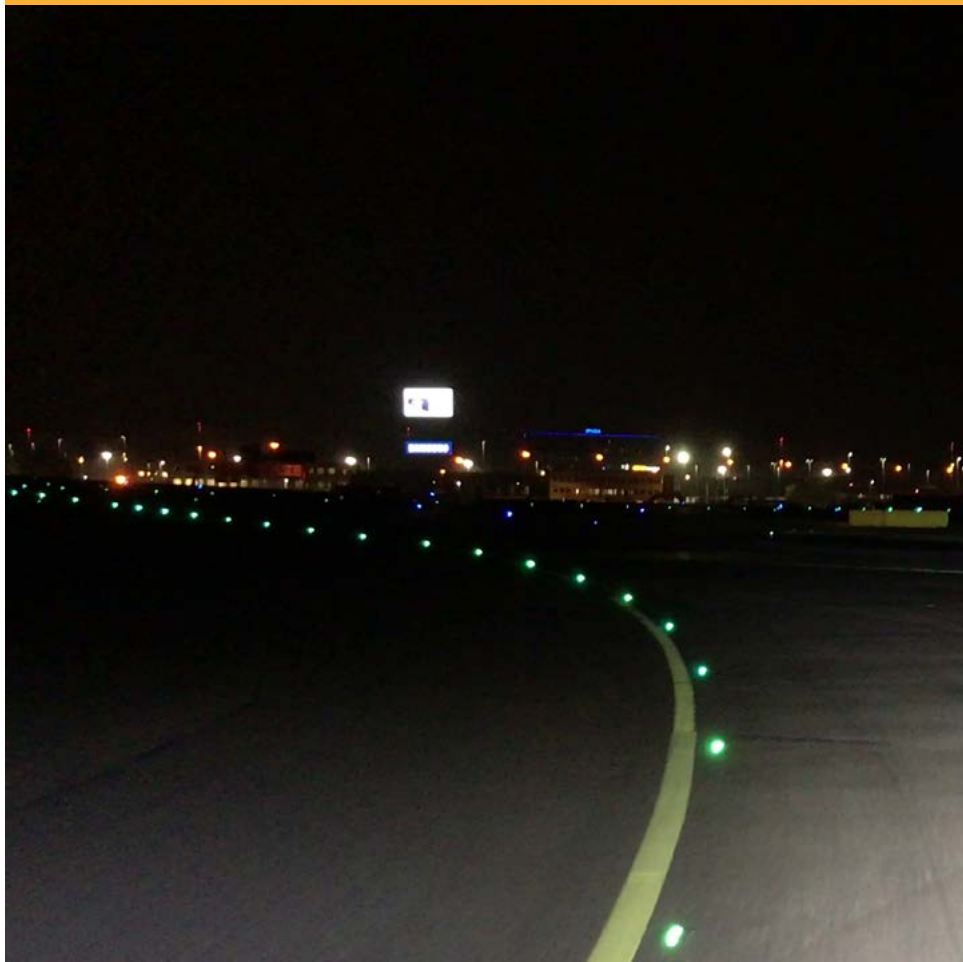




DUTCH
SAFETY BOARD

Near miss between two aircraft during taxi



Near miss between two aircraft during taxi

The Hague, September 2021

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Cover photo: Amsterdam Airport Schiphol

The Dutch Safety Board

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An Airbus 320neo landed in the evening of 3 February 2019 on runway 18C of Amsterdam Airport Schiphol and, while taxiing on a taxiway, received clearance from air traffic control to taxi to the parking position at the C-pier. The crew was also instructed to give way, when approaching a taxiway junction, to an Airbus 320-200 that had landed on runway 18R and would approach from the right. This instruction was given in advance, around 1:30 minutes before the two aircraft would meet each other. The crew acknowledged the instruction but did not read back the full instruction. The crew of the A320-200 was informed that the A320neo had just landed and would wait for them at the junction to pass.

When both aircraft approached each other at the taxiway junction, the crew of the A320neo did not give way as instructed. A collision between the two aircraft was prevented, because the pilot of the A320-200 made an effective emergency stop. The right wingtip of the A320neo passed a short distance in front of the A320-200.

The flight crew of both aircraft and ground control have a responsibility to prevent collisions or dangerous situations between taxiing aircraft. The flight crew of the A320neo, who did not know where to expect the other aircraft, overlooked it. This was due to the darkness, the back ground lighting, the complexity of the location and their other tasks during taxi.

The span of control in combination with the darkness complicated the tasks of the ground controller to provide adequate traffic control. He gave the instructions early and paid little attention to both aircraft. In view of the circumstances, the ground controller had little opportunity to prevent the conflict in time when the two planes had approached each other closely.

The serious incident was caused because the crew of the aircraft that had to give priority did not notice the other aircraft in time. The factors below played a role:

- The early instruction of the ground controller and the lack of later, additional instructions.
- The crew did not hear or did not recall where to expect the other aircraft neither did they challenge air traffic control.
- The ground controller did not challenge the crew when they gave an incomplete read back.
- The darkness and background lighting in combination with the complexity of the location at Amsterdam Airport Schiphol where the incident occurred and other tasks of the flight crew.
- The darkness and the distance between the control tower and both aircraft.
- The limitations of visual observation during darkness in combination with the properties of the ground radar system.

In addition, it is preferable to repeat stop instructions and continue to stay in touch with the crews, until they have a clear picture of the situation and the possibility of making mistakes is reduced.

ABBREVIATIONS

APP	Approach
ATC	Air traffic control
ATPL	Airline Transport Pilot Licence
CTR	Control zone
GC/RC	Ground controller / Runway controller
hPa	Hectopascal
LVNL	Air Traffic Control the Netherlands
OM TWR/APP	Operations manual Tower/Approach
QNH	Atmospheric pressure
TWR	Tower
UTC	Coordinated Universal Time

GENERAL OVERVIEW

Identification number:	2019017
Classification:	Serious incident
Date, time of occurrence:	3 February 2019, around 19.37 hours ¹
Location of occurrence:	Amsterdam Airport Schiphol, taxiway Z near A26
Registration 1:	G-EZWY
Call sign:	Easy 36AE
Aircraft type:	Airbus 320-200
Aircraft category:	Commercial - fixed wing
Type of flight:	Commercial Air Transport (Passenger)
Phase of operation:	Taxi
Damage to aircraft:	None
Flight crew:	Two
Injuries:	None
Registration 2:	SE-DOY
Call sign:	Scandinavian 87L
Aircraft type:	Airbus 320neo
Aircraft category:	Commercial – fixed wing
Type of flight:	Commercial Air Transport (Passenger)
Phase of operation:	Taxi
Damage to aircraft:	None
Flight crew:	Two
Injuries:	None
Other damage:	None
Light conditions:	Darkness

¹ All times in this report are local times. Local time was UTC + 1 hour.

1 FACTUAL INFORMATION

1.1 Introduction

On 4 March 2019, the Dutch Safety Board was informed that a near collision between two taxiing aircraft had happened at Amsterdam Airport Schiphol (hereafter Schiphol) on 3 February 2019. A collision between the aircraft was prevented, because the pilot of one of the aircraft made a successful emergency stop. In accordance with article 2 (16) of Regulation (EU) No 996/2010 of the European Parliament, this occurrence was classified as a serious incident since there was a high probability of an accident associated with the operation of an aircraft. According to article 5 of this regulation, every accident or serious incident involving aircraft shall be the subject of a safety investigation in the member state in the territory of which the accident or serious incident occurred. The same obligation arises from the Dutch Safety Board Act and its underlying ministerial decrees.

The investigation into the serious incident answers the following questions: Why did the crew of the A320neo not notice the other aircraft in time? What was the role of air traffic control? Did the lay-out and environment of Schiphol play a role? What can be learned from this accident to improve safety?

In this investigation, relevant information was gathered from both flight crews, Air Traffic Control the Netherlands and Amsterdam Airport Schiphol.

In Chapter 1, the factual information, gathered and considered relevant, is provided. In Chapter 2 results of additional investigation and the analyses of the information is presented and in Chapter 3 the findings and conclusions from the previous chapters are combined and listed.

1.2 History of flight

At Schiphol both runways 18C and 18R were in use for landing. G-EZWY, an Airbus 320-200 (blue in Figure 1), had landed on runway 18R and taxied via taxiway Z northbound to its stand at H1. SE-DOY, an Airbus 320neo (red in Figure 1), had landed on runway 18C and taxied southbound via taxiway B to taxiway Q for gate C10.



Figure 1: Taxi route of both aircraft: blue G-EZWY, red SE-DOY. (Source: Amsterdam Airport Schiphol)

1.2.1 Air traffic control

After both aircraft had landed and vacated their runway, they were handed over to the ground controller, responsible for Schiphol Ground Centre, for taxi clearance. This ground controller was also responsible for Schiphol Ground North (see Figure 2). Due to the darkness, the contours of the aircraft were less visible than they would be at daylight. Therefore the ground controller additionally used ground radar to monitor the movement of aircraft in his areas of responsibility. Due to the responsibility for two areas there was almost continuous communication between the ground controller and aircraft.

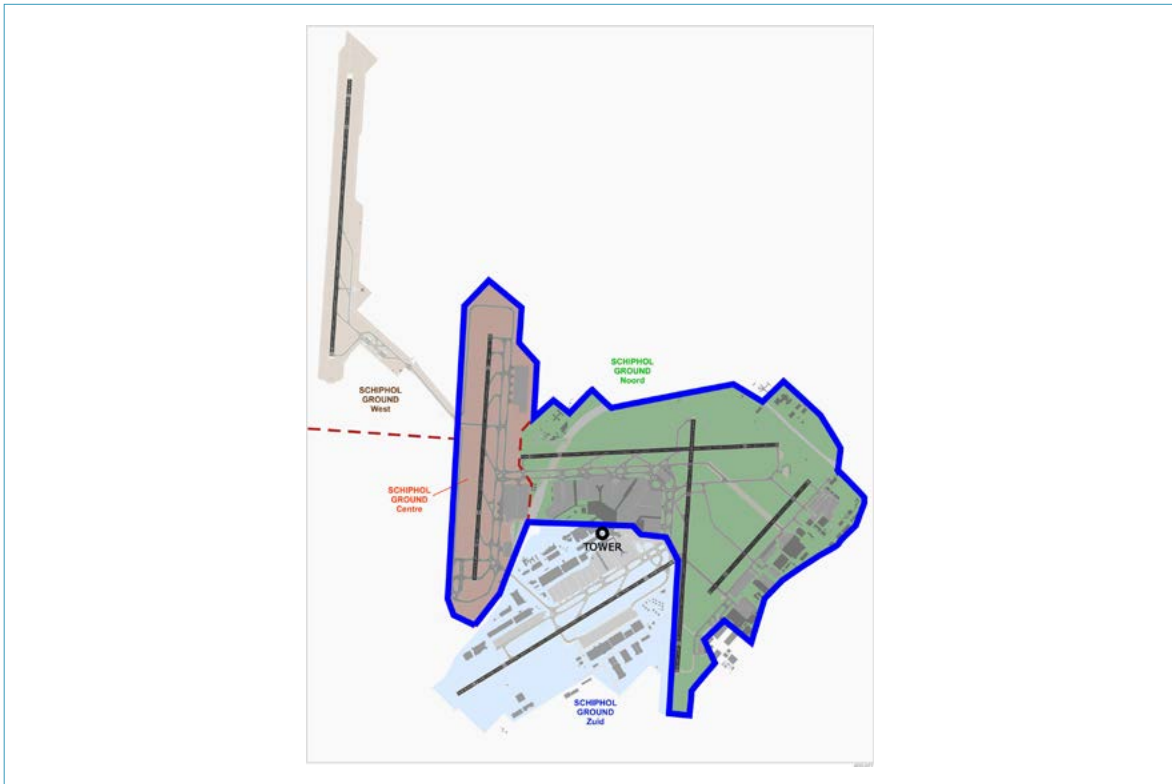


Figure 2: Areas of responsibility of Ground Control. (Source: Operations manual LVNL)

The ground controller instructed both aircraft to taxi to their respective gates. He foresaw that the two aircraft might be at the taxiway crossing between A26 and A27 at the same time. He instructed SE-DOY to give way to G-EZWY coming from the right from taxiway Z when turning to taxiway Q, and informed G-EZWY that the other aircraft would wait for them at the end of taxiway Z to pass. Because many ground movements were taking place in his areas of responsibility (i.e. Centre and North), the ground controller gave the instruction in advance, around 1:30 minutes before the two aircraft would meet each other. Both crews responded affirmatively, although the crew of SE-DOY did not mention the place where they had to give way and the direction where the aircraft would come from. The incomplete read-back was not challenged by the ground controller. No other communication took place between the ground controller and both crews.

The ground controller occasionally monitored the movement of both aircraft by means of ground radar because visual monitoring was limited due to distance and the darkness. The positions and movements of both aircraft were as instructed. The ground controller did not provide additional instructions. He expected both aircraft to comply with the instructions.

When both aircraft almost collided, the ground controller did not notice this. He was only aware of the near miss when he heard some radio communication between the two involved flight crews directly after the occurrence.

During the communication after the occurrence with the G-EZWY crew, the ground controller confirmed that he had instructed SE-DOY to give way to their aircraft and that its crew had confirmed this message. The transcript of the relevant radio communication is attached as Appendix A to this report.

1.2.2 G-EZWY

G-EZWY, an A320-200, was operating a flight from London Gatwick Airport to Schiphol. The captain was pilot flying and the first officer was pilot monitoring. The latter operated the radio, amongst other things. After landing on runway 18R, the crew was instructed at 19.35:27 hours by Ground Control to cross Z2 and to taxi north via taxiway A to gate H1. The first officer confirmed this instruction. At that moment, the aircraft was taxiing at a speed of about 20 knots on taxiway Z abeam the threshold of runway 36C. At 19.36:10 hours the ground controller informed the crew that: "Scandinavian on the left at the end of Zulu waiting for you." The first officer also confirmed this information.

The crew stated that they clearly saw the other aircraft, SE-DOY, taxiing southbound on taxiway B. The crew estimated that the speed of this aircraft was around 20 knots. When G-EZWY had made the left turn and started heading north, the captain still had the other aircraft in sight, while the first officer was looking down at that moment. G-EZWY taxied in the direction of taxiway Q and the captain saw the other aircraft approaching them at an angle of about 45 degrees from the left. Between A26 and A27, both aircraft approached each other and the captain was of the opinion that the other aircraft was not slowing down. As a precaution, he reduced the speed to approximately 10 to 15 knots.

When it became clear that the other aircraft would not stop, the captain made an emergency stop. He saw the wing tip of the right wing of the other aircraft moving past the nose of their aircraft from left to right. He estimated the distance between the wing and the nose at 3 to 4 metres. The first officer did not look outside at that time, as he was studying the map of Schiphol. At the moment of the emergency stop, he looked up and estimated that the right wing of the other aircraft was passing 5 to 10 metres in front of the nose of their aircraft.

Both crew members could clearly see the first officer of the other aircraft. It was clear to them that if the captain had not braked, both aircraft would have collided. Subsequently the captain informed the crew of the other aircraft and the ground controller about the event. SE-DOY's crew apologized for the situation that had occurred.

1.2.3 SE-DOY

After SE-DOY had landed on runway 18C and taxied on taxiway B, Ground Control instructed the crew at 19.35:57 hours to taxi to taxiway Q on their way to gate C10. At 19.36:01 hours, when the aircraft was near A22, Ground Control instructed the crew: "*When turning at Quebec give way to the Easy right side from Zulu.*" The crew confirmed this instruction with: "*Give way to the Easy, Scandinavian 87L.*" According to the captain, the controller did not indicate the position of the aircraft or from which direction it would come. The first officer, who operated the radio, stated that he could not remember whether the ground controller had said that this would be near Q. According to him he had confirmed the instruction of Ground Control.

Both crew members were looking out for the other aircraft but did not see it. The first officer was simultaneously looking at the airport map for the correct route to the gate. When the aircraft arrived at A26 towards Q, the captain was the only person who was looking outside, the first officer was head down. Both did not see other aircraft after which the captain continued taxiing and steered to the left. Only when the crew of G-EZWY reported that they almost had a collision, they saw the other aircraft. The SE-DOY crew then apologized and admitted that it was their fault.



Figure 3: Time and position of both aircraft: blue G-EZWY, red SE-DOY. (Source: Amsterdam Airport Schiphol)

1.3 Personal information

G-EZWY

	Captain	First Officer
Licence	ATPL (A320)	ATPL (A320)
Experience	Around 9,500 hours	Around 3,400 hours
Medical	Class 1	Class 1

SE-DOY

	Captain	First Officer
Licence	ATPL (A320)	ATPL (A320)
Experience	Around 15,500 hours	Around 11,500 hours
Medical	Class 1	Class 1

All crew members stated that they were familiar with Schiphol, because they had been flying to this airport on a regular basis.

1.4 Aerodrome information

Aircraft that have landed on runway 18C have to vacate the runway via one of the exits W, east of the runway, and continue via one of two taxiways (A, B), parallel to the runway. Taxiway B leads the aircraft in a southerly direction, taxiway A is for the aircraft that taxi in a northerly direction.

Aircraft that have landed on runway 18R use taxiway Z to taxi around the southern end of runway 18C/36C, when this runway is in use and then either proceed northbound via taxiway A or turn right onto taxiway Q.

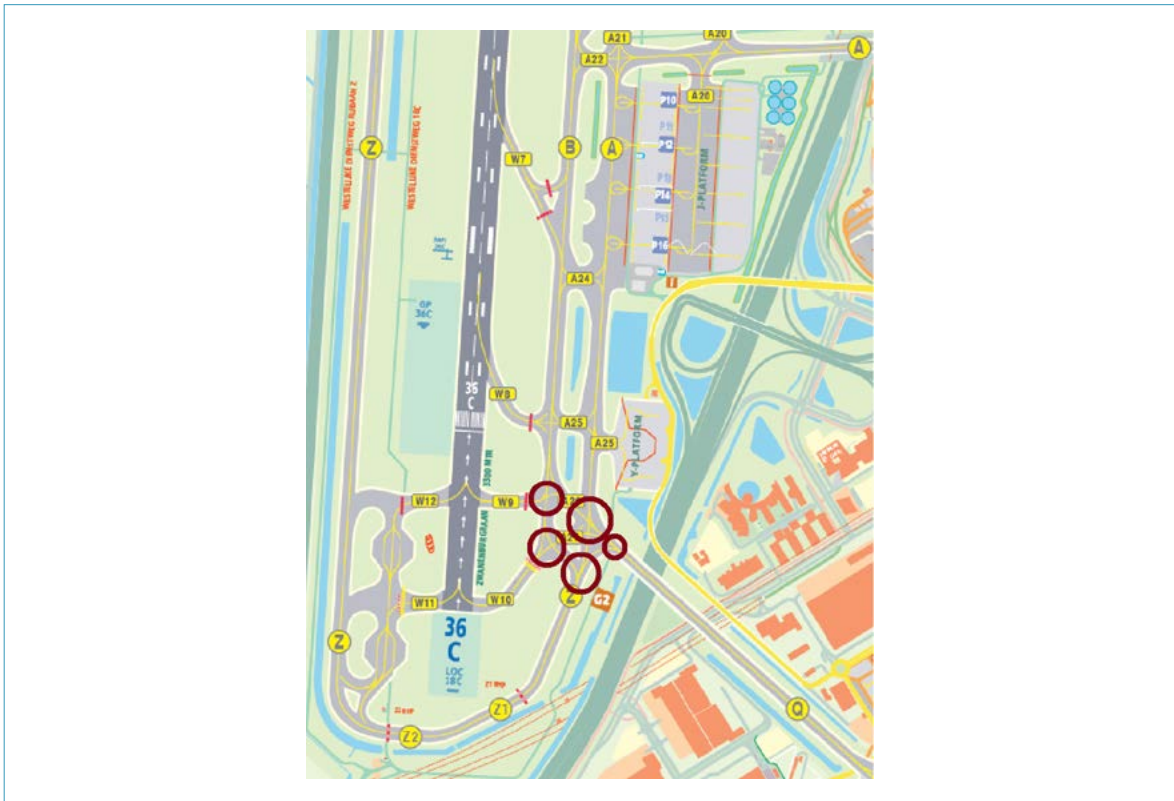


Figure 4: Map of the taxiways and the intersections east of runway 18C/36C. (Source: Amsterdam Airport Schiphol)

The combination of exits and taxiways has created many points where the taxiways A, B, Q and Z intersect, especially in the area east of the threshold of runway 36C (see Figure 4).

1.5 Weather

The Uniform Daylight Period was between 08.02 and 17.46 hours. At the time of the occurrence, it was dark with good visibility values of more than 10 kilometres.

The prevailing weather conditions were:

Wind:	direction 220 degrees, speed 7 knots
Clouds:	broken, base at 2,500 feet
Temperature/dew point:	2 °C / 0 °C
QNH:	1024 hPa

2 INVESTIGATION AND ANALYSIS

The results of additional investigation and the analyses of the information is presented in this chapter. It was analyzed why the crew of the Airbus 320neo, SE-DOY, did not notice the Airbus 320-200, G-EZWY, in time and what the role of air traffic control was in this. It was further analysed which factors played a role in the near miss between the taxiing aircraft.

2.1 The serious incident

2.1.1 Communication

Radio communication and the radar information show that both aircraft reported to Ground Control shortly after each other. At 19.35:27 hours G-EZWY was instructed: *"Cross at Zulu 2, Alfa to the North and Hotel 1"* and SE-DOY was instructed at 19.35:57 hours: *"Scandinavian 87L, Quebec for Charlie 10"*. Both crews read back their instructions correctly. At 19.36:01 hours Ground Control instructed SE-DOY: *"When turning at Quebec give way to the Easy right side from Zulu."* This instruction was read back partly; only *"Give way to the Easy, Scandinavian 87L"* was read back, without mentioning the location. The ground controller did not verify if the flight crew had heard or understood at which point the two aircraft would meet each other and where they had to give way to the other aircraft. Because the crew did not ask for the location or other details, the ground controller had no reason to think that the crew had not understood the instruction or that he had to give additional instructions.

At the time of the instruction to give way to G-EZWY, SE-DOY was on taxiway B near A22 and G-EZWY was taxiing on taxiway Z2 (see Figure 5a). The instruction was given while the two aircraft were around 1,700 metres apart and some 90 seconds before they would meet. Because of the distance and the circumstances (darkness and ambient lighting) the crew of SE-DOY was unable to see the other aircraft at that moment. The crew had no technical aids at their disposal to detect other ground traffic, because the A320 is not equipped with such equipment.

The instruction was given around 1:30 minutes before the two aircraft would actually meet each other. During this time, the crew's attention for the details of the instruction might have been diminished under the influence of the other tasks performed.

By not reading back the complete instruction, the crew did not show that they had understood or heard the location where, and from which direction they had to expect the other aircraft to give priority to it.

After the incomplete read back, the ground controller did not verify if the crew of SE-DOY had understood or heard the complete instruction.

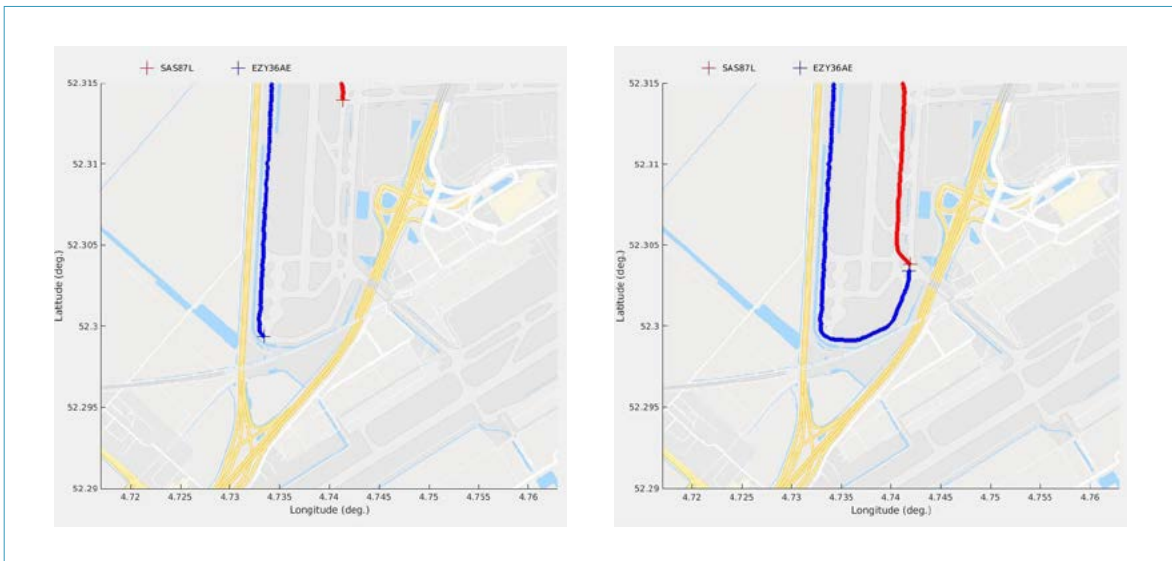
While taxiing and approaching the turn to Q the crew was not informed by air traffic control that they were approaching the mentioned location.

All this underlines the importance of good communication: air traffic control must give clear instructions and flight crews shall read them back or acknowledge the instruction in a manner to clearly indicate that they have been understood and will comply with and, if in doubt, ask for a repetition of the instruction. In the case of an incomplete read-back, it is better to verify if the crew understood the instruction completely. By not doing so, a safety barrier will be diminished. An uncorrected erroneous or incomplete read-back may lead to a deviation from the intended clearance and may not be detected until the controller observes the deviation.²

2.1.2 Near collision

At 19:37:30 hours the crew of G-EZWY informed SE-DOY that a near-collision had just happened (see Figure 5b). According to radar data, the shortest distance between the two aircraft's antennas that emit the radar signals was around 42 metres. However, in view of the inaccuracy of the radar system, the distance between these antennas and the wingtips and the location of the antennas on the fuselage, this distance does not represent the actual shortest distance between both aircraft. Referring to the statements from G-EZWY's crew the distance between their cockpit and SE-DOY's right wingtip was estimated between 5 and 10 metres. Although it was not possible to determine the exact distance between the two aircraft, it is clear that it was close and that a collision between the two aircraft was prevented only because the crew of G-EZWY made an effective emergency stop.

² https://www.skybrary.aero/index.php/Read-back_or_Hear-back



Figures 5a and 5b: positions of the aircraft at 19.36:01 and 19.37:30 hours respectively (Blue G-EZWY, red SE-DOY). (Source ATC the Netherlands)

The taxi speed of both aircraft during the last 20 seconds before the incident was analysed using radar data. The taxi speed of both aircraft initially varied between 20-25 knots. This is considered to be a normal taxi speed. The taxi speed of SE-DOY remained unchanged throughout the period, indicating that the crew did not realise that they approached the location where they had to give way to the other aircraft. Around eight seconds before the occurrence, the taxi speed of G-EZWY decreased. This confirms the statement of the captain that he slowed down when he saw SE-DOY not reducing speed. G-EZWY came to a standstill around 19.37:33 hours³ (see Figure 6).

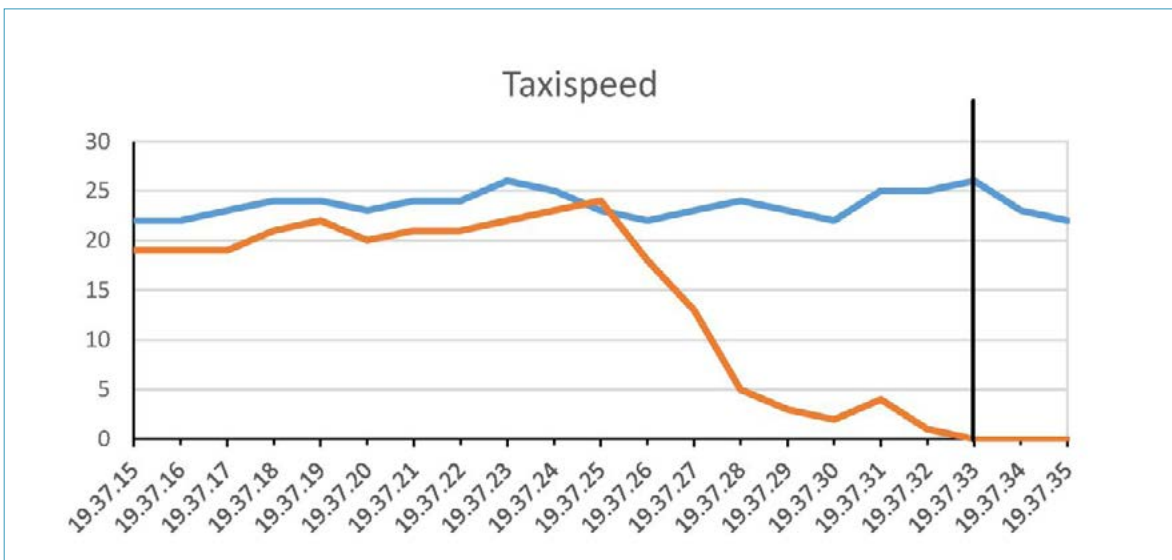


Figure 6: Graph of the taxi speeds during 20 seconds. The black line depicts the moment of the near collision. (Source: ATC the Netherlands)

³ A difference of some seconds exists between radar time and RT time.

When approaching taxiway Q the crew of SE-DOY continued taxiing with the same speed and did not slow down. The crew of G-EZWY noticed this, slowed down and eventually made an emergency stop to prevent a collision.

2.2 Schiphol's lay-out and lighting

The ground controller mentioned to SE-DOY's crew the place where to give way, "*when turning at Q*". Further, he informed the crew from which direction and taxiway this aircraft would come, "*rightsided from Z*". Despite this detailed information and the aircraft's navigation, beacon and strobe lights, the crew did not notice G-EZWY.

As stated, the crew of SE-DOY was of the opinion that the ground controller did not mention the location where the other aircraft would come from. Since they did not ask for details, the remaining possibility for them to see the aircraft in time was to look continuously to detect it. Given the normal division of tasks, the first officer was frequently 'head down' in order to operate equipment and to look at the (electronic) airport maps, as he did on the moment of the near collision. In addition to controlling the aircraft, handling air traffic control communication and following the correct route, the captain was mainly the only person that had to look outside for the other taxiing aircraft.

The captain looked for the other aircraft, but did not see it. He suggested that this could have been caused by the darkness in combination with a large amount of background lighting. When taxiing in a southerly direction on taxiway B at night, the background contains all kinds of light sources: airport illumination, including various types of taxiway lights, signs, lampposts and illuminated billboards. In addition, the motorway lighting in the background can make it difficult to detect the (relatively modest) lights from other taxiing aircraft, especially when these are still far away.

The crew of G-EZWY stated that they saw SE-DOY when taxiing northbound on taxiway Z. This can be explained by the fact that the crew of this aircraft looked in the opposite direction, where there is much less background lighting and thus the aircraft lighting of SE-DOY would be more noticeable.

The ground controller instructed the crew of SE-DOY to give way to the other aircraft from the right when turning to taxiway Q. Figure 7 depicts the spot where SE-DOY made a left turn from taxiway B towards taxiway Q, as seen from the perspective of SE-DOY. On this location, several taxiways come together. Contrary to some other airports where only taxiways to follow are lighted, at Schiphol all taxiways in use are lighted, resulting in several green taxiway lights. The taxiway lights on the right are clearly visible. This may have given the crew the idea that the other plane was coming from that direction and focusing them to look in that direction. However, G-EZWY was coming from another taxiway, which is barely visible at this point. This all resulted in a confusing situation in the dark where G-EZWY came from another taxiway than the crew of SE-DOY might have expected.

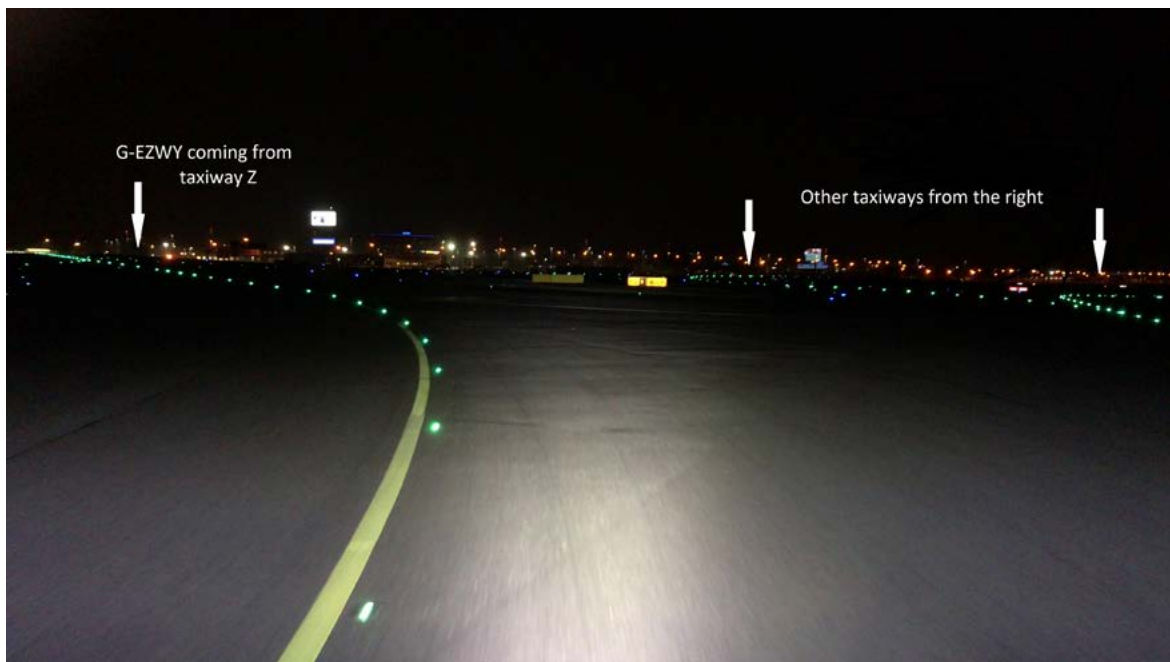


Figure 7: Left turn towards taxiway Q where G-EZWY came from right, what is barely visible at this point.
(Picture taken from a car, source: Amsterdam Airport Schiphol)

The crew of SE-DOY did not notice the other aircraft. This was influenced by the following facts: they did not recall the exact location as radioed by the ground controller, the lighting circumstances and the complexity of taxiways at the location. Other tasks they had to fulfill during taxi caused the crew to not actively search for G-EZWY.

2.3 The role of air traffic control

The tasks of Schiphol Tower (TWR) are written down in the Operations Manual TWR/APP (OM) of ATC the Netherlands (LVNL). The OM states, among other things:

'Schiphol TWR provides Air Traffic Control Services in Schiphol CTR's and the manoeuvring area of Schiphol Airport. Air Traffic Control Services are services to airspace users with the aim of preventing collisions in the air and on the ground and promoting and maintaining orderly traffic flows by giving clearances and instructions.'

Ground Control is a delegated task of Schiphol Tower. Ground control's area of responsibility includes the manoeuvring area, with the exception of all runways.

The use of ground radar is also mentioned in the OM. Part 3.05 of the OM states (amongst other things):

'The GC/RC may use ground radar information for addition and/or replacement the visual observation of traffic in the manoeuvring area in order to:

- check that aircraft and vehicles are moving according to clearances and instructions;*
- (...);*
- providing information about essential local traffic in the manoeuvring area;*
- establish the positions of aircraft and vehicles in the manoeuvring area;*
- providing navigation support to taxiing aircraft, at the request of the pilot or if the controller considers necessary;*
- (...)'*

The ground controller was responsible for two ground areas, what is usual in the evening, meaning he had to control and monitor all taxiing aircraft and other traffic in the two areas. Because of the limitations due to the darkness, it was difficult for the ground controller to visually observe both aircraft. That was the reason he used the ground radar to serve as addition to the visual observation in order to check that the aircraft were moving according to the instructions and to establish the positions of the aircraft. Ground radar does not show the speed of taxiing aircraft.

In general, ground controllers monitor aircraft positions by visual observation primarily. In situations when this is not possible, the ground radar is used as primary source. A ground controller must regularly convince himself of the positions of aircraft and give additional instructions if necessary, in circumstances where a possible conflict may arise. In addition to air traffic control, aircraft crews obviously have an important role in preventing dangerous situations during taxiing by strictly adhering to air traffic control instructions and have a sharp lookout.

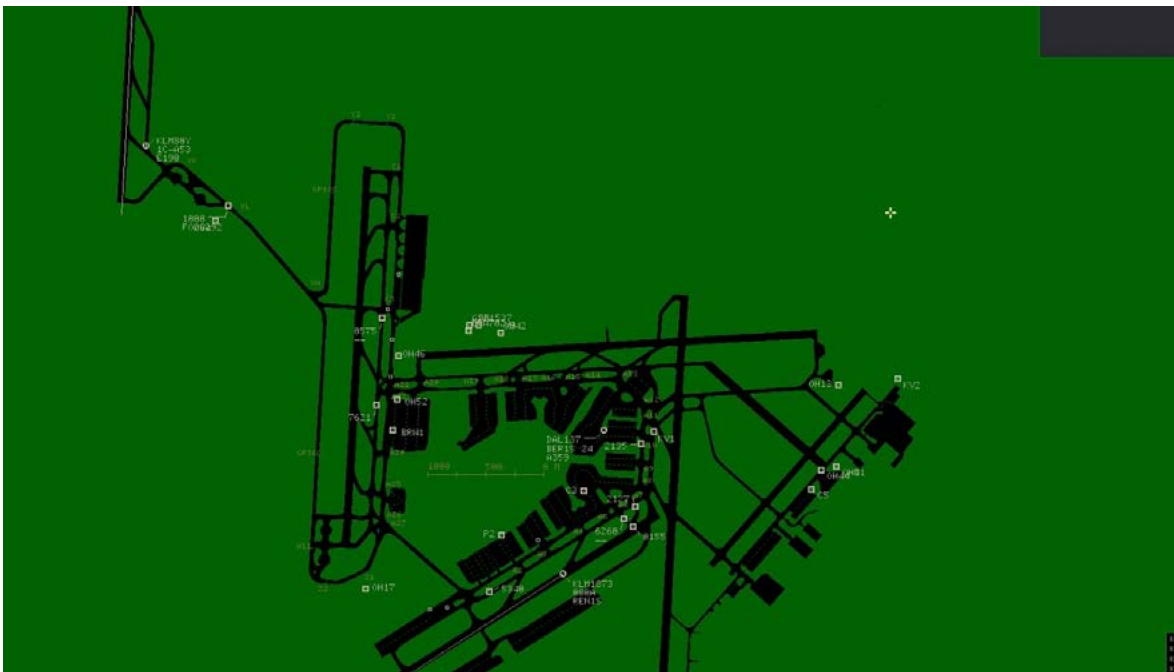


Figure 8: Picture of the ground radar screen of the whole airport. (source ATC The Netherlands)

The ground controller foresaw that both aircraft would arrive at the intersection at about the same time. With reference to his workload, he gave the instructions about the expected situation near A26/A27 at an early stage. In this way, he was able to give more attention to other ground traffic.

Despite the incomplete read back, the ground controller assumed that both crews had understood the instructions. He then occasionally monitored the traffic situation. Since the movement of both aircraft was as he expected, the ground controller did not give additional instructions. Also when both aircraft approached the intersection, he did not repeat his instruction to give way. This also eliminated a safety barrier to prevent a collision.

Approaching the intersection, the taxi speed of SE-DOY did not reduce. This was not noticed by the ground controller which, given the circumstances, is understandable. He also did not notice the near collision itself. This might also be an additional indication of the controller's large span of control.

Preventing conflicts is one of a ground controller's major tasks. Despite a number of safety barriers, a collision between the two aircraft almost happened. Because it is not possible to determine the exact positions and speeds of aircraft by the ground radar system, the ground controller had to keep a close watch, both visually and by ground radar, on both aircraft to monitor their exact movement and positions. Because his vision was limited by the distance and darkness and the properties of the ground radar, he was unable to do so.

Even if the controller had monitored both aircraft constantly on the ground radar, SE-DOY not slowing down was difficult to see on the ground radar screen and could only be noticed some seconds before the occurrence happened. It is very unlikely in such a situation that the controller would have been able to warn both aircraft in time. In similar cases where it is clear in advance that a possible conflict may arise, it is advisable to instruct one of the aircraft actively to stop and give way to the other aircraft.

Because the ground controller was unable to assess the situation properly due to the lighting conditions, properties of the ground radar and span of control, clear communication and checking whether the crew had understood the instructions, were essential. More active control and providing instructions when both aircraft approached each other, is essential under such circumstances.

3 CONCLUSION

The near miss between the two aircraft during taxi occurred, because the crew of the aircraft that had to give priority did not notice the other aircraft. The factors below played a role:

- The early instruction of the ground controller and the lack of later, additional instructions.
- The crew did not hear or did not recall where to expect the other aircraft, neither did they challenge air traffic control.
- The ground controller did not challenge the crew, when they gave an incomplete read back.
- The darkness and background lighting in combination with the complexity of the location at Amsterdam Airport Schiphol where the incident occurred and other tasks of the flight crew.
- The darkness and the distance between the control tower and both aircraft.
- The limitations of visual observation during darkness in combination with the properties of the ground radar system.

A collision between the two aircraft was prevented, because the pilot of the aircraft that had priority made a successful emergency stop.

This location has not been designated a hotspot, but many taxiways are coming together there. Despite the designation signs, flight crews must be extra alert to distinguish the different intersections. This is especially the case in darkness due to the extensive background lighting and the illumination of multiple taxiways. Also the possibilities for visual monitoring during darkness at distances by the ground controller in combination with the properties of the ground radar, are not optimal. This makes it extra important for controllers to verify that clearances have been properly heard and fully and correctly read back. In addition, it is preferable to repeat stop instructions and regularly to monitor the aircraft, until they have a clear picture of the situation thereby reducing the possibility of errors. For flight crews it is important to verify an instruction in the case it creates ambiguity.

APPENDIX A

Transcript radio communication between ground controller and flight crews

Time	Station	Conversation
19.35:27	Ground	Easy 36AE, Cross Zulu 2 Alpha to the North Hotel 1
19.35:32	G-EZWY	Cross at Zulu 2 Alfa to the North and Hotel 1, Easy 36AE
19.35:55	SE-DOY	Hello Ground, Scandinavian 87L
19.35:57	Ground	[cut off by start of transmission]Scandinavian 87L, Quebec for Charlie 10
19.35:59	SE-DOY	Quebec Charlie 10, Scandinavian 87L
19.36:01	Ground	When approaching Quebec give way to Easy right-left from Zulu
19.36:05	SE-DOY	Give way to the Easy, Scandinavian 87L
19.36:10	Ground	Easy 36AE, Scandinavian on the left at the end of Zulu waiting for you
19.36:13	G-EZWY	Roger, Easy 36AE, thank you
19.37:30	G-EZWY	Easy 36AE I thought you said we were number one there
19.37:36	SE-DOY	Sorry, it was our mistake Easy, sorry
19.37:39	G-EZWY	That was a (...) mistake, you just cut right in front of us
19.37:42	SE-DOY	Sorry mate
19.37:45	G-EZWY	Ground did you copy that?
19.37:47	Ground	Yes, I did copy that and I listened to the reply of the Scandinavian, I asked him to give way to you from right to left from Zulu and he replied
19.37:53	G-EZWY	Yeah OK, we've just had to pretty much emergency stop there and it was absolutely bloody awful
19.37:57	Ground	Yeah, I can imagine, we will make a note of it
19.38:31	Ground	Scandinavian 87L, did you have the Easy in sight?
19.38:35	SE-DOY	Yes, we did, but we were told to hold and it was totally our fault.
19.38:41	Ground	Totally our..uh.. OK

Responses to the draft report

In accordance with the Dutch Safety Board Act, a draft version (without recommendations) of this report was submitted to the parties involved for review. The following parties have been requested to check the report for any factual inaccuracies and ambiguities:

- Air Accidents Investigation Branch
- Air Traffic Control the Netherlands
- Amsterdam Airport Schiphol
- European Union Aviation Safety Agency
- Human Environment and Transport Inspectorate
- Ministry of Infrastructure and Water Management
- Swedish Accident Investigation Authority

The responses received, as well as the way in which they were processed, are set out in a table that can be found on the Dutch Safety Board's website (www.safetyboard.nl).

The responses received can be divided into the following categories:

- Corrections and factual inaccuracies, additional details and editorial comments that were taken over by the Dutch Safety Board (insofar as correct and relevant). The relevant passages were amended in the final report.
- Not adopted responses; the reason for this decision is explained in the table.
- Adopted responses; they are also listed in the table.



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