1 Airport charges of Amsterdam Airport Schiphol

Amsterdam Airport Schiphol is a noise-restricted airport and has for that reason three different noise related measures. First a pricing differentiation over and above the base landing and take-off charge is applicable according to the noise category per aircraft registration. Secondly a higher landing and take-off charge is applicable during the night and thirdly a total ban on Chapter 2 aircraft is applicable.

1.1 Pricing differentiation landing- and take-off charge according to noise category

To stimulate the use of silent or less noisy aircraft and to discourage the use of noisy aircraft, Amsterdam Airport Schiphol applies a pricing differentiation over and above the base landing and take-off charge (see base landing and take-off charges below). Surcharges or discounts are applicable according to the noise category per aircraft registration. The noise categories are defined, as follows:

- noise category C : ΔEPNdB $\leq$ -18 (relative low noise)[1] = base charge -10%
- noise category B : -9 $\geq \Delta$EPNdB $>$ -18 (relative average noise)[2] = base charge
- noise category A : 0 $\geq \Delta$EPNdB $>$ -9 + Ch 2 aircraft (relative high noise) = base charge +20%

To determine the noise category for a certain aircraft registration, ΔEPNdB must be calculated according to ICAO document ANNEX 16 Volume 1, as follows:

1. Sum the noise certification values of the aircraft registration (EPNdB Fly-over(Take-off) + EPNdB Lateral(Sideline) + EPNdB (Approach)).
2. Determine the noise limits of the aircraft type on basis of the number of engines and precise MTOW (in kilos) in accordance with ICAO document ANNEX 16, Volume 1. Sum these three noise limits (EPNdB Fly-over (Take-off) + EPNdB Lateral (Sideline) + (EPNdB Approach)).
3. Determine ΔEPNdB by subtracting the sum of noise limits of the sum of noise certification values (thus result 1 - result 2).

If the noise certification values of an aircraft registration are not available, the noise category will be based on the most unfavourable (= noisiest) configuration of that aircraft type.

Base landing and take-off charges

The base landing and take-off charge is based on noise category B during daytime (between 06.00am and 23.00pm local time) and is applied for each landing and take-off. The base charges are as follows:

	Rate per tonne
Connected handling[3]	€ 4.30
Disconnected handling[4]	€ 3.45
Cargo flight[5]	€ 2.25

Please note that the minimum charge is based on 15 ton MTOW, except for a landing between 08.00am and 10.00am local time the minimum charge is based on 20 ton MTOW.

1.2 Landing and take-off charges at night

For all landings and take-offs between 23.00pm and 06.00am local time a 20% higher landing and take-off charge is applicable.

1.3 Chapter 2 ban

As per April 1, 2002 a total ban on Chapter 2 operations is in force at Schiphol Airport. This ban is based on European legislation. If, in spite of this ban, Chapter 2 aircraft land at Schiphol Airport an additional surcharge on the landing charges will apply. The basis for calculating the surcharge is as follows:

- up to 100 tonnes MTOW € 1,837.80 per landing;
- from 100 tonnes MTOW € 2,756.70 per landing.

Should you have any questions about above-mentioned information, please feel free to contact Amsterdam Airport Schiphol (airportcharges@schiphol.nl).

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[1] Noise category C applies for all aircraft < 6 ton MTOW and all (turbo)prop aircraft $\leq$ 9 ton MTOW.
[2] Noise category B also applies for all helicopters.
[3] If the aircraft is parked at an aircraft stand at the gate and passengers use an airbridge to cover the distance between the aircraft and the terminal (and vice versa).
[4] If the aircraft is parked at an aircraft stand at the gate or at a remote stand and passengers cover the distance between the aircraft and the terminal (and vice versa) by bus or on foot.
[5] A flight operating with the sole purpose of transporting air cargo and/or mail.

2 Noise levy on behalf of the Dutch government

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

2.2 Basis for the calculation

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.

2.3 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.

2.4 Determination 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 soundproofing 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[6]
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

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 "2.5 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

[6] Currently only the sound proofing programme around Eindhoven airport is completed.

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:

$$L = n \cdot 10^{\left(\frac{APNL+TONL+SLNL-270}{45}\right)}$$, 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.

2.5 Submitting noise information

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 Aeronautical Inspection Directorate.

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/number
- serial/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
- 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.

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.

Flight Manual pages

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

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

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 “Information require” 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
telephone : +31 23 566 3114

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