

# Aircraft noise on the ground



If you live very close to the airport you may hear noise from aircraft on the ground. Unlike the noise limits that apply to departing aircraft, there are no limits on other sources of noise that originate from the airport. However, as it is important that a balance is struck between the interests of the local community and the needs of airport users, various controls have been adopted by BAA. This fact sheet explains the causes of ground noise and what we do about it.

## What are the causes?

There are several causes of aircraft noise on the ground at airports. The main factors are:

- Aircraft using reverse thrust to increase their braking when they land
- Aircraft travelling between the runway and stands (where they park)
- Aircraft sitting on their stands with their power units running
- Engine testing.

## Reverse thrust

Reverse thrust is a way of slowing down planes once they have landed. Sometimes, for example, on a wet runway, reverse thrust must be used for safety reasons. However, to reduce disturbance in areas close to Heathrow, pilots are asked not to use reverse thrust after landing between 23:00 and 06:00 hours local, unless they need to for safety reasons. As reverse thrust may be used as part of an aircraft's landing, noise created by it is technically referred to as air noise (as opposed to ground noise) and is included in the annual air noise contours.

## Taxiing to and from stands

Aircraft clearly need to taxi to and from the runway and at a large airfield like Heathrow, this may be a fair distance. Although planes will taxi with the minimum power possible (it is good for noise and also saves them fuel), it can still cause disturbance close to the airport. It is for this reason that we work with Air Traffic Control to cut down the amount of time that planes are waiting to take off, or are taxiing on the ground, so that their engines are not running for so long.

We also work with the people responsible for allocating stands to arriving planes so that the distance planes have to taxi is reduced. They will therefore be able to park and shut down their engines sooner.

## Running power units on the ground

Auxillary Power Units (APUs) are small jet engines in the tail of an aircraft that are used to deliver electrical power and cabin conditioning while on the ground. In order to reduce noise, we specify conditions for APU usage in airport procedures to limit their use and supply alternative systems for them to use whilst on the ground including Fixed Electrical Ground Power (FEGP) and Pre Conditioned Air (PCA). This is essentially plugging planes into the mains electrical supply while they are parked. This directly leads to a reduction in ground noise.

Currently at Heathrow 90% of stands are fitted with electricity connections (FEGP) and 21% provide pre-conditioned air. If FEGP is not available airlines use Ground Power Units to supply electrical power. These are diesel generation units and do create noise which could cause a disturbance to the local community. We therefore set noise limits for them and try to limit their use where possible.

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## How do we ensure airlines minimise their use of APUs?

We carry out weekly turn-around and APU audits in order to check that airlines are complying with our requirements. If airlines are found not to be complying, the matter is raised with them directly.

## Engine testing

It is clearly important that the necessary tests are carried out on aircraft engines before they are allowed to fly. These tests and ground runs are required as part of routine maintenance. Unfortunately, the tests create noise which can cause disturbance close to the airport. We have therefore made special noise-protected areas, called ground-run pens, where engine testing is carried out. We are also working to reduce engine testing at night when it causes more disturbance. Additionally, we use landscaping (for example earth barriers and walls) to provide noise barriers between the planes and the local community.

We, as airport operator, place limitations and restrictions on engine ground running by location, time, aircraft type, duration and type of run. Different limitations and restrictions apply the day time period from 07:00 to 23:00 hours local and the night period from 23:00 to 07:00 hours local and they are more restrictive during the night period.

## Our other factsheets

Please see out other fact sheets which provide information on:

- Arrivals
- Departures
- Go arounds
- Aircraft stacks
- Night flights
- Heathrow and helicopters
- The legal overview.

## Further information

If you would like further information, please contact the Flight Evaluation Unit:

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Please note that the freephone telephone number is an answerphone. Please leave you name, contact details and brief details of your enquiry. A member of the FEU will contact you as soon as possible.