



ARRIVALS

Unlike departing aircraft there are no fixed flight paths for arriving aircraft until they are established on the Instrument Landing System (ILS), also known as the final approach. There are also no fixed noise limits or fixed heights.

When an aircraft is landing, there is less operational flexibility, as it has to line up with the runway from several miles away. This is a real contrast with aircraft that are taking off as they can climb steeply and quickly, whilst also turning.

Arriving aircraft approach UK airspace in a random pattern and then have to be sequenced to ensure safe separation from each other. Air Traffic Control (ATC) ensures that aircraft are sequenced for safe separation by controlling the speed and height of the aircraft prior to being turned on to final approach. When an aircraft arrives in local airspace, ATC directs the aircraft on an individual course onto the final approach and brings it in to land.

For safety reasons, aircraft must take off and land into the wind. The direction of the wind is assessed at the airport at ground level and at 1000ft and 2000ft by ATC. ATC also receive reports from air crew. It is important to note that the wind speed recorded at ground level at the airport can vary considerably to levels recorded at a higher altitude or even to that in other local areas.

When the airport is busy, arriving aircraft may be held by ATC in a 'holding stack' before being instructed to make their final approach into London Stansted. Please see our factsheet on Aircraft Holding Stacks for more information on this.

THE INSTRUMENT LANDING SYSTEM (ILS)

The ILS is a beam which is aligned with the runway centreline in order to guide aircraft in a straight line approach to the runway for landing.

It consists of two signals, one giving vertical guidance (the glideslope) and the other giving horizontal guidance (the localiser). The beam has a protected range which extends out a horizontal distance of 25 nautical miles (nm).

The glideslope at London Stansted is set at 3°, which is the angle recommended for safety reasons by the International Civil Aviation Organisation (ICAO) for commercial aviation. Steeper angles are generally only accepted if there is a requirement to avoid obstacles.

Landing is a very busy stage of a flight and it is essential for safety reasons that the aircraft is stabilised in its approach some distance from touchdown. This means that amongst other things the aircraft must be set up for landing, not turning and have their approach speed stabilised.

ATC have discretion over where they direct aircraft to join the ILS in the interests of separation and safety to allow aircraft to be stabilised at an appropriate distance from touchdown (see Joining Point Rules section). It is for these reasons that the aircraft must arrive in a straight line down to the runway. This procedure cannot be avoided. Therefore any area beneath the ILS can be over flown by arriving aircraft. Additionally any areas to the sides of the ILS can also be over flown by aircraft being directed towards the ILS.

THE WIND

One basic aspect of aviation safety is that aircraft must take off and land into the wind. Most of the time at London Stansted, the wind comes from the south-west. This is known as a south-westerly wind. Therefore, because aircraft must land into the wind, they will usually arrive from the north-east. However, when the wind is coming from the north-east, aircraft will arrive from the south-west.

The direction of the wind is assessed at the airport at ground level and at 1,000ft and 2,000ft by ATC and also with reference to reports from aircrew. It is therefore not possible to draw comparisons with the local wind direction you may experience at your property or on any local weather reports.



**THE WORLD'S BEST AIRPORT
FOR LOW COST AIRLINES**
SKYTRAX AWARD WINNER
2011, 2012 AND 2013

ARRIVALS

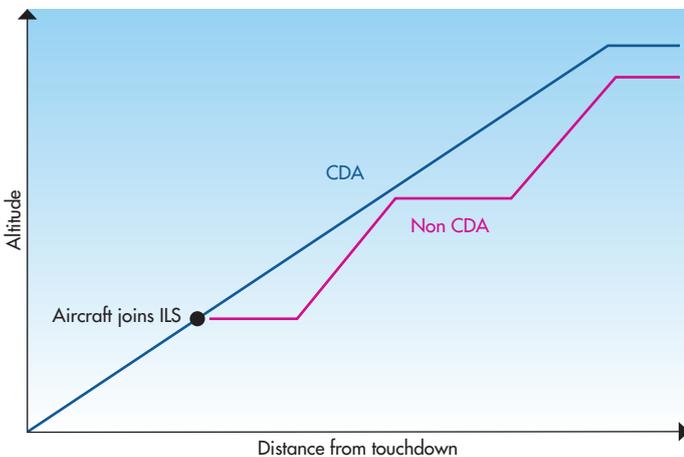
IMPROVING THE WAY AIRCRAFT OPERATE

Continuous Descent Approach (CDA)

A CDA is a technique whereby an aircraft descends on a smooth continuous glide path, therefore staying higher above the ground for longer. This reduces the level of arrival noise heard on the ground.

In the past, when ATC directed an aircraft in to land, it was more common for the pilot to drop the aircraft's height and then level out for a few miles, before dropping the height and levelling out again. This way, the aircraft landed as if it was descending a very steep staircase. The problem with this method is that it creates unnecessary noise, due to the increases in engine power needed at stages of the descent.

Under a CDA procedure, pilots descend on a continuous, smooth glide path - like standing on an escalator rather than walking down the stairs. This reduces the amount of power going into the engines, as it remains constant, and therefore reduces noise heard on the ground.



A CDA is not a precise art and relies on the accuracy of track miles provided by ATC to the flight crew, pilot skill, weather and operational circumstances.

Additionally, different aircraft types perform differently requiring varying operating practices to be able to slow the aircraft down and meet speed restrictions. The requirement for a pilot to fly a CDA is therefore not compulsory, rather it is to fly a CDA whenever practicable.

In addition to aiding noise reduction, CDAs reduce fuel-burn thereby cutting emissions and producing an overall environmental benefit for all.

Currently CDAs are not always possible to runway direction 04 (landing from the south-west) due to current airspace restrictions. Over 90% of all aircraft arriving at London Stansted on runway 22 (landing from the north-east) use a CDA.

The CDA compliance levels are regularly reported back to the Stansted Airport Consultative Committee (www.stacc.info) as well as to the Flight Operations Committee (FOC), which includes airline and ATC representatives. London Stansted also publish CDA performance in our annual Corporate Responsibility report.

'JOINING POINT RULES'

There is a point at which aircraft intercept the instrument landing system and this is known as the Joining Point. This has minimum height and distance requirements depending on the time of day.

Between 23:30 and 06:00 hours (local time), other than relevant propeller driven aircraft, no aircraft shall descend below 3,000ft until it is established on final approach and is less than 10 Nautical Miles from touchdown.

No propeller driven aircraft which exceeds 5700kg shall descend below 3,000ft, between 23:30 and 06:00 hours (local time), until it is established on final approach or thereafter fly below the approach path indicated by the PAPI (Precision Approach Path Indicator).

LIMITING THE USE OF REVERSE THRUST

When an aircraft lands at Stansted, in order to slow the aircraft down, the engines can use reverse thrust. To minimise disturbance in areas adjacent to the airport, between 23:30 and 06:00 pilots are requested to avoid excessive use of reverse thrust after landing, consistent with the safe operation of the aircraft.

FINANCIAL INCENTIVES

All airports charge airlines to use their facilities. At London Stansted, we charge noisier aircraft more to land than we do for quieter aircraft. This acts as an incentive for airlines to introduce quieter fleets of aircraft into service.

FURTHER INFORMATION

If you would like further information, please contact the airport:

- Website: www.stanstedairport.com/noise
Make an enquiry, view an aircraft track or log a noise complaint:
- By e-mail: stanstednoiseline@stanstedairport.com
- By telephone: **0800 243 788** (answerphone service only)
- By post: Flight Evaluation Unit
Enterprise House
London Stansted Airport
Stansted
Essex CM24 1QW



**THE WORLD'S BEST AIRPORT
FOR LOW COST AIRLINES**
SKYTRAX AWARD WINNER
2011, 2012 AND 2013