



5N-MJQ

Preliminary Report on ground collision between a conveyor belt TUG660 truck with fleet number 49/9 operated by Skyway Aviation Handling Company (SAHCO) Plc and a parked Boeing 737-700 aircraft with nationality and registration marks 5N-MJQ owned and operated by Arik Air Limited which occurred at Nnamdi Azikiwe International Airport Abuja on 3rd February, 2022.

Registered owner and operator:	SAHCO PLC
Vehicle type and model:	TUG660
Manufacturer:	Textron GSE
Year of manufacture:	2007
Year of purchase:	2007
Fleet number:	49/9
Location:	International apron Nnamdi Azikiwe International Airport Abuja (DNAA)
Date and time:	3 rd February, 2022 @17:10

(All times in this report are local time, equivalent to UTC+1 unless otherwise stated)



INTRODUCTION

Nigerian Safety Investigation Bureau, (NSIB) was notified of the serious incident by Skyway Aviation Handling Company on 4th February, 2022 at about 14:35 h. Investigators were dispatched and arrived at the scene. Post incident assessment commenced immediately under the provisions of Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2019 and ICAO Annex 13.

The purpose of this preliminary report is to provide details of initial facts, discussions and findings surrounding the occurrence; it includes information gathered from witness statements, site of occurrence and preliminary inspection of the aircraft.

The investigation is ongoing.

1.0 FACTUAL INFORMATION

1.1 History of the Event

On the third of February, 2022 an Arik Airlines aircraft Boeing 737-800 with nationality and registration markings 5N-MJQ departed Murtala Muhammed international Airport (DNMM) at 15:10 h on a scheduled flight to Nnamdi Azikiwe International Airport Abuja (DNAA). The flight arrived DNAA at 16:50 h.

Passengers disembarked and the aircraft prepared for their next leg which was DNAA to Mallam Aminu Kano International Airport Kano (DNKN). While the boarding was on-going, the captain reported hearing a loud bang, on hearing this the crew came down and saw a conveyor belt truck belonging to Skyway Aviation Handling Company (SAHCO) LTD under the aircraft towards the forward cargo hold. On inspecting the scenario, they found out that the equipment had broken the VHF antennae and punctured the fuselage of the aircraft.

According to the conveyor belt truck driver, he was busy servicing the toilet bowser for aero contractors' aircraft; when he was invited by the ramp officer to remove the conveyor belt truck from aero contractors' airbus aircraft.

He said he mounted the equipment, reversed and applied the brakes then moved forward. When positioning on the Arik Air B737 5N-MJQ he tested the brakes two times and his foot was steadily on the brake pedal. Suddenly the brake went flat, the equipment couldn't be stopped and eventually hit the aircraft.

He added that after removing the truck from the under-belly of the aircraft, the brake was tested and found defective.

The serious incident occurred at 17:10 h in visual meteorological condition (VMC)

During post occurrence inspection, it was discovered that the brake was not effective (flat). On further inspection, it was discovered that one of the dual reservoir of the brake master cylinder was empty the fluid had leaked out.

To further ascertain the source of the leakage, the brake components were screened and the leakage was traced to the brake proportioning valve. The brake component of the TUG 660 belt loader comprises of brake master, hydro booster, brake pipes, brake proportioning valve, brake callipers, brake pads, brake discs, brake drum, brake linings and wheel cylinders. The brake system is set up with brake discs in the front and brake drum in the rear.

1.2 Injuries to persons

Nil

1.3 Damage to aircraft

The aircraft was substantially damaged

1.4 Other damage

The service truck sustained minor damage



1.5 Personnel information

1.5.1 Ground Support Equipment (GSE) Driver

Nationality:	Nigerian
Age:	53 years
License type:	National Driver's License (Class B), Airside Drivers Permit
National driver's license:	Valid till 15th June, 2020
Airside driver's permit:	Valid till July 31st 2022

1.6 Aircraft information

1.6.1 General information

Aircraft type:	B737-800
Manufacturer:	Boeing Aircraft Company, USA
Year of manufacture:	2006
Serial number:	38971
Registered owner/operator:	Arik Air Limited
Nationality and registration marks:	5N-MJQ
Airframe time:	16,548:55 h



1.6.2 Conveyor Belt Loader information

Vehicle type:	TUG 660
Manufacturer:	Textron GSE
Date of manufacture:	2006
Chassis number:	WDB970012L777472
Registered owner/operator:	SAHCO PLC
Registration number:	49/9

Before the arrival of NSIB investigators, the truck had been moved from the scene of the occurrence.

1.7 Meteorological information

Not applicable

1.8 Aids to navigation

Not applicable

1.9 Communications

Not applicable

1.10 Aerodrome information

Not applicable

1.11 Flight recorders

Not applicable

1.12 Wreckage and impact information

The aircraft was mainly in one piece, the right hand VHF antennae was broken and the fuselage of the aircraft was punctured.

The following damages were observed on the aircraft;

- i. Right hand VHF antennae
- ii. Punctured fuselage underneath the aircraft towards the forward cargo hold

5N-MJQ



Figure 1: Parked Arik Air Boeing 737-700 after the occurrence



**Figure 2: The conveyor belt truck still under the aircraft after the occurrence
(Picture taken by the crew)**



Figure 3: Puncture to the fuselage of the Arik air aircraft (a pressurised section of the aircraft)



Figure 4: point of the conveyor belt that hit the aircraft



Figure 5: Brake assembly of the conveyor belt truck



Figure 6: Head protector of the conveyor belt that punctured the fuselage of the aircraft



Figure 7: Brake proportioning valve of the truck where the leakage was traced to

1.13 Medical and pathological information

No medical or pathological tests were conducted

1.14 Fire

There was no fire



1.15 Survival aspect

The incident was survivable as the speed on impact was minimal and the contact between the conveyor belt truck and the aircraft was also minimal.

3.0 INITIAL FINDINGS

Findings

1. Arik Air 5N-MJQ was parked at the international apron boarding passengers.
2. While boarding, the Pilot heard a loud bang on the aircraft.
3. The Pilot went out immediately to check what was going on
4. The truck is maintained in accordance with manufacturer's recommendations.
5. The GSE driver was operating a conveyor belt on another aircraft when he was called to operate same service on 5N-MJQ.
6. According to the GSE driver, while positioning the conveyor belt truck, his foot was steadily on the brake pedal.
7. The conveyor belt truck loader driver suddenly noticed that his foot went flat and the truck would not stop.
8. The truck went right under the aircraft and stopped as a result of the impact.
9. The right hand VHF antennae was destroyed
10. The fuselage of the aircraft was punctured
11. The passengers were disembarked to wait for another aircraft
12. The truck driver was not injured
13. The conveyor belt truck sustained minor damage.
14. The GSE driver was not taken to the hospital for check-up and multi drug screening.
15. The National driver's license of the GSE driver has expired
16. The airside drivers permit of the GSE driver was valid

The conveyor belt truck had already been removed from the scene before the arrival of AIB investigators



4.0 IMMEDIATE SAFETY RECOMMENDATION

1. SAHCO PLC should ensure adherence to the provisions section 19(1) of Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2019 regarding tampering with evidence.