



# Governmental Noise Charges on Dutch Airports

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# **Governmental Noise charges in the Netherlands**

## ***1 Introduction.***

The Netherlands Aviation Act requires the establishment of noise zones around Dutch airports. Outside these zones the noise load caused by landing and departing aeroplanes may not exceed a certain established limit.

Within these zones existing houses will be sound-proofed to reduce the noise exposure of residents.

The costs, incurred by this programme, are recovered by noise related charges imposed on civil aircraft using airports in the Netherlands. Each individual aircraft will be levied a noise charge. There are two types of noise charges, see para 4.

Once all soundproofing projects around an airport have been completed, the noise charge for that airport will be terminated.

## ***2 Basis for the calculation of noise charges.***

The calculation of the noise charge is primary based on the certificated aircraft noise-level, according to the standards of ICAO, Annex 16 or FAR Part 36. For light aircraft (<= 20.000 kg) the charge is not based on the noise levels but on the weight only.

## ***3 Relation with other noise related charges or fees.***

In addition to the noise charges imposed by the Dutch government, airports may impose their own noise related surcharges. This brochure only describes the Governmental noise charges. Notwithstanding the governmental character, the invoicing of the charges is done by the airport authorities on behalf of the Ministry of Transport. To this end the Ministry of Transport informs the airport authorities about the correct charges that have to be invoiced.

## ***4 Determination of applicable noise charges***

Each individual airplane as identified by its Registration number will be assigned a Noise Charge. There are two types of Noise Charge, a limit (high cost) noise charge and a specific noise charge, determined for that individual airplane and which could be a lower cost noise charge.

Noise Charges may be calculated for each individual aircraft based on approved data in the Airplane Flight Manual issued for that airplane and other relevant data as described in paragraph "Submitting noise information". If no such approved data is submitted, the Noise Charge will be calculated on the basis of the ICAO Annex 16 Limit Value.

## ***5 Dates of Effectivity for low cost specific Noise Charge***

The specific Noise Charge is calculated using the correct approved data as submitted by the Operator requesting the low cost Noise Charges. This must include the valid AFM related to the individual airplane including all approved and installed modifications. Operators wishing to be benefit of the low-

cost specific Noise Charge must submit this data to the Dutch Government at the address supplied in paragraph "Submitting noise information" . The Dutch Government will check the correctness of the data and if satisfied, will determine a low cost noise charge. Please note, that the date of submittal of the first data as indicated in para 6 will be the effective date for the low cost Noise Charge.

Please note, that until the correct data has been submitted and until Dutch Government has issued the low cost Noise charge for that specific individual airplane, the Noise Charges will be based on the calculation using limit value of ICAO Annex 16. Restitution of Limit noise charge must be applied for with the airport authorities.

Restitution of Limit Noise Charges will not be possible if no low cost noise charge has been determined by Dutch Government.

## ***6 Submitting noise information by the Operators of civil aircraft***

### ***6.1 Information required.***

In order to ascertain that the correct charges are invoiced, certified noise levels and general aircraft data for each individual aircraft above 20.000 kg MTOW need to be provided to the Civil Aviation Authority The Netherlands, at the address provided below.

#### **The following information is needed:**

- Company Name, contact person, address, phone and fax number,
- ICAO three letter code of the company

#### **For every individual aircraft:**

- Registration mark or number
- Serial or construction number
- Manufacturer, type and model of the aircraft
- Manufacturer, type and model of the engines installed
- the Maximum Take-Off Weight and the Maximum Landing Weight as included in the Airplane Flight Manual
- Take-off Noise Level
- Approach Noise Level
- Sideline Noise Level
- The noise standard according to which the noise levels have been determined (e.g. ICAO Annex 16 Ch2, Far 36 Stage 3 etc.)
- Photocopies of **all documents needed to verify** the aeroplane information have to be submitted. This is normally done by either sending in the noise certificate or else sending in some parts of the approved flight Manual.

### ***6.2 Noise certificate.***

Preferably the documentation submitted is a photocopy of the noise certificate of the individual aircraft and (if applicable) a photocopy of the noise type certificate including any attachment to either of them. This is provided that all the above information is listed on the noise (type) certificate.

### ***6.3 Flight Manual pages.***

If it is not possible to submit a noise certificate, or if not all the information required under para 6.1 is listed on the noise certificate, then flight manual pages stating such information should be provided. As a minimum the following parts of the flight Manual are needed:

- the complete log of pages
- the section identifying the aircraft and the engines installed
- the section stating the MTOW and MLW
- the complete section containing the noise information

## Appendix A

### Calculation method of the noise charge

#### *General.*

In addition to the normal landing-fee that is to be paid when landing at a Dutch airport, a noise-charge is levied. Two factors determine the noise-charge:

A) A monetary tariff "F", which is constant for all aircraft. The tariff relates to the expected annual cost of the sound-proofing programme. The total annual yield from noise-charges can thus be governed by adjustment of this monetary tariff.

B) An aircraft noise factor, "L". This factor varies from aircraft to aircraft. It is determined by the noise production of a specific aircraft.

The charge "H" is calculated by multiplying F and L and rounding off downwards to a full guilder:

$$H = \text{floor}(F \cdot L)$$

where:

H = the noise charge in Euro,

floor() = the function representing rounding off downwards to a full Euro,

F = the tariff,

L = the noise factor.

### *The tariff "F".*

Table 1 shows the tariffs and their development over the years as currently foreseen. It should be noted that these figures may change in future because more airports may be completing their soundproofing programmes or because of changes in legislation.

Year	Tariff "€" (Euro)		
	Schiphol	Other airports where sound proofing has not been completed	Airports where sound proofing has been completed <sup>1</sup>
2001	94,39	24,05	0
2002	95,75	25,41	0
2003	96,66	26,32	0
2004	97,57	27,23	0
2005	98,47	28,13	0

Table 1

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<sup>1</sup> Currently only the sound proofing programme around Eindhoven airport is completed.

## *Determination of factor "L".*

### **Classification of aircraft.**

The determination of "L" is different for different classes of aircraft.

.....All aircraft with a MTOW below 390 kg and all propeller driven aircraft below 6000 kg MTOW are free of noise charges.

For other aircraft with a MTOW at or below 20.000 kg the noise factor is based on the MTOW only. For these aircraft there is no need to submit noise information.

For aeroplanes with a MTOW above 20.000 kg the noise factor is based on the noise certification levels. These have to be provided by the operator of the aircraft following procedures as described in "Submitting noise information".

If the operator fails to supply the noise information, the noise factor will be based on a conservative estimate of the noise certification levels of the aircraft and the Maximum Take-off Weight (MTOW). **The conservative estimate leads to a higher charge than what would have to be paid had the noise certification levels been submitted.**

**Calculating “L” for aircraft with a MTOW above 390 kg (6000 kg for prop’s) and at or below 20.000 kg.**

For these aircraft the noise factor is calculated using the following formula:

$$L = 0,2 + 0,04 \cdot M$$

where

L = Noise factor

M = MTOW in Tonnes (1000’s of KGs) rounded upwards to a full integer number.

The following table gives the value of L for all values of M:

M	L	M	L
1	0,24	11	0,64
2	0,28	12	0,68
3	0,32	13	0,72
4	0,36	14	0,76
5	0,4	15	0,8
6	0,44	16	0,84
7	0,48	17	0,88
8	0,52	18	0,92
9	0,56	19	0,96
10	0,6	20	1

Table 2 Value of “L” for aircraft <=20 ton.

Calculating “L” for aeroplanes with MTOW>20.000 kg for which noise certification data was submitted.

For these aeroplanes the noise factor is calculated using the following formula:

$$L = n \cdot 10^{\left(\frac{APNL+TONL+SLNL-270}{45}\right)}, \text{ but not less than 1.}$$

Where:

- L = the noise factor
- N = a factor depending on the number of engines and the applicable noise standard as shown in Table 3. This factor is intended to compensate for differences in performance and for differences between FAR 36 and ICAO Annex 16.
- APNL = Approach Noise Level
- TONL = Take-Off Noise Level
- SLNL = Side-line Noise Level

In cases where more than one set of noise certification levels is given ("dual certification"), the highest numbers for the aircraft's MTOW and MLW combination are applicable

Number of engines	ICAO Annex 16		FAR Part 36	
	Chapter 2	Chapter 3	Stage 2	Stage 3
2 or less	1.5	1	1	1
3	1.25	1	1	1
4 or more	1.05	0.85	1	0.85

Table 3, value of n

Calculating “L” for aeroplanes with MTOW>20.000 kg for which no noise certification data was submitted.

As explained above, operators should submit noise certification levels to the Ministry of Transport in order to determine the correct amount of noise charges that have to be paid. If the operator does not inform the Ministry of Transport the noise factor is determined as follows:

For every aeroplane type that operates on Dutch airports a (conservative) estimate “E” is made of the sum of APNL, TONL and SLNL when measured according to FAR36 stage 2 procedures:

$$E = \text{estimate of } (APNL + TONL + SLNL)$$

Based on this estimate aircraft types are categorised in five noise classes with a corresponding “k” factor. This is shown in Table 4.

E	Class	“k”
$E > 29.88 \cdot \log(M) + 260.22$	I	0.95
$29.88 \cdot \log(M) + 251.22 < E \leq 29.88 \cdot \log(M) + 260.22$	II	0.60
$29.88 \cdot \log(M) + 242.22 < E \leq 29.88 \cdot \log(M) + 251.22$	III	0.40
$29.88 \cdot \log(M) + 233.22 < E \leq 29.88 \cdot \log(M) + 242.22$	IV	0.25
$E \leq 29.88 \cdot \log(M) + 233.22$	V	0.15

Table 4, categorisation based on “E”, M = MTOW/1000 rounded upwards

The noise factor is now determined using the following formula:

$$L = k \cdot M^{(2/3)}$$

Where

L = Noise factor

k = factor from Table 4

M = MTOW in Tonnes (1000’s of KGs) rounded upwards to a full integer number.

***Applicability date of lower rates.***

As explained before, aircraft for which no noise certification information was submitted are charged using an estimated noise factor. This normally leads to higher charges compared to the charges based on actual noise certification numbers. The date of application of the lower rate is the date at which all information as listed under “6.1 Information required.” has been received at the address below.

***Address and further information.***

The information should be sent to the following address:

Transport and Water Management Inspectorate  
Civil Aviation Authority Netherlands  
Division Aircraft, Technical and Airworthiness Standards Department  
attn. Mr. E.F.J.M. van Saase  
P.O. box 575  
2130 AN Hoofddorp  
The Netherlands

Further information can be obtained through:

Mr. E.F.J.M. van Saase  
telephone : +31 23 566 3265  
fax : +31 23 566 3011  
email : NCINFO@ivw.nl

or

Mr. J.W. Franken  
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