practicable.

#### Condition

- A lamp is insecure, obscured, or contains visible moisture or dirt.
- A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
- A lamp's reflector is damaged or has deteriorated so that light output is reduced.

#### Performance

- When switched on, a mandatory lamp does not operate.
- When switched on, a lamp emits a light that is:
  - not substantially red, or

## Lighting

## 4-7 Rearward-facing position lamps (cont.)

## Modifications

14. A rearward-facing position lamp that is affected by a modification must meet equipment, condition and performance requirements.

## Reasons for rejection

- b) not diffuse, or
  - c) not projected to the rear, or
  - d) different in colour or intensity from that of the other lamp in a pair, or
  - e) not steady, or
  - f) not bright enough to be visible from 200 m in normal darkness, eg due to modification, deterioration or an incorrect light source.
11. A non-OE lamp not mounted in the original position, emits a light that is not visible within (**Figure 4-7-1**):
- a) 15° above and below the horizontal, or
  - b) 45° inboard and 80° outboard.
12. A modification to the motorcycle has reduced the lamp's angles to less than (**Figure 4-7-1**):
- a) 15° above and below the horizontal, or
  - b) 45° inboard and 80° outboard.
13. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

**Note 1** Definitions

**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.

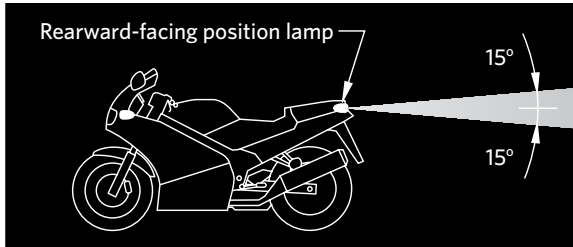
**An original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (non-OE).

**Position lamp** means a low-intensity lamp that is designed to indicate to road users the presence and dimensions of a vehicle, being:

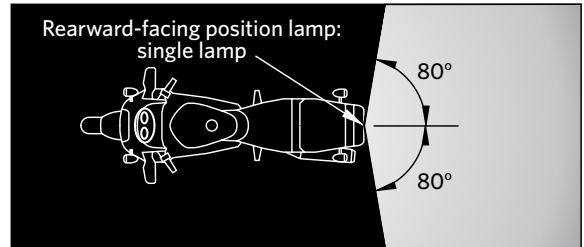
- a) a forward-facing position lamp (front side lamp), or
- b) a rearward-facing position lamp (rear side lamp or tail lamp), or
- c) a side-marker lamp, or
- d) an end-outline marker lamp (including cab roof lamp).

**Note 2** A permitted rearward-facing position lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

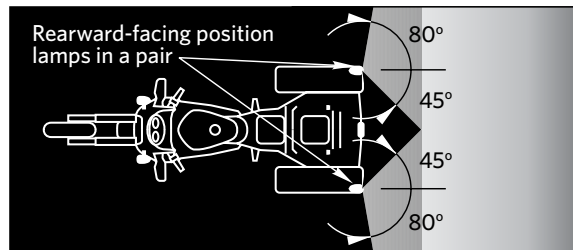
**Note 3** A vehicle originally manufactured with a rearward-facing position lamp arrangement that differs from what is required or permitted in this section may retain the original rearward-facing position lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.



(a) Vertical beam angles



(b) Horizontal beam angles: single lamp



(c) Horizontal beam angles: pair of lamps

Figure 4-7-1. Rearward-facing position lamp beam angles



**Lighting****4-8 Side-marker lamps****Summary of legislation****Applicable legislation**

- Land Transport Rule: Vehicle Lighting 2004

**Prohibited equipment**

1. A motorcycle must not be fitted with side-marker lamps (**Note 1**).

**Reasons for rejection****Prohibited equipment**

1. A motorcycle is fitted with a side-marker lamp (**Note 1**).

**Note 1** Only certain heavy trailers and vehicles with a length of 6 m or more may be fitted with side-marker lamps.

**Note 2** Definitions

**Position lamp** means a low-intensity lamp that is designed to indicate to road users the presence and dimensions of a vehicle, being:

- a) a forward-facing position lamp (front side lamp), or
- b) a rearward-facing position lamp (rear side lamp or tail lamp), or
- c) a side-marker lamp, or
- d) an end-outline marker lamp (including cab roof lamp).

**Side-marker lamp** means a position lamp designed to be fitted to the side of a vehicle or its load.



## Lighting

## 4-9 End-outline marker lamps

## Summary of legislation

## Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

## Prohibited equipment

1. A motorcycle must not be fitted with end-outline marker lamps (**Note 1**).

## Reasons for rejection

## Prohibited equipment

1. A motorcycle is fitted with an end-outline marker lamp (**Note 1**).

**Note 1** End-outline marker lamps may be fitted only to certain heavy motor vehicles, and to light vehicles with an overall width exceeding 1.8 m.

**Note 2** Definitions

**End-outline marker lamp** means a position lamp designed to be fitted near the outer extremity of a vehicle in addition to forward-facing and rearward-facing position lamps; and includes a cab roof lamp.

**Position lamp** means a low-intensity lamp that is designed to indicate to road users the presence and dimensions of a vehicle, being:

- a) a forward-facing position lamp (front side lamp), or
- b) a rearward-facing position lamp (rear side lamp or tail lamp), or
- c) a side-marker lamp, or
- d) an end-outline marker lamp (including cab roof lamp).



## Lighting 4-10 Stop lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Mandatory and permitted equipment

- A motorcycle first registered in New Zealand before 1 January 1978 may be fitted with one or two stop lamps.
- A motorcycle first registered in New Zealand on or after 1 January 1978 must be fitted with one or two stop lamps.
- A motorcycle (eg a vintage or veteran motorcycle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:
  - the motorcycle has a valid vehicle identity card with a lighting equipment endorsement, and
  - the motorcycle meets the conditions of that endorsement.
- A retrofitted pair of stop lamps must be symmetrically mounted as far towards each side of the motorcycle as is practicable.
- A retrofitted stop lamp must be fitted at a height from the ground not exceeding 1.5 m, or if this is not practicable due to the shape of the bodywork of the motorcycle, not exceeding 2.1 m.

#### Condition

- A stop lamp must:
  - be in sound condition.
  - not be obscured.

#### Performance

- A stop lamp must operate in a way that is appropriate for the lamp and the vehicle.
- The light emitted from a stop lamp must be diffuse light that is substantially red.
- A mandatory stop lamp must operate when a service brake is activated.
- A mandatory stop lamp must provide sufficient light output to fulfil its intended purpose.
- A stop lamp must emit a steady light.
- A retrofitted mandatory stop lamp must emit a light that is visible within the angles of 15° above and below the horizontal, and 45° inboard and outboard.
- If a motorcycle of American origin is fitted with combined stop and direction indicator lamps, the indicator lamps must override the stop lamps so that the stop lamps will operate as direction indicators.
- Where a stop lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

### Reasons for rejection

#### Mandatory and permitted equipment

- A motorcycle first registered in New Zealand on or after 1 January 1978 is not fitted with one stop lamp.
- A motorcycle is fitted with more than two stop lamps.
- A motorcycle (eg a vintage or veteran motorcycle) does not meet standard stop lamp requirements, and does not:
  - have a valid vehicle identity card with a lighting equipment endorsement, or
  - meet the conditions of the lighting equipment endorsement in its vehicle identity card.
- A retrofitted stop lamp is fitted at a height from the ground exceeding 1.5 m (or 2.1 m where fitting below 1.5 m is not practicable due to the shape of the bodywork of the motorcycle).
- A retrofitted pair of lamps is not:
  - symmetrically mounted, or
  - mounted as far towards each side of the motorcycle as is practicable.

#### Condition

- A lamp is insecure, obscured, or contains visible moisture or dirt.
- A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
- A reflector is damaged or has deteriorated so that light output is reduced.

#### Performance

- When the service brake is activated:
  - a mandatory lamp does not operate, or
  - a lamp does not remain steadily illuminated.
- A lamp operates when the service brake is not activated.
- A lamp emits a light that is:
  - not substantially red, or
  - not diffuse, or
  - not projected to the rear, or

## Lighting

### 4-10 Stop lamps (cont.)

#### Modifications

15. A stop lamp that is affected by a modification must meet equipment, condition and performance requirements.

#### Reasons for rejection

- d) different in intensity from the other lamp in a pair, or
  - e) not bright enough to produce a light that is visible from 100 m in normal daylight, eg due to modification, deterioration or an incorrect light source.
12. A non-OE lamp not mounted in the original position, emits a light that is not visible within (**Figure 4-10-1**):
- a) 15° above and below the horizontal, and
  - b) 45° either side of the vertical.
13. A modification to the motorcycle has reduced the lamp's angles to less than (**Figure 4-10-1**):
- a) 15° above and below the horizontal, or
  - b) 45° either side of the vertical.
14. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.
15. On a motorcycle of American origin fitted with combined stop and direction indicator lamps, the stop-lamp function is not overridden by the indicator function.

#### Note 1 Definitions

**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.

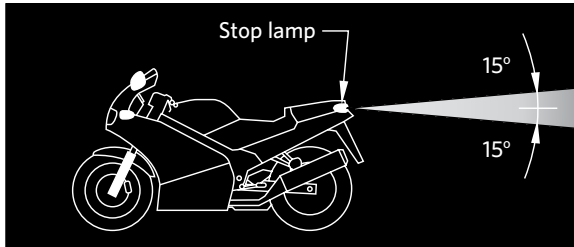
**Repair** means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

**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 (non-OE).

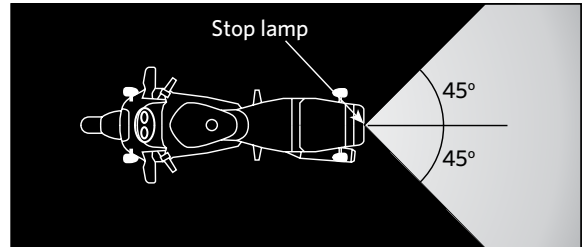
**Stop lamp** means a lamp that is designed to operate when the service brake is activated, that is when either the front service brake, the rear service brake, or both the front and rear service brakes are activated.

**Note 2** A permitted stop lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

**Note 3** A vehicle originally manufactured with a stop-lamp arrangement that differs from what is required or permitted in this section may retain the original stop lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.



(a) Vertical lamp beam angles



(b) Horizontal lamp beam angles

Figure 4-10-1. Stop-lamp beam angles



## Lighting

### 4-11 High-mounted stop lamps

#### Summary of legislation

##### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

##### Permitted equipment

1. A motorcycle may be fitted with one or two high-mounted stop lamps.
2. A lamp must be fitted in a central high-mounted position at the rear of the motorcycle.

##### Condition

3. A high-mounted stop lamp must be in good condition.

##### Performance

4. A high-mounted stop lamp must operate in a way that is appropriate for the lamp and the vehicle.
5. The light emitted from a high-mounted stop lamp must be diffuse light that is substantially red.
6. A high-mounted stop lamp must emit a steady light.
7. At least one unobscured lamp must operate when the motorcycle's service brakes are activated.
8. Where a high-mounted stop lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

##### Modifications

9. A high-mounted stop lamp that is affected by a modification:
  - a) must meet equipment, condition and performance requirements, and
  - b) does not require LVV specialist certification.

#### Reasons for rejection

##### Permitted equipment

1. A motorcycle is fitted with more than two high-mounted stop lamps.
2. A lamp is not fitted in a central high-mounted position.

##### Condition

3. A lamp is insecure, or contains visible moisture or dirt.
4. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
5. A reflector is damaged or has deteriorated so that light output is reduced.

##### Performance

6. When the service brake is activated, a lamp does not remain steadily illuminated.
7. A lamp operates when the service brake is not activated.
8. A lamp emits a light that:
  - a) is not substantially red, or
  - b) is not diffuse, or
  - c) is not projected to the rear, or
  - d) has insufficient light output to produce a light that is visible from 100 m in normal daylight, eg due to modification, deterioration or an incorrect light source.
9. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

#### Note 1 Definitions

**High-mounted stop lamp** means a stop lamp that is designed to be fitted in a central, high-mounted position at the rear of the vehicle.

**Stop lamp** means a lamp that is designed to operate when the service brake is activated.

**Note 2** A high-mounted stop lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

**Note 3** A vehicle originally manufactured with a high-mounted stop lamp arrangement that differs from what is required or permitted in this section may retain the original high-mounted stop lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.



## Lighting

### 4-12 Rear-registration-plate illumination lamps

#### Summary of legislation

##### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

##### Mandatory equipment

- At least one rear-registration-plate illumination lamp.
- A motorcycle (eg a vintage or veteran motorcycle) manufactured without lamps, or with lamps that cannot meet lamp requirements, may obtain a WoF if:
  - the motorcycle has a valid vehicle identity card with a lighting equipment endorsement, and
  - the motorcycle meets the conditions of that endorsement.

##### Performance

- A rear-registration-plate illumination lamp must operate in a way that is appropriate for the lamp and the vehicle.
- A lamp must emit a diffused light that is substantially white.
- A rear-registration-plate illumination lamp must emit a steady light.
- The light source of the lamp must not be visible from the rear of the motorcycle.
- A lamp must illuminate the figures and letters of the plate so that they are visible from 20 m during normal darkness.
- Where a lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

##### Modifications

- A rear-registration-plate illumination lamp that is affected by a modification must meet equipment, condition and performance requirements.

#### Reasons for rejection

##### Mandatory equipment

- A motorcycle is not fitted with at least one rear-registration-plate illumination lamp.

##### Performance

- The lamp emits a light that is not:
  - substantially white, or
  - steady, or
  - diffuse.
- The lamps are not bright enough to show up the registration-plate text from 20 m in normal darkness.
- The light source of a lamp is visible from the rear of the motorcycle.
- A motorcycle (eg a vintage or veteran motorcycle) does not meet standard rear-registration-plate illumination lamp requirements, and does not:
  - have a valid vehicle identity card with a lighting equipment endorsement, or
  - meet the conditions of the lighting equipment endorsement in its vehicle identity card.

#### Note 1 Definitions

**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.

**Rear registration-plate illumination lamp** means a lamp designed to illuminate the rear registration plate of a vehicle.

**Note 2** A vehicle originally manufactured with a rear registration-plate illumination lamp arrangement that differs from what is required or permitted in this section may retain the original rear registration-plate illumination lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.



## Lighting 4-13 Rear reflectors

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Mandatory and permitted equipment

1. A motorcycle must be fitted with at least one rearward-facing reflector that reflects light that is visible from 100 m.
2. A rearward-facing reflector must be positioned to the rear of the motorcycle.
3. A reflector must be of an area that allows it to reflect light to improve the visibility of the motorcycle to other road users without causing undue dazzle or discomfort.
4. A retrofitted pair of reflectors must be symmetrically mounted as far towards each side of the motorcycle as is practicable.

#### Condition

5. A reflector must be in good condition.

#### Performance

6. A reflector must operate in a way that is appropriate for the reflector and the vehicle.
7. A reflector must reflect white light as substantially red light.
8. A reflector must provide sufficient light reflection to fulfil its intended purpose.

#### Modifications

9. A rear reflector that is affected by a modification:
  - a) must meet equipment, condition and performance requirements, and
  - b) does not require LVV specialist certification.

### Reasons for rejection

#### Mandatory and permitted equipment

1. A motorcycle is not fitted with at least one red rearward-facing reflector.
2. A reflector is not positioned to the rear of the motorcycle.
3. A retrofitted reflector is fitted at a height from the ground exceeding 1.5 m, or if this is not practicable due to the shape of the bodywork of the motorcycle, exceeding 2.1 m.
4. A retrofitted pair of reflectors is not:
  - a) symmetrically mounted, or
  - b) mounted as far towards each side of the motorcycle as is practicable.

#### Condition

5. A mandatory reflector's ability to reflect light is affected by excessive:
  - a) fading, or
  - b) scratching or other damage.

#### Performance

6. The reflected light from a mandatory reflector is not visible from 100 m.
7. The reflected light from a reflector is not red.

#### Note 1 Definitions

**Reflector** means a distinct item of lighting equipment that is designed to reflect incident light back towards the light source, but does not include reflective material (such as reflective tape).

**Reflective material** means any material that is designed to reflect incident light back towards the light source, and includes reflective tape, but does not include a reflector.

**Note 2** A vehicle originally manufactured with a rear-reflector arrangement that differs from what is required or permitted in this section may retain the original rear reflectors provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.



## Lighting

## 4-14 Reversing lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004

#### Permitted equipment

1. One or two reversing lamps fitted at the rear of the motorcycle.
2. A retrofitted pair of reversing lamps must be symmetrically mounted as far towards each side of the motorcycle as is practicable.

#### Condition

3. A reversing lamp must be in good condition.

#### Performance

4. A reversing lamp must operate in a way that is appropriate for the lamp and the vehicle.
5. A reversing lamp, when operated, must emit a diffuse light or a dipped beam of light that is substantially white (**Note 3**).
6. A reversing lamp must emit a steady light.
7. A reversing lamp may operate only when the reverse gear is engaged or the headlamps are turned off.
8. Where a reversing lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

#### Modifications

9. A reversing lamp that is affected by a modification:
  - a) must meet equipment, condition and performance requirements, and
  - b) does not require LVV specialist certification.

### Reasons for rejection

#### Permitted equipment

1. A motorcycle is fitted with more than two reversing lamps at the rear of the motorcycle.
2. A retrofitted pair of reversing lamps is not:
  - a) symmetrically mounted, or
  - b) mounted as far towards each side of the motorcycle as practicable.

#### Condition

3. A lamp is insecure, obscured or contains visible moisture or dirt.
4. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.
5. A reflector is damaged or has deteriorated so that light output is reduced.

#### Performance

6. A lamp controlled by gear engagement continues to display a light to the rear when the reverse gear is disengaged.
7. A lamp controlled by a manual switch continues to display a light to the rear while the headlamps are switched on.
8. When engaged, a lamp emits light that is not:
  - a) substantially white (**Note 3**), or
  - b) steady, or
  - c) diffuse or a dipped beam.
9. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

#### Note 1 Definition

**Reversing lamp** means a lamp designed to illuminate the area behind the vehicle while it is reversing and to warn other road users that the vehicle is reversing or about to reverse.

**Note 2** A reversing lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

**Note 3** Vehicles first registered in New Zealand before 27 February 2005 were allowed to use rear indicator lamps as reversing lamps. Although the light emitted is amber rather than white, this arrangement is still permitted for these vehicles.

**Note 4** A vehicle originally manufactured with a reversing-lamp arrangement that differs from what is required or permitted in this section may retain the original reversing lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.



## Lighting 4-15 Cosmetic lamps

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

#### Permitted equipment

1. A vehicle may be fitted with one or more lamps not specified in **Table 4-15-1**, provided they are fitted so that light sources are not visible in those regions specified in **Figure 4-15-1**.
2. A lamp must be fitted in a fixed position on the vehicle and positioned so that no part of the light source is situated within 250 mm of a mandatory lamp.

#### Performance

3. A lamp must:
  - a) only emit light that is diffuse, and
  - b) not emit light that flashes or otherwise varies in intensity or colour, and
  - c) be fitted in a way, and be of a luminance that ensures, that it does not dazzle, confuse or distract other road users, and
  - d) not emit a light that revolves, rotates or otherwise moves, and
  - e) not cause confusion as to the orientation of the vehicle, and
  - f) not emit a red light that is directly visible from the front of the vehicle, and
  - g) not emit a light other than red or amber if the light is directly visible from the rear of the vehicle.

### Reasons for rejection

#### Permitted equipment

1. A cosmetic lamp (ie one not listed in **Table 4-15-1**) that is fitted to a vehicle:
  - a) has a part of its light-emitting surface positioned within 250 mm of any mandatory lamp, or
  - b) is not mounted in a fixed position.
  - c) is positioned so that its light-emitting surface is visible within the shaded areas in **Figure 4-15-1**.

#### Performance

2. When switched on, a lamp with a light-emitting surface not visible within the shaded areas in **Figure 4-15-1** emits a light that:
  - a) is not diffuse, or
  - b) flashes or otherwise varies in intensity or colour, or
  - c) revolves, rotates or otherwise moves, or
  - d) is too bright, and likely to dazzle other road users, or
  - e) is likely to cause confusion about the orientation of the vehicle, or
  - f) is red when seen directly from the front, or
  - g) is not red or amber when seen directly from the rear.

# Lighting 4-15 Cosmetic lamps (cont.)

**Table 4-15-1. Lamps that are not cosmetic lamps**

Lamps covered in the VIRM	Other lighting equipment not requiring inspection
Headlamps	Reflective material
Stop lamps	Interior lamps
High-mounted stop lamps	<i>Designed to illuminate the interior of the vehicle for the convenience of passengers.</i>
Direction indicator lamps	Work lamps
Position lamps (includes side-marker lamps and end-outline marker lamps)	<i>White or amber high-intensity lamps that are not necessary for the operation of the vehicle but are designed to illuminate the area around the vehicle or the vehicle itself.</i>
Rear registration-plate illumination lamps	Scene lamps
Rear reflectors	<i>Work lamps designed to provide a fixed or movable beam of light to illuminate the area around the vehicle or the vehicle itself.</i>
Fog lamps	Alley lamps
Daytime running lamps	<i>Work lamps designed primarily to provide a fixed or movable beam of light to the side of the vehicle it is fitted to.</i>
Cornering lamps	Flashing or revolving beacons
Reversing lamps	Illuminated vehicle-mounted signs
PSV interior lamps	<i>Includes PSV destination signs, taxi signs, and variable message signs operated by enforcement officers, under a traffic management plan or permitted by other legislation.</i>

**Note 1** A rear or side cosmetic lamp that does not comply with requirements for condition or performance must be made to comply, or be disabled so that it does not emit a light.

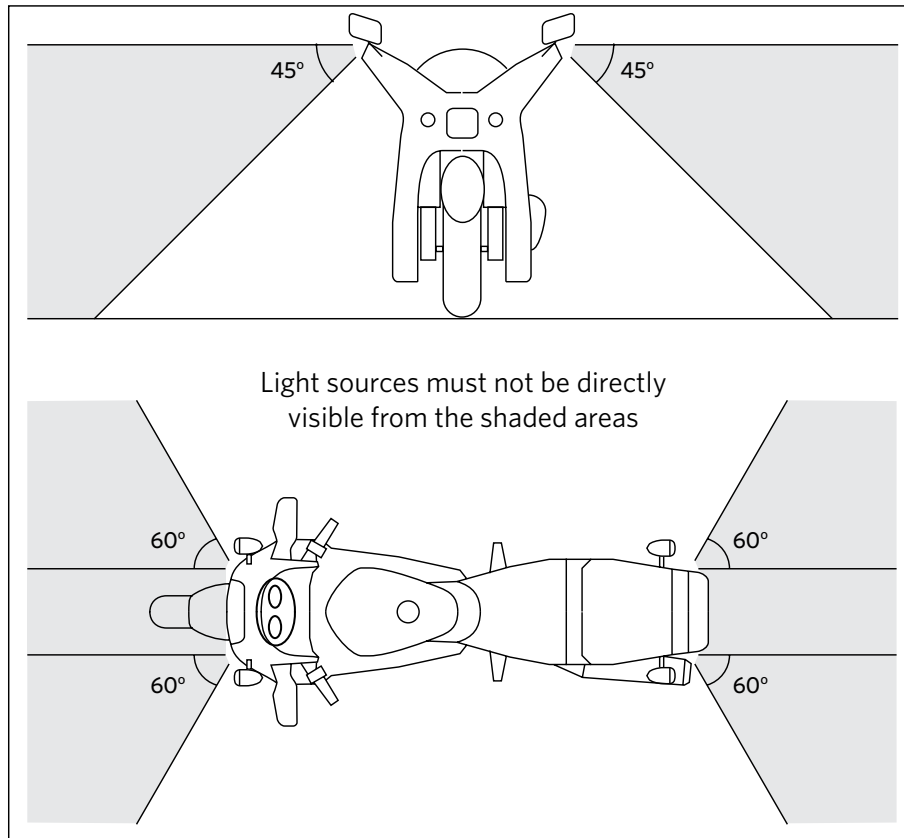
**Note 2** Definitions

**Lamp** means a device designed to emit light, and includes an array of separate light sources that appear as a continuous illuminated surface.

**Cosmetic lamp** means any lamp that is not listed in **Table 4-15-1**.

**Note 3** 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 4** 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.



**Figure 4-15-1. Visibility angles for cosmetic lamps**

