



AIR, MARITIME AND RAILWAY ACCIDENT
INVESTIGATION NATIONAL BOARD
9, Dyakon Ignattii Street, 1000 Sofia, Bulgaria

Safety Investigation Report

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**SERIOUS INCIDENT, OCCURRED ON AUGUST 5, 2020
AT SOFIA AIRPORT, BULGARIA, INVOLVING A320-
232 AIRCRAFT, REGISTRATION MARKS HA-LWH,
OPERATED BY „WIZZ AIR HUNGARY“ LTD.**

Purpose of Report and Responsibility Level

Under Annex 13 of the Chicago Civil Aviation Convention, Regulation 996/20.10.2010 of the European Parliament and the Council on the investigation and prevention of accidents and events in Civil Aviation, the Civil Aviation Act and Ordinance No. 13/27.01.1999 of MT (last amendment and addition - 22.01.2016), the investigation of an aviation event aims at identifying the reasons that led to the event to eliminate and exclude these in future **without identifying someone's guilt or liability**.

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List of abbreviations

AAIU	- Aviation Accident Investigation Unit;
AO	- Airline Operator;
AMRAINB	- Aircraft, Maritime and Railway Accident Investigation National Board;
ARP	- Aerodrome reference point;
ATC	- Air traffic control;
ATIS	- Automatic terminal information service;
BULATSA	- Bulgarian Air Traffic Services Authority;
CAA	- Civil Aviation Authority;
CVR	- Cockpit Voice Recorder;
DG CAA	- Directorate General Civil Aviation Authority;
EASA	- European Aviation Safety Agency;
EDLW	- Dortmund Airport;
FBL	- RA-light rain
FDR	- Flight Data Recorder;
FEW	- Cloud amount - few (1-2 oktas),
FH	- Flight Hour
ft	- Foot;
GSE	- Ground Support Equipment;
METAR	- Aviation routine weather report;
ICAO	- International Civil Aviation Organization;
KT	- Knots;
RWY	- Runway;
LBSF	- Sofia Airport
MAG	- Magnetic course
METAR	- Aviation routine weather report;
MSN	- Manufacturer Serial Number;
MTITC	- Ministry of transport, information technology and communications;
MTOM	- Maximum Take-Off Mass;
NOTAM	- Notice to airmen (съобщение за екипажите);
OVC	- Overcast;
p.	- page;
QNH	- Altimeter sub-scale setting to obtain elevation when on the ground;
RWY	- Runway;
SCT	- Cloud amount-scattered (3-4 oktas),

- SRIS - Safety Recommendations Information System;
- TDZ - Touchdown zone;
- TEMPO - Temporary or temporarily;
- TWY - Taxiway;
- UTC - Universal Coordinated Time;
- VC - Vicinity of the aerodrome;

1. Introduction

Date and time of the aviation event: August 05, 2020, 04:34 h UTC.

All times in the Report are given in UTC.

Notified: Air, Maritime and Railway Accidents Investigation National Board (AMRAINB), Directorate General "Civil Aviation Administration" (DG CAA) of the Republic of Bulgaria, the European Commission, the European Aviation Safety Agency (EASA), The International Civil Aviation Organization (ICAO), the National Bureau of Aviation Occurrences Investigation (BEA) of the Republic of France and the Transportation Safety Bureau (TSB) of the Republic Hungary.

On the grounds of the provisions of Article 9, Para1 of Ordinance No 13 dated 27.01.1999 on Investigation of Aviation Accidents the occurrence was classified as a serious incident by the AMRAINB. The materials on the aviation occurrence have been filed in case No 04/05.08.2020 in Aviation Transport Unit archives at AMRAINB.

In accordance with the provisions of Article 5, para 1 of Regulation (EU) No. 996/2010 on the investigation and prevention of accidents and incidents in civil aviation, Article 142. Para. 2 of the Civil Aviation Act of the Republic of Bulgaria, dated 01.12.1972, and Article 10, para. 1 of Ordinance No. 13 of the Ministry of Transport, dated 27.01.1999, on the Investigation of Aviation Occurrences, and on the grounds of the provisions of Article 6 , para 1, point 8 of the Rules of procedure on the activity, structure and organization of the AMRAINB by Order No. RD-08-15, dated 14.08.2020 of the Chairperson of the Management Board, a Commission is appointed for investigation of the serious incident.

Summary:

On August 5, 2020, the A320-232 aircraft, registration marks HA-LWH, operated by „ Wizz Air Hungary Ltd“ was preparing for performing the flight from Sofia (LBSF) to Dortmund (EDLW). During the final phase of Ground Services performed by Ground Handling Operator of “Gold Air Handling”, after the passenger embarkation on board, the driver of a self-propelled passenger stairs started for moving out from the aircraft.

After leaving, the aircraft stand the self-propelled passenger stairs while manoeuvring around the aircraft, hit the left wing of the aircraft about 0,5-0,6 m of the wingtip.

The damage to the left wing of the aircraft did not allow the flight to be performed. There were no consequences for the flight crew, the passengers and the ground handling crew. The flight was cancelled and the passengers were returned to the terminal.

Because of the investigation, the Commission considers that the serious incident is due to the following reason:

Main cause: Violations of the technology during ground handling of the aircraft service by the passenger stair driver when leaving the aircraft stand, after which the passenger stair was allowed to manoeuvre below the minimum permissible safe distance from the aircraft.

Contributing factor: Insufficient concentration of the GSE driver's attention when operating the passenger stair due to fatigue.

2. Factual information

The commission received information about the realization of an aviation occurrence from written explanations from the flight crew, ground crew serving the flights, witnesses of the event, data from the BULATSA and video cameras at Sofia Airport.

2.1.1. Flight number and type, the last point of departure and time, and planned destination point

Flight Number: W64331.

Type of flight: Commercial Air Transport - Passenger – Airline-Schedule

Last point of departure: Sofia Airport (LBSF), Bulgaria.

Take-off time: planned at 04:30

Planned destination point: Dortmund Airport (EDLW)

2.1.2. Flight preparation and description of the flight

On August 5, 2020, the A320-232 aircraft, registration marks HA-LWH, operated by „Wizz Air Hungary Ltd“ was at aircraft stand № 26 at Sofia airport and was preparing for carrying out the international flight from Sofia (LBSF) to Dortmund Airport (EDLW). On board, there were 153 passengers and 7 flight crewmembers. The aircraft was parked with its nose to the south.

At 04 34 UTC, after boarding of the passengers, the driver of a self-propelled passenger stair started for moving out from the rear passenger door of the aircraft.

During the manoeuvre, the passenger stairs moved away from the aircraft's rear board in reverse in a straight line, then, with a left turn, the driver directed it to the front of the aircraft stand in with a view to circumventing the left exit edge of the aircraft's left wing and left the aircraft stand.

As it moves forward, the passenger stairs collided with the right side railing of the upper platform at the left rear end of the left aileron and wedged between it and the final segment of the exit edge of the left wing.

2.1.3. Location of aviation occurrence

Location	Sofia Airport (LBSF) Bulgaria, Aircraft stand No 26;
Date and time:	5 August 2020, 04:34 UTC;
Lighting conditions:	Daylight;
The control point is with coordinate's	42°41'27.41"N 023°24'05.27"E.

2.2. Injuries to persons

<i>Injuries</i>	<i>Crew</i>	<i>Passengers</i>	<i>Total in the aircraft</i>	<i>Others</i>
<i>Fatal</i>	0	0	0	0
<i>Serious</i>	0	0	0	0
<i>Minor</i>	0	0	0	0
<i>None</i>	7	153	160	<i>Not applicable</i>
<i>Total</i>	7	153	160	0

2.3. Damage to aircraft

During the inspection of the aircraft at the aircraft stand No 26 at Sofia airport, the following damage were found:

- Damage of the wingtip of the left wing;
- Deformation of the aileron of the left wing;

- Damage of upper and lower panels of the left wing;
- Damage at left wing side aft corner of panel with the following dimensions: span wise length 40mm and width 20mm.



Fig. 1



Fig. 2

2.4. Other damages

The self-propelled passenger stairs received the following damage:

1. Torn rubber bumpers of the passenger stairs;
2. Torn retainer of a removable element at the front of the right railing of the passenger stairs.



Fig. 3

2.5. Personnel information

The flight crew and the personnel who performed the maintenance of the aircraft for the flight W64331 were not related to the realized of occurrence and therefore their qualifications and experience are not considered in this report.

2.5.1. Self-propelled passenger stair driver

Man – Age: 52

Driver's license obtained categories: „AM, B1, C1, C, D1, D, BE, C1E, CE, D1E, DE, ТКТ*” from 22.07.2019. Valid until 22.07.2024

Employed by „Goldair Handling“ on 01.10.2018 ;

Employee of „Goldair Handling“ on position „GSE/ Ground Support Equipment/ driver“/

During 25-26, October 2018 the driver has successfully passed an initial course for operation with a self-propelled passenger stairs and has been granted permission for operation without supervision;

The employee has 1 years 10 months of experience as a GSE operator at Sofia Airport.

During the month of July 2020, the driver has been working on a shift based with a working time of 178 00 h.

In August 2020, for four days according to the monthly schedule, he performed his duties in two day and two night shifts with a working time of 33:40 h.

Before the incident, the employee has had a total of 14 hours of rest time between shifts and has begun the new working shift at 21:00 h UTC.

After the event, a test has been performed on the employee to determine any alcohol presence in their system, with negative results.

2.5.2. Ramp Agent

Man.

Employee of „Goldair Handling” on position „Ramp Agent“

Employed by „Goldair Handling” on 03.12.2017.

On 25.08.2017, the ramp agent has successfully passed an examination and was admitted to self-employment

The employee has 3 years 7 mounts of experience as a Ramp agent at Sofia Airport.

During the month of July 2020, the Ramp agent has been working on a shift based working time.

2.6. Aircraft Information

2.6.1. Airworthiness Information

Aircraft type:	A320-232
Registration	HA-LWH
Serial number:	4621
Manufacturer	Airbus SAS
Produced:	2011
Operator:	Wizz Air Hungary Ltd;
Total flown hours June 11, 2020:	36019:17 hours
Certificate of Registration:	Certificate Number – LFH/37016-2/2018-ITM issued on September 17, 2018 by Ministry of Innovation and Technology of Republic of Hungary;
Certificate of Airworthiness:	№ LI/PM/NS/A/338/4/2011 issued on March 16 2011 by National transport Authority Aviation Administration of Republic of Hungary;
Airworthiness Review Certificate:	WZZ/ARC/HA-LWH-HU.MG.0016, issued on February 24 2020, valid until March 16 2021.
Maximum Takeoff Mass	73500 kg.
Landing Mass	64500 kg.
Engines:	Model IAE V2527-A5;

2.7. Meteorological information

2.7.1. Weather conditions at Sofia Airport

Early in the morning on August 5, 2020, the Mediterranean Depression was observed over the Adriatic Sea, along which moist and warm air was transported over the southern part of the Croatian coast and Albania, and active convective processes developed there. Bulgaria remains outside the scope of this circulation, but there is a well-defined eastern transfer, especially in the western part of the country, as the wind is oriented from east / southeast and with a speed of about 10 knots.

2.7.2. Aviation routine weather report METAR at Sofia Airport

Interval of issuance from 04:00 to 05:00 UTC on August 5 2020

METAR LBSF 050400Z 12009KT CAVOK 18/14 Q1012 NOSIG=

METAR LBSF 050430Z 11008KT CAVOK 18/14 Q1012 NOSIG=

METAR LBSF 050500Z 11011KT CAVOK 19/14 Q1012 NOSIG=

The meteorological conditions at the time of the realization of the occurrence did not affect the serious incident.

2.8. Navigation systems

This has no relation to the realized of the occurrence.

2.9. Communication systems

This has no relation to the realized of the occurrence

2.10. Aerodrome information

Aerodrome Location Indicator and Name – LBSF/SOFIA;

ARP coordinates and site at aerodrome - N42°41'42" E023°24'30", RWY centre;

Elevation - 1742 ft (531m);

Designations / RWY 09/27 - MAG 091°/271°;

Dimensions of RWY (m) - 3600 x 45 m;

2.11. Flight recorders

Not decoded due to the specifics of the occurrence.

2.12. Information about the impact and the debris

The impact of the self-propelled passenger stairs was in the left wing of the aircraft. The damages caused by the impact are described in paragraph 2.3.

2.13. Medical and pathological information

There are no injuries and medical consequences for the crew, passengers and ground handling crew as a result of the realized occurrence. Medical and pathological examinations are not performed.

An alcohol test was performed on the driver at 05:21 h by alcohol analyst Dreger- Alkotest 7410. The measured level of alcohol in the blood was 0,00 (‰) promille.

2.14. Fire

No fire arising.

2.15. Factors for Survival

The occurrence was not related to the need to carry out emergency rescue actions.

2.16. Tests and research

For the safety investigation, the following activities were carried out:

1. Research of the written reports, given by the self-propelled passenger stairs driver and Ramp Agent;
2. Research and analysis of the reports given by witnesses of the event;
3. Research and analysis of the documentation relating to the operation and maintenance of the technical condition of the self-propelled passenger stairs .
4. Research of the training by the driver for the period of his work at Sofia airport;
5. Inspect a recording from a security camera at Sofia Airport;
6. Analysis of the possible causes for the realization of the occurrence.

For Item 1 research of the written reports, given by the self-propelled passenger stairs driver and Ramp Agent at Sofia airport for occurrence are reflected in Para 2.1.2.

For Item2 research and analysis of the reports given by witnesses are reflected in Para 2.1.2.

For Item 3 research and analysis of documentation relating to the operation and maintenance of the technical condition of the self-propelled passenger stairs are reflected in Para 2.18.

For Item 4 research of the training by the driver for the period of his work at Sofia airport are reflected in Para 2.5.

For Item 5 review of recordings from the security cameras at Sofia Airport are reflected in Para 2.1.2.

Logical and probabilistic analysis of the possible causes for the serious incident is given in Chapter 3 of this Report.

The materials from the interviews and analyses have been attached to the case for investigation of the serious incident.

2.17. Information for organization and management.

The occurrence was realized by the driver of the self-propelled passenger stairs „ENISA EDU-WIDE” in ground handling services. The passenger stairs is operated by an airport handling operator ”Goldair Handlig“.

The organization and control for movement in the moving area of Sofia airport are described in the Safety Rules for movement of the vehicles in the moving area of Sofia airport, which is provided to the Commission for investigation, for use of the necessary information for the purposes of the investigation.

2.17.1. Safety rules for movement of the vehicles in the moving area of Sofia airport

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“The Safety Rules” have been prepared in order to ensure the safety of operations in the process of airport flight safety and ground handling.

The document describes all areas of the airfield, the hazards arising in the course of operations, defines the requirements for the people and equipment involved, the rules for safety of ground traffic on the territory of Sofia Airport, the services of the airport operator and applied methods of management and control of their compliance by all employees.

The safety procedures are mandatory for all participants in the operations in the Movement area, regardless of the ownership of the GSE and the administrative subordination of their drivers and other employees.

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7. Safety movement during ground handling of an aircraft.

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7.3. Safety during aircraft ground handling on the aircraft parking stand.

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7.3.2. General rules for safety GSE movement in the area of the aircraft parking stand for ground handling.

In order to avoid accidents, with aircraft and GSE and other equipment, when moving in the aircraft parking stand, the rules are illustrated in Figure 4 below:

- a) after positioning and stopping the aircraft at the parking stand, only a person authorized to meet (ramp coordinator, technical person or other representative) approaches him;
- b) the approach to the area of the aircraft parking stand of people and equipment is allowed after stopping the aircraft and turning off the engines (the anti-collision beacons are turned off);
- c) positioning of the GSE and the ground handling, can start after the placement of the wheel chocks and safety cones by the meeting person;

- d) the movement in the area of the parking stand is carried out at a speed close to that of a pedestrian, i.e. speed 5 km / h (position 1);
- d) the movement outside the safety zone around the aircraft is performed in a clockwise direction (position 2);
- e) vehicles, which are not GSE must stop outside the safety zone around the aircraft at a **minimum safety distance of 2 m** (for fuel trucks the minimum safety distance is 3 m), from any point on the aircraft (position 3);
- f) the movement around the engines and the wing of the aircraft is performed outside the line delineated by the safety cones with caution (position 4);
- h) maneuvers in the safety zone around the aircraft are performed clockwise, i.e. the aircraft must always be on the left side of the driver (position 5);

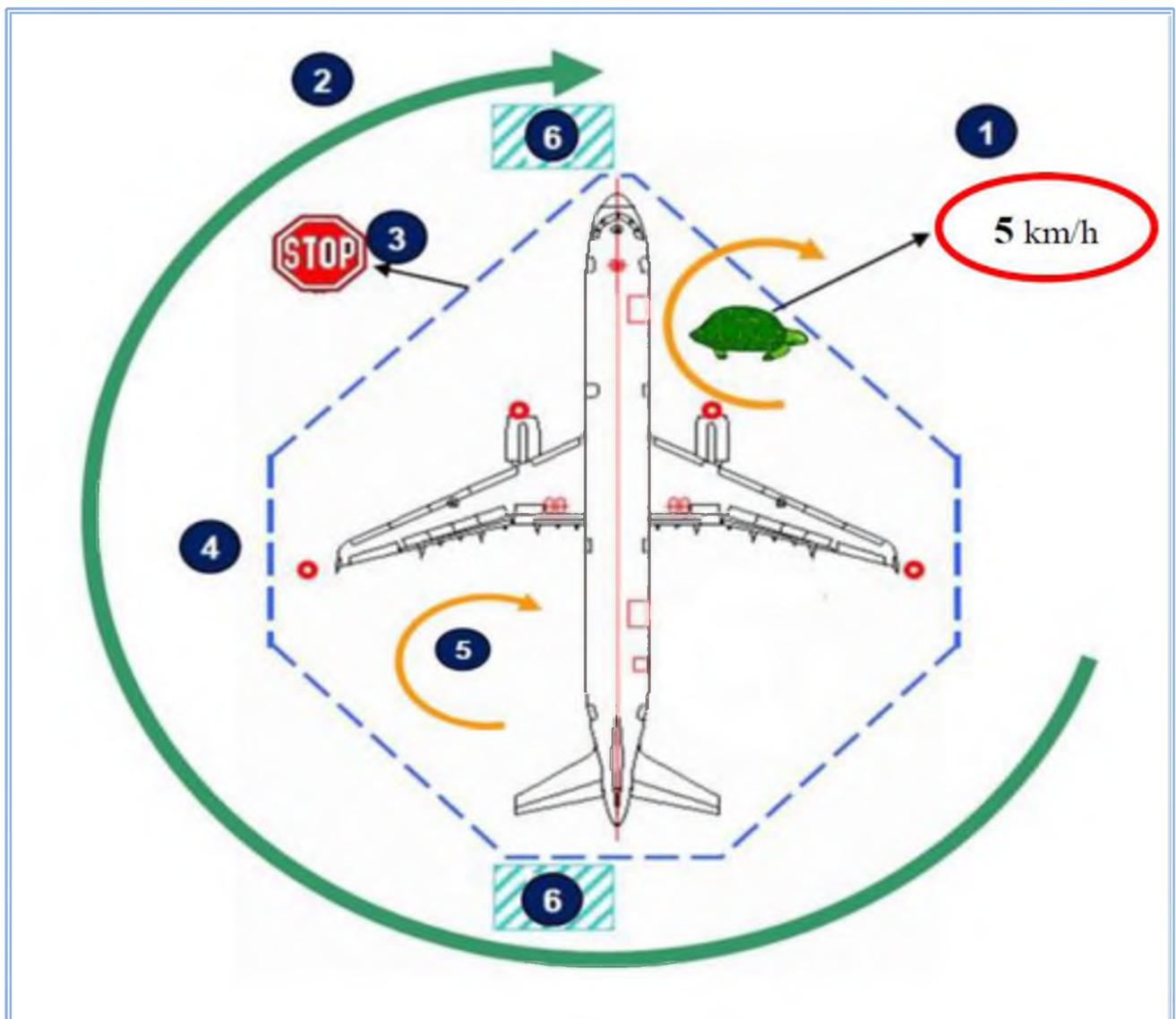


Fig. 4: Movement in the area of the aircraft parking stand

- i) stopping and stay of vehicles that do not participate directly in the process of ground handling is allowed in areas located on the left, in front of the nose or behind the tail of the aircraft (position 6), the cars are positioned perpendicular to the centerline of the aircraft parking stand, outside the dimensions of the aircraft's fuselage;

Rule for use of places:

IN FRONT OF THE AIRCRAFT NOSE STOP THOSE WHO HAVE ENGAGEMENTS IN THE FLIGHT DECK AND IN THE PASSENGER CABIN! BEHIND THE TAIL OF THE AIRCRAFT STOP ALL OTHERS WHO PERFORM ACTIVITIES ON THE PARKING STAND!

- j) before leaving the GSE or the vehicle, the driver must switch off the engine and take action to secure the vehicle against unintentional movement (application of the parking brake, installation of locking chocks).
- k) at night or in LVP, during the stay, the emergency lights of the vehicles must be switched on.

7.4. RULES FOR ACTION OF STAFF IN THE PROCESS OF AIRCRAFT GROUND HANDLING

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7.4.4. RESPONSABILITIES OF THE PASSENGER STEPS OPERATOR

- a) moves the passenger steps to the parking area on the service roads;
- b) enters the parking area after the installation of brake chocks and safety cones around the aircraft, which is a sign of the beginning of the ground handling;
- c) positions the passenger steps, observing all safety rules.

7.5. PROHIBITIONS AND RESTRICTIONS

In the area of the aircraft, parking stand is prohibited:

7.5.1. Waiting for the aircraft from personnel and equipment, except for the authorized person responsible for welcoming of the aircraft (GH coordinator, technical person, representative);

7.5.2. Approaching to the aircraft before its final stopping and switching off the engines (the anti-collision beacons of the aircraft are switched off) and before receiving the signal for the beginning of the ground handling;

7.5.3. Driving and stopping with the vehicle around the aircraft at a distance less than safe – 2 m, except in cases where the specific service requires shorter distances, for example: use of means for servicing the sideboard, luggage lanes, loaders, passenger steps etc;

7.5.4. Stopping and parking in the service areas on the left and right sides of the aircraft of vehicles that are not GSE and do not participate directly in the ground handling activities;

7.5.5. Parking of transport equipment in a parking stand, in the direction opposite the aircraft, in order to avoid the precondition of a collision due to unauthorized movement of the vehicle;

7.5.6. Passing by vehicles and GSE under the wing of the aircraft, except when refueling with a tank with a lifting platform;

7.5.7. Passing through (over) the hoses for refuelling of the aircraft and the cables for draining the static electricity and grounding the fuel tanks;

7.5.8. Movement of equipment and reversing maneuvers, with the exception of the GSE, which requires such maneuvering to occupy a working position;

7.5.9 Stopping of transport equipment or other GSE or vehicles in front of the fuel tank truck, passenger stairs, under the service aircraft doors and in the areas of the emergency exits;

7.5.10. Stopping of transport equipment or GSE behind other GSE positioned next to the aircraft, which after the end of the service are withdrawn by reversing maneuver.

2.17.2. Ground Operations Manual- Wizz Air Hungary Ltd

The Aviation Operator is provided to the Commission for investigation, the procedure for ground handling service with passenger stairs.

3.1.3 Safety Instructions for Operating Ground Support Equipment on the Ramp

The Handling Agent shall have a system for performing and recording daily checks completed on ground support equipment.

Sufficient fire protection equipment must be in place to protect an aircraft and equipment from a localized fire, and in accordance with local airport procedures.

Personnel must know the procedures for calling their local fire service and, during the call, remember to give their exact location and the type of fire.

Unserviceable equipment shall be removed from the operational area for maintenance and a highly visible OUT OF ORDER - DO NOT USE sign must be attached to avoid usage.

3.1.3.1 General Safety Instructions

Apply these procedures whenever operating Ground Support Equipment (GSE) on the ramp.

Only drive or operate GSE if you are trained and authorized for that specific equipment type. Whilst local regulations vary by airfield, Wizz Air stipulate that any GSE operating on the aircraft parking stand must not exceed 5km/h (3mph) which generally equates to walking pace.

When operating any GSE, check the aircraft for possible damage in the equipment contact zone before bringing the GSE up to the aircraft. Immediately report any damage found. Do not continue to approach the aircraft with any GSE in the area where damage has been found.

Use all safety devices fitted on GSE (e.g., proximity sensors, bumpers, handrails, stabilizers) during aircraft handling and servicing.

Ensure protective rubber bumpers ARE NOT compressed against the aircraft fuselage.

GSE servicing Wizz Air aircraft shall be positioned as shown on the following diagrams.

(* Fuel truck may also be positioned near the wingtip parallel to the fuselage)

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3.1.3.4 Ground Support Equipment Safety Driving and Parking Inside the Equipment Restraint Area

To verify serviceability of GSE and to test the apron surfaces, operators shall apply the following precautions when driving or parking GSE within the Equipment Restraint Area (ERA):

(a) Make one complete stop with all motorized vehicles/equipment prior to entering the ERA or at 5 m from the aircraft. This action must be carried out even if there is no Equipment Restraint Line marked on the apron.

(b) Do not drive GSE faster than walking speed.

(c) Maneuver GSE carefully to prevent personnel injury and/or aircraft damage.

(d) Avoid performing any sharp turns near the aircraft, particularly when towing equipment.

(e) When GSE is being moved near the aircraft, and when the vision of the GSE operator is or might be restricted, the GSE operator must be:

1. Guided by a guide person using standard IATA signals. If visual contact with the guide person(s) is lost, the GSE operator must stop movement of the GSE immediately.

2. Assisted by means of appropriate proximity sensing and warning systems and/or visual aids such as cameras and mirrors.

(f) GSE that are not directly involved in the handling or servicing of the aircraft shall not be driven through or parked within the ERA.

- (g) Do not drive or park under the aircraft fuselage and/or wing. Exceptions due to aircraft type or local restrictions may apply. Prior Wizz Air approval shall be given.
- (h) Ground Power Units must be positioned at least 2 meters away from the fuselage utilizing full length of the cables and using the cable safety hook to prevent the connector from falling out.

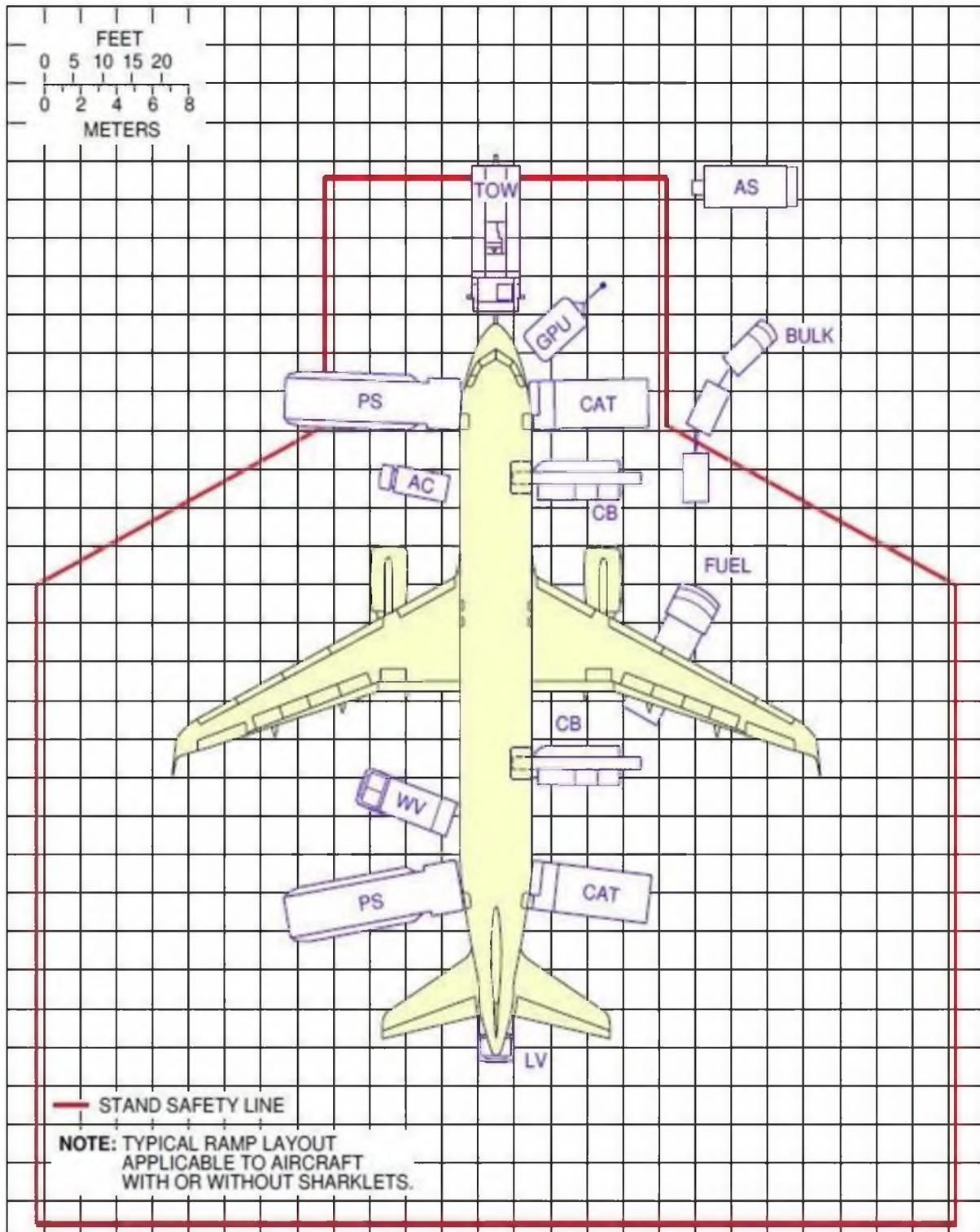


Fig. 5

2.18. Additional information

2.18.1. Information about the apron bus

The self-propelled passenger stair „ENISA EDU-WIDE” with inventory No GH 310132 is owned by „Goldair Handling”.

The Self-propelled Universal Passenger stairs, model EDU-WIDE, has been designed for embarking and disembarking passengers on all aircraft with sill heights ranging from 2.40 m to 5.80 m (front door of B737 to rear door of A-340)

On January 21 2020, the self-propelled passenger stairs „ENISA EDU-WIDE” with inventory No GH 310132 has undergone maintenance in which it has been issued a serviceability certificate. When overlapping a shift, the driver checked the passenger stair and certified its serviceability with a signature in the road book.

2.18.2. Fatigue and contributing factors

Fatigue is a combination of symptoms including: impaired performance (loss of attention, lack of concentration, slower reaction time, impaired judgment, poorer performance on specific tasks, and greater likelihood of falling asleep), feeling sleepy or generally tired

Fatigue may be defined as a physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase periods of wakefulness, a disturbance in circadian phase (normal cycles of daytime activity and nighttime sleep), or workload (mental and/or physical activity) that can impair a Ground Support Equipment driver’s alertness and ability to safely operate a Ground Support Equipment and perform safety related duties.

Fatigue is cumulative in nature, and can accumulate to such levels where a person is unable to perform both complex and simpler activities. It can most commonly occur with night work, prolonged periods of wakefulness, or a combination of both.

When mental fatigue occurs, a person's cognitive functions are affected - there is often a general impairment of attention and reaction time. Fatigue is of great importance when it comes to a person's operator qualities, machine operation and ability to drive because of its impact on the safe exercise of the activity.

Research has shown the undeniable impact of fatigue on drivers. It affects both the quality of driving performance – monitoring of the road and vehicle parameters (especially speed), and driver attention - inability to monitor of surrounding objects while driving (road signs, other cars in close proximity, observing traffic rules, following other procedures when operating motorized equipment).

With prolonged sleep deprivation, such as a series of night shifts or extended periods of driving, there is even a tendency in drivers to increase speed and increase reaction times. The effect of fatigue increases in combination with an increase in the age of the driver (the impact is stronger in older drivers), and it occurs over a shorter time interval.

3. Analysis

To establish the causes for the realized serious incident, the following aspects were reviewed:

1. Actions of the ground crews when providing ground handling at the aircraft stand.

According to the review of the recording by the security cameras at Sofia Airport, it was found that during the final phase of Ground Services, after the passenger embarkation on board, the driver of a self-propelled passenger stairs started for moving out from the aircraft in reverse from the aircraft's rear board by not lowering the platform to the lower (transport) position and continuing its movement by a left turn with the platform lifted in the working position.

The driver directed to the front of the aircraft stand with a view to circumventing the left exit edge of the aircraft's left wing.

During the movement to leave the aircraft stand the passenger stairs made a contact with the left wing of the aircraft.

It should be noted that during the manoeuvre, there was no assistant to monitor the execution of a safe manoeuvre with the passenger stairs around the aircraft and there was no safety cone under the top of the left wing, at the time of the passenger stairs movement around the left wing.

2. Fatigue of GSE driver

The commission examined the working time and rest periods of the driver of the GSE in 2020 up to the time of realization of the event.

Upon analysis of the documents, it was found that:

The driver of the GSE worked in 2020 under the calculation of working time established by the employer's order under Article 142 of the Labour Code.

The employee worked according to pre- approved shift schedules, subject to the maximum shift duration requirements under Article 142(6) of the Labour Code and the minimum daily and weekly rest periods under Articles 152 and 153 of the Labour Code.

Within the reporting period established by the employer under Article 142(2) of the Labour Code, the employee did not work overtime in excess of the total working hours for the established reporting period.

The employee was working night duty within the approved schedules in 2020. In performing such work, all the requirements for night work under Article 140 and Article 140a of the Labour Code were complied with.

During the month of July 2020, the driver has been working on a shift based with a working time of 178 00 h.

In August 2020, for four days according to the monthly schedule, he performed his duties in two day and two night shifts with a working time of 33:40 h.

Before the incident, the employee has had a total of 14 hours of rest time between shifts and has begun the new working shift at 21:00 h UTC.

The aviation occurrence was realized at the end of the second night shift.

In conclusion, it should be pointed out that despite having a rest period before his shift, the passenger stairs driver probably felt tired at the end of his shift and was not sufficiently concentrated.

In view of the above analysis, the dominant factors for the realization of the serious incident could be attributed to mainly to:

Main cause: Violations of the technology during ground handling of the aircraft service by the passenger stair driver when leaving the aircraft stand, after which the passenger stair was allowed to manoeuvre below the minimum permissible safe distance from the aircraft.

Contributing factor: Insufficient concentration of the GSE driver's attention when operating the passenger stair due to fatigue.

4. Conclusion

4.1. Findings

As result of the investigation, the Commission made the following conclusions:

1. The Aircraft A320-232, serial number No 4621, registration HA-LWH was manufactured in December 2011, manufacturer Airbus SAS.
2. The aircraft has Registration Certificate Number - LFH/37016-2/2018-ITM, issued on September 17, 2018 by Ministry of Innovation and Technology of Republic of Hungary.
3. The aircraft is owned by “Wizz Air Hungary” Ltd.
4. The aircraft has a Certificate of Airworthiness LI/PM/NS/A/338/4/2011, issued on March 16 2011, by National transport Authority Aviation Administration of Republic of Hungary;
5. Airworthiness review certificate of the aircraft No WZZ/ARC/HA-LWH-HU.MG.0016 issued on February 24 2020 and is valid until March 16 2021.
6. The aviation occurrence is realized in daylight hours.
7. There was no emergency evacuation of passengers and crew;
8. The flight crew of flight W64331 did not contribute by actions or omissions to the occurrence.
9. The damage of the aircraft did not allow performing the scheduled flight.
10. The passenger stair driver is qualified to operate with the driver of GSE at Sofia Airport.
11. The passenger stair driver did not use alcohol during of realization of the occurrence.
12. During the month of July 2020, the driver has been working on a shift based with a working time of 178:00 h.
13. In August 2020, for four days according to the monthly schedule, he performed his duties in two day and two night shifts with a working time of 33:40 h.
14. The passenger stair driver did not obey the requested safe distance when leaving the aircraft stand.
15. The passenger stair driver did not lower the platform to the lower (transport) position when leaving the aircraft stand.
16. Lack of a safety cone under of the left wing, at the moment of movement of the stair around the left wing;
17. During the manoeuvre, there was no assistant to monitor the execution of a safe manoeuvre with the passenger stair around the aircraft.
18. Insufficient concentration of the driver's attention when driving the passenger star because of the effects of fatigue.
19. Before the event, the driver had rested for 14 hours and started his shift at 21:00 UTC.

20. The event was realized at the end of the driver's second night shift.
21. The passenger stairs „ ENISA EDU-WIDE” with inventory No GH 310132 is owned by Goldair Handling and it was in good technical condition

4.2. Causes

Based on the analysis performed, the Commission points out that the serious incident resulted from the following causes:

Main cause: Violations of the technology during ground handling of the aircraft service by the passenger stair driver when leaving the aircraft stand, after which the passenger stair was allowed to manoeuvre below the minimum permissible safe distance from the aircraft.

Contributing factor: Insufficient concentration of the GSE driver's attention when operating the passenger stair due to fatigue.

5. Safety Recommendations

Taking into account the causes of the serious incident and the deficiencies found in the investigation, the Commission recommends that the following measures should be taken to ensure the flight safety:

BG.SIA-2020/04/01. DG CAA should require the operators providing ground-handling services at civil airports for public use in the Republic of Bulgaria to monitor the accumulated fatigue of GSE drivers and to update monthly work schedules if necessary.

On the grounds of Article 18, §5 of Regulation (EU) 996/2010, the safety recommendation issued will be recorded in the centralized European system SRIS (Safety Recommendations Information System).

The Investigation Commission reminds all organizations, to which flight safety recommendations are sent that, on the grounds of Article 18 of Regulation (EU) 996/2010 on Investigation and Prevention of Accidents and Incidents in Civil Aviation and Article 19, paragraph 7 of Ordinance No. 13 on the Investigation of Aviation Accidents are obliged to notify the Air, Maritime and Railway Accidents Investigation National Board in writing of the action taken on the recommendations made.

COMMISSION ON INVESTIGATION OF THE SERIOUS INCIDENT

Sofia

February 2, 2022