

## Serious Incident

<b>Aircraft Type and Registration:</b>	ATR 72-500 (72-212A), LY-JUP	
<b>No &amp; Type of Engines:</b>	2 Pratt and Whitney PW-127F turboprop engines	
<b>Year of Manufacture:</b>	2007 (Serial no: 747)	
<b>Date &amp; Time (UTC):</b>	12 August 2024 at 0842 hrs	
<b>Location:</b>	Guernsey Airport	
<b>Type of Flight:</b>	Commercial Air Transport (Passenger)	
<b>Persons on Board:</b>	Crew - 5	Passengers - 52
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	None	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	56 years	
<b>Commander's Flying Experience:</b>	10,360 hours (of which 4,805 were on type) Last 90 days - 151 hours Last 28 days - 34 hours	
<b>Information Source:</b>	AAIB Field Investigation	

## Synopsis

On approach to Runway 27 at Guernsey Airport, the crew of LY-JUP continued to descend below the approach ban altitude<sup>1</sup> despite the reported Runway Visual Range (RVR) being below that required. After passing through approach minima, and at around 70 ft agl, a go-around was initiated. After the power levers were advanced the aircraft remained between 61 and 78 ft agl for 15 seconds before a climb was established. The flight diverted to Southampton Airport where it landed without further incident.

Although both crew members were aware of the approach ban, it was not discussed before or during the approach. As the aircraft passed the decision altitude for the approach, there was confusion and miscommunication between the crew which resulted in the aircraft remaining more or less level with the gear down.

The operator has taken a number of safety actions to improve the selection and training of crews as well as to introduce a Flight Data Monitoring (FDM) programme.

## History of the flight

The aircraft was operating a scheduled service from Southampton Airport to Guernsey Airport on behalf of a UK operator. The aircraft had started the day with a flight from Guernsey to

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### Footnote

<sup>1</sup> The approach ban as applied in both EASA and UK regulations prohibits a crew from continuing an approach below 1,000 ft above the aerodrome elevation if the governing RVR for that approach is not met.

Southampton; arriving at 0645 hrs. On arrival in Southampton, the crew uplifted fuel for the return leg and the passengers boarded for the flight. At the time the aircraft had departed from Guernsey, fog was already developing on the airfield although the RVR was more than 1,500 m. Examining the TAF and METARs, the commander considered that it was likely that the weather would improve sufficiently at the expected time of arrival at Guernsey. The aircraft departed at 0715 hrs.

During the flight the crew received several updates on the weather conditions and reduced their speed in order to delay their arrival. The RVR was variable, although rarely above the required 550 m for the available CAT 1 approach. The crew entered the hold at the GUR VOR to wait for an improvement before they could begin their approach. Having completed a number of holding patterns the crew were in the process of considering returning to Southampton when ATC notified them that the RVR had improved to 550 m. The crew decided that they could now begin their approach to the ILS on Runway 27.

Having checked that they had sufficient fuel for the approach and any subsequent diversion back to Southampton if required, the crew elected to make an approach. ATC provided radar vectors and descent clearance to the crew and the flight began its final approach. The RVR had decreased from the reported 550 m when the crew first began the approach and although it was variable, it never increased above 450 m during the period of the final approach and go-around.

ATC kept the crew informed of the RVR during the approach and having established themselves on final approach the crew were cleared for the ILS and handed over to the tower frequency as the aircraft began its descent on the ILS. When they contacted tower, they were informed, as they passed 1,750 ft amsl, that the touchdown RVR was 325 m and the stop end 400 m. ATC again reported the RVR as the aircraft passed 1,540 ft amsl as 325 m (touchdown), 375 m (stop end). Despite the RVR being below that required for the CAT1 ILS, the approach was continued below 1,000 ft aal (1,336 ft amsl).



**Figure 1**

LY-JUP approach to Guernsey Airport from FDR data

ATC provided two further RVR updates during the remainder of the approach. As the aircraft approached the decision altitude (536 ft amsl), both the commander and co-pilot gained the required visual references to land but there was some confusion between the crew in communicating this. This resulted in the co-pilot calling for a go-around. The commander began the go-around, calling for the flaps to be retracted one stage and selecting go-around power. For the next 15 seconds the aircraft did not climb with the pitch attitude remaining around that for level flight with the aircraft at a radio altitude of between 61 and 78 ft. Having travelled approximately 750 m the aircraft began to climb, and the go-around was completed before the flight returned to Southampton where it landed without further incident.

### **Aircraft information**

LY-JUP has an automatic flight control system (AFCS) which includes an autopilot (AP) and flight director (FD). These are controlled through the AFCS control panel fitted on the centre panel in the flightdeck. Above this control panel is the Advisory Display Unit (ADU) which displays, along with other information, the armed and captured modes of the AFCS. This mode information is also repeated on the top of the Electronic Attitude Director Indicator (EADI). The EADI also displays the FD command bars which display the computed commands to capture and maintain the desired flightpath. These commands are satisfied by the FD bars being centred on the EADI. On the external side of each power lever are the go-around push buttons.

When either of these go-around push buttons are pressed, go-around mode is selected. Go-around mode is an FD only mode so the AP will automatically disengage. All engaged or armed FD modes will also disengage and the FD will engage laterally in heading hold (which holds the heading at engagement) and vertically in a pre-determined safe pitch attitude (which is a function of flap setting). For the flap setting selected when the go-around mode was engaged (Flap 15) the FD would be set at 7.1° nose up. The engagement of go-around mode is annunciated on both the ADU and the EADIs.

### **Recorded information**

The serious incident was reported to the AAIB at 1230 hrs on the day after the event. During the elapsed time, the aircraft flew more than 2 hours which meant the CVR recording was overwritten. The FDR was provided to the AAIB by the operator and recorded radar and radio transmissions were provided by Guernsey ATC along with the recorded RVR data. The data sources were combined to establish the sequence of events.

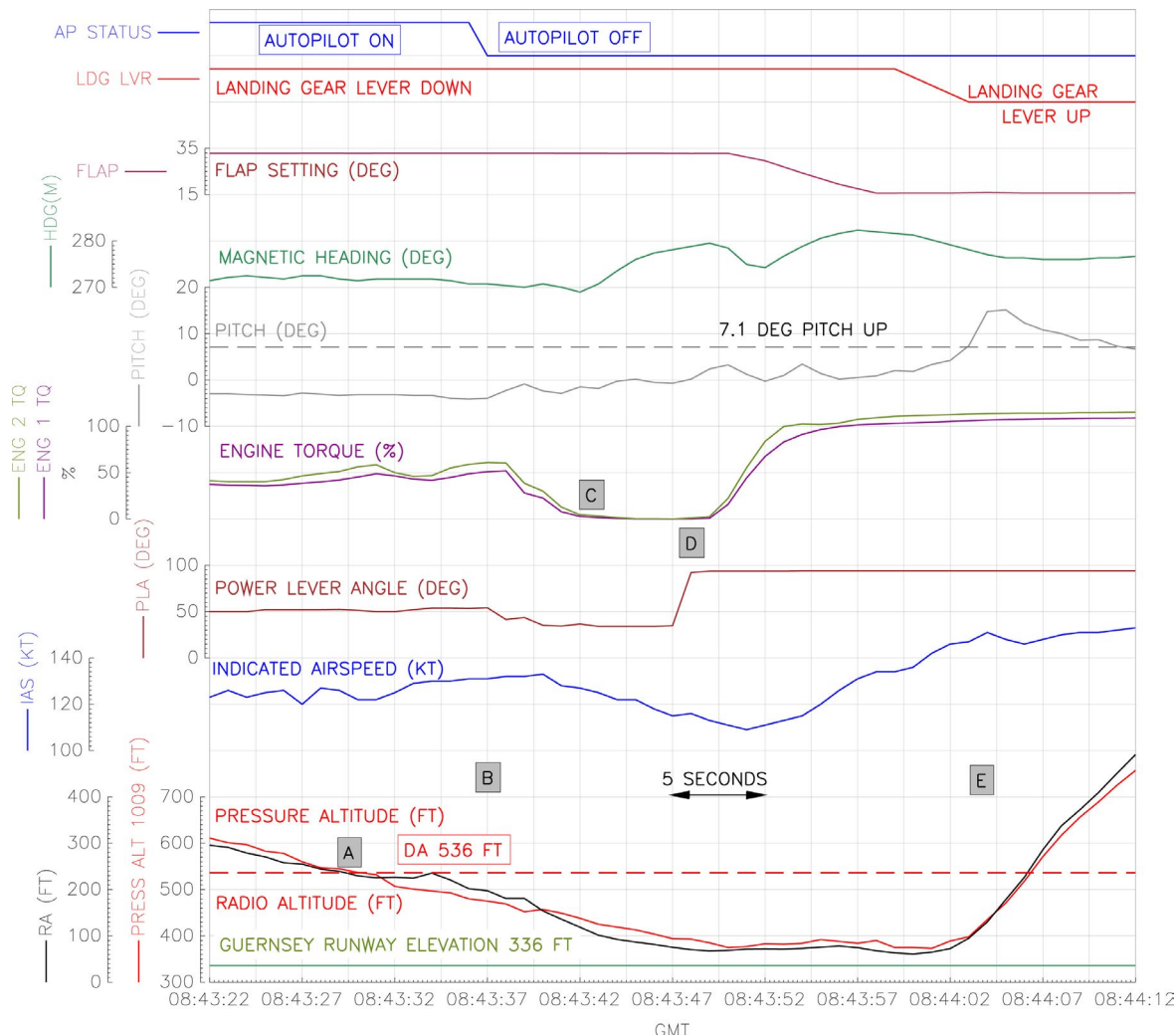
The aircraft first contacted the Guernsey Tower frequency at 0841:23 hrs, when just over 6 nm from the Runway 27 displaced threshold, descending through a pressure altitude of 1,800 ft<sup>2</sup>. At the time, the autopilot was engaged and the glideslope and localiser captured. The aircraft was cleared to land and passed wind conditions and RVR readings of 325 m at the touchdown point and 400 m at the stop end. Two further transmissions were made from Guernsey Tower during the approach with reported RVR below 550 m.

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#### **Footnote**

<sup>2</sup> The FDR recorded pressure altitude to a datum of 1013 hPa which has been corrected to the Guernsey QNH of 1009 hPa.

At 0843:30 hrs, the recorded pressure altitude reduced below the decision height<sup>3</sup> of 536 ft amsl when the aircraft was just over 0.5 nm from the Runway 27 displaced threshold (point A, Figure 2). The approach continued and the autopilot was disconnected seven seconds later at 475 ft amsl and 131 KIAS (point B).



**Figure 2**  
LY-JUP FDR data during approach and go-around

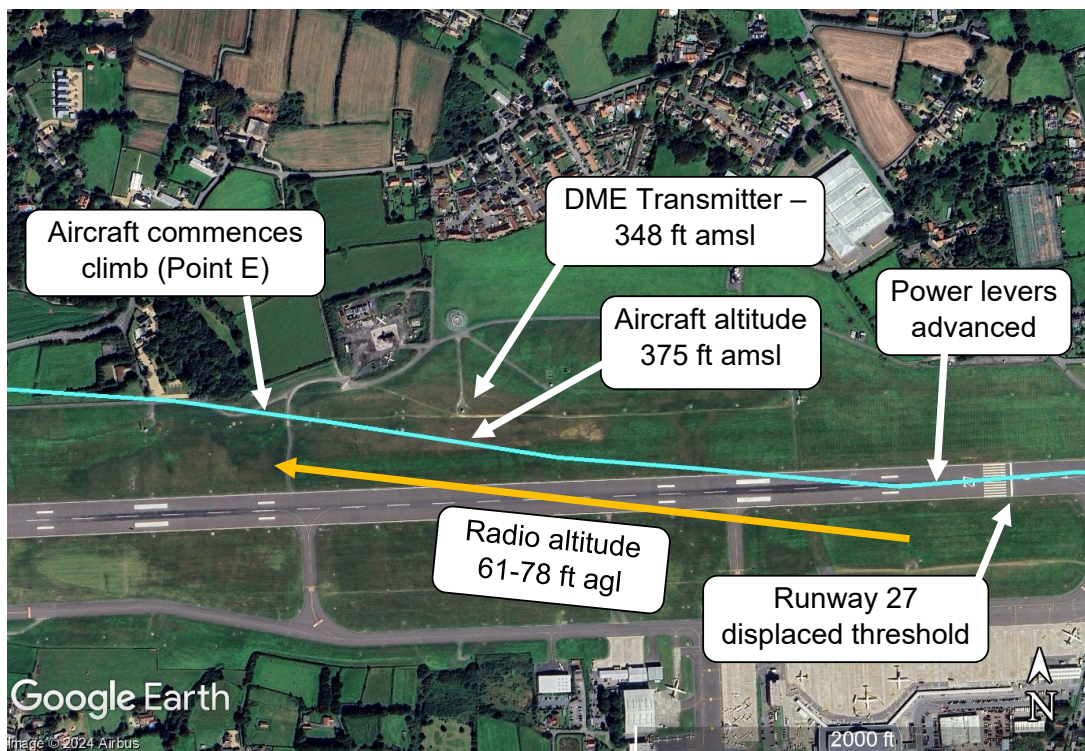
Engine power was then reduced to flight idle and the aircraft pitched up (point C). Just after crossing the displaced threshold, the power levers were advanced to full power when the aircraft was at a radio altitude of 70 ft agl and 116 KIAS (point D). The selection of the go-around pushbuttons on the power levers and the FD were not recorded parameters on the FDR. At the time, the recorded selected heading was 269°.

**Footnote**

<sup>3</sup> Decision height is 200 ft above the threshold elevation. Guernsey Airport Runway 27 threshold elevation is 336 ft amsl.

Engine power increased, flap setting was reduced to  $15^\circ$  and the indicated airspeed increased. The landing gear remained down, and pitch attitude remained below the  $7.1^\circ$  for 15 seconds after the power levers were advanced. The aircraft remained at a radio altitude of between 61 to 78 ft agl and recorded GPS position showed a deviation to the right of the runway (Figure 3). The recorded position showed that the aircraft came within 40 m laterally of the Runway 27 DME transmitter whilst at 375 ft amsl (top of the DME transmitter is 348 ft amsl).

At 0844:03 hrs, pitch attitude increased above  $7.1^\circ$  and the landing gear lever was selected to the UP position (Figure 2 Point E). The aircraft climbed and pitch attitude continued to increase to a maximum of  $15.8^\circ$  before then reducing as the aircraft continued to climb. At 0844:22 hrs, the aircraft made a radio transmission that it was going around and diverting to Southampton.



**Figure 3**

LY-JUP ground track during approach and go-around

## Meteorology

### *General synopsis*

A southeasterly airflow covered the Channel Islands on 12 August 2024 bringing mostly settled and dry conditions with light winds. The conditions brought some mist and fog to the western areas of the Channel Islands which spread east during the morning before clearing. There were some isolated showers of rain and the chance of thunderstorms developing later in the day. Outside of the mist and fog, the visibility was excellent.

The position of the Channel Islands can generate some notable characteristics to the weather, including the arrival of fog in seemingly warm and/or windy conditions. This is coastal sea fog which is the result of warmer air moving over the cool surface of the sea. Any wind can then blow the sea fog over the Channel Islands and is especially likely in spring and summer months. It usually clears rapidly once over land, especially if the temperatures are warm.

#### *Forecasts and observations at Guernsey Airport*

The crew were rostered for the flights to Southampton and back reporting at 0455 hrs. The crew were able to review the forecast and actual weather before they departed Guernsey as well as before their departure from Southampton using their tablets. The overnight forecast showed that there was 40% probability of there being fog between 0600 hrs and 1200 hrs. At 0457 an updated TAF was issued which delayed the time of the possible fog to 0700 hrs. This TAF was subsequently amended at 0657 hrs to show fog with visibility of 100 m with a 40% probability of an improvement between 0600 and 1200 hrs to a visibility of 3000 m. The TAF suggested that the weather would clear from 0800 and 1100 hrs. The TAF was further amended at 0804 hrs. The timing and contents of the TAFs and METARs are shown at Table 1 with the information provided on fog in bold italics.

Time (UTC)	TAF or METAR	
0155	TAF	1203/1212 11014KT CAVOK PROB30 TEMPO 1208/1212 -SHRA SCT100CB BECMG 1203/1205 18008KT BECMG 1204/1206 26010KT 3000 BR BKN003 <b>PROB40 TEMPO 1206/1212 0400 FG BKN000=</b>
0450	METAR	20012KT CAVOK 20/18 Q1008=
0457	TAF	1206/1215 16012KT CAVOK BECMG 1206/1207 26012KT 3000 BR BKN003 <b>PROB40 TEMPO 1207/1212 0400 FG BKN000 PROB30</b> TEMPO 1208/1212 -SHRA SCT100CB BECMG 1213/1215 9999 SCT005=
0520	METAR	26007KT CAVOK 19/18 Q1008=
0550	METAR	26010KT <b>0100 R27/P1500D FG OVC000</b> 18/18 Q1008=
0620	METAR	27010KT <b>0050 R27/0225N FG OVC000</b> 18/18 Q1009=
0650	METAR	28010KT <b>0100 R27/0250N -SHRA FG OVC000</b> 18/18 Q1008=
0657	TAF	<b>1206/1215 27011KT 0100</b> FG OVC000 PROB40 TEMPO 1206/1212 3000 BR FEW000 SCT001 BKN002 PROB30 TEMPO 1206/1214 9000 SHRA SCT090CB BECMG 1208/1211 9999 SCT005=
0720	METAR	28009KT <b>0100 R27/0250N -DZ FG OVC000</b> 18/18 Q1009=
0750	METAR	28011KT <b>0150 R27/0250N -DZ FG OVC000</b> 18/18 Q1009=

Time (UTC)	TAF or METAR	
0804	TAF	<b>1209/1218 27011KT 0100 FG OVC000 PROB40 TEMPO 1209/1213 3000 BR FEW000 SCT001 BKN002 PROB30 TEMPO 1209/1214 9000 SHRA SCT090CB BECMG 1209/1212 9999 SCT005=</b>
0820	METAR	28011KT <b>0200 R27/0275D -DZ FG BKN000</b> 18/18 Q1009=
0850	METAR	28011KT <b>0300 R27/0550U -DZ FG BKN000</b> 18/18 Q1009=

Table 1

Forecast and observations for Guernsey Airport

The crew arrived in Southampton at 0645 hrs and were able to gather some more up to date information on the weather in Guernsey. The commander did ask ATC to contact Guernsey for the latest RVR information, but they were unable to supply it. The commander, together with the co-pilot and the operator, decided on the basis of the forecast and observations that the weather was good enough for the flight to depart but that he would load some extra fuel for any required holding and that they would carry fuel for a return to Southampton where the weather was good. The fog dissipated, and the visibility improved to in excess of 10 km between the METAR observations at 0950 and 1020 hrs.

#### RVR readings

The airport at Guernsey has two RVR reading stations – the touchdown and the stop end. The figures for these were recorded every minute during the approach to Runway 27. A plot of the touchdown readings from the time the aircraft departed from Southampton until the time of the go-around is shown in Figure 4.

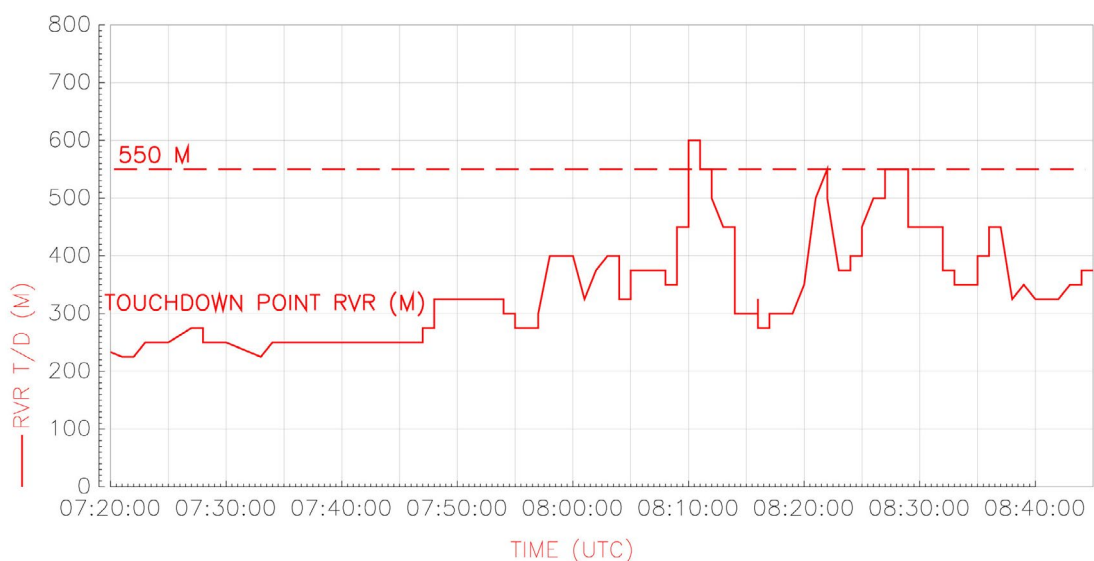


Figure 4

Runway 27 touchdown point recorded RVR

## Airfield information

Guernsey Airport has a single runway orientated east-west. The airfield is equipped for CAT 1 approaches only with an ILS/DME available at both ends. The runway in use on the day of the flight was Runway 27 which is equipped with a high intensity approach lighting system with a length of 895 m and five crossbars, high intensity runway lights and centre line lights as well as a set of PAPIs. The runway has a landing distance available of 1,463 m with an elevation (also that of the threshold of Runway 27) of 336 ft.

During the period of the serious incident, the DME was out of service as it was being replaced as part of a long-term maintenance plan at the airport. This was notified to the crew as a NOTAM and was included in the pre-flight briefing pack. As a result of this ATC would transmit distances from the threshold for the crews at certain relevant points on the approach.

The airport is equipped with CCTV, stills of which were provided showing the view of the Runway 27 touch down zone. The stills show the weather around the time of the approach and on the subsequent day when there was no fog.



**Figure 5**

Airport CCTV images looking south over the Runway 27 touchdown zone (times are BST)



## Personnel

### *Background*

Both the commander and the co-pilot had significant flying experience. The commander had over 4,600 hours on the ATR as well as experience on the B757, 767 and 777. The co-pilot had over 760 hours on the ATR with over 2,000 hours total flying time. They had joined the operator in March and January 2024 respectively and had completed an operator conversion course. This course included a Crew Resource Management (CRM) refresher, simulator training, line training and a line check. The operator's training records showed no significant areas of concern. The commander had received positive comments on his CRM and crew support. There was one comment that reminded him that the ATR is a multi-pilot aircraft. The co-pilot had received very few comments at all during his training although the training captain who conducted his line check did suggest to him that he should not hesitate to offer help to the PF.

### *Commander and co-pilots recollection of events*

Both pilots recall that an approach brief was conducted by the commander in accordance with the operator's Standard Operating Procedures (SOPs). The approach brief did not include any conversation about the approach ban or which altitude it would apply into Guernsey although they discussed the CAT 1 minima for the approach. The approach was flown with the autopilot engaged. There was no discussion about the RVR as the approach progressed. The aircraft passed the approach ban altitude without comment from either crew member despite the RVR being given which was below the 550 m they required. The commander stated that he was working to what he described as 'old rules' where you could continue down to the minima. The commander was not challenged by the co-pilot despite him being aware of the requirement.

As the aircraft approached the decision altitude (536 ft amsl) the commander recalled that he could see the runway lights and had the required visual references to continue. He recalls the co-pilot calling "Minimums" and that he replied "Contact, Land" as per the SOPs. He disconnected the autopilot in preparation for landing. He was surprised then when he heard the co-pilot call for a go-around. The SOPs require a go-around to be flown should either crew member call it, so he recalled immediately calling "Go-around, set power, flaps one notch" and noted the co-pilot retracted the flaps as requested. He then called for the gear to be retracted but the co-pilot seemed to be unresponsive. He recalled calling at least three times for the gear to be retracted but the co-pilot either wouldn't or couldn't retract the gear. The commander reached over and raised the gear lever before climbing away.

The co-pilot recalls calling "Minimums" and hearing nothing in reply from the commander. With nothing in response, he called for the go-around as he assumed that the commander was not visual with the lights. The commander then began a go-around by advancing the power levers. The co-pilot retracted the flaps as requested when the commander called for them, but the aircraft did not begin to climb away despite the application of power. The commander kept asking for the gear to be retracted but the aircraft did not have a positive rate of climb, so he was unable to comply with the request. He recalls prompting the

commander to climb; to pitch the aircraft up and explaining why he could not retract the landing gear, but the commander did not respond to these prompts. Eventually he pulled on the control column himself in order to establish a climb. The commander retracted the landing gear.

Having completed the go-around, the flight returned to Southampton where it landed without incident. Having refuelled and with the weather improved in Guernsey, the crew conducted the flight from Southampton to Guernsey, landing just before 1200 hrs.

### *Non-technical skills (NOTECHs)*

The aviation industry used a set of non-technical skill categories to assess flight crews and provide feedback to improve performance and safety. EASA provides a list of four areas which are to be assessed and provides more detailed elements as well as examples of behavioural markers which must be graded by operators during pilot checking and training. The EASA framework<sup>4</sup> lists cooperation, leadership and managerial skills, situational awareness, and decision-making as its four categories. Whilst it does not have a specific category for communication, this skill is at least partially assessed into all four categories. The operator uses this EASA framework for assessing their crews.

Other operators both within EASA and elsewhere do include communication as a specific fifth category. This allows direct assessment of behaviour markers such as active listening, the ability to convey messages in clear, accurate and timely fashion, and confirmation that the recipient is ready and able to receive information. Communication provides information, helps establish relationships between team members as well as ensuring that the management of resources (such as time and workload) are effective. Good communications are an essential requirement for safe operations and without it can come confusion and a lack of coordination. The operator's crews come from a variety of backgrounds and nationalities for whom English is not their native language. All crew are assessed and must have an approved level of competence in the operational language, but the challenges of good communication can be increased in such situations. In this flight neither crew member spoke English as a first language. Beyond the use of English, they did not share a common language.

## **Regulations**

### *Approach ban*

The objectives of the 'approach ban' are to prevent the situation where a pilot arrives at a decision altitude or height with insufficient visibility to adequately control the aircraft for landing and to reduce the rate of missed approaches from minimas. The idea is to minimise the chance of an aircraft being manoeuvred at low level in poor visibility with the risk of uncontrolled ground contact.

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### **Footnote**

<sup>4</sup> AMC3 ORO.FC.115 Crew resource management (CRM) training [https://www.easa.europa.eu/sites/default/files/dfu/Consolidated%20unofficial%20AMC&GM\\_Annex%20III%20Part-ORO.pdf](https://www.easa.europa.eu/sites/default/files/dfu/Consolidated%20unofficial%20AMC&GM_Annex%20III%20Part-ORO.pdf) [Accessed November 2024].

The idea of the approach ban first made its appearance in Annex 6 to the convention on International Civil Aviation on Operation of Aircraft, Part 1 International Commercial Air Transport, section 4.4.1.2 in 1969. It became part of the European regulations as part of the Joint Aviation Regulations Operations 1, 1.405 sometime in the early 2000s. It remains a UK, EASA and international regulation.

The approach ban as applied in both European and UK regulations prohibits a crew from continuing an approach below 1,000 ft above the aerodrome elevation if the governing RVR for that approach is not met. If the governing RVR should fall below the required value once the crew have passed that 1,000 ft point above the aerodrome elevation, they are permitted to continue down to the minima.

The operators Operating Manual Part A (OMA) states:

*'The Commander or the pilot to whom conduct of the flight has been delegated may commence an instrument approach regardless of the reported RVR.*

*If the reported RVR is less than the applicable minimum the approach shall not be continued:*

*below 1 000 ft above the aerodrome; or*

*If, after passing 1.000 ft above the aerodrome, the reported RVR falls below the applicable minimum, the approach may be continued to DH.'*

## **Organisational information**

The operator was on contract to another UK Air Operators Certificate (AOC) holder. This wet lease operation had progressed through an approval process by the UK CAA and by the Director of Civil Aviation Guernsey. The process for approval is a formalised one which is used by many operators with UK AOCs.

The operator did not have an FDM programme, nor were they required to have one.

## **Analysis**

### *Approach ban*

Both crew members were aware of the approach ban but it was neither mentioned nor included in the approach brief. The commander may have reverted to a previous understanding of the regulations which he understood to permit him to continue down to the minimums before making a decision to land or go-around based on what he saw. The co-pilot did not challenge this understanding either before the approach or as they passed the approach ban point.

### *Crew performance*

Without a CVR it is not possible to know exactly what communication occurred between the crew before and during the approach or after the aircraft passed the decision altitude. Any discussion of the communications that took place therefore relies on the recollection of the commander and co-pilot.

During the flight to Guernsey, neither pilot discussed the approach ban or whether it might apply to their subsequent approach. They did discuss what they would do if the weather was below minimums, and what their subsequent actions for the diversion would be. Once the aircraft was established on the glideslope, neither pilot can recall there being any further discussion about the RVR although they were given the information on several occasions by ATC.

As the aircraft passed decision altitude the commander recalls seeing the required visual references and hearing the co-pilot call 'minimums' to which he called 'Contact, Land' as per the SOPs. The co-pilot does not recall hearing any response to his call of 'Minimums' and as a result assumed that the commander was not visual with the lights. The commander was surprised when the co-pilot called for a go-around. Ineffective communication meant that neither pilot was sure what the other was doing or planning. As a result, there was confusion about the go-around. Neither pilot was fully aware of the other pilot's intentions or the situation. They did not share a common picture of where the aircraft was or what they were trying to achieve. Despite this when the co-pilot did call for a go-around, the commander immediately complied by pressing the go-around button on the power lever.

Once the go-around button was pressed and the flaps retracted as required at the commander's request, the FD would have indicated a 7.1° pitch up as per the aircraft design. During the next 15 seconds although the aircraft pitch did vary, it did not increase to a steady positive pitch that would have resulted in the aircraft climbing away from the ground. Despite the lack of climb and the commander not responding to his prompts, the co-pilot made no attempt to take control to correct the flight path. The commander did not try and climb the aircraft despite the lack of landing gear retraction and the perceived lack of response from the co-pilot.

The lack of a shared mental model between the pilots had the result that neither was aware of how close to the ground and obstacles they were for an extended period of time.

### *Operator's non-technical skills*

The operator used the EASA framework for their non-technical skills assessment, but this did not include a specific category for communications. Communications are partially covered by different parts of the framework but there was no standalone assessment of those behaviours. This meant that there was no specific effort by the operator to assess, train and improve the communication skills of their crews, despite the diversity of their nationalities and native languages.

## Conclusion

The flight continued the descent below the approach ban altitude whilst on an approach to Runway 27 at Guernsey Airport despite not having the required RVR. The commander may have been reverting to a previous understanding of the regulations, and this was not challenged by the co-pilot at any point. When the aircraft passed the approach minima, confusion and miscommunication between the crew resulted in a go-around being called and selected, but the pitch remained at around that required for level flight. The aircraft flew over the airfield between 61 – 78 ft agl for 15 seconds before interventions from both crew members resulted in a climb. The flight was diverted to Southampton Airport where it landed without further incident.

## Safety actions

As a result of this incident, the following Safety Action was taken by the operator of LY-JUP:

- Implemented an FDM programme which will enable the early identification of issues and help prevent future occurrences via preventive actions whenever negative trend is identified.
- Revised and enhanced the recruitment process in regard to the psychological assessment of pilots.
- Revised and amended simulator profiles to require co-pilots to actively challenge commanders' decisions when deviations, errors or violations are noticed.
- Issued guidance to instructors in training and checking activities on areas of emphasis aimed at improving crew coordination and collaboration.
- Provided guidance for instructors to increase the written feedback provided to trainees after a training or checking activity.
- Conducted an internal assessment of adding the category of 'communications' as a standalone NOTECHE assessment area.

*Published: 27 February 2025.*