A close encounter of a most unwelcome kind

By Ian Wigmore

After thirty years flying with the Royal Air Force, **Ian Wigmore** commenced a career in civil aviation, working for two airlines before joining ERA as Air Safety Manager. He currently works as an aviation consultant specialising in airline safety. He is Editorial Secretary of HindSight and was until recently the editor of SKYbrary.

Even the most pessimistic estimates predict that in spite of rising fuel costs the volume of air traffic will continue to grow and will double within the next 20 years. Although new airports are constantly being built, the majority of flights travel to and from the same destination airports. The ever-increasing traffic density in the terminal areas creates a need for improved equipment and procedures, and increased manning levels to maintain adequate safe separation between aircraft. Inevitably, these essentials lag somewhat behind their need – it takes time to recruit and train new staff, to install new equipment or to develop new procedures.

Airports have commercial imperatives just like any other business. Although it is undoubtedly true that flight safety is the first of these imperatives, the airport must survive against the competition provided by its neighbours. This means that air traffic control must strive to achieve and maintain the optimum levels of traffic flow. It is an essential part of the air traffic controller's job to expedite the flow of arriving and departing traffic based on ICAO standards and recommended practices.

Airlines, too, have commercial imperatives, and just like airports, safety comes first. But pilots are realists and understand well that any unnecessary cost will reflect on their airline's bottom line. They have seen other airlines go out of business because they were unable to compete commercially and they do all they reasonably can to enhance the profitability of their employers. So they are always ready to cooperate wholeheartedly with measures intended to improve the traffic flow, provided they can do so safely.

However, controllers do occasionally ask for rather more than is reasonable; and human nature being what it is, pilots do sometimes accept unreasonable requests in situations where it might be prudent to refuse. Thus production pressure on the ATCO is reflected into production pressure on the pilot. The following incident is an example of this reality.

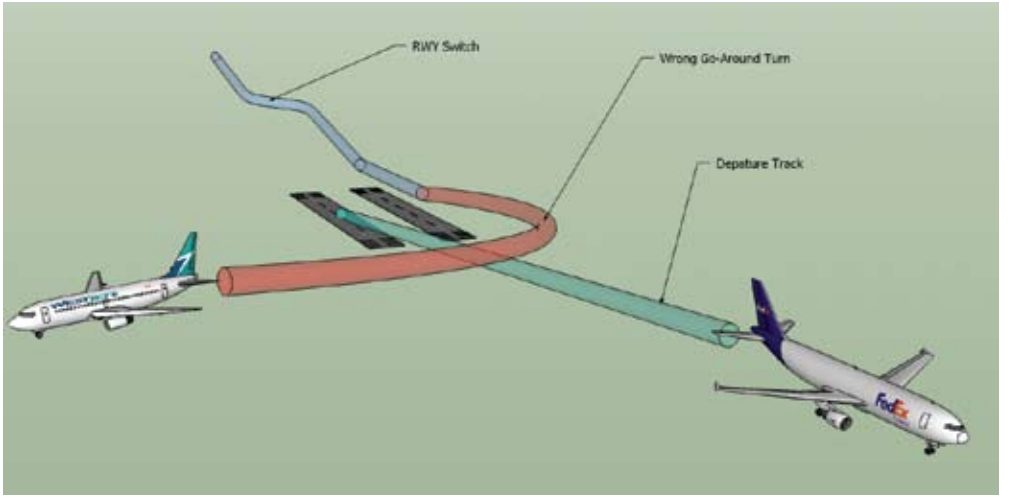
The airport concerned was at an elevation of 1000ft. It had two parallel runways – let's call them 09L/27R and 09R/27L. The passenger terminal lay to the north of the runways while the freight terminal lay to the south.

The ground to the east of the airport rose steeply so a turn soon after departure was necessary. To deconflict traffic when both runways were in use, departing traffic on 09L turned to the left after take off while that using 09R turned to the right. The turn point was defined by passing over an NDB (BBB). There were ILSs on both runways, the initial approach fix being a VOR (AAA) located about 7nm from touchdown. Missed approach procedures followed similar patterns, the missed approach point for non-precision traffic being the NDB.

The volume of traffic visiting the airfield was growing rapidly on this winter evening when our story begins; in fact it was very busy indeed. ATIS stated clearly which runway was in use for takeoff and for landing, but controllers often had to switch from one runway to the other to accommodate the traffic, and there were always problems with aircraft having to taxi across an active runway to or from the passenger or freight terminal.

A Boeing 737-300, callsign B-line 238, was cleared to descend to 4000 ft QNH. The crew had copied the ATIS code Papa (300 BKN, 1000 OVC, W/V 120/5, QNH 1015, takeoff runway 09R, landing runway 09L) and had briefed for an ILS on Rwy 09L. They expected to be vectored to the localiser in accordance with normal procedures before they reached the IAF. This was in the days before TCAS was mandated and none of the aircraft involved in this story were TCAS equipped.

This was a typically busy day. There were several aircraft awaiting takeoff and another stream being vectored for landing. The aircraft were of mixed types: mostly narrow-bodied jets but with some turboprops amongst them. The Approach and Tower controllers were working closely together in order to optimise runway use,



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switching from one runway to the other when the need demanded.

The Approach controller picked off B-line 238 at 4000ft:

B-line 238 descend to 3000ft QNH 1015, turn right 080 radar vectors for ILS Runway 09R, you are number three to an A320.

The first officer read back the clearance, then re-set the ILS and nav-aids and re-programmed the FMS. The pilots changed to the Rwy 09R plate and the captain re-briefed the approach; then as the aircraft levelled at 3000ft he instructed the first officer to report level.

The Tower controller could see an aircraft waiting to cross the northern runway, meanwhile an A300 freighter was approaching the southern runway for departure. If he switched the 737 to 09L there would be enough time to get the aircraft across the runway and the freighter could depart on 09R. The only problem was the Dash-8 on the ILS to 09L.

The crew of B-line 238 were approaching the VOR and were just about to start the landing checks when the Approach controller asked:

B-line 238 can you accept a switch to Rwy 09L please?

The captain sighed: "tell him OK."

Approach B-line 238 affirmative.

Thank you 238. You are clear for the ILS Rwy 09L. Call Tower frequency 111.11 MHz.

The captain re-tuned the ILS; the aircraft turned to intercept the localiser; the FMS indicated approaching the glideslope so the captain called for landing gear down and the aircraft began to descend; then the first officer checked in:

Tower B-line 238 fully established on the ILS 09L.

Roger B-line 238, continue, you are number two to a Dash-8 four miles ahead.

With the checks complete, the first officer began to look for the runway. At about three miles he began to see the approach lights intermittently and by two miles he could see the runway clearly – and the aircraft which had just landed still on it. "It's going to be a close thing if that Dash-8 isn't quick clearing the runway." He told the captain. Then as the aircraft approached 200 ft he called: "Decide."

The captain looked ahead and seeing that the runway was blocked called: "Going around." At the same time he pressed the go-around button, then as the aircraft reached 500 ft he turned right onto 150 and continued the climb.

Tower B-line 238 going around.

The first officer reported.

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The approach control breathed a sigh of relief. He had seen the 737 turn the wrong way and for a few seconds that seemed like hours had watched the blips on his radar corresponding to it and the departing A300 merge.

Cleared by Tower, the first officer checked in:

Approach B-line 238 on the go-around heading 120 for DDD

Roger B-line 238, turn right heading 180, climb to 5000 ft.

Then with the two aircraft safely separated, the controller asked the pilots to call him after landing. When the captain rang, he pointed out the error and its results and informed him that he would be filing an ATC Incident Report.

You can bet the pilots discussed the incident afterwards, and the captain was not very complimentary about the first officer's monitoring of his actions. The crew filed a Mandatory Occurrence Report and the local authorities initiated a review of the case. Analysis of the radar traces revealed that the aircraft had passed within 100ft vertically and 150m horizontally of each other. The incident was classified as a Class A AIRPROX: a Serious Incident, and a formal investigation was conducted.

The investigation had no difficulty in deciding that the pilots had turned the wrong way during the go-around, following the missed approach procedure for Rwy 09R instead of 09L. This was because they had not properly re-set their equipment and re-briefed the approach when the runway was changed the second time.

The root cause of the problem was that the landing runway was changed at short notice at a fairly late stage in the approach. The investigation revealed that this was a fairly frequent occurrence and that several similar, though less serious incidents had happened before but had not been reported. Many instances of late changes to the takeoff runway were also uncovered. Their recommendations to the ANSP resulted in a complete review of ATC procedures at the airport.

Of course, the crew should have reset their equipment to the revised landing runway – and re-briefed the approach; and the Pilot Not Flying (in this case the first officer), whose primary duty is to monitor the actions of the Pilot Flying (the captain), should have at least corrected the captain when he commenced a right turn after takeoff. That is what SOPs are for and, and if pilots believe they will be unable to comply they should refuse a late switch.

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