

Blog 2. Take off.

"Ground to Flight Deck?"

Our Ground Crew wear a headset plugged in to the nose wheel and are able to talk directly to us. This is our cue that all their relevant checks and inspections have been carried out and that they are ready for us to push back from stand and start engines.

My co-pilot then calls Air Traffic Control up in the Tower on our radio, to request push and start.

Once this has been received, we complete the Before Start Checks and await our Ground Crew's instruction to release the parking brake. Occasionally you may find that there is a frustrating delay from closing the doors to actually pushing back. This is usually caused because other aircraft are also pushing back or taxiing behind us and we have to wait until the area behind us is completely clear.

As we push back, the Cabin Crew will be introducing themselves and carrying out the important safety demonstration.

Back in the flight deck, it's time to start the engines. We always start the No.1 engine first - this is the engine that is on the left hand side of the aircraft as you look towards the front - and then No.2. However, if we were at an airport that required a long taxi to the departure runway, Amsterdam or Madrid for instance, then we would actually only start the No.1 engine. We do this because it is more environmentally friendly and also because it uses less fuel. If you are seated near the wings you might hear some strange and slightly different noises but these are perfectly normal and are merely hydraulic pumps maintaining equal pressure.

Once we are at least 3 minutes before take off we will then start the No.2 engine and both engines will be nicely warmed up and ready.

Fortunately it is a nice short taxi to the runway at Bristol, so both engines have been started straightaway. The Ground Crew will then disconnect the powerful, little lorry, or tug, that has driven us back and walk away to the side of the aircraft to give us confirmation that they are all clear and we are free to taxi.

We then carry out our After Start Checklist - putting all the switches in the correct position for take off and most importantly setting the flaps and slats. These are the lift devices on the back and the front of the wing that extend outwards and increase the size of the wing. For the take off this generates the increased lift required to get airborne.

As we taxi towards the runway, the Cabin Crew will be carrying out their final checks in the cabin and once completed, will take their seats and call through to us to tell us that the cabin is secure for take off. We will have carried out a check of the controls to make sure that they move freely and then carry out one more review before the departure. This will confirm any changes or not to the thrust calculation required from the engines, a review of the emergency actions should we have an engine failure, the departure clearance given to us from Air Traffic Control and the first height that we are required to climb up to.

This morning there are just two fellow easyJet aircraft in the queue ahead of us which will mean a short wait. Due to the turbulence that is produced from the wing tip, particularly on take off, we have to allow a short gap between each departing aircraft.

"EZY 401, line up and wait, runway 27."

Now the heart rate starts to rise, as air traffic control have cleared us to line up and we are nearly ready to take off. Final checks are carried out as we taxi onto the runway.



"EZY401, cleared for take off, wind 190 degrees, 14 knots."

A quick review of the weather and wind direction and the thrust levers are pushed slightly forward to make sure the engine power is stabilised. If one engine was producing substantially more power than the other then it would be very difficult to keep the aircraft in a straight line, a rather undesirable state of affairs!

Once the power is stable, the thrust levers are pushed further forward to one of two take off power gates. Most of the time we are able to use a reduced thrust take off power setting, which reduces noise, emission, engine wear and fuel. However, on some occasions we need to use all the power available to lift the aircraft into the air.

The aircraft quickly accelerates towards the speed that will allow us to gently pull back on our side stick - similar to those found in game consoles - and 'lift' the aircraft into the air. Even after 20 years of flying, the exhilaration of taking an aircraft into the air, when we "slip the surly bonds of earth" never ceases to thrill me!

The speed the aircraft reaches varies for every take off, depending upon the aircraft's weight, length of runway available, outside air temperature and weather conditions. All this information is loaded into our EFB (Electronic Flight Bag) and a calculation made that determines the speed we need to attain before there is enough lift in our wings to be able to get airborne. This speed we call Vr or our rotation speed and today that speed was 161 miles an hour, lifting 64 tonnes of aircraft into the air!

Every take off is also always flown by the pilots and the autopilot engaged at a suitable time in the climb.

However, it is also a very critical stage of the flight and so the concentration levels on the flight deck are very high. As we climb away away, the gear is retracted and you will hear the wheels come up and nestle in the belly and the front of the aircraft.

We are very aware of our noise footprint around the airports that we operate to and from and so we make sure we do what ever we can to keep us as quiet as possible. So at 1,000 feet above the ground, when we are safely flying away, we will reduce the thrust slightly. Having got into the air and off the ground, our thrust requirements are now not quite as demanding.

This is when you and the people on the ground will hear a slight reduction in the power from the engines.

The flaps and slats that we selected on the ground are also retracted to give us as efficient a wing as possible. Once the flaps are up, we release the cabin crew so that they can begin their service and serve you your much needed tea, coffee and bacon baguette.



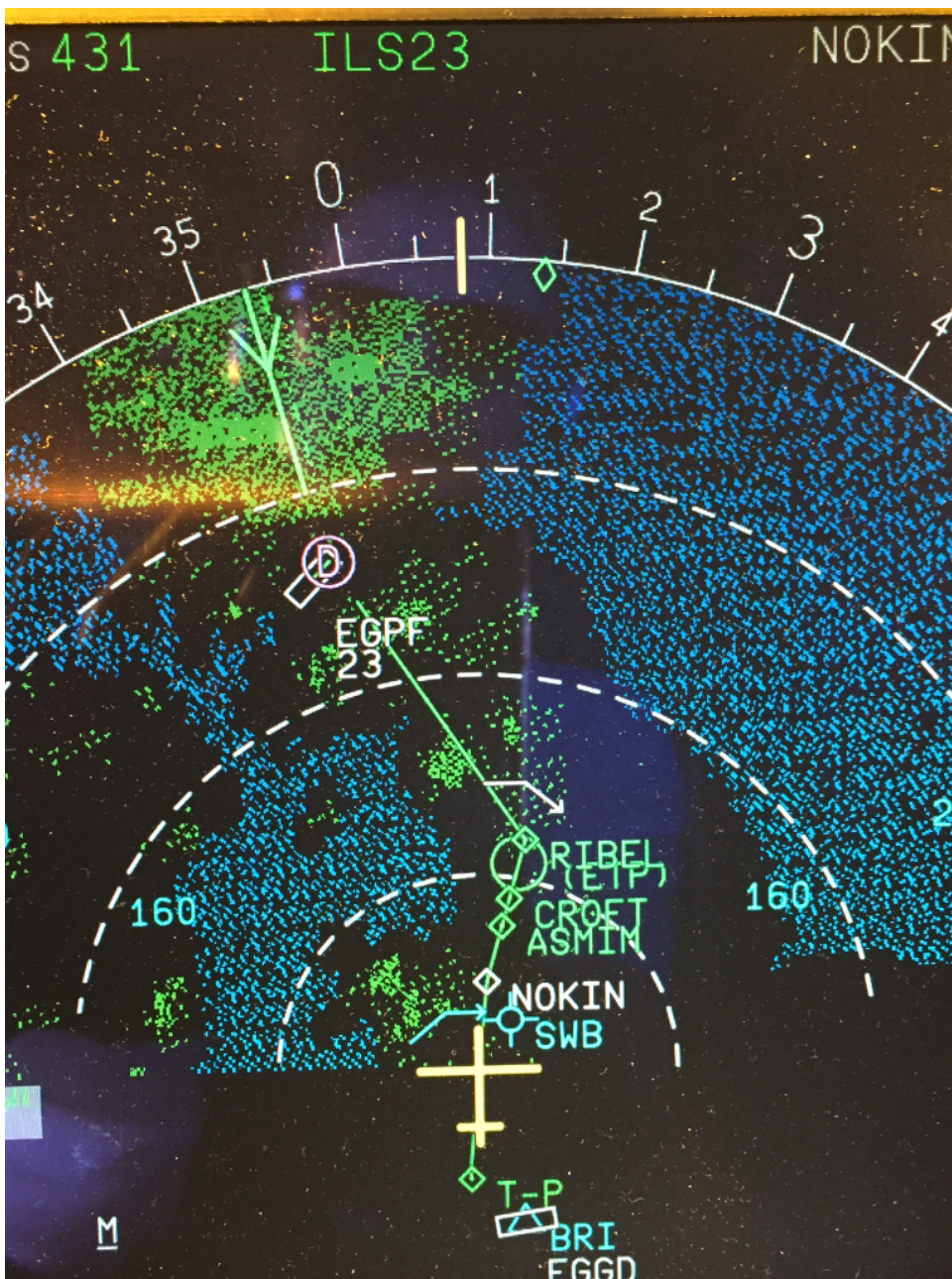
Even with this power, the aircraft will be climbing very quickly, at about 2,000 feet per minute and we will be looking to climb to our assigned cruising level as quickly as possible. The higher we go,

the quicker you will reach your destination and we will also use less fuel because the jet engine is at its most efficient at higher levels.

Often on a domestic service like this we will be restricted to a slower cruising height northbound of 26,000 feet due to the volume of traffic arriving home from the Atlantic. However, a quick request with air traffic control and sometimes they can accommodate us up to 38,000 feet and suddenly we are now arriving in Glasgow 5 minutes earlier, and with a little bit extra fuel!

Our routing is pre-determined and we follow the flight plan that the airline has generated and which we have transferred to our autopilot. With the autopilot engaged, the aircraft will follow the waypoints on the route, unless instructed otherwise by ourselves. The routings follow within a set of invisible airways in the sky, that safely criss cross like motorways at various heights.

Sometimes it looks on our navigation screen that a more direct routing might be possible and so with the agreement of air traffic control, we are able to take up a more direct heading and reduce your flight time again. Working together with Air Traffic Control we are always looking at ways to save you time in our aircraft, giving you more time on the ground.



The flight times we announce when onboard are based on the aircraft flying the pre-determined route, flying a certain speed in the most up to date weather and winds from the moment the wheels leave the ground. The published departure and arrival times on your ticket or phone app though are for the expected times that we actually push back, to when we arrive on stand at our arrival.

Now that we are in the cruise, speeding along at three quarters of the speed of sound, we can start to relax a little and look forward to the cabin crew bringing in a cup of tea and a cooked breakfast.

It is also a good time to start thinking about our arrival and landing into Glasgow....