AA2014-5

AIRCRAFT ACCIDENT
INVESTIGATION REPORT

NON-PROFIT ORGANIZATION AERO SPORTS KITAMI

J A 2 5 2 3

September 25, 2014

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 determine the causes of an accident and damage incidental to such an accident, thereby preventing future accidents and reducing damage. 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 ACCIDENT INVESTIGATION REPORT

FUSELAGE DAMAGE CAUSED BY UNDERSHOOT
NON-PROFIT ORGANIZATION AERO SPORTS KITAMI
SZD-50-3 PUCHACZ (GLIDER, TWO-SEATER),
JA2523
NEAR THE KITAMI DISTRICT TEMPORARY OPERATION SITE (FOR AGRICULTURAL USE),
KITAMI CITY, HOKKAIDO, JAPAN
AROUND 14:30 JST, JUNE 15, 2014

September 12, 2014
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

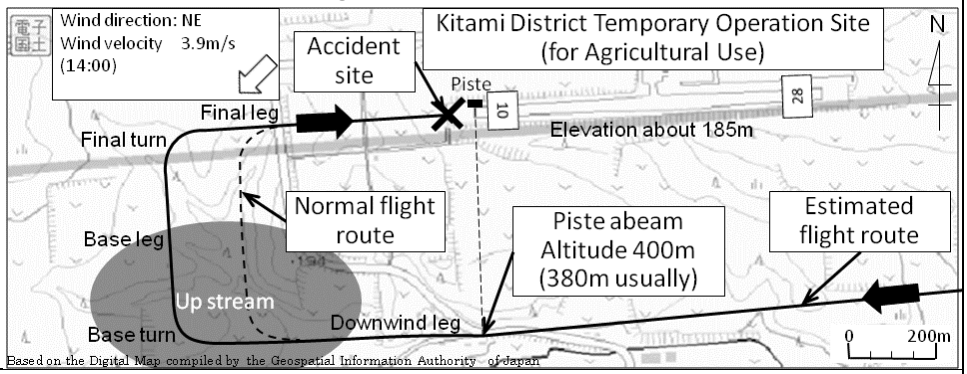
The Japan Transport Safety Board designated an investigator-in-charge and an investigator on June 15, 2014 to investigate the accident. Comments were invited from parties relevant to the cause of the accident and relevant State.

2. FACTUAL INFORMATION

2.1 History of the Flight

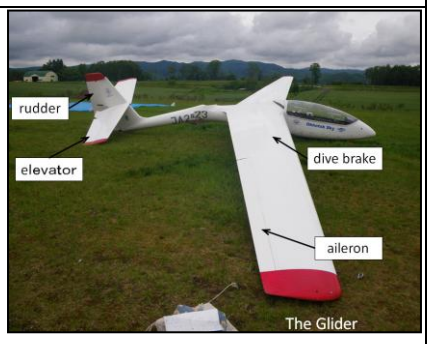
According to the statements of the captain and the witness , the history of the flight up to the time of the accident is summarized below:

On June 15, 2014, a PZL-Bielsko SZD-50-3 Puchacz, registered JA2523, operated by Aero Sports Kitami Incorporated Non-profit Organization, took off from Kitami District Temporary Operation Site (for Agricultural Use, hereinafter referred to as " the Site") runway 10 at 14:19 JST (Japan Standard Time: UTC+9 hrs) with towing by airplane. The only person on board the glider was the captain. The glider was released at an

	altitude of 660 m and performed air operation at the north east side of the Site. The glider flew about 10 minutes and entered in the south side of the traffic pattern with a higher altitude than usual. The glider passed an altitude of 400 m, 20 m higher than usual (380 m), abeam a piste[1]. Though it maintained the airspeed of 100km/h, it hardly descended due to upstream from around before base turn. Therefore, the captain delayed entering the base turn and extended downwind leg. Even it completed final turn, the approach path was higher than usual. Thus, the captain used dive brakes[2] to correct the touch-down point. The captain adjusted dive brakes, which led the approach-pass to become and the glider was approaching a grass overrun area. During approach, the glider kept a speed of 100 km/h. The captain performed a flare just before touch-down and closed dive brakes. The captain thought it would be able to touch-down in grass area. But the glider undershot and collided with a metallic fence which was on a boundary of the west side of the Site and a bank which was in front of the grass overrun area. The glider stopped after sliding about 30 m on grass overrun area. A witness at the piste saw the glider approach on the final leg. It was higher than usual approach path initially and he thought that it might be long touch-down. But dive brakes opened larger than usual and the glider approached short of the runway while descending at an almost constant rate. Though he lost sight of the aft body of the glider when its nose rose near the ground, he could keep its cockpit in sight. He saw dive brakes were open when its nose rose. The captain flew once with a club member qualified as instructor to check his competence in the morning. The accident occurred in his second flight on the day. The captain's physical condition was normal on the day of the accident. The glider undershot and damaged the fuselage at around 14:30. No anomalies of the glider were found until then. 
2.2 Injuries to Persons	None

*1 "Piste" refers to a facility that communicates with gliders and other aircraft flying to exchange information concerning the gliding field, and air traffic in the surrounding area, in order to ensure safe and smooth operation of the gliding field.

*2 "dive brakes" are plates normally stowed in the wings, which extend upward and their angle gradually increases as the control lever is moved in the direction of extension. When extended, the dive brakes increase the drag of the aircraft while reducing lift, thus decreasing the glide ratio.

2.3 Damage	Extent of damage: Substantially damaged - Fuselage Breakage - Landing gear Breakage - Empennage Partially Damaged
2.4 Personnel Information	Captain Male, Age 66 Private pilot certificate (Glider) December 26, 2013 Rating for High Class Glider December 26, 2013 Class 2 Aviation Medical Certificate Validity: January 23, 2015 Total flight time 56hr 29 min Total flight time on the type of aircraft 31hr 11 min
2.5 Glider Information	Type: PZL-Bielsko SZD-50-3 Puchacz Serial number B-2085 Date of manufacture November 19, 1993 Certificate of airworthiness No. 2014-38-02 Validity: July 3, 2015 Category of airworthiness Utility U Total flight time 1,358hr 25min
2.6 Meteorological Information	(1) According to the witness, the weather on the day of the accident was cloudy with intermittent rain; good visibility; calm easterly; the cloud base was about 600m. There was no large fluctuation of wind while the glider touched down. (2) The values observed and saved automatically by meteorological equipment placed in the administrative office of the Site were as follows: 14:00 Northeasterly wind at 3.9m/s 15:00 East-northeasterly wind at 3.6m/s
2.7 Additional Information	(1) Detailed Information on Damage The fuselage of the glider was broken just after the main wing. The cover of the main wheel was broken and scattering around the fence and the bank with which the glider collided. With regard to the flight control systems, elevators and rudder were restricted because of the broken fuselage, but there were no anomalies in the operation of the ailerons and the dive brakes.  The Glider (2) The Accident Site Description The Site was constructed on the landfill a plateau with gentry rolling, 920 m length and 60 m width (800 m × 25 m paved runway), about 185 m elevation and 10/28 runway direction. There are 60 m length overrun areas with grass in both side of the paved runway.  The damaged metallic fence

	(3) Information on the Object Other Than the Glider The fence damaged which was on a boundary of the west side of the Site.

3. ANALYSIS

3.1 Involvement of Weather	No
3.2 Involvement of Pilot	Yes
3.3 Involvement of Glider	No
3.4 Analysis of Findings	(1) Analysis of the weather It is highly probable that there are no hindrances to fly under clouds except rainfall time on the day. It is probable that it was cloud; there was headwind less than 4 m/s slightly left wind, while the glider touched down. As the glider hardly descend, it is probable that there was upstream when the glider flew around before base turn. It is somewhat likely that a downstream occurred around the final leg as the weak convection of the upstream. (2) Involvement of the Pilot Since the glider was higher than usual approach path, the captain adjusted dive brakes to correct touch-down point. Despite the fact that, it is probable that he could not adjust dive brakes appropriately; the approach path of the glider was lower and could not approach the touchdown target. The captain performed flare and closed the dive brakes just before touch-down; it is probable that it was too late to correct the touch-down point. Though the Site has 60 m grass overrun area at the west side of the paved runway, since there are the fence and the bank that were collided with the glider in front of the grass overrun area, it is probable that the risk of lower approach path is larger than higher approach path. If the captain closed the dive brakes as soon as realizing lower than usual approach path, then adjusted again the dive brakes to correct to appropriate approach path after reaching high approach path, it is somewhat likely that the glider could avoid to collide with the fence and the bank at the west side of the Site.

4. PROBABLE CAUSES

In this accident, it is probable that the glider was not corrected to appropriate approach path by using dive brakes and lowered approach path during an approach, subsequently collided with the fence and the bank at the west side of airfield and sustained damage.