Australian Government

Australian Transport Safety Bureau

Aircraft loading event involving Fokker F28, VH-NHZ

Perth Airport, Western Australia, 26 January 2017

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Addendum

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Aircraft loading event involving Fokker F28, VH-NHZ

What happened

On 26 January 2017, a Network Aviation Fokker F28, registered VH-NHZ (NHZ), conducted a flight from Perth Airport, Western Australia (WA), to Newman Airport, WA. On board the flight were two flight crew, three cabin crew and 31 passengers.

The aircraft was initially pushed back from the parking bay at about 1600 Western Standard Time (WST), for the Perth-Newman-Perth service. However, another company aircraft, scheduled to operate the Perth-Karratha-Perth service, became unserviceable and the company elected to return NHZ to the gate and reschedule NHZ to operate a Perth-Newman-Karratha-Perth service. This required the flight crew to re-plan the flight while ground staff transferred passengers and baggage from the unserviceable aircraft to NHZ. In addition to the transfer of passengers and baggage from the Perth-Karratha service, there were 30 bags, which had been offloaded from another Perth-Karratha service due to weight restrictions, which were planned to be loaded on board NHZ for the rescheduled service.

During the flight planning process, the flight crew were presented with an amended load instruction sheet (LIS) and two customer management (CM) summaries. The LIS indicated the number of bags to be loaded and the distribution of the load between the baggage compartments. The CM summaries were produced by the passenger check-in system and provided the total passenger number and distribution of passengers, along with the total number of bags and their weight.

The LIS indicated there were 28 bags to be loaded in compartment A and 30 bags to be loaded in compartment B, for a total of 58 bags. The first CM summary, annotated as ‘Acceptance not finalised’, indicated there were 34 passengers with 30 bags at a total weight for the bags of 388 kg. The second (final) CM summary indicated there were 31 passengers with 28 bags at a total weight for the bags of 365 kg.

The flight crew entered 58 bags with a total weight of 388 kg (correct number of bags, but 365 kg less than the actual weight) and 31 passengers (the correct number of passengers) into their electronic load sheet for departure. The flight departed Perth and landed at Newman without incident. After arrival at Newman, the ground staff informed the flight crew that the actual baggage weight appeared to be greater than what they expected. The Newman ground staff weighed the baggage, which was found to be 755 kg (planned load 388 + 365 = 753). The flight crew worked with the Newman ground staff to resolve the discrepancy and the flight continued to Karratha and Perth without further incident.

Check-in system

According to the operator, there was some difficulty getting the paperwork to the flight crew when the flight was re-scheduled to include the Karratha service. At the time the decision was made to amalgamate the services, the check-in system had recorded that the services to both Newman and Karratha had departed. The first CM summary, annotated ‘Acceptance not finalised’ with boarding time 1725, was delivered to the flight crew by the gate staff for the purpose of planning their flight. When the flight closed, the final CM summary with boarding time 1820 was generated from check-in and then delivered to the flight crew with the passenger manifest. The flight crew then crosschecked the final CM summary with the figures entered into the electronic load sheet (see *Electronic load sheet*) and the completed LIS.

Each CM summary delivered to the flight crew supersedes any previous CM summary. The second CM summary was the final CM summary and had the correct number of passengers.

However, both CM summaries had incorrect baggage data. The operator considered it possible that the attempt to amalgamate the services, which were both recorded as departed in the check-in system, resulted in incorrect baggage data on the final CM summary. The final CM summary had the correct number of passengers and their baggage, but did not take into account the extra bags, which had been off-loaded from the earlier flight.

Electronic load sheet

The flight crew had electronic flight bags (iPads), which were used to produce the electronic load sheet from the data provided from the LIS and CM summary.[1] The electronic load sheet was produced with the total number of bags in accordance with the LIS, the baggage weight of 388 kg in accordance with the first CM summary marked 'Acceptance not finalised' and the number and distribution of passengers in accordance with the final CM summary.

Flight crew comments

The captain reported that they performed a crosscheck of the paperwork and that they commented to the first officer that they needed to be extra careful due to the number of changes that were occurring during the process of re-planning the flight.

Safety analysis

During the flight planning process, the crew received several items of paperwork for the re-schedule of the service to include Karratha. It is likely that the first CM summary contained the 30 bags offloaded from an earlier flight. The final CM summary received by the flight crew contained incorrect information on the total number and weight of bags loaded in the aircraft, but was in accordance with the passengers' checked-in baggage.

It is likely that when entering the information into the electronic load sheet, the crew entered the baggage weight from the CM summary annotated 'Acceptance not finalised' during the planning stage. It is likely that the crosscheck of baggage weight entered into the electronic load sheet from the first CM summary (388 kg) with a final CM summary (365 kg) resulted in an incorrect assumption that the planned baggage weight was acceptable in the mind of the captain.

While the LIS has the total number of bags and their distribution between the cargo compartments, it does not include the weight of baggage. Hence, the LIS may be used for entering and crosschecking baggage numbers, but it cannot be used for entering or crosschecking baggage weight. It is probable that the flight crew did not crosscheck the total number of bags on the LIS against the final CM summary.

Findings

These findings should not be read as apportioning blame or liability to any particular organisation or individual.

- The final CM summary provided to the flight crew contained incorrect baggage data, which was possibly the result of an attempt to amalgamate two services already recorded in the check-in system as departed, and did not include the extra baggage, which was previously offloaded from an earlier Perth-Karratha service.
- It is probable that when completing the electronic load sheet, the flight crew entered the total number of bags from the LIS and the baggage weight from the CM summary annotated 'Acceptance not finalised'. This weight was probably checked against the final CM summary and considered acceptable in the mind of the flight crew.

[1] The data entered into the electronic flight bag is used to calculate aircraft performance. The ATSB did not receive a flight crew report of aircraft performance or handling issues associated with this incident.

- The total number of bags on the LIS was probably not crosschecked with the final CM summary, resulting in the crew not detecting the error and the aircraft departing with the incorrect weight and balance calculations.

Safety action

Whether or not the ATSB identifies safety issues in the course of an investigation, relevant organisations may proactively initiate safety action in order to reduce their safety risk. The ATSB has been advised of the following proactive safety action in response to this occurrence.

Operator

As a result of this occurrence, the aircraft operator has advised the ATSB that they are taking the following safety action:

Advisory bulletin

The operator issued an advisory bulletin to communicate to their staff the aircraft loading system requirements, including the interface requirements between departments for aircraft dispatch. This includes the point that the baggage crosscheck is the final CM summary number of bags versus number of bags on the LIS.

General details

Occurrence details

Date and time:	26 January 2017 – 1630 WST	
Occurrence category:	Incident	
Primary occurrence type:	Loading related	
Location:	Perth Airport, Western Australia	
	Latitude: 31° 56.42’ S	Longitude: 115° 58.02’ E

Aircraft details

Manufacturer and model:	Fokker Aircraft B.V. F28 MK0100	
Registration:	VH-NHZ	
Operator:	Network Aviation	
Serial number:	11515	
Type of operation:	Air transport high capacity - passenger	
Persons on board:	Crew – 5	Passengers – 31
Injuries:	Crew – 0	Passengers – 0
Aircraft damage:	Nil	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A

primary concern is the safety of commercial transport, with particular regard to operations involving the travelling public.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.