

# PROJECT RUNWAY



FOR THOSE WITH A FEAR OF FLYING, YOU MAY NEED A STIFF DRINK AND A MEDITATIVE MIND TO TRULY ENJOY THIS STORY. BUT FOR THOSE WITH A TASTE FOR ADVENTURE, READ ON WITH GLEE. AS **CHRIS WRIGHT** DISCOVERS, THERE ARE SOME SERIOUSLY SCARY AIRPORT RUNWAYS IN THE WORLD. RUNWAYS THAT SKIRT SKYSCRAPERS, FLY BETWEEN MOUNTAINS, OFF CLIFFS, INTO THE SEA AND ACROSS HIGHWAYS. BUCKLE UP, SIT BACK AND ENJOY THE RIDE



PHOTO: CORBIS

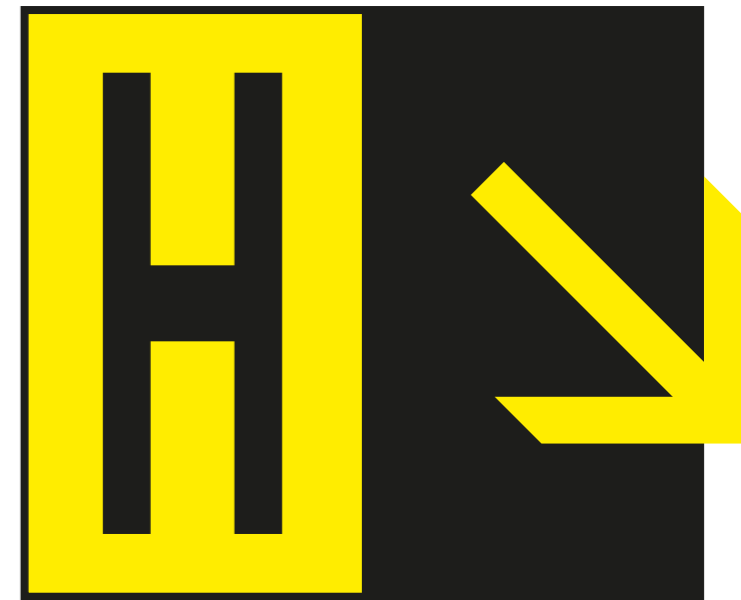


PHILLIP POLLARD WAS ON HIS MAIDEN TRIP AS A FIRST OFFICER AT QANTAS, AND IT WAS A GREAT ONE. FROM SYDNEY THROUGH TO HONG KONG AND BANGKOK, THEN BACK TO HONG KONG, SINGAPORE AND SYDNEY. AFTER FIVE YEARS IN THE BACK SEAT FOR TAKE-OFFS AND LANDINGS AS A SECOND OFFICER, THIS WAS A BIG MOMENT.

PHOTO: AFP

A BOEING 747-400 JUMBO JET, FLIES OVER THE KAI TAK AIRPORT CONTROL TOWER AS IT APPROACHES RUNWAY 13 ON THE LAST DAY OF THE 73-YEAR-OLD AIRPORT IN 1998

**PREVIOUS PAGE:** LUKLA AIRPORT IN NEPAL IS THE ARRIVAL POINT FOR THE MT EVEREST TREK. IT IS FAMOUS FOR BEING THE MOST DANGEROUS AIRPORT IN THE WORLD WITH MANY ACCIDENTS AND DEATHS



is captain handled the landings on the way out — and then, as an expression of confidence, invited Phillip to fly the sector back from Bangkok to Hong Kong, including the landing. “This was quite a gesture for the captain, given that I had just finished my First Officer training,” Phillip tells *Discovery Channel Magazine*. That is putting it mildly, because back then, Hong Kong’s airport was Kai Tak.

Kai Tak! To this day, even 16 years after its closure, people still get misty-eyed, or have panic attacks, talking about this most extraordinary of airports. These days, you can only make out the shape of the old runway, as a new cruise terminal sits on top of it, and landings instead take place on the edge of Lantau Island, in efficient and airy Chek Lap Kok. But for 73 years, Hong Kong’s air traffic came into Kai Tak, and the airport was a part of the city’s soul, the perfect representation of the borderline chaos of Hong Kong’s commercial fervour.

From the passenger’s perspective, the landing was as memorable as any could be. You would start descending over green Lantau Island, before settling in to an approach with the hills behind Kowloon to your left, and Hong Kong Island visible over to the right. Down and down you would go, until to your left and right, you were flying among Kowloon’s buildings — skyscrapers that

were now considerably higher than the plane.

From your seat, you could pretty much see what the inhabitants were watching on TV, and make out individual items of laundry hanging on poles from the windows. Then you’d start banking right, and further and further and further right, as alarm rose in your gut. *This can’t be right*, you’d think, trying to compensate for the turn with your body, as if shifting your bottom a bit to the left would bring a jumbo jet back on its axis.

And then *finally*, finally, you would begin to level out, just feet from the ground — before you hammered down onto the runway, reverse thrust firing instantly as the pilot sought to stop the plane pitching into the harbour at the other end. Then as you taxied parallel to the runway, another plane would land, and another, and another, until you were finally bussed from the apron to the dismal and decaying terminal. Glad to be alive — and on the ground in Hong Kong.

If it was memorable for the passengers, imagine what it was like for the pilots. Unlike many modern airports, where jets can be landed through autopilot if necessary, this one was pretty much entirely manual. There was a sloping red and white checkerboard painted on a hill, designed for pilots to aim at — a rare example in modern aviation of being required to aim your

huge commercial jet straight at a mountain. Even then, it was of limited use.

"The checkerboard was a visual aid, but was often not sighted until just before the final turn whenever the visibility was down due to smog," says Pollard. And smog was, and is, ever-present in Hong Kong. That turn itself was the stuff of legend: 47 degrees to the right, directly over hundreds of thousands of people in densely packed Kowloon, in a turn that commenced at an altitude of 600 feet and finished at around 200 feet.

Even worse, the turn would often start without a visual of the runway. Instead, pilots say, the key to it was a pattern of lights on the ground. "There was a series of sequenced strobe lights arranged in an arc which were very useful to help with the runway alignment," Pollard recalls.

From the ground, it even used to be possible to go and stand on top of the checkerboard, if you knew

**"MOST AIRLINES SAY 500 FEET IS YOUR LAST CHANCE TO BAIL OUT AND GO ROUND AGAIN. AT KAI TAK, YOU COULDN'T EVEN LEVEL YOUR WINGS UNTIL 300 FEET"**

where to find it. You had to sneak through a hole in a fence behind a tennis court to get there. If you did, you would be in the unique position of watching jumbo jets aiming directly at your head, before tearing off to one side, so close that you could inspect the quality of the jet's individual tyres.

From this angle, the magnitude of what pilots were being asked to do was apparent,

and there was just no equivalent anywhere else in the world, turning a jet that big, that sharply and that low. From that angle, too, you could see what would have become apparent to pilots as they finally levelled out — that at the end of the runway was Hong Kong harbour. On one memorable occasion, a China Airlines jumbo went off the end of the runway during a typhoon, ending up largely submerged in the harbour. Mercifully, nobody was seriously hurt.

There was another problem. There was no simple way to bail out of a landing. "Most airlines say 500 feet is your last chance to bail out and go round again," another pilot tells us, speaking under condition of anonymity. "At Kai Tak, you couldn't even level your wings until 300 feet." Yet in its day, this single-runway airport was the third busiest in the world, taking 30 million passengers a year.

And how about Pollard's maiden landing at the controls? "It went well. The weather was on my side," he recalls. Several years later, he saw the captain from that trip. "I said, 'You won't remember this, but you gave me an IGS [an electronic guidance system which, at Kai Tak, took the pilot in to 675 feet before he had to take over manually] into Hong Kong on my first trip,' the pilot recalls. "He said, 'How could I forget that, Phil! You were so tense that morning.'"

"Which is true, but I thought I successfully hid my tension. Obviously not." It was a sector that captains normally took for themselves — and Pollard didn't make captain until after Kai Tak's closure. "So I think I only got to fly the approach myself two or three times. But they were good times."

### MOUNTAIN LANDINGS

There is something exhilarating about a crazy airport. Kai Tak may be gone, but there are many others still receiving regular commercial flights every day. Some have difficult approaches because of mountains or altitude, others with weather or wind shear, some with short runways, and some with surrounding



PHOTO: MARTIN PUTZ

### HITTING THE SLOPES

For an example of a weirdly sloping runway, look at Courchevel (above) in the French Alps, a roller coaster of a runway that undulates like a wave and then turns into a ski jump. Partly, this is because it was carved out of a mountainside and options were limited. And partly, because the slope helps to slow an arriving plane, provided of course that the pilot reads it correctly and doesn't go nose-first into the slope. If nothing else, it also prepares the skiers for the terrain they are going to go down under their own steam after arrival.

buildings or roads. Others combine them all — together with a road running across the runway. But we tend to love them, as passengers, at least once we're on the ground recounting our tales of survival. And pilots too, like to be challenged.

In Asia, two airports that are commonly considered among the most extreme in the world are Lukla in Nepal and Paro in Bhutan. These two have a lot in common: they are at high altitude: Paro is 7,200 feet (2,195 metres) above sea level, while Lukla is 9,200 feet (2,804 metres). Each has a short runway too, shorter in

fact than their altitude above sea level Paro's is 6,444 feet (1,964 metres), Lukla's an eye-watering 1,509 feet (460 metres) with a 12 percent gradient, uphill for landings, downhill for departures. And they each require pilots to snake their way in between Himalayan peaks in order to make the approach.

The Paro landing involves a steep left-hand bank in order to line up, while the Lukla one involves pretty much aiming at a cliff, with absolutely no way of bailing out once approach has been started. Both can be hit by unpredictable weather — and both only permit activity in daylight hours, with frequent

outright cancellations. It is commonly said that only eight pilots in the world are certified to land in Paro, although *DCM* has been unable to verify this and we suspect that it dates from the time when only Druk Air was allowed to fly there. Currently, only three airlines fly there.

Lukla, or Tenzing-Hillary airport, as it is also known, carries a surprising number of flights in high season: up to 30 a day from Kathmandu, although it's only 85 miles away. The reason is that Lukla is the starting point for many trekkers wishing to walk to Mount Everest. Many leave Nepal

saying that the airport, rather than any element of the hike to the world's highest mountain, was the scariest part.

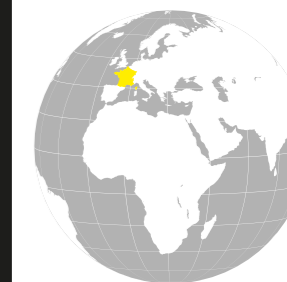
It is by any measure a truly preposterous airport, once named the world's most extreme by a TV documentary. That 12 percent gradient, over the modest length of the runway, is equivalent to a 10-storey building. It is also generally used as a short cut by locals, who have to be warned off with a siren once a plane is on approach. Still, if a plane on departure gets to the end of the ski-jump like runway and isn't going fast enough, there's a 2,000 foot (610 metres) drop at

US

1,000

### COURCHEVEL AIRPORT, FRENCH ALPS

COURCHEVEL IS HOME TO SOME STUNNING SLOPES SKIED UPON BY LITERAL JETSETTERS, MANY WHO ARRIVE BY PRIVATE JET OR HELICOPTER. IN 1996 AN ARABIAN PRINCE COMPLAINED THAT IT WAS COSTING HIM A COOL ONE GRAND EVERY DAY TO PARK HIS PRIVATE JET AT THE AIRPORT. NO DOUBT THAT PRICE HAS INCREASED MIGHTILY IN THE PAST DECADE.



the end of it in order to gather some speed.

That sort of cliff-top edge to a runway is not particularly unusual, and can actually be quite helpful, in the sense that a plane lacking sufficient thrust would rather meet a lot of emptiness at the end of the runway than something it has to actually get over.

Another notorious example is Matekane in Lesotho, which like Lukla has a drop of 2,000 feet, considerably longer than the actual runway, 1,312 feet (400 metres), even shorter than Lukla. It is not uncommon for aircraft taking off in Matekane to go off the end and descend first, before gaining enough thrust to get up again.

#### COMING UP SHORT

A short runway always brings a frisson to a landing, and the Caribbean seems to excel in them, a function of being a collection of islands with limited space for runways. Still, the outright length of the runway isn't really the point, so much as the size of the aircraft attempting to land there. For example, you will have seen pictures of Princess Juliana Airport in St Maarten (or St Martin depending on whether you are from the Dutch or French part), because the approach comes in directly over a beach and the short runway requires pilots to land right at the start of it.

The surprising thing is not that the recently extended 7,150 feet (2,179 metres) length is particularly short, but that fully-loaded Boeing 747s land there, as it's a hub, particularly for Dutch and French tourists, for the rest of the Caribbean. "The runway is quite long and wide for most small to medium sized aircraft," says Captain Ariel Weiss, a pilot who has flown many light aircraft into the airports of the Caribbean.

"However, the large ones, such as the 747 and Airbus A340 might consider the runway on the shorter side," he says. "All pilots must be trained and tested to perform short-field landings. The large planes have to touch down by a certain point of the runway and apply heavy braking and

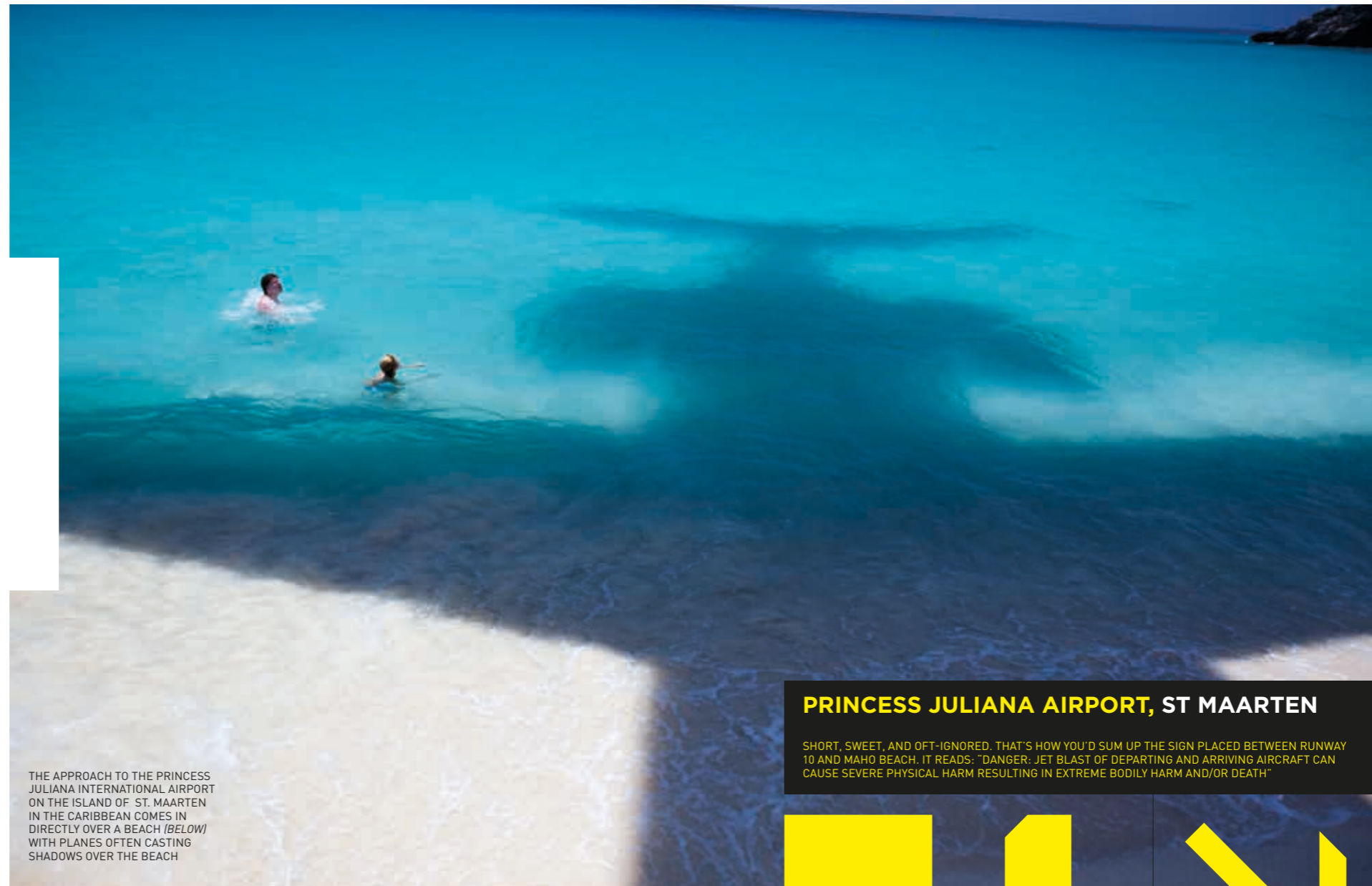
reverse thrust, to stop the plane in time." Consequently, Maho Beach, beneath the approach, has become one of the world's greatest plane spotting locations. In the local beach bar, the Sunset, they thoughtfully write flight times and airline numbers in chalk on a surfboard, so that people will know when to be ready to stand right underneath the approach, if they dare.

## WHEN PLANES GET READY TO TAKE OFF — SOME PEOPLE EVEN HANG ON TO THE CHAIN LINK FENCE AT THE END OF THE RUNWAY, AND WAIT TO FEEL THE FULL THRUST OF A DEPARTING JET

The particularly foolhardy even take part in another ritual when planes get ready to take off — hanging on to the chain link fence at the end of the runway, and waiting to feel the full thrust of a departing jet. When that jet is a KLM jumbo, this thrust can be enough to blow people right back into the water — surely the only place where one can legally be exposed to the full departing power of a Boeing 747. Incidentally, there is a European equivalent of St Maarten in the Greek island of Skiathos. A video on YouTube of a landing shows a 737 almost clipping the fence on the way in.

From the pilot's perspective, notwithstanding the concern that one might wipe out a tourist with one's thrust, the challenge of Princess Juliana is completely different to what tourists might expect. The approach is straight in and very easy, apart from the fact that approaches low over sea can become disorientating, but this applies to thousands of airports.

Of far greater concern to a pilot is the fact that the take-off involves facing straight at a mountain, requiring a



THE APPROACH TO THE PRINCESS JULIANA INTERNATIONAL AIRPORT ON THE ISLAND OF ST. MAARTEN IN THE CARIBBEAN COMES IN DIRECTLY OVER A BEACH (BELOW) WITH PLANES OFTEN CASTING SHADOWS OVER THE BEACH



PHOTOS: CORBIS (MAIN); AFP

### PRINCESS JULIANA AIRPORT, ST MAARTEN

SHORT, SWEET, AND OFT-IGNORED, THAT'S HOW YOU'D SUM UP THE SIGN PLACED BETWEEN RUNWAY 10 AND MAHO BEACH. IT READS: "DANGER: JET BLAST OF DEPARTING AND ARRIVING AIRCRAFT CAN CAUSE SEVERE PHYSICAL HARM RESULTING IN EXTREME BODILY HARM AND/OR DEATH"

# 21 WORDS



quick ascent and a rapid turn. Passengers, unable to see straight ahead in their plane, will probably never be aware of this. "It is especially challenging for the heavy Airbus A340 operated by Air France," says Weiss. "When they are very heavy it is really noticeable, as they depart and clear the villages and then the mountains." The 747 is a bigger plane, but it doesn't take off full of fuel — that would be impossible — and instead, usually flies to a nearby island such as Guadeloupe or Martinique, to fill up before crossing the Atlantic.

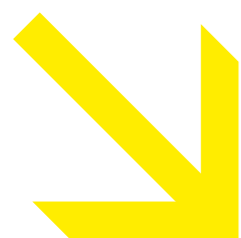
Just a few miles from St Maarten is St Barth's, which is arguably even more challenging for the pilot since it involves an approach between mountains and unbelievably close to a road, before landing on a tiny airstrip 2,100 feet (640 metres) long. If overshot, it's straight into the sea. Only small aircraft are allowed to land here, and pilots are required to do a large number of training flights before being allowed to go solo.

"The runway is a bit on the shorter side, but then again it's nothing that most light aircraft can't handle," says Weiss. The big issue from his perspective is the terrain, and the wind. "When landing on the runway heading into the east, one needs to clear a pretty tall hill located on the short final approach and then dive for the runway," he says. "In most cases, the ground clearance is about 50 feet (15 metres)."

It is bumpy in the wind, the runway is hardly visible to pilots on approach, and the landing must be at the start of the runway, followed by instant braking. "If one is too fast, stopping is likely not going to happen — and the aircraft ends up in the sand or sea. And people will be swimming in the lovely Caribbean waters in their clothes before they've cleared immigration and customs," Weiss says, half-joking. "This has happened quite a few times." Winter makes things still worse, as the wind conditions become stronger and less predictable.

And then there's Saba, which makes St Barth's landing strip look like Heathrow. At 1,300

9.2.59



## JUANCHO E. YRAUSQUIN AIRPORT, SABA

IF PILOTS TODAY NEED A DOSE OF GUTS TO LAND ON THIS SHORT RUNWAY, THEN TAKE YOUR HAT OFF TO REMY F DE HAENEN, WHO FIRST LANDED HERE IN 1959 ON A STRIP JUST RECENTLY CLEARED BY LOCALS.

# 12MIN

SABA'S OFFICIAL TOURIST SITE DOESN'T PULL ANY PUNCHES, REALISING THAT ITS RUNWAY ITSELF IS AN ATTRACTION. THE FLIGHT FROM NEIGHBOURING PRINCESS JULIANA AIRPORT IS SHORT BUT SWEET, THEY WRITE: "ONLY TWELVE MINUTES BUT WHAT A TWELVE MINUTES THEY ARE!"



AN AERIAL VIEW OF THE AIRPORT ON THE CARIBBEAN ISLAND OF SABA. THE RUNWAY IS CUT INTO THE EDGE OF THE MOUNTAIN AND IS SURROUNDED BY OCEAN

feet (396 metres) long, it is the shortest runway in this story, shorter than Lukla or Matekane and about the same as a typical aircraft carrier. This one, cut into the edge of a mountain, features huge drops to the ocean on three sides, including the end, and it has a difficult approach involving flying at a cliff before a last-minute left bank.

You can see a video of an approach here on YouTube where the circumstances are so extreme that the plane's alarms start going off — *Too low! Terrain!* — even though it's

a perfect approach. It's white-knuckle stuff. It is rare indeed to find anyone at all who's allowed to attempt it these days. "Getting a permit for Saba is pretty much impossible to anyone with the exception of two companies who are commercial carriers," says Weiss. "These companies I understand play a political role, so as not to allow others to land there in order not to compete with their business. I have practiced extremely low approaches into Saba some years ago, just to see if I could do it."

### HEAVY TRAFFIC

Elsewhere, some pilots find the proximity of people a particular challenge. In North America, aside from challenging Rocky Mountains airports like Eagle County Airport near Vail, the airports most commonly known as difficult are San Diego and Orange County. San Diego stands out because it is the busiest single-runway airport in America and is surrounded by the city. It involves an approach right over the top of the parking garage.

Orange County's John Wayne Airport has challenges which

are different again, combining a very short runway by jet aircraft standards, with a noise abatement policy which forces a steep climb — or a sharp turn after landing, depending on the direction of departure. It's also a rare example of a runway where pilots actually use the full power of their aircraft, in some cases cycling their engines to full power with the brakes on, before letting them go at full thrust.

In other places, the problem is the wind. This is the sort of area where a passenger's perspective might be quite

different from a pilot's, because to most of us, an airport can look pretty straightforward. But then, we can't see the wind. For example, Pollard notes that Chek Lap Kok, the new airport to replace the creaking and crazy Kai Tak, is actually not as simple as it might at first appear. "The new airport at Hong Kong can be quite challenging, with strong winds blowing across Lantau Island," he notes.

A manual that Qantas pilots use says this about the airport: "Of serious concern... is the wind shear caused by winds

blowing across Lantau Island. Lantau has four distinct hills and these valleys, because of their unique topography, inflict a dangerous influence on any wind from 090 degrees to 230 degrees. The wind blowing through each valley accelerates due to the Venturi effect of the curved and narrowing gap. As it passes through the gap it is tapered into a narrow stream of air."

Within it, a 15 knot wind becomes a 60 knot wind, but will be sandwiched between slower airflows passing around and

over the island. "The result can be devastating, as an aircraft approaching or departing the airport may have to transverse several layers of wind blowing at either 15kt or 60kt. Furthermore, these winds may become microbursts if they are deflected towards the ground." Hong Kong, being in a typhoon area, gets plenty of this kind of weather. Most people flying in would have no idea.

A far more notorious airport for wind shear is in New Zealand's capital city of Wellington, which combines a short runway with ferocious

winds due to the channelling effect of the Cook Strait between New Zealand's North and South islands. The only time that an unmodified commercial Boeing 747 has ever landed here was as an emergency landing by United Airlines in 1991, when Auckland was fogbound and there wasn't enough fuel to get to Christchurch.

**SABA'S LANDING STRIP IS THE SHORTEST RUNWAY IN THIS STORY, AT 396 METRES LONG. CUT INTO THE EDGE OF A MOUNTAIN, IT HAS A DIFFICULT APPROACH INVOLVING FLYING AT A CLIFF BEFORE A LAST-MINUTE LEFT BANK**

There are lengthy videos in circulation showing nothing but planes trying to land at Wellington. Sometimes they even appear to be going sideways — which is because they are going sideways.

Meantime, some airports are tricky due to their quirky surfaces. Barra Island in Scotland's Outer Hebrides, which Flybe.com's LoganAir arm flies to daily from Glasgow, is a relatively straightforward approach and departure — except for the fact that the runway is made of *sand*. It's actually a beach. This is the only scheduled flight in the world to land on a beach, and the runway is washed away again each night. The schedule for flights *literally* changes with the tides.

Then most extreme of all, there are the runways on the ice cap near the North Pole, or on the sea ice off the coast of Ross Island in Antarctica.

## GIBRALTAR INTERNATIONAL AIRPORT, GIBRALTAR

YEP, THE AIRPORT IS LESS THAN 500 METRES FROM THE CITY, MAKING IT ONE OF THE SHORTEST COMMUTES IN THE WORLD. YOU CAN GO FROM "BUSINESS OR PLEASURE?" AT CUSTOMS TO "HONEY, I'M HOME," IN MERE MINUTES

# 458

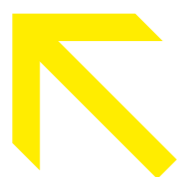


PHOTO: CORBIS



These are cleared each year for the summer, and present a host of other challenges, even though you wouldn't really call them mainstream airports. You would call Narsarsuaq in Greenland mainstream though, and it's an absolutely beautiful approach — yet it requires flying up a fjord in order to get in. Pilots must be locally qualified, and no nighttime activity is permitted.

Some airports combine a multitude of difficult conditions. Take Gibraltar. It's not enough that the bulk of the tiny territory's land is taken up by a huge rock, which leaves only a small piece of land jutting into the sea to serve as a runway. Or that the wind conditions are truly treacherous,

**THERE'S A FOUR-LANE HIGHWAY THAT RUNS STRAIGHT ACROSS THE RUNWAY. WHEN YOU LAND, YOU SEE TRAFFIC HELD BACK BY BARRIERS**

combining the Levanta wind that flows towards the Atlantic, the weather systems over the Iberian peninsula, the cloud that hangs over the rock, and the turbulence created by it, which produces downdrafts and crosswinds on the runway, endlessly unpredictable.

It's also that, because of constant tensions between the British and the Spanish over who should own Gibraltar in the first place, flights are not allowed to use Spanish airspace, despite Gibraltar being on the edge of Spain, which means pilots have to make a 90 degree turn that wouldn't otherwise be necessary. And if *that* wasn't enough, how about this? There's also a four-lane highway that runs straight across the runway. When you land, you see traffic held back by barriers on either side of you.

Funchal on the Portuguese island of Madeira is another

classic. It is cut out of the side of the mountain and hangs onto a coast with a runway that extends over the sea on stilts. There are mountains right next to the shoreline, which create very strong and turbulent winds, with dramatic shifts just at the moment the pilot is trying to put the plane down. It's also prone to seabirds, a big problem if one gets stuck in an engine. It used to be much worse though: the runway has been almost doubled in length over the years, yet going off the end of it creates the prospect of plunging into the sea.

One other airport combines everything that's potentially hard about a landing: Toncontin International (code: TNT), which serves the Honduras capital of Tegucigalpa. It is, or at least it was, the international airport with the smallest runway. It involves a complicated step-down approach among mountains, exceptionally close to a hill and a road, through an arc with a sharp turn at the very end to line up with the runway. Like many Latin American airports (Quito and La Paz are others) it is at high altitude, and receives mountain weather, which can change very quickly, bringing poor visibility or wind shear where it is not expected.

It has a cliff at the end of the runway with a road at the bottom of it, not ideal when planes are struggling to slow down anyway. Like Kai Tak, it is a manually flown approach, and also like Kai Tak, it involves a turn made very close to the ground, historically at about 150 feet (45 metres). It has since improved: the runway has been extended by 900 feet (274 metres) by removing a hill, one that had previously impeded the approach. But pilots say from their perspective, it doesn't change all that much: the terrain and the weather are still significant challenges.

### EASY RIDERS

Pilots though, don't get too hung up about things like approaches. They have other concerns, which would never occur to most passengers. "Most pilots would agree that a difficult airport is made easy by nice weather and the easiest airport can be a

killer if Mother Nature says so," says Phillip Pollard. "Despite all our modern equipment on board these days, Mother Nature still has the final say and provided we respect her, aviation will remain one of the safest modest of transport." He is, of course, absolutely right on this. Statistically air travel into even the most notorious airports is vastly safer than going anywhere in a car. And his airline, Qantas, has the finest jet-age safety record of them all.

And even the weather is secondary to another concern we passengers don't think about. And that's fuel. "Obviously any airport is challenging when the weather is bad, but we pilots say: there are no weather worries, just fuel worries. Provided you have plenty of fuel to divert to somewhere else where the weather is better, or fly around in circles until the weather improves, the bad weather conditions at your intended destination are manageable."

Pilots generally seek to land with at least an hour's worth of fuel in the tanks. The legal minimum in Australia, for example, is 30 minutes, but nobody wants to cut it that fine. Which is easy to plan around if you know bad weather is coming. But what if you don't? "It gets interesting," says Phillip, with understatement, "when the bad weather, like fog or a thunderstorm is unexpected, and you don't have enough fuel to go somewhere else." Yet, he says, despite having over 18,000 hours behind the controls over 30 years, he has been exceptionally lucky.

And luck is the point. Not just the luck of avoiding danger, but the luck of living this life at all. Pilots also get the best view in the world on a daily basis, practising a craft that most of them love — and for many of them a tricky approach just gives them a rare opportunity to use all their skills in an otherwise increasingly automated age. It is perhaps, a life that is fading into the past, yet there are still airports around that allow pilots to be not just supervisors but *aviators*. And flying is the better for them. ●