Vägverket

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Nivåreglering av halvljusstrålkastare

Med anledning av Er skrivelse om Vägverkets krav på nivåregleringsanordning av huvudstrålkastare enligt VVFS 2003:22, får Vägverket meddela följande.

Enligt 21 kap. 1 § i Vägverkets föreskrifter (VVFS 2003:22) om bilar och släpvagnar som dras av bilar, skall bil som tas i bruk den 1 januari 2005 eller senare vara typgodkänd eller uppfylla kraven i direktiv 76/756/EEG eller ECE-reglemente 48 om belysningsinstallation. Motsvarande krav eller de nationella kraven i 4 – 169 §§ gäller bilar som tagits i bruk före detta datum.

För halvljusstrålkastare med en ljuskälla vars ljusflöde överstiger 2 000 lumen (t.ex. xenonstrålkastare) gäller särskilda tilläggsvillkor enligt 6.2.9 i ECE-reglemente 48. Bilar med sådana strålkastare skall vara utrustade med strålkastarrengörare enligt ECE-reglemente 45 och dessutom skall kraven i 6.2.6.2.2 beträffande manuell nivåreglering inte tillämpas. Detta innebär, enligt Vägverkets uppfattning, att halvljusstrålkastare med xenonljus i normalfallet skall ha automatisk nivåreglering enligt 6.2.6.2.1 eftersom manuell nivåreglering inte är tillämpbar.

Som Ni påpekar gäller emellertid kravet på nivåreglering enligt 6.2.6.2.1 i de fall när nivåreglering är nödvändig för att uppfylla kraven i 6.2.6.1.1 och 6.2.6.1.2. En bil kan således godkännas utan särskild nivåreglering (manuell eller automatisk) om det vid provning och godkännande av fordonet konstateras att nivåreglering inte behövs för att uppfylla kraven på halvljusbildens nedvinkling och den vertikala lutningen. Om det emellertid vid provningen konstateras att nivåreglering är nödvändig för att uppfylla dessa krav skall denna vara automatisk.

Med vänlig hälsning

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Vägverkets krav på nivåregleringsanordning av huvudstrålkastare enligt VVFS 2003:22

Ett flertal sidoimporterade bilar av märket Chevrolet Corvette har underkänts vid registreringsbesiktning hos AB Svensk Bilprovning då fordonen inte uppfyllt kravet i 21 kap 42 § VVFS 2003:22. I nämnda föreskrift hänvisas till ECE-reglemente 48. De aktuella fordonen är utrustade med huvudstrålkastare vars ljusstyrka överskrider 2.000 lumen (Xenonstrålkastare). Eftersom AB Svensk Bilprovning följer Vägverkets tolkning av ECE-reglemente 48 så har denna bil inte godkänts vid en registreringsbesiktning.

Samtidigt har identiska bilar som sålts av generalagentens återförsäljare här i Sverige blivit EG-typgodkända utan att de haft en sådan nivåregleringsanordning. De Chevrolet Corvetter som sålts av generalagentens återförsäljare här i Sverige har typgodkänts i ett annat EU-land där ECE-reglemente 48 har tolkats på ett, från Vägverkets tolkning, avvikande sätt.

Kraven på nivåregleringsanordning av huvudstrålkastare - headlamp leveling device – regleras i ECE-reglemente 48 under punkten 6.2.6.2.

I dess första punkt 6.2.6.2.1. föreskrivs att: i det fall när en nivåregleringsanordning av huvudstrålkastarna på en bil är nödvändig för att uppfylla kraven i punkten 6.2.6.1.1. och 6.2.6.1.2. så skall nivåregleringsanordningen vara automatisk.
Denna punkt tolkar BIRF som att en nivåregleringsanordning inte är nödvändig om kraven i punkterna 6.2.6.1.1.och 6.2.6.1.2. kan uppfyllas utan en sådan anordning.

I efterföljande punkt, 6.2.6.2.2. föreskrivs att: en *manuellt justerbar* nivåregleringsanordning skall tillåtas om den uppfyller vissa, i ECE-reglemente 48, föreskrivna krav. Således beskriver denna punkt endast de krav som uppställs på en manuell nivåregleringsanordning *i det fall en sådan redan befunnits vara nödvändig* enligt 6.2.6.2.1. Så som 6.2.6.2.2 är formulerad får den anses vara en undantagsregel till 6.2.6.2.1.

Vägverket har dessvärre, med hänvisning till punkten 6.2.9, 2 st., tolkat denna reglering av kravet på nivåregleringsanordning av huvudstrålkastare på annat sätt. De menar att alla bilar som har en strålkastare med en ljusstyrka som överskrider 2.000 lumen skall ha nivåregleringsanordning eftersom 6.2.9, 2 st. föreskriver att 6.2.6.2.2. ej är tillämplig i detta fall.

Såsom ovan konstaterat får dock 6.2.6.2.2. anses vara en undantagsregel till 6.2.6.2.1. Det är endast den senare punkten som ställer krav på att en nivåregleringsanordning bör finnas och då endast i de fall kraven i 6.2.6.1.1.och 6.2.6.1.2. ej kan uppfyllas.

BIRF konstaterar, med hänvisning till ovanstående, att Vägverkets tolkning av ECE-reglemente 48 är felaktig. För att arbetet med harmoniseringen av reglerna inom fordonsområdet skall fungera tillfredställande måste medlemsländernas tolkning av gällande bestämmelser överrensstämma med varandra. Europarätten har företräde framför den inhemska rätten och även i de fall där de inhemska reglerna om enskilt godkännande av fordon är tillämpliga får dessa regler inte innebära att en högre kravnivå uppställas än den som uppställs i europarätten – proportionalitetsprincipen måste iakttas.

Med anledning av detta yrkar BIRF att Vägverkets tolkning av ECE-reglemente 48 upphävs för att istället ersättas med en korrekt tolkning av reglementet.

Utdrag ur ECE-reglemente 48 samt tolkningsmeddelande från kommissionen om förfarandet för registrering av motorfordon med ursprung i en annan medlemsstat (2007/C 68/04) bifogas.

Sollentuna den 24 april 2007

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6.1.7.2. The dipped-beams may remain switched on at the same time as the main beams.

6.1.7.3. Where four concealable headlamps are fitted their raised position must prevent the simultaneous operation of any additional headlamps fitted, if these are intended to provide light signals consisting of intermittent illumination at short intervals (see paragraph 5.12.) in daylight.

6.1.8. Tell-tale

Circuit-closed tell-tale mandatory.

6.1.9. Other requirements

6.1.9.1. The aggregate maximum intensity of the main-beam headlamps which can be switched on simultaneously shall not exceed 225,000 cd, which corresponds to a reference value of 75.

6.1.9.2. This maximum intensity shall be obtained by adding together the individual reference marks which are indicated on the several hveadlamps. The reference mark "10" shall be given to each of the headlamps marked "R" or "CR".

6.2. DIPPED-BEAM HEADLAMP

6.2.1. Presence

Mandatory on motor vehicles. Prohibited on trailers.

6.2.2. Number

Two.

6.2.3. Arrangement

No special requirement.

6.2.4. Position

6.2.4.1. In width: that edge of the apparent surface in the direction of the reference axis which is farthest from the vehicle's median longitudinal plane shall be not more than 400 mm from the extreme outer edge of the vehicle.

The inner edges of the apparent surfaces in the direction of the reference axes shall be not less than 600 mm apart. This does not apply, however, for M_1 and N_1

category vehicles; for all other categories of motor vehicles this distance may be reduced to 400 mm where the overall width of the vehicle is less than 1,300 mm.

6.2.4.2. In height: not less than 500 mm and not more than 1,200 mm above the ground. For category N_3G (off-road) vehicles 6/ the maximum height may be increased to 1,500 mm.

6.2.4.3. In length: at the front of the vehicle. This requirement shall be deemed to be satisfied if the light emitted does not cause discomfort to the driver either directly, or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicle.

6.2.5. Geometric visibility

Defined by angles α and ß as specified in paragraph 2.13.:

α = 15° upwards and 10° downwards,

ß = 45° outwards and 10° inwards.

Since the photometric values required for dipped-beam headlamps do not cover the full geometric field of vision, a minimum value of 1 cd in the space remaining is required for type-approval purposes. The presence of partitions or other items of equipment near the headlamp shall not give rise to secondary effects causing discomfort to other road users.

6.2.6. Orientation

Towards the front.

6.2.6.1. Vertical orientation

6.2.6.1.1. The initial downward inclination of the cut-off of the dipped-beam to be set in the unladen vehicle state with one person in the driver's seat shall be specified within an accuracy of 0.1 per cent by the manufacturer and indicated in a clearly legible and indelible manner on each vehicle close to either headlamp or the manufacturer's plate by the symbol shown in Annex 7.

The value of this indicated downward inclination shall be defined in accordance with paragraph 6.2.6.1.2.

6/ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3), Annex 7 (document TRANS/WP.29/78/Rev.1/Amend.2, as last amended by Amend.4).

6.2.6.1.2. Depending on the mounting height in metres (h) of the lower edge of the apparent surface in the direction of the reference axis of the dipped-beam headlamp, measured on the unladen vehicles, the vertical inclination of the cut-off of the dipped- beam shall, under all the static conditions of Annex 5, remain between the following limits and the initial aiming shall have the following values:

h < 0.8

limits:	between -0.5 per cent and -2.5 per cent
initial aiming:	between -1.0 per cent and -1.5 per cent

0.8 • h • 1.0

limits:	between -0.5 per cent and -2.5 per cent
initial aiming:	between -1.0 per cent and -1.5 per cent

or, at the discretion of the manufacturer,

limits:	between -1.0 per cent and -3.0 per cent
initial aiming:	between -1.5 per cent and -2.0 per cent

The application for the vehicle type-approval shall, in this case, contain information as to which of the two alternatives is to be used.

h > 1.0

limits:	between -1.0 per cent and -3.0 per cent
initial aiming:	between -1.5 per cent and -2.0 per cent

The above limits and the initial aiming values are summarized in the diagram below.

For category N_3G (off-road) vehicles where the headlamps exceed a height of 1,200 mm, the limits for the vertical inclination of the cut-off shall be between: -1.5 per cent and -3.5 per cent.

The initial aim shall be set between: -2 per cent and -2.5 per cent.

6.2.6.2. Headlamp levelling device

6.2.6.2.1. In the case where a headlamp levelling device is necessary to satisfy the requirements of paragraphs 6.2.6.1.1. and 6.2.6.1.2., the device shall be automatic.

6.2.6.2.2. However, devices which are adjusted manually, either continuously or non-continuously, shall be permitted, provided they have a stop position at which the lamps can be returned to the initial inclination defined in paragraph 6.2.6.1.1. by means of the usual adjusting screws or similar means.

These manually adjustable devices must be operable from the driver's seat.

Continually adjustable devices must have reference marks indicating the loading conditions that require adjustment of the dipped-beam.

The number of positions on devices which are not continuously adjustable must be such as to ensure compliance with the range of values prescribed in paragraph 6.2.6.1.2. in all the loading conditions defined in Annex 5.

For these devices also, the loading conditions of Annex 5 that require adjustment of the dipped-beam shall be clearly marked near the control of the device (see Annex 8).

6.2.6.2.3. In the event of a failure of devices described in paragraphs 6.2.6.2.1. and 6.2.6.2.2., the dipped-beam shall not assume a position in which the dip is less than it was at the time when the failure of the device occurred.

6.2.6.3. Measuring procedure

6.2.6.3.1. After adjustment of the initial inclination, the vertical inclination of the dipped-beam, expressed in percent, shall be measured in static conditions under all the loading conditions defined in Annex 5.

6.2.6.3.2. The measurement of the variation of dipped-beam inclination as a function of load must be carried out in accordance with the test procedure set out in Annex 6.

6.2.6.4. Horizontal orientation

The horizontal orientation of one or both dipped-beam headlamps may be varied to produce bend lighting, provided that if the whole beam or the kink of the elbow of the cut-off is moved, the kink of the elbow of the cut-off shall not intersect the line of the trajectory of the centre of gravity of the vehicle at distances from the front of the vehicle which are larger than 100 times the mounting height of the respective dipped-beam headlamps.

6.2.7. Electrical connections

The control for changing over to the dipped-beam must switch off all main-beam headlamps simultaneously.

The dipped beam may remain switched on at the same time as the main beams.

In the case of dipped-beam headlamps according to Regulation No. 98, the gas-discharge light sources shall remain switched on during the main-beam operation.

One additional light source, located inside the dipped-beam headlamps or in a lamp (except the main-beam headlamp) grouped or reciprocally incorporated with the respective dipped-beam headlamps, may be activated to produce bend lighting, provided that the horizontal radius of curvature of the trajectory of the centre of gravity of the vehicle is 500 m or less. This may be demonstrated by the manufacturer by calculation or by other means accepted by the authority responsible for type approval.

Dipped-beam headlamps may be switched ON or OFF automatically. However, it shall be always possible to switch these dipped-beam headlamps ON and OFF manually.

6.2.8. Tell-tale

Tell-tale optional.

However, in the case where the whole beam or the kink of the elbow of the cut-off is moved to produce bend lighting, an operational tell-tale is mandatory; it shall be a flashing warning light which comes on in the event of a malfunction of the displacement of the kink of the elbow of the cut-off.

6.2.9. Other requirements

The requirements of paragraph 5.5.2. shall not apply to dipped-beam headlamps.

Dipped-beam headlamps with a light source having an objective luminous flux which exceeds 2,000 lumen shall only be installed in conjunction with the installation of headlamp cleaning device(s) according to Regulation No. 45. 7/ In addition, with respect to vertical inclination, the provisions of paragraph 6.2.6.2.2. above shall not be applied.

Only dipped-beam headlamps according to Regulations Nos. 98 or 112 may be used to produce bend lighting.

7/ Contracting Parties to the respective Regulations can still prohibit the use of mechanical cleaning systems when headlamps with plastic lenses, marked "PL", are installed.

If bend lighting is produced by a horizontal movement of the whole beam or the kink of the elbow of the cut-off, it shall be activated only if the vehicle is in forward motion; this shall not apply if bend lighting is produced for a right turn in right hand traffic (left turn in left hand traffic).

6.3. FRONT FOG LAMP

6.3.1. Presence

Optional on motor vehicles. Prohibited on trailers.

6.3.2. Number

Two.

6.3.3. Arrangement

No special requirement.

6.3.4. Position

6.3.4.1. In width: that point on the apparent surface in the direction of the reference axis which is farthest from the vehicle's median longitudinal plane shall not be more than 400 mm from the extreme outer edge of the vehicle.

6.3.4.2. In height:

minimum: Not less than 250 mm above the ground.
maximum: For M_1 and N_1 category vehicles not more than 800 mm above the ground. For all other categories of vehicles no maximum height.

However, no point on the apparent surface in the direction of the reference axis must be higher than the highest point on the apparent surface in the direction of the reference axis of the dipped-beam headlamp.

6.3.4.3. In length: at the front of the vehicle. This requirement shall be deemed to be satisfied if the light emitted does not cause discomfort to the driver either directly, or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicle.

Annex 5

STATES OF LOADING TO BE TAKEN INTO CONSIDERATION IN DETERMINING VARIATIONS IN THE VERTICAL ORIENTATION OF THE DIPPED-BEAM HEADLAMPS

Loading conditions on axles referred to in paragraphs 6.2.6.1. and 6.2.6.3.1.

1. For the following tests, the mass of the passengers shall be calculated on the basis of 75 kg per person.

2. Loading conditions for different types of vehicles:

2.1. Vehicles in category M_1: 1/

2.1.1. The angle of the light beam of the dipped-beam headlamps shall be determined under the following load conditions:

2.1.1.1. one person in the driver's seat;

2.1.1.2. the driver, plus one passenger in the front seat farthest from the driver;

2.1.1.3. the driver, one passenger in the front seat farthest from the driver, all the seats farthest to the rear occupied;

2.1.1.4. all the seats occupied;

2.1.1.5. all the seats occupied, plus an evenly distributed load in the luggage boot, in order to obtain the permissible load on the rear axle or on the front axle if the boot is at the front. If the vehicle has a front and a rear boot, the additional load must be appropriately distributed in order to obtain the permissible axle loads. However, if the maximum permissible laden mass is obtained before the permissible load on one of the axles, the loading of the boot(s) shall be limited to the figure which enables that mass to be reached;

2.1.1.6. driver, plus an evenly distributed load in the boot, in order to obtain the permissible load on the corresponding axle.

However, if the maximum permissible laden mass is obtained before the permissible load on the axle, the loading of the boot(s) shall be limited to the figure which enables that mass to be reached.

1/ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3) Annex 7, (document TRANS/WP.29/78/Rev.1/Amend.2, as last amended by Amend.4).

2.1.2. In determining the above loading conditions, account must be taken of any loading restrictions laid down by the manufacturer.

2.2. Vehicles in categories M_2 and M_3; 1/

The angle of the light beam from the dipped-beam headlamps must be determined under the following loading conditions:

2.2.1. vehicle unladen and one person in the driver's seat;

2.2.2. vehicles laden such that each axle carries its maximum technically permissible load or until the maximum permissible mass of the vehicle is attained by loading the front and rear axles proportionally to their maximum technically permissible loads, whichever occurs first.

2.3. Vehicles in category N with load surfaces:

2.3.1. The angle of the light beam from the dipped-beam headlamps must be determined under the following loading conditions;

2.3.1.1. vehicle unladen and one person in the driver's seat;

2.3.1.2. driver, plus a load so distributed as to give the maximum technically permissible load on the rear axle or axles, or the maximum permissible mass of the vehicle, whichever occurs first, without exceeding a front axle load calculated as the sum of the front axle load of the unladen vehicle plus 25 per cent of the maximum permissible payload on the front axle. Conversely, the front axle is so considered when the load platform is at the front.

2.4. Vehicles in category N without a load surface:

2.4.1. Drawing vehicles for semi-trailers:

2.4.1.1. Unladen vehicle without a load on the coupling attachment and one person in the driver's seat;

2.4.1.2. one person in the driver's seat: technically permissible load on the coupling attachment in the position of the attachment corresponding to the highest load on the rear axle.

2.4.2. Drawing vehicles for trailers:

2.4.2.1. vehicle unladen and one person in the driver's seat;

2.4.2.2. one person in the driver's seat, all the other places in the driving cabin being occupied.