AI2015-6

AIRCRAFT SERIOUS INCIDENT

INVESTIGATION REPORT

AERO ASAHI CORPORATION
J A 0 6 N R
ALL NIPPON AIRWAYS CO., LTD.
J A 6 0 5 A

August 27, 2015

JTSB Japan Transport Safety Board

The objective of the investigation conducted by the Japan Transport Safety Board in accordance with the Act for Establishment of the Japan Transport Safety Board (and with Annex 13 to the Convention on International Civil Aviation) is to prevent future accidents and incidents. It is not the purpose of the investigation to apportion blame or liability.

Norihiro Goto
Chairman,
Japan Transport Safety Board

Note:

This report is a translation of the Japanese original investigation report. The text in Japanese shall prevail in the interpretation of the report.

AIRCRAFT SERIOUS INCIDENT INVESTIGATION REPORT

RUNWAY INCURSION
1. AERO ASAHI CORPORATION
BELL 430 (ROTORCRAFT), JA06NR
2. ALL NIPPON AIRWAYS CO., LTD.
BOEING 767-300, JA605A
ON RUNWAY 06R AT KANSAI INTERNATIONAL AIRPORT
AROUND 08:32 JST, SEPTEMBER 10, 2013

July 24, 2015

Adopted by the Japan Transport Safety Board

Chairman	Norihiro Goto
Member	Shinsuke Endoh
Member	Toshiyuki Ishikawa
Member	Sadao Tamura
Member	Yuki Shuto
Member	Keiji Tanaka

1. PROCESS AND PROGRESS OF THE INVESTIGATION

The occurrence covered by this report falls under the category of "An attempt of landing on a runway being used by the other aircraft" as stipulated in Clause 2, Article 166-4 of the Ordinance for Enforcement of the Civil Aeronautics Act of Japan and is classified as a serious incident.

On September 10, 2013, the Japan Transport Safety Board (JTSB) designated an investigator-in-charge and two investigators to investigate this serious incident. The JTSB notified the occurrence of this serious incident to the United States of America and Canada as the State of Design and Manufacture. However, the States did not designate representatives. Comments were invited from parties relevant to the cause of the incident. Comments from the relevant States were invited.

2. FACTUAL INFORMATION

2.1 History of the Flight

At around 08:32 Japan Standard Time (JST, UTC + 9 hours. The same hereinafter.) on September 10, 2013, a Bell 430, JA06NR, operated by Aero Asahi Corporation (hereinafter referred to as "the Helicopter A"), entered the runway despite an instruction to hold short of the runway given by an Air Traffic Controller (hereinafter referred to as "the Controller". As a result, a Boeing 767-300, JA605A

operated by All Nippon Airways Co., Ltd. (hereinafter referred to as "the Aircraft B") which was approaching on final with landing clearance for the runway executed a go-around in accordance with the Controller's instruction.

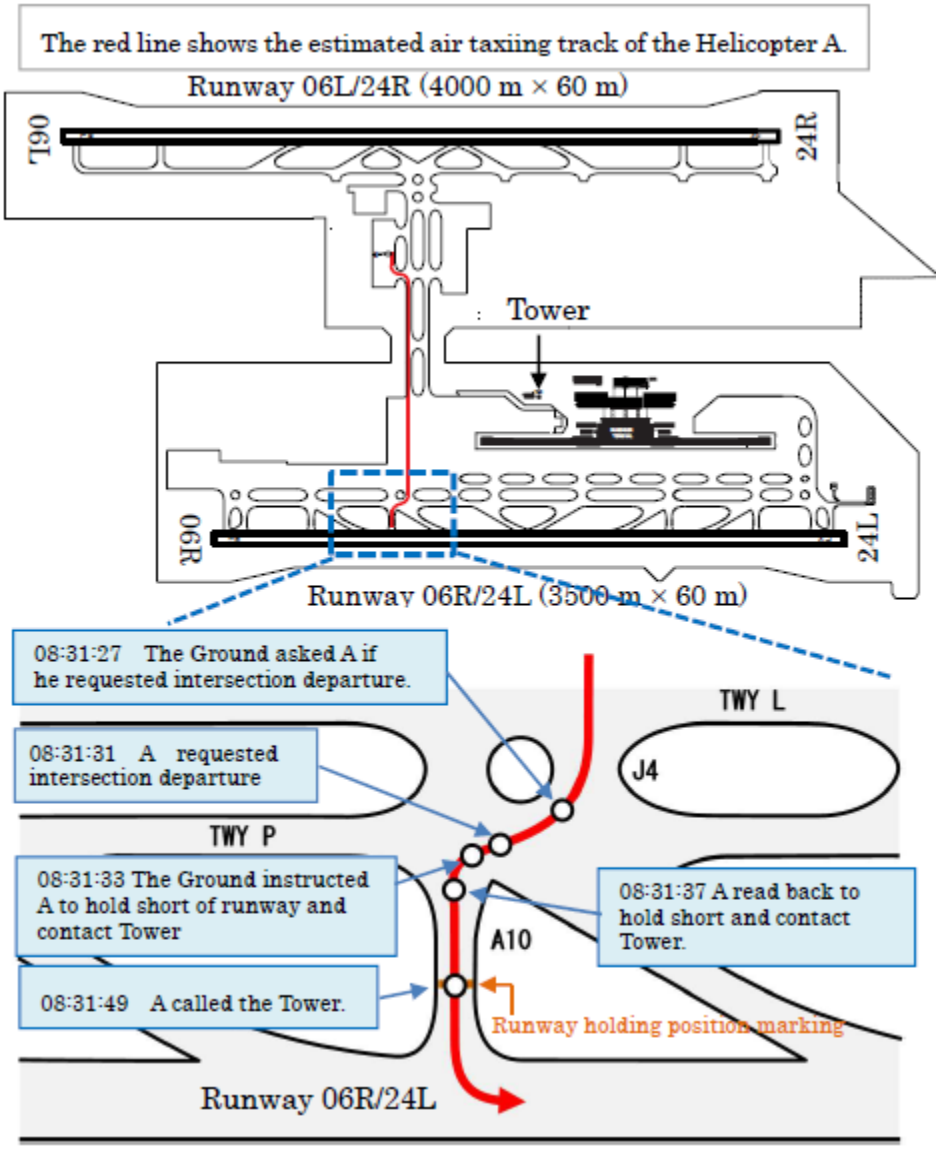
According to the statements of the pilots of both aircraft and an air traffic controller, recordings of the Air Traffic Control communications, and the Flight Data Recorder of the Aircraft B, the history of the flight up to the time of the serious incident is summarized as follows.

Landings and takeoffs were not available at Yao Airport the night before the occurrence of the serious incident due to maintenance. Therefore, the Helicopter A, designated for news gathering missions based at Yao Airport, was standing by at Kansai International Airport together with two other news gathering helicopters for possible night time missions. On the day of the occurrence, the Helicopter A was scheduled to take off from Kansai International Airport at around 07:50 for Yao Airport to meet the open time of Yao Airport.

When the pilot in command (PIC) of the Helicopter A tried to start No.1 engine after starting No.2 engine, the exhaust temperature of the No.1 engine surged. He stopped starting the No.1 engine to avoid an excess of the temperature limit. The PIC further attempted start-up of the No.1 engine, which resulted in the same situation. Subsequently, he stopped the No.2 engine to change the sequence and started the No.1 engine first, which was successful. Finally, both of the engines began running normally. This trouble caused almost 40 minutes delay of the departure.

The PIC of the Helicopter A, with two other occupants; onboard mechanic and a camera staff, called the Ground controller (hereinafter referred to as "the Ground") for departure instructions at around 08:28. Pilots who request intersection departure[*1] need to specify the intersecting taxiway and receive permission from controllers. At this time, the PIC planned to make an intersection departure from taxiway A10. However, he did not request that from the Ground. Although the Ground instructed him to proceed via taxiway J4 and taxiway P as the route for the taxiway that connects with the end of the runway 06R, the PIC read back only J4, assuming that taxiing to the A10 was approved. In response to this, the Ground instructed him to taxi via J4 then P. The PIC, after commencing air taxiing[*2], read back J4 and the taxiway L. The Ground replied to this, pointing out the taxiway was not L but P. The PIC, however, did not respond to it. Therefore, after a while, the Ground reinstructed him to taxi via P until just before the runway, to which the captain replied that he would proceed to P.

	The PIC was air taxiing at a faster speed, wondering if the media contractor was worried about the delay because the other helicopters had already taken off at around 07:50 as scheduled, and was also thinking of such as the management of the helicopter after its arrival and the trouble of the engine. Besides, the PIC thought there was a good chance of his departure before the arriving aircraft to the runway 06R he visually recognized when air taxiing near the intersection of taxiway L if he hurried because it looked around seven or eight miles on final approach course. The Ground asked the PIC of the Helicopter A if he requests intersection departure from taxiway A10 because it looked like heading towards the taxiway though he had not requested that in advance. In response to the PIC's answer in affirmative to this, the Ground instructed him to hold short of the runway and to contact Tower controller (hereinafter referred to as "the Tower"), which the captain read back. The PIC changed the frequency to the Tower. Being distracted by the engine instruments, however, he entered the runway before establishing communication with the Tower. He allegedly realized that the Helicopter A crossed the runway holding position marking when it nearly reached just over the marking. He called the Tower almost concurrently when the Helicopter A was crossing the marking. Although the Tower began replying to it, mid-transmission, he stopped it in order to give the instruction of a go-around to the Aircraft B which was on the final for the runway. The PIC of the Helicopter A vaguely assumed that he had received permission of entering the runway. However, he realized he had not when he heard the instruction of a go-around given to the Aircraft B. The Helicopter A continued air taxiing after crossing the runway holding position marking, and then halted on the runway centerline marking.



In the meanwhile, the Aircraft B, which was on final approach with landing clearance, was instructed to execute a go-around. It was at around one mile on final, with an altitude of around 300 ft when the Aircraft B commenced climbing.

The PIC and the first officer of the Aircraft B, being aware that the Helicopter A entered the runway, anticipated the go-around. Therefore, they did not feel any danger. Besides, the first officer assumed that the Helicopter A would not take off, judging from the instruction of vacating the runway given to the Helicopter A by the Tower and the reply of the Helicopter A's PIC.

2.2 Injuries to Persons	None
2.3 Damage	None

2.4 Personnel Information	PIC of Helicopter A	Male, Age 53
	Commercial pilot certificate (Rotorcraft)	June 26, 1984
	Type rating for Bell 222[*3]	May 7, 1990
	Class 1 aviation medical certificate	Valid date: Oct 5, 2013
	Total flight time	9,046 hr 5 min
	Flight time in the last 30 days	19 hr 48 min
	Total flight time on the type of aircraft	582 hr 55 min
	Flight time in the last 30 days	1 hr 10 min
2.5 Aircraft Information	Type of Helicopter A	Bell 430
	(Serial number: 49106, Date of Manufacture: November 4, 2004)	
	Certificate of Airworthiness	No. DAI-2013-219
		Validity date: July 26, 2014
	Category of Airworthiness	Rotorcraft Transport Category
		TB or Special helicopter X
	Total flight time	1,629 hr 55 min
2.6 Meteorological Information	Aeronautical weather information at Kansai International airport at 08:30 was listed below. Wind direction 080°, Wind velocity 4 kt, Prevailing visibility 25 km, Cloud amount FEW, Cloud type Cumulous, Ceiling 2,500 ft, Temperature 25°C, Dew point 18°C, Altimeter setting(QNH) 29.94 inHg	
2.7 Additional Information	(1) The PIC of the Helicopter A had never experienced any anomalies in starting engines of the type in the past. The onboard mechanic conveyed his judgment to the PIC that the engine malfunction would have been just a matter of starting phase. In addition, no malfunction was observed from the time when the engines started normally until the Helicopter A landed at Yao Airport. (2) After arriving at Yao Airport, they attempted to start the engines. However, they could not observe any anomalies. Subsequently, further precise inspection of the No.1 engine fuel nozzle was conducted at a maintenance factory authorized by the manufacturer of the engines, by which no abnormality that caused misfire or excessive exhaust temperature was detected. (3) At the time when the Helicopter A was air taxiing near the taxiway L, the Aircraft B was on final approach course around three miles away from runway 06R threshold, being followed by a succeeding arrival B737 around 10 miles away from the threshold.	

*1: "Intersection departure" refers to starting takeoff roll from any runway intersection except the end of the runway.
*2: "Air taxiing" refers to a movement of a helicopter normally within an altitude equivalent to the diameter of its main rotor above the surface of an aerodrome at a ground speed of less than 20 kt.
*3: The rating for Bell 222 also applies to Bell 430.

3. ANALYSIS

3.1 Involvement of Weather	None
3.2 Involvement of Pilot	Yes
3.3 Involvement of Aircraft	None
3.4 Analysis of Findings	(1) It is probable that the PIC of the Helicopter A, unconsciously concentrating on immediate departure and checking the engine instruments, could not pay proper attention to other things due to a concern about the affection of the Helicopter A's operation after arrival and a worry about its safety of the flight due to the trouble of starting engines. As a result, it is probable that following four points emerged. ① The PIC of the Helicopter A proceeded to taxiway A10, assuming that he was granted for the intersection departure although he forgot to request it. ② The PIC of the Helicopter A, partly because of the assumption that the A10 intersection departure was planned, could not afford to listen to the instruction of the taxiing route and read it back correctly. ③ Although the PIC of the Helicopter A was instructed to hold short of the runway upon entering the taxiway A10, he continued air taxiing without recognizing the necessity to halt his helicopter immediately. ④ Overlooking the approaching aircraft B around three miles away from the runway threshold, the PIC of the Helicopter A assumed the aircraft which looked around seven or eight miles away from the runway threshold was the nearest arrival aircraft. (2) It is probable that the PIC of the Helicopter A assumed the aircraft he recognized around seven or eight miles away from the runway threshold was the next arrival, by which he judged that there was a good chance of his departure before the arrival if he hurried. Taking this into account, it is somewhat likely that if he had identified the Aircraft B which was three miles away from the runway threshold, he would not have entered the runway.

4. PROBABLE CAUSES

It is highly probable that this serious incident occurred because the Helicopter A entered the runway despite the instruction given to it to hold short of the runway, and as a result, the Aircraft B which had been given landing clearance externally attempted a landing to the same runway.

It is probable that the Helicopter A entered the runway because the PIC, concentrating on immediate departure and checking the engine instruments, forgot that he had to hold short of the runway.

5. SAFETY ACTIONS

In response to the occurrence of the serious incident, AERO ASAHI CORPORATION has taken the following preventive measures.

(1) For the PIC of the Helicopter A

The company gave a training and a special examination to the PIC based on the factorial analysis of the serious incident the company conducted.

(2) For all the pilots and others

i) Classroom learning in light of Air Traffic communications to prevent runway incursions and human errors were conducted. "Hurry-up syndrome*4" was added to the CRM*5 training items for helicopter pilots.

ii) PIC shall voice his or her intension in order to convey it to other crewmembers onboard when the PIC receives specific ATC instructions.

iii) PIC must not depart before confirming that the aircraft conditions are normal in preflight check, and a mechanic responsible for each aircraft must report the PIC that the aircraft is normal for the flight. Besides that, PIC must cancel the flight without hesitation when any concern about the flight exists. Furthermore, the company laid out its policy that it will deal with customers as well as other relevant issues caused by the cancelation of flights.

(3) Establishment of helicopter's operation procedures for specific airports

i) The company established the procedures regarding Air Traffic Control communications, takeoffs and landings of helicopters at Tokyo, Narita, Kansai, and Osaka International Airport.

ii) Based on the procedures mentioned above, preflight briefings to PICs shall be carried out.

iii) At the Airports mentioned above, two pilots are mandatory when they use the runways.

*4 "Hurry-up syndrome" refers to any situation where a pilot's human performance is degraded by a perceived or actual need to hurry or rush tasks or duties for any reason. (Source: NASA's Aviation Safety Reporting System, Directline Online edition, Issue No. 5 Hurry-up Syndrome)

*5 "CRM" is the acronym for Crew Resource Management. According to the FAA Advisory Circular 120-51E (CREW RESOURCE MANAGEMENT TRAINING 1/22/04), it refers to the effective use of all available resources: human resources, hardware, and information.