Accident

Aircraft Type and Registration:	Boeing 737-8K5, G-TAWB	
No & Type of Engines:	2 CFM56-7B27E turbofan engines	
Year of Manufacture:	2012 (Serial no: 37242)	
Date & Time (UTC):	16 December 2024 at 1628 hrs	
Location:	East Midlands Airport	
Type of Flight:	Commercial Air Transport	
Persons on Board:	Crew - 6	Passengers - 125
Injuries:	Crew - 1 (Serious) 5 (None)	Passengers - None
Nature of Damage:	None	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	52 years	
Commander's Flying Experience:	16,300 hours (of which 12,174 were on type) Last 90 days - 140 hours Last 28 days - 33 hours	
Information Source:	AAIB Field Investigation	

Synopsis

As the aircraft front passenger door was being closed by the Senior Cabin Crew Member (SCCM), the steps were pushed away from the aircraft. The SCCM was unable to stop herself from falling into the gap created between the steps and the aircraft. She fell onto the ramp and was seriously injured.

The step removal occurred despite the aircraft door being open and a dispatcher still at the top of the steps. There were multiple dispatchers and ramp staff working around the steps and it was not clear who had responsibility for checking that the aircraft door was closed and steps were clear. The presence of one of these dispatchers at the bottom of the steps, with another stepping off the bottom meant the ramp staff moving the steps assumed that the door closure was complete. The process of door closure and step removal had been the subject of a procedural workaround at East Midlands Airport and other UK airports where the ground handling company operated. This procedural workaround had been happening for many years and had not been identified in audits.

Both the ground handling company and the operator took safety action to address issues raised in the investigation.

History of the flight

The crew of G-TAWB were due to operate a scheduled return flight to Arrecife Airport, Lanzarote from East Midlands Airport. The flight had a scheduled departure time of 1510 hrs but the aircraft was running late due to a delay earlier in the day on a previous flight. This delay resulted in a new expected departure time of 1600 hrs. The crew prepared and briefed for the flight before they proceeded to the stand to wait for the aircraft to arrive.

G-TAWB arrived on Stand 9 at the airport at 1538 hrs. In attendance for the flight were a team of four ramp agents led by a team leader. They were responsible for the positioning of equipment including ground power unit, front and rear steps, the offload of the previous flight's baggage before the loading of the baggage for Lanzarote and the pushback for departure once the loading was complete. Also responsible for the turnaround was a dispatcher who was required to plan the aircraft load, provide information on that plan to the team leader and the aircraft commander, and finally to complete the flight paperwork before the flight departure. The dispatcher was accompanied by a trainee dispatcher who was to observe the turnaround as part of his development.

Both front and rear steps were positioned and at 1622 hrs passenger boarding for the flight to Lanzarote was complete and the rear steps were removed. The dispatcher and the trainee dispatcher proceeded up the front steps to liaise with the flight crew and to pass their completed paperwork prior to the aircraft departure. At 1627 hrs the trainee dispatcher proceeded down the front steps from the aircraft with the dispatcher remaining at the top of the steps to complete the aircraft door closing procedure. Another dispatcher who had completed his own flight had arrived to assist and he began to retract the stabiliser legs from the front steps in preparation for their removal.

At 1628 hrs the door closure began with the SCCM releasing the gust lock on the front door and beginning to move it towards the closed position. At the same time two of the ramp agents began to push the steps away from the aircraft. The SCCM fell into the gap created between the aircraft and the steps and was seriously injured. The dispatcher was also on the top of the steps but was able to hang onto the side rail to prevent himself falling.

Accident site

G-TAWB was parked on Stand 9 at East Midlands. After the accident the equipment and aircraft were secured by the airport operator and the passengers disembarked. The steps were examined by the ground handling company, and no faults were identified. The aircraft operator assessed the aircraft door with no faults found.

Recorded information

The event was recorded by the airport's CCTV. The camera which covered the stand was positioned approximately 50 m from the aircraft. With the light conditions at the time of the accident and the distance from the door it was not possible to ascertain exactly where or how the SCCM was positioned prior to the steps being moved away from the aircraft. Whilst the CCTV did allow the investigation to confirm the position of the ramp staff and dispatchers it was also not possible to see where any of the personnel were looking. Screenshots of the CCTV are shown at Figures 5 and 6.

Aircraft and ramp equipment information

Aircraft door

The B737 is fitted with two passenger entry doors and two service doors all of which have the same mechanism for opening and closing. The doors open towards the nose of the aircraft and are fitted with a gust lock to secure the door in the open position. The gust lock on G-TAWB must be depressed to release the door so that it can be closed. On the inside of the door there is an assist handle on the right side as well as a large operating handle. The door is fitted with a viewing window, red warning strap to alert anyone outside the aircraft when the door is armed and an escape slide and its associated equipment. Figure 1 shows the door of G-TAWB from the inside of the aircraft with the door equipment used for closure labelled.

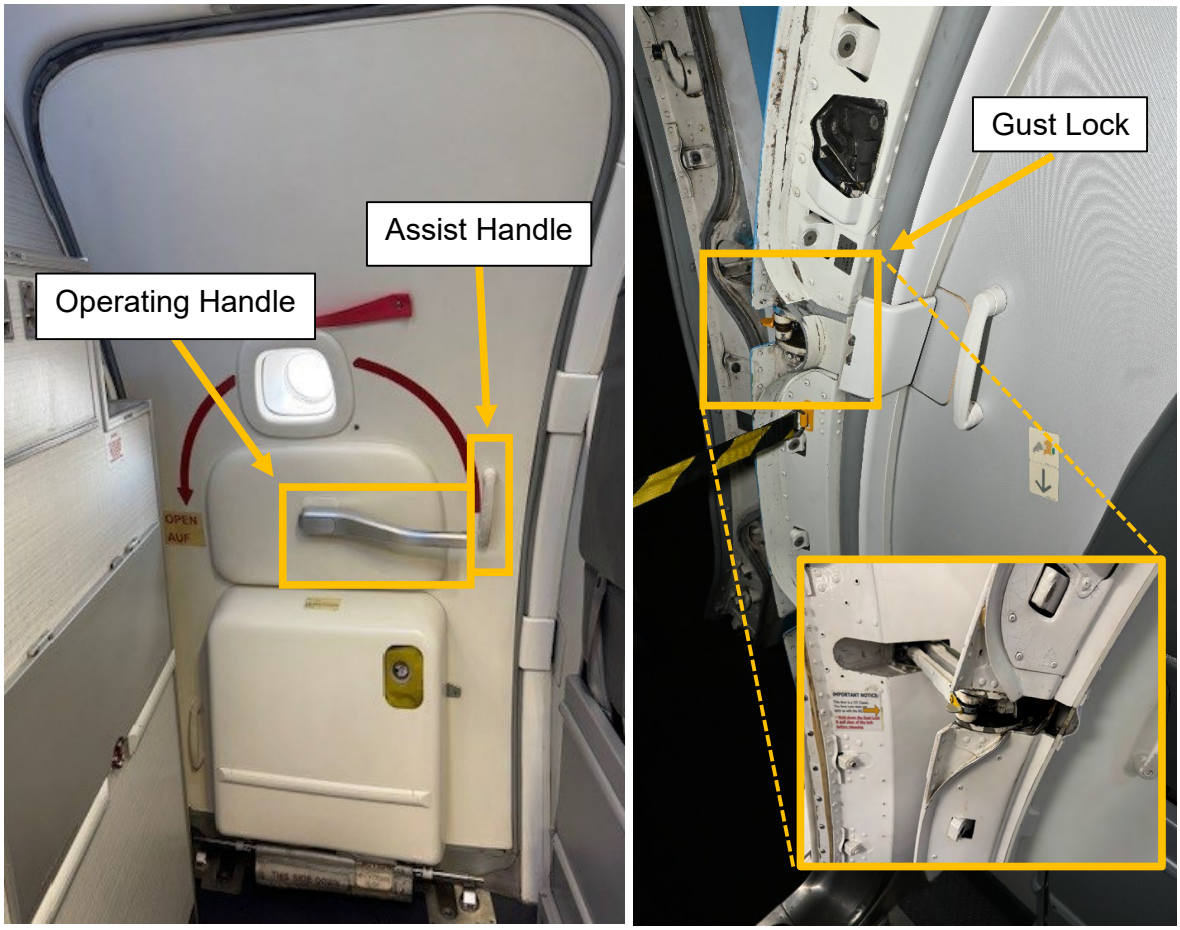

Figure 1

Inside view of front left passenger G-TAWB door closed (left) and open (right)

The aircraft door and surrounds are also equipped with a number of safety handles to assist with door operation. These handles are fitted on the left and right of the door in the cabin as well as a lower handle on the door itself to assist with operation from aircraft airstairs if they are fitted. These handles are shown in Figure 2.

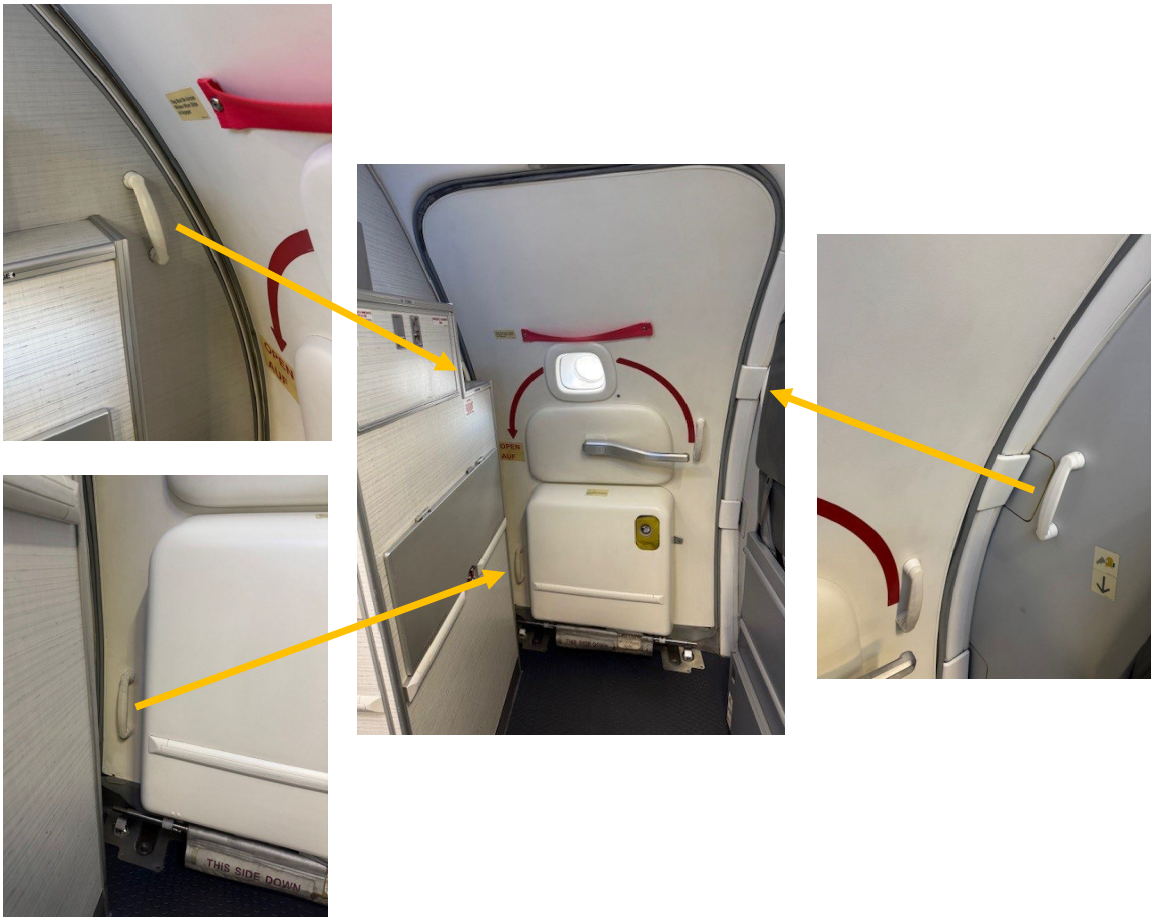

Figure 2

Additional handles fitted the left, right and bottom of the door to assist with operation

The B737-800 front passenger door is between 2.59 and 2.74 m above ground level depending on the aircraft weight[1].

Crew door operation procedures from inside the aircraft

To close the aircraft door the crew must depress the gust lock to disengage it. They then need to hold the assist handle, pulling the door inwards into its frame. Many crew members will use the additional handles fitted inside the door to provide them with additional security during the closure. For the doors on the left of the aircraft this would mean the crew member holding the additional handle to the left of the door frame with their left hand and reaching out with their right hand to the assist handle on the door to pull it closed. Once the door reaches the closed position, the operating handle is rotated forward to the locked position. The operators Safety and Emergency Procedures manual contains a warning that the forward doors will move into the cabin with significant speed and force. Anecdotal evidence suggested that on this aircraft type it could sometimes be necessary for the crew to step outside of the doorway to release the gust lock.

Footnote

[1] The greatest height is when the aircraft is at its operating empty weight which excludes payload and fuel, the lowest when the aircraft is at its maximum design taxi weight. The variations account for loading, oleo and tyre pressure, centre of gravity etc.

Step type

The ground handling company had several different types of steps available at East Midlands suitable for use with the front and rear doors of a B737. The main differences between the types are related to the safety barriers and available power sources. The steps positioned at the front of G-TAWB were the most basic available and were a set of Skway Towable Passenger Stairs (Figure 3).

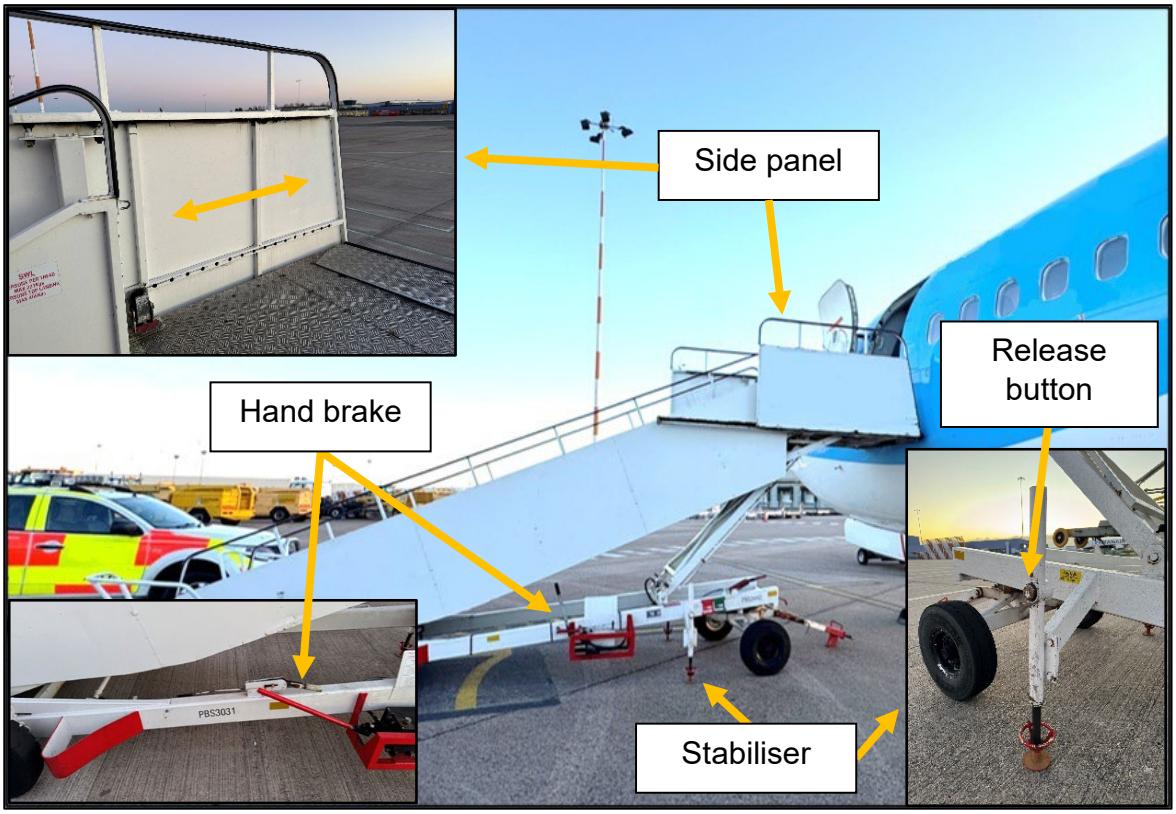

Figure 3
Features of Skyway Towable Passenger Stairs

The step model has an operating platform height of 1.98 m to 4.14 m and weighs 1,700 kg. They are equipped with a manually operated hydraulic system to raise the upper platform, four “kickdown” type stabilisers, a handbrake operating on the rear wheels and a steerable towbar. The upper platform has sliding side panels which are operated by depressing a foot pedal which withdraws a pin from a panel and allows it to slide backwards and forwards. Releasing the foot pedal allows the pin to engage into one of a series of holes. It is necessary to retract one of the sliding side panels on the steps to allow the passenger entry and service doors of the B737 to be closed.

To remove the steps, the (aircraft) forward side panel is slid back to allow the aircraft door to close and once secure, the aft side panel is also withdrawn. The ramp staff member then descends the steps and lifts the four stabilisers by kicking the release buttons. With the hand brake released, the steps are pushed by two ramp staff away from the aircraft to allow

a small tractor to be hitched up and then towed to the airside step storage area. If the steps are fitted with a motor, once the interlock safety barriers are in place, the motor can be used to drive the steps away from the aircraft instead of being pushed.

The ground handling company has other step types available which have features such an electrically operated hydraulic system, electrical lighting or electrical or diesel-powered drive systems (to move the steps up to or away from the aircraft). Most of these other step types are fitted with additional safety barriers with interlocks to the drive system which prevents the steps being moved if the safety barriers are not closed. Before the accident the ground handling company had committed to replacing all the basic steps with steps fitted with interlocked safety barriers and were aiming to complete this by the end of 2025.

Figure 4

Steps featuring interlocking safety barriers

Step removal procedures

The ground handling company's Ground Operations Manual (GOM) contains the required procedures for the movement of ground equipment including steps. There are two specific procedures that are applicable to the investigation. The first is the one for the closure of cabin door and a further procedure for the withdrawal of the steps from the aircraft.

The procedure for the closing of the cabin door by the aircraft crew member states:

> 'a. *Notify crew that equipment needs to be removed or repositioned (as applicable) and that the cabin access door needs to be closed.*
>
> b. *Receive confirmation from the crew that the cabin access door will be closed.*

c. *Visually inspect the exterior of cabin access door and surrounding areas for signs of damage, debris or obstructions.*

d. *Retract equipment safety rails and canopy (where fitted) where necessary to close the door.*

e. *Assist cabin crew when required, with moving the door to the fully closed position.*

f. *When using passenger stairs or PBB[2], remain on the platform until the door is fully closed.*

g. *Where using elevating equipment (e.g., catering truck or medical loader) retreat from the platform prior to the door being closed.*

h. *Check that the cabin access door is closed and that the door and handle are flush with the surrounding fuselage.*

i. *Descend passenger stairs before they are moved.'*

The second procedure sets out in detail how the ground crew should remove the steps from the aircraft. It includes the following instruction:

'*After the cabin access door has been closed, confirm that there are no personnel on the stairs prior to retracting stabilizers. [sic]*'

The procedure also includes a warning box which states *'Ensure no one is remaining on the stair.'*

The clearest view of the steps is from the bottom of the steps themselves but any ramp staff who are about to move the steps are often positioned under the top platform and need to move a considerable distance away from the steps to have a complete view of whether they are clear and safe to move. The procedures contained no guidance on who was responsible for confirming that the door was closed and the steps were clear, nor how this task was to be performed.

As part of the investigation the AAIB reviewed 12 months records of safety reports (December 2023 – December 2024) from the UK bases. A text search for the word 'step' in the 473 events showed eight other events where steps were prepared for movement or moved with people on them or the aircraft door open.

Airfield information

All the Rescue and Firefighting Service (RFFS) staff at East Midlands are First Response Emergency Care Level 3 (FREC 3) trained. FREC 3 is a nationally recognised qualification. It is designed to equip individuals with the knowledge and practical skills required to deal with pre-hospital emergencies and life-threatening situations as first responders. The

Footnote

[2] Passenger Boarding Bridge.

training covers high risk environments and complex scenarios. The RFFS do not provide minor injury cover for the airport or its passengers as this is not their primary role and doing so would disrupt airport operations significantly. The declaration of an emergency by an aircraft would automatically involve the RFFS.

The airport provides first aid cover for its own staff in accordance with regulations and also cover for anyone at the airport on a 24-hour basis when requested. A number of staff, both those employed by the airport and those from the ground handling company, had first aid training.

Survivability

The SCCM suffered serious injuries in the fall. The injuries included multiple broken bones with a significant period of recovery. She was immediately attended to by various members of the ground handling company and airport personnel who were first aid trained.

Having been informed of the fall by the remaining cabin crew member at the front of the aircraft, the commander instructed the co-pilot to call ATC for medical assistance. The co-pilot called at 1628:50 hrs which was around 30 seconds after the SCCM had fallen. The co-pilot stated "ONE OF OUR CREW MEMBERS HAS FALLEN OVER FROM THE STAIRS, ARE YOU ABLE TO CALL OUT AN AMBULANCE TO OUR POSITION, STAND 9". This call was acknowledged by ATC who after clarifying whether the casualty was inside or outside the aircraft, passed the request for an ambulance to the airport who called the ambulance at 1631 hrs. The co-pilot then requested first aid assistance which was also acknowledged by ATC. ATC again rang the airport to ask for the airport RFFS to attend. The RFFS watch manager was called at 1632 hrs and they began to deploy at 1636 hrs. They arrived at the aircraft at 1639 hrs. The ambulance arrived at the airport at 1652 hrs and was escorted to the aircraft, arriving at 1653 hrs.

A report by the airport into the response time concluded that ATC did not realise the seriousness of the incident, so a lower grade of response than might have been appropriate was initiated. They could not see the incident area from the tower and did not appreciate that the SCCM had fallen from the aircraft door to the ramp. Had a higher level of emergency been declared, the RFFS would have been mobilised more rapidly in response although it likely would have made no difference to the arrival time of the ambulance.

Pilots are trained to use the distress (MAYDAY) and urgency (PAN PAN) prefixes when an aircraft emergency occurs, but these are rarely employed by crews on the ground. ATC are also trained in their use and have procedures to be followed once they hear them on the frequency. The CAA Radiotelephony Manual[3], although providing no guidance on emergencies on the ground does state:

> '*It is invariably preferable for pilots believing themselves to be facing emergency situations to declare them as early as possible and then cancel later if they decide the situation allows.'*

Footnote

3 CAA CAP 413 Radiotelephony Manual (CAP 413) [Accessed March 2025].

Personnel

Cabin crew

There were four cabin crew on board the aircraft. All were experienced with the operator and the aircraft type. The SCCM had been flying for over 36 years with the operator and had been a SCCM for over 30 years. The operator has been using variants of the B737 since 1968. Of the three other cabin crew, two were also qualified as SCCMs.

The SCCM noted that a dispatcher (later identified as the trainee) had been into the flight deck to complete the flight paperwork. After he had left the flight deck, he proceeded out the passenger door. The SCCM then walked into the flight deck herself to complete her checks with the commander before closing the flight deck door in preparation for departure. She released the gust lock on the passenger door and began to close it. At the same time as the door began to move, the steps began to move rapidly away. The gap got wider, and she shouted out as did the dispatcher but to no avail. She was unable to stop herself from falling.

Two of the cabin crew members were at the back of the aircraft. The other cabin crew member was at the front, but at the opposite side to the cabin manager. The cabin crew member at the front was facing away from the door and did not see the cabin manager fall but was alerted by shouts and turned around to see the steps had moved and that the cabin manager was no longer standing at the door.

Dispatchers

Each flight is allocated a dispatcher who the ground handling company specifies is responsible for managing the entire arrival and departure process. The dispatcher should oversee all activities both to ensure a safe working environment and achieve an on-time departure.

The primary dispatcher for the flight had been with the ground handling company for eight months and had completed his training for the role six months previously. With the dispatcher there was also a trainee, who was observing as part of his training. The trainee dispatcher had been working for the handling company for seven months although initially in a different role and was in the process of becoming a dispatcher. He had completed some of his classroom-based training for his new role.

Having completed the aircraft loading, including the passenger boarding, both the trainee dispatcher and the primary dispatcher proceeded up the steps and into the aircraft. The primary dispatcher waited at the front of the aircraft whilst the trainee dispatcher went into the flight deck to complete the paperwork with the commander. The trainee dispatcher then left the aircraft and descended the steps before going over to the team leader to complete some paperwork. The primary dispatcher then confirmed with the cabin manager that the paperwork was complete before leaving the aircraft to wait for the cabin manager to close the door. When the accident occurred, the primary dispatcher was at the top of the steps either on the top platform or the next step down. He recalled that he saw the SCCM step her left foot on the steps, with her right foot on the aircraft with the gust lock released when the steps began to move. He shouted for the movement to stop but it did not, and the

SCCM could not position herself back into the aircraft before the gap was sufficient for her to fall between the steps and the aircraft. He saw her try to hang onto the door, but she was unable to do so. The trainee dispatcher did not see the steps move or the fall as he had his back to the aircraft.

During the final part of the turnaround a third dispatcher attended the aircraft. He had been working for the ground handling company for eight months and had completed his role training around six months previously. He had finished dispatching another flight at a neighbouring stand and was passing G-TAWB on his way back to the crewroom. He decided to assist if he could before proceeding back to the crewroom with the two other dispatchers. He arrived before the passenger boarding began and chatted with both other dispatchers. Once the boarding was complete, he saw both the dispatcher and the trainee dispatcher go up the steps into the aircraft. Once he saw them returning to the aircraft door, he approached the bottom of the steps and saw the trainee dispatcher proceeding down to the ramp. He began to release the stabiliser feet of the steps in preparation for their movement. He was aware that the dispatcher was still at the top of the steps. Once he had released the final stabiliser leg, he moved a short distance away from the steps and then heard the dispatcher shouting and looked around to see the cabin manager falling from the aircraft.

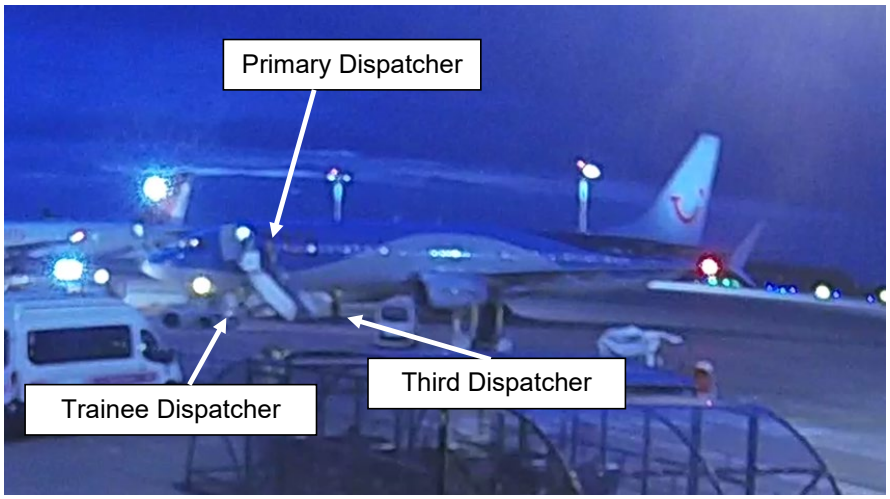

Figure 5

A screenshot of the CCTV showing the position of the dispatchers when the steps were moved

Ramp staff

There were four ramp staff working on the flight led by a team leader. The team leader is responsible for supervising and allocating tasks within their ramp staff team during the turnaround. They are also responsible for the compliance of the team to all operating procedures. The ramp staff and team leader position loading equipment (including steps, belt loaders and baggage carts) to the aircraft as well as unloading and loading of the aircraft holds. The team leader holds a short brief for the ramp team before the turnaround commences in which tasks are allocated to the team including the responsibility for the movement of steps.

The team leader had been employed on the ramp at East Midlands by the ground handling company for nearly 10 years and had been a team leader for two of those. He was standing in front of the aircraft with his back to the steps talking to a colleague from another ramp team about taking the steps to another stand. He heard what he thought was probably the dispatcher at the top of the steps shouting “no stop no” and when he turned around, he saw the cabin manager lying on the ramp and the steps away from the aircraft. He immediately radioed ramp control to request the emergency services.

The second member of the ramp team, who had been working as a ground handler at East Midlands for 22 years, was sitting in the aircraft tug ready for the pushback. The tug was right hand drive, so he had a view of the steps and the front door of the aircraft although he was looking elsewhere when the steps started to move. He was alerted by hearing what he thought was the towing arm of the steps scraping the tarmac and a shout although he did not know from who. He looked up at the aircraft and saw the steps away from the door and the SCCM hanging out the aircraft door before she fell to the ramp.

The third member of the ramp team had been working on the ramp at East Midlands for nearly four years. He had done the door closure procedure on the rear door and removed the rear steps, which were powered by a small diesel engine so could be moved away from the aircraft by a single staff member. He then took these steps to the equipment store using an electric baggage tractor before returning to the stand. When he arrived back at the aircraft, he saw a dispatcher releasing the stabilisers of the front steps. He took this to mean that activities in the aircraft were complete and that the cabin door was closed. He moved under the steps onto the side of the rear of the aircraft. He looked up and could not see any light coming from the cabin and so he felt sure that the door was closed. He released the steps’ hand brake and together with the fourth member of the ramp team began to push the steps away from the aircraft. He heard what he thought was the team leader shouting to stop and he turned around to see the SCCM laying on the ramp and the passenger door open.

The fourth member of the ramp team had also completed nearly four years on the ramp at the airport. He was intended to be on the headset with the flight deck for the pushback so once the rear steps had been removed, he commenced his walkaround of the aircraft in preparation. He waited by the front of the aircraft for the boarding to be complete and around five minutes later saw a dispatcher releasing the stabilisers of the front steps. He understood this to be the dispatcher from the aircraft and therefore the door closure must be complete. He then moved under the steps on the nose side of the aircraft and together with his colleague began to push the steps once the brake was released. He heard a sound and turned around to see the SCCM laying on the ramp.

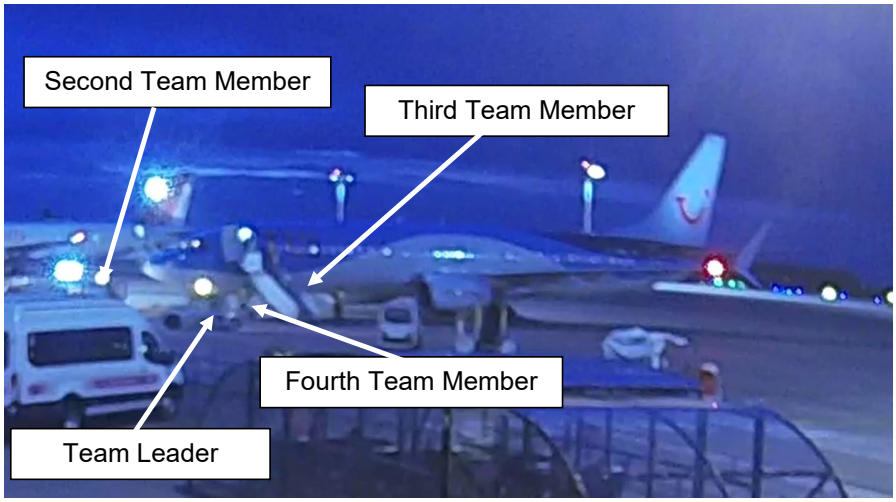

Figure 6

A screenshot of the CCTV showing the position of the ramp team when the steps were moved

Organisational information - operator

The aircraft operator uses the same ground handling company at many of the airports within the UK and Ireland from which it operates. The relationship between the two companies was described by the operator as "good and constructive". They regularly share safety data and reports, as well as meeting to monitor safety and performance. The operator also completes regular safety assurance audits throughout the network looking at procedures both in the terminal and on the ramp. The operator conducted an audit of the ground handling company at East Midlands in January 2024. The audit found only four lower-level non-conformities, none of which were considered as unsafe conditions. None of these four related to the operation of steps or any other ground handling equipment. All the non-conformities were closed to the satisfaction of the operator within four months of the audit.

The operator sets a minimum turnaround time for the B737 of 50 minutes when the aircraft is off schedule as was the case with G-TAWB due to its late arrival. In the case of the flight on which the accident occurred, the aircraft had arrived on stand at 1538 hrs and would therefore have been due out at 1628 hrs.

Organisational information - ground handling company

All information in this section is based on evidence collected from the ground handling company. The following sources of evidence were examined:

- Interviews with a sample of staff with a variety of roles and years of experience.
- Documents containing policies and procedures.
- Relevant data from the SMS and employee engagement survey.

- Visit to the airside facilities at East Midlands.
- Meetings with senior managers at the ground handing company.

Operation of steps

The ground handling company sets out the operational procedures for the handling of all equipment as well as the tasks involved during the turnaround. At the time of the accident, procedures only permitted qualified staff to operate the steps (including moving the rails at the top). Qualification required training on the steps which was given to ramp staff but had also historically been given to some dispatchers. Some long serving dispatchers across the company had received training on step operation and so at many bases there were both qualified and non-qualified dispatchers. The three dispatchers involved with the turnaround of G-TAWB had not been trained and were not qualified to operate any part of the steps. It was not possible for ramp staff to readily identify whether a dispatcher was qualified to operate the steps.

At the end of the turnaround the dispatcher would enter the aircraft to complete the final paperwork with the flight crew. As a result, the dispatcher would usually be the last person from the ground handling company to leave the aircraft which would then be ready to depart. The investigation revealed that it was common practice for the dispatcher to complete the door closure procedure, including moving the side rails at the top of the steps whether they were qualified or not. Some staff who had been working at the base for over 30 years had never known a different practice. New dispatchers were taught by dispatchers with longer service, and this perpetuated the workaround.

Some of the staff interviewed stated they were aware that dispatchers should not operate any part the steps without training but, prior to the accident, this was not something that had ever been challenged by other staff or supervisors. In the data reviewed, there were no records of safety reports raised regarding unqualified people operating the steps. The ground handling company conducted regular audits on turnarounds. The audits did not include questions about who was operating the steps nor whether they were qualified to do so. Therefore, the audits did not pick up that there was a common procedural workaround.

There was no formal exchange of information from the dispatcher to the team leader or ramp staff to confirm that the door closure procedure was complete and the staff were off the steps. The ramp team relied on visually seeing a dispatcher leaving the bottom of the steps. Whilst this was more commonly seen on the front steps, some staff had also seen the dispatchers operating the rear steps, especially if the ramp team were busy and the aircraft was running late. It was rarer for the dispatchers to operate the stabilisers. The dispatcher usually interacted with the team leader during the turnaround but not the other ramp team members. Therefore, when ramp team members were looking for the visual cue of a dispatcher leaving the steps, they relied on seeing the dispatch branded safety clothing rather than recognising a specific individual who was allocated to that turnaround. It was not possible for the ramp crew to tell if a dispatcher was under training or not.

After the accident the ground handling company issued a safety alert setting out that only qualified ramp staff are to interact with the steps and that dispatchers are not permitted to position or retract the side rails or adjust the stabilisers. This was followed with updated safety alerts issued to all employees, ramp staff and dispatchers which contained appropriate details for each group. The process of amending the GOM to reflect these changes is in progress. The ground handling company now require the aircraft dispatcher to attend the team leader's short briefing to the ramp team before the turnaround begins so that all ramp team members are aware of who the dispatcher is for that flight. If additional ramp staff or dispatchers come to the stand to offer assistance, they are now required to introduce themselves to the team leader before they do anything. The team leader will then inform the other ramp team members of any additional staff. Trainee dispatch staff now wear different colour high visibility clothing to qualified dispatchers allowing them to be recognised easily by all staff on the ramp.

Training of dispatchers

The ground handling company detailed the training process that new dispatchers had to follow before they were qualified and could operate on their own. This included a period of classroom study. Once this was completed, the new staff were encouraged to follow another dispatcher and observe the turnarounds to gain some exposure to the role before starting their on-the-job training. There was no formal process for these observations laid out by the ground handling company nor any detail about the level of experience or qualifications for the dispatcher being observed. During this observation the trainee dispatcher was not permitted to complete the live flight paperwork, and the turnaround must be managed by a qualified dispatcher. The trainee might be given a set of 'dummy paperwork' to fill in for experience purposes. The roll of observations or 'shadowing' a qualified dispatcher whilst waiting for the on-the-job training to start is being reviewed by the ground handling company.

On-the-job training would be completed with a qualified dispatcher trainer approved to supervise the trainee during the turnaround and with paperwork required. At the end of this training the trainee must pass an assessment to qualify as a dispatcher.

Safety and delay reporting, investigation and just culture

The ground handling company operated a safety reporting system that was open for anyone to report safety concerns. The use of the safety reporting system was actively encouraged by leaders at various levels in the organisation. The contract also requires the ground handling company to meet a minimum standard including a target for on-time performance. Should a flight be delayed, the reasons will be explored by the operator and the ground handling company. To do this, front-line staff may be required to answer questions from their managers and provide written statements.

Ramp staff and dispatchers were aware of how to report safety concerns. There was a preference for reporting verbally via a supervisor or manager rather than directly into the safety management system. Staff reported they were comfortable to report things such as hazards and equipment problems and were generally confident that appropriate action would be taken.

There was evidence that staff were concerned about being blamed for causing safety events or delays, particularly in the ramp team. Some staff had experienced or witnessed a more punitive culture in the past but none of these examples were recent. There was concern amongst the staff that the investigation process for both delays and safety occurrences was perceived as onerous, intrusive and something they wanted to avoid. Factors that contributed to this perception were the need for written statements and a lack of spaces airside where investigation conversations could take place in private.

The ground handling company had a just culture policy in place. It stated:

> *'Just culture is a culture in which front-line colleagues or other members of staff are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated. A just culture facilitates reporting, as staff do not fear being blamed for the facts they report.*
>
> *No action will be taken against any staff members who discloses a safety concern through the reporting system, unless such disclosure reveals, beyond any reasonable doubt, an illegal act, gross negligence, or a deliberate or wilful disregard of regulations or standards.'*

In the 12 months prior to the accident there were 17 events where one or more of the individuals involved were eventually dismissed from the business. Events that led to dismissal were usually gross misconduct (eg aggression towards colleagues or passengers), repeated breaches of safety rules or attempting to conceal things that had gone wrong. No cases of dismissal were recorded in response to an aircraft being delayed.

A sample of 47 of the events which did not result in dismissal were reviewed. Seven of these described a person involved being subject to a disciplinary process. In most other cases where the report concerned an error or undesired behaviour by an individual, the recorded response by the ground handing organisation was additional briefing or training for individuals, often accompanied by wider briefing or memos for other relevant staff.

The language used in the safety reports and conclusions suggested a focus on individual actions and in determining whether someone was at fault. For example, the root cause coding commonly featured '*operated unsafely*', '*deviated from procedure*', '*horseplay/ complacency*', '*situation awareness - failure to identify hazards*'. As an illustrative example, in one case, no action was taken because there was *'no conclusive evidence of any wrongdoing by the push back team.*'

Leadership and staff engagement

The ground handling company had an active programme in place to improve front-line leadership and staff engagement. This had various elements including:

- A one-day training package for front-line leaders. This had been delivered to most of the front-line leaders at East Midlands.

- Promoting '*six commitments to safety*', one of which was '*I always prioritise safety performance over on-time performance.'*
- A monthly employee engagement survey which had been running since December 2024.
- A mobile application used to promote safety information and to recognise staff for achievements and good performance.

The data from the employee engagement survey showed an improving score in the months between January 2025 – March 2025. Interviews conducted by the AAIB in April 2025 showed that some of these initiatives were not yet well embedded at East Midlands despite the training. Most dispatchers and ramp staff that AAIB spoke to could not remember the '*six commitments*' and were not using the mobile application.

When asked who influences how they do their work, ramp staff and dispatchers reported it was their immediate managers and supervisors who are based airside with them. Interviews showed there were good relationships in general between ramp staff and dispatchers and their managers and supervisors. Any managers of airside staff that were not based airside were considered to only appear in response to problems, to not understand the pressures of the job, to focus on negative issues and not to recognise staff for the work that they do. Both dispatch and ramp teams were very supportive of their own team members and would often offer assistance to others if they had capacity or time.

The dispatch team benefitted from what they described as a highly effective manager who was based airside. This team appeared to have good cohesion and high morale. In contrast, the equivalent ramp team manager was based landside in a different building. The crew room for the ramp team was observed to be in a poor state of repair. Some members of the ramp team were reluctant to engage with management, felt undervalued and had generally low morale.

CCTV observations

As part of the investigation the AAIB sought CCTV from various airports around the UK that captured the turnarounds of the same operator using the same ground handling company. These turnarounds occurred in the two weeks before or after the accident. The aim of this was to see if dispatchers were regularly involved with the door closure and operations of the steps. The investigation looked at 12 turnarounds from five different airports. Of the 12 turnrounds, 11 had dispatcher involvement with the door closure and the step removal process. In the twelfth turnaround, it was not possible to tell due to the quality of the CCTV. In a majority of the observed turnarounds, more than one dispatcher seemed to be involved at the time of the step removal. It is impossible to determine if the dispatchers observed operating the steps were qualified to do so. However, it was evident that after the door was closed the dispatcher(s) came down the steps and left the area without any discussions with the ramp team who were waiting to remove the steps.

Another CCTV observation exercise using the same five airports was carried out in March and April 2025. This was to ascertain whether the changes to the Standard Operating Procedure (SOP) made by the ground handling company were being adhered to. The investigation received footage of 12 turnarounds in which it was possible to see the top of the steps clearly. The analysis showed that whilst the new procedures were adhered to on four of the turnarounds, in the other eight, dispatchers were observed still completing the door closure.

The ground handling company then undertook a significant campaign to address the lack of compliance with the new SOP including meeting with their ramp and dispatch teams in 'town hall' style gatherings, increasing their audits and observations as well as manager supervision of individual staff on the ramp. The audits and observations which included over 1,785 inspections (covert and overt) for the two weeks between 6 June 2025 and 20 June 2025 showed that the compliance rate was over 99%.

Other information

Other companies' step removal procedures

The investigation looked at the procedures of several other UK operators. Various procedures and processes were used to try and mitigate the risk of a fall from height either by a crew member or by a ground handler. One company used a 'permit to remove steps' process in which the cabin crew are required to give a completed slip to the person responsible for moving the steps. In this process it is mandatory that the person responsible for removing the steps is the only person who can obtain the permit from the cabin crew and that this person must then remain on the steps until the cabin door is closed. The idea being that if the person removing the steps is at the top then they cannot also be moving the steps.

Another UK operator recommends that a single accountable individual is responsible for visually confirming the aircraft door is closed and authorising the removal of the equipment. The operator's general procedures manual also warns crew that for door operations:

> *'When opening and closing cabin doors crew members must ensure that both feet are set firmly inside the aircraft, and must utilise the assist handles either side of the door.'*

Other operators are in the process of examining whether a 'safety pin' feature could be added to the steps. This pin would be removable and perhaps given to the cabin crew who would retain it until the steps removal point when it is returned to the ground crew. The steps could be designed to prevent movement until the pin is re-inserted by the ground crew.

Post accident actions of the crew

Once the accident had occurred the crew had to remain on the aircraft to manage the passengers and the aircraft. The commander nominated one of the cabin crew from the back of the aircraft as the SCCM which allowed the cabin crew to continue with their duties of looking after the safety and wellbeing of the passengers despite an extremely distressing

accident to their colleague. With three cabin crew remaining on the aircraft, they were all required to remain due to the number of passengers on board and could not be released to assist with their colleague who was seriously injured just below the front door. The commander spoke with the passengers to explain the situation and that there could be a significant delay before they could leave the aircraft. The only crew member that the commander felt could be released to check on the ramp situation was the co-pilot, and as soon as a set of steps was brought to the rear door, he proceeded down to check on the SCCM.

Analysis

As the SCCM was beginning to close the door on G-TAWB ready for departure, the steps were pushed away from the aircraft. The SCCM fell into the gap between the aircraft and the steps, and onto the ramp. She was seriously injured in the fall.

SOP for step removal

The ground handling company had SOP for their staff to follow to remove the steps from the side of the aircraft. These SOP required that the ramp staff check that there were no personnel on the steps before the stabilisers were retracted. The SOP did not set out who was responsible for this final check nor how they were to perform it. To see the steps and the top platform, the staff needed to be out from under the steps and to move a significant distance away. There was no required confirmation that the door closure was complete and that the staff member who had performed this part was off the steps.

In this case, with the extra dispatcher retracting the stabilisers and both ramp staff close to the aircraft or under the steps, it is difficult to see how either of the ramp staff members could have checked the steps effectively. One of the ramp staff looked up and did not see the cabin lights, assuming therefore that the door was closed. Although it was dark, the ramp lights allowed a clear view of the steps. The presence of dispatchers at the bottom of the steps resulted in an assumption that door closure was complete and triggered the movement of the steps.

The SCCM was just beginning to close the door when the steps were pushed away from the aircraft. She could not recall exactly where or how she was standing, and the investigation was not able to determine her position. There is anecdotal evidence that on this aircraft type, crews sometimes need to step out of the doorway in order to release the gust lock although the investigation could not establish if this was the case on this flight. At the time of the accident the operator's SOP for door closure did not specify that the crew member should have both feet inside the aircraft, although other operators did. As a response to the accident on G-TAWB, the operator issued a safety notice to highlight the dangers during step removal. They are also changing their Safety and Emergency Procedures (SEP) manual to specify that both feet will be kept inside the aircraft during the door closing process.

Procedural workaround

The dispatch and ramp staff were using a procedural workaround where the dispatcher was at the top of the steps completing the door closure procedure for which he was not qualified

or approved. The workaround meant that the ramp staff who were qualified to operate the steps were under the platform close to the aircraft rather than one of them completing the door closure at the top of the steps which was the approved procedure.

The workaround had been going on for many years and was not limited to the staff at East Midlands. It occurred on many occasions and as such, it was hardly recognised as a workaround. CCTV analysis of five UK bases showed that dispatchers were involved in the door closure process in the majority of observed turnarounds although some of those dispatchers may have been qualified to do so. Evidence gathered by the investigation indicated that the workaround had been taught to new employees by more senior peers. Some staff members were aware of the requirements for only qualified staff members to operate the steps, but they had no way of knowing whether a dispatcher was qualified or not. The practice was so commonplace that even those who were aware it was not allowed did not see a need to challenge it or report it as a safety concern.

Despite auditing a percentage of turnarounds, the ground handling company did not pick up on this procedural workaround. The audits did not assess whether the procedures for step removal were being complied with nor who was operating the equipment and whether they were qualified or approved to do so. As a result of the accident, the ground handling company introduced a specific audit question in order to ensure that those operating the steps were qualified and approved to do so.

After the accident, the ground handling company updated their SOP and issued safety alerts to allow only the ramp team members to operate any part of the steps. Members of the dispatch team were no longer permitted, whether qualified for steps or not, to complete any part of the door closure or step removal procedure. Despite this change, a CCTV survey carried out four months after the accident showed that dispatchers were still doing so in a significant number of the turnarounds observed. The safety alerts and updated SOP alone were not sufficient to change the embedded practice.

In response, the ground handling company undertook extensive further work after the second CCTV survey to address the issues with compliance. This work included ‘town hall’ meetings to explain the safety reason for the change, significant covert and overt auditing and observation, as well as individual supervision by local managers. Evidence provided by the ground handling company shows that this comprehensive approach including both engagement and enforcement elements as well as continuous supervision has now achieved compliance across the UK network of over 99%.

The role of multiple dispatchers

The ramp team and dispatch team did not share a crew room or management staff. They were allocated turnarounds independently. Whilst the team leader of the ramp staff would interact with the dispatcher, often the rest of the ramp team would be busy completing their jobs such as unloading or loading bags. This meant that often the ramp team would not know which individual was dispatching the flight.

The ramp team and dispatchers at East Midlands were keen to assist others when they had some spare time, so it was not unusual for extra dispatchers or ramp staff to appear, especially if a flight was running late. In the case of G-TAWB, a dispatcher who had completed his flight came to the stand to offer his assistance. He was in addition to the flight dispatcher and a trainee dispatcher who was observing the turnaround. The addition of multiple dispatchers, and no clarity among the ramp staff about who was the allocated dispatcher for this flight, meant that when one dispatcher released the stabilisers and another dispatcher walked away from the steps, the ramp staff believed that the door closure was complete. They then proceeded to push the steps away from the aircraft.

The aircraft had been late into East Midlands from its previous flight, meaning that the accident flight was also late. However, the operator and ground handling company set a minimum turnaround time when aircraft are off their schedule and G-TAWB was within a few minutes of meeting this time for departure. The time of year meant that it was low season and as a result staff had the capacity to come to assist when they had finished their allocated duties.

Since the accident the ground handling company has amended their procedures to ensure that the allocated dispatcher is now part of the ground staff brief at the stand before the aircraft arrives. If the dispatcher cannot be there for any reason, they are required to make themselves known to the team leader when they arrive on the stand and the team leader will update the rest of the staff. Any additional staff who choose to assist the turnaround team must now report to the team leader so that tasks can be allocated. Trainee dispatchers will be identified with different coloured high visibility clothing to reduce the chance that they can be mistaken for the dispatcher of the flight. These changes are aimed at improving communications and relations between staff and reducing hazards arising from confusion and assumptions. This procedure also additionally supports compliance with the new procedure requirements for only ramp team members to operate the steps.

Dispatcher training

The trainee dispatcher had completed the classroom element of his training and was waiting to begin the practical training. Although there was no formal process to do so, he was encouraged to observe dispatchers completing turnarounds. It was not permitted for him to complete any of the live paperwork or to act as the primary dispatcher. Despite this he did go into the flightdeck alone and confirm the load and figures before proceeding down the steps with the live flight paperwork to complete the process with the team leader. Whilst there is no suggestion that the dispatch paperwork or tasks were not completed correctly, there are significant risks in an unqualified member of staff operating outside of their training and experience.

Equipment

The use of the basic steps rather than those with interlocking barriers meant that the steps could be moved without the cabin door being shut. When using the steps with an interlocking barrier, the ground staff member waits for the aircraft door to be closed. They then retract the remaining safety rail and close the barrier at the top of the steps before descending.

The interlock prevents the steps from being moved until this barrier is closed. Therefore, although they can still be moved when someone is descending, they cannot be moved before the aircraft door is closed which would have prevented the SCCM from falling. The ground handling company was already in the process of replacing the basic steps with those with interlocking barriers when the accident occurred and hopes to have completed this by the end of 2025.

Survivability

The co-pilot did call ATC, telling them that a member of the crew had fallen from the steps, but ATC could not see the aircraft, nor did they have a good understanding of the seriousness of the accident. As a result, the response of the RFFS was not as rapid as it would have been had an emergency been declared although it likely made no difference to the time of ambulance arrival. Whilst CAP413 does not provide any guidance for on-ground emergencies it does suggest that pilots should declare an emergency as early as possible. Crews should consider that if they believe the issue would involve a 999 call if they were at home, then they should think about declaring a formal emergency using the applicable prefix. The response time likely made little difference in this case, but it is possible that it might do in a similar event.

Influence of investigations and just culture

The ground handling company had an active safety culture improvement programme and there was evidence of this having a positive effect in terms of open reporting and trust. However, in the history of the company, a more punitive approach was used, and this was still casting a shadow with some staff afraid of being blamed and punished. The investigation process that was used for safety events and delays was seen as onerous and intrusive. Staff were motivated to avoid this which could be a factor influencing them to attempt to achieve on-time performance, possibly at the expense of safety. Data also suggested that investigations were focused on individual actions which limits the extent to which the ground handling company can learn how to improve the safety and performance of their system. Following the accident, the ground handing company have further developed their policies and training regarding ‘just culture’ and are piloting people-centred safety training that focuses on decision making, leadership and wellbeing.

Influence of leadership and staff engagement

The action the ground handling company is taking to improve leadership and staff engagement may be starting to have a positive effect, but some elements were not yet well embedded with front-line staff at East Midlands. The front-line leaders who were constantly present airside had the most influence on their staff.

For the ramp team, the poor state of their crew facilities and the lack of connection with their manager contributed to some of them feeling undervalued, disengaged and demotivated. It was not possible to determine if this contributed directly to the accident, but it is a factor that can reduce motivation and result in lower team performance which is a threat to safety.

In addition to the ongoing programme, which was commenced before the accident, the ground handling company has increased the amount of face-to-face contact between the ramp team and their managers, including opportunities for informal conversations when staff are not busy with other tasks. Additional guidance has been prepared for managers across the company concerning safety leader behaviour at different levels of the organisation and how to conduct safety leadership walks. They have also commissioned renovations to the ramp team's facilities.

Conclusion

The SCCM fell from steps as they were pulled away before the aircraft door was closed and the steps vacated. She suffered serious injuries in the fall.

The step removal process was conducted in a way that was not consistent with the written policy and had insufficient safeguards to prevent movement of the steps with people on them or the door still open. This procedural workaround had been used by the staff at the ground handling company for many years at East Midlands and at many other airports in the UK.

The presence of a dispatcher at the bottom on the steps releasing the stabilisers triggered the steps to be moved without an effective check or confirmation that the door was closed and the steps were vacated. The presence of multiple dispatchers, without the ramp team knowing who the official dispatcher was, set the conditions for this event to occur. The step removal procedure required that the ramp staff check that there were no personnel on the steps before the stabilisers were retracted but the procedures did not specify how this was to be performed nor who was responsible for it.

Safety actions

Ground handling company

Some relevant safety improvement actions were already in progress prior to the accident. These include phasing out basic steps; an active programme to improve staff engagement; safety leadership training for team leaders and supervisors and planned renovation of the ramp crew facilities.

The ground handling company took several further safety actions because of this accident that address various areas of learning highlighted in this report.

Procedures and practice:

- Safety alerts and ground operating notices were issued to clarify that only qualified ramp staff should interact with steps and to emphasise the importance of checks that the aircraft door is closed and no one is on the steps before they are moved.
- Improved briefing by ramp team leaders was introduced before each flight to allocate roles and identify the dispatchers and any trainees.

- Trainee dispatchers are now identified by different coloured high visibility clothing.
- Any member of staff who joins a turnaround team to assist must first speak to the team leader to be allocated tasks.

Safety assurance:

- Audit criteria were updated to check that only qualified ramp staff interact with steps.
- Covert inspections were introduced to observe procedural compliance in terms of the step removal procedure.

Safety culture and the investigation of delays and safety events:

- The investigation process was reviewed with the involvement of staff and input of other similar companies and changes were introduced to the statement form.
- The just culture policy and the accompanying training material was updated.
- A new kind of safety training will be piloted at East Midlands that is people-centred and focuses on decision making, leadership and wellbeing.

Staff engagement

- The amount of face-to-face contact between ramp staff and their managers was increased.
- Additional guidance has been prepared for managers across the company concerning safety leader behaviour at different levels of the organisation and how to conduct safety leadership walks.

Dispatch training:

- Improved rostering of dispatch on-the-job trainers so that an appropriately qualified trainer is always available.
- The process of trainee dispatchers observing or shadowing during their training was reviewed.
- Trainee dispatchers now have a second set of shadow paperwork that they can work on whilst training.

Cross industry collaboration:

- The Ground Handling Operations Safety Team (GHOST)[4], established by the CAA, have produced a video on fall from height risk which the ground handling company will share with their staff.
- The ground handling company and operator will deliver a collaborative presentation regarding this accident at a GHOST meeting.

Operator

The operator took the following action after the accident:

- A safety notice was issued to highlight the dangers to crew during step removal.
- The operator has amended the next revision of its SEP manual to stipulate that both feet will be kept inside the aeroplane during the door closing procedure.

The operator will also initiate a collaborative review across industry to develop a redesigned passenger stairs procedure.

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Footnote

[4] https://www.caa.co.uk/ghost/ [Accessed July 2025].