



REPUBLIC OF CROATIA
Air, Maritime and Railway Traffic
Accident Investigation Agency

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FINAL REPORT

ON THE SERIOUS INCIDENT INVOLVING AIRCRAFT CIRRUS SR-20, OE-DDD OCCURRING ON AUGUST 17, 2012 AT SPLIT AIRPORT

The final report was made pursuant to the Air Traffic Act (OG 69/2009, 84/2011, 54/2013, 127/2013), Appendix 13 of the International Civil Aviation Agency (Appendix 1 – Format) and the Regulation (EU) No. 996/2010 of the European Parliament and of the Council. The final report was made after all the relevant evidence concerning the serious incident of aircraft Cirrus SR-20 had been collected.

Regulation (EU) No. 996/2010 of the European Parliament and of the Council

"The sole objective of safety investigation should be the prevention of future accidents and incidents without apportioning blame or liability."

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BASIC INFORMATION

Aircraft

Owner	Company Steirische Motorflug - Union Graz Austria	
Operator	Company Steirische Motorflug - Union Graz Austria	
Aircraft model	Manufacturer:	Cirus Design Corporation - USA
	Type and model:	SR20
	Serial number:	1506
Country and registration	Austria OE-DDD	
Site of event	Split Airport	
Date of event	August 17, 2012	



Figure 1 Aircraft Cirrus SR 20

BRIEF SUMMARY

On August 17, 2012 around 14:00 LT the Cirrus SR20 aircraft attempted to land on runway 23 of the Split Airport. After the rear wheels touched the ground roughly, the aircraft bounced, hit the runway with the nose wheel and bounced again, swaying somewhat to the left. The pilot then decided to perform a go-around procedure. He applied full power to the engine and in low flight flew over the apron where aircraft were parked. He reached the necessary altitude, repeated the approach to runway 23 and landed successfully. After parking, the pilot noticed damage to the plane and reported the occurrence.

1. FACTUAL INFORMATION

1.1 FLIGHT PREPARATION AND HISTORY

1.1.1. General

On August 16 2012 at 11:32 UTC the aircraft OE-DDD took off from Graz and landed at Dubrovnik Airport at 13:42 UTC. One day later, at 10:56 UTC, the aircraft took off from Dubrovnik Airport toward Split Airport, where he landed at second attempt at 12:07 UTC. The aircraft flew under VFR conditions.

After the landing and the serious incident, the aircraft left the runway unassisted and got to the apron intended for general aviation. When the pilot got off the aircraft he found that the aircraft had sustained damage.

1.1.2. Flight preparation

The pilot performed flight preparation at Dubrovnik Airport. He duly filled out the flight plan, informed himself of the weather situation on route and at Split Airport. The pilot duly filled out the aircraft logbook.

1.1.3. Flight history

The aircraft took off from Dubrovnik Airport and at 12:07, after 1 hour and 11 minutes of flight, it landed at Split Airport. The first landing attempt was unsuccessful, followed by a 'go-around' and successful landing in the second attempt.

1.1.4. Radar images

The aircraft accident investigator did not request any radar images, because they are not relevant to this serious incident.

1.1.5. Flight plan

The flight plan was duly filled out and approved by Croatia Control (Addendum).

1.2. INJURED PERSONS

Injured persons	Crew	Passengers	Others
Fatal injury	0	0	0
Serious injury	0	0	0
Slight/no injury	0/1	0/2	0

1.3. DAMAGE TO AIRCRAFT

Hitting the runway caused damage to the propeller blades, engine and nose wheel.

1.4. OTHER DAMAGE

There was no other damage.

1.5. PERSONAL INFORMATION

1.5.1. Pilot

Person	Born:	1975
	Residence:	Graz, Austria
License	PPL(A)	
Date of issue	May 25, 2009	
Date of validity	May 25, 2014	
Total flight time	On the day of the accident - unknown	
Flight crew logbook	---	

1.5.2. Passengers

There were two passengers on board the aircraft.

1.6. AIRCRAFT INFORMATION

Registration	OE-DDD
Type and model of aircraft	CIRRUS DESIGN Corp. SR20
Characteristics	Single-engine aircraft
Manufacturer	CIRRUS DESIGN Corp. – USA
Serial number	1506
Year of manufacture	2005
Owner	Steirische Motorflug - Union
Operator	Steirische Motorflug - Union
Area of use	IFR/VFR
Engine	CONTINENTAL 10-360
Serial number	357963
Total flight time of the aircraft	1313
Fuel	Fuel 100LL
Compulsory insurance policy	Valid
Hull insurance	None
Purpose	Non-commercial
Propeller	Hartzell
Model	PHC-J34F-1RF
Time of use	2400 h/ 6 years

1.7. METEOROLOGICAL INFORMATION

At the time of landing there was wind blowing at 11 KT from the direction 240°, visibility was over 10 kilometres with some overcast at 6000 meters, temperature was 33°C, air pressure was 1015 hPa and no changes were expected.

During landing the aircraft faced what was practically headwind blowing at constant speed.

1.7.1. Time of day

Early afternoon and during day-time visibility.

1.8. COMMUNICATION

Communication took place via the official frequency of Croatia Control, TWR Split 124,675 MHz. A transcript of spoken communication is in the Appendix.

1.9. AIRPORT INFORMATION

The pilot was given information on the conditions at Split Airport by Croatia Control, TWR Split.

1.10. MEDICAL AND PATHOLOGICAL INFORMATION

There were no injured persons in this serious incident.

1.11. FIREFIGHTING INFORMATION

There was no need for fire department intervention in this case.

1.12. RESCUE

There was no need for rescue.

1.13. INVESTIGATION AND TESTING

The investigation was performed by aircraft accident investigators from the Air, Maritime and Railway Traffic Accident Investigation Agency.

The aircraft accident investigator received information about the serious incident involving the aircraft OE-DDD from the employees of Split Airport immediately after the pilot reported it. The investigators were also informed of the event by the Ministry of the Interior's Operations Control Centre.

The investigators' cooperation with Croatia Control and the Split Airport was continuous and purposeful.

The investigator requested and received from the owner a certified copy of the Aircraft Certificate of Release to Service (Appendix).

1.14. ADDITIONAL INFORMATION

The investigators received additional information from the pilot, aircraft owner, the Split Airport and the company that conducted aircraft maintenance.

The pilot stated that prior to touching the runway, the aircraft was thrust downwards due to windshear and after the rear wheels touched the ground, it bounced upwards. The pilot further stated that he attempted to stabilize the aircraft after that, but due

to windshear the aircraft was once again thrust downwards, this time the nose wheel. All of that happened within seconds. After that, he decided to go around and applied full power. He stated that the aircraft turned slightly to the left, but he did not correct the heading until he reached full speed. He then, after making two left turns, landed normally. When reaching the parking position he noticed that the propeller was damaged.

Split Airport delivered security camera footage which shows the aircraft flying over the taxiway and apron after the failed attempt at landing (Appendix).

After the aircraft check and repair the owner delivered the Aircraft Certificate of Release to Service (Appendix), from which the determined damage can be seen.

1.15. USE OF TECHNICAL EQUIPMENT IN THE INVESTIGATION

Technical equipment was used by the company performing the works on the aircraft, with previous consent of the investigators.

2. ANALYSIS

2.1. TECHNICAL ANALYSIS

By examination of the aircraft it was determined that the damage was caused during the failed attempt at landing at Split Airport. It can be concluded that the aircraft was in proper working order prior to the event.

2.2. HUMAN FACTOR AND OPERATIONAL ASPECT

2.2.1. Crew

The investigation determined that the pilot had a valid flying license, was not under the influence of alcohol and other narcotics and that he followed the landing procedure and instructions given by the Air Traffic Control.

2.2.3. Aircraft maintenance

The investigation uncovered no irregularities pertaining to aircraft maintenance.

3. CONCLUSION

3.1. FINDINGS

3.1.1. Technical aspects

After examining the aircraft it can be ascertained with a high level of certainty that the aircraft was in proper working order up to the moment of the serious incident. The logbook was duly filled out. The flight time and pre-flight examination were duly recorded.

3.1.2. Pilot

The pilot had a valid pilot license.

3.1.3. Weather conditions

The weather conditions at the Split Airport area were favorable. Before, during and after the first attempt at landing, the wind was constant and could not have impacted this serious incident.

In the repeated attempt, under the same weather conditions, the pilot successfully landed the aircraft.

3.2. CAUSE

The cause of this serious incident is most likely a wrong estimate which, during landing, led to the impact and bouncing off of the aircraft and its low flight over the apron where parked aircraft were located.

4. RECOMMENDATIONS

Given the determined circumstances of this serious incident, the Air, Maritime and Railway Traffic Accident Investigation Agency has no safety recommendation.

Acting Chief Aircraft
Accident Investigator
Danko Petrin

Aircraft Accident Investigator
Vlatko Hajmburger

5. APPENDICES

5.1. Photos of the damage

Damage to the propeller



Damage to the nose wheel



5.4. Flight plan

Internal Flight plan identifier : 30b3f4f6Q2
CFMU Flight plan identifier :

Customer identifier :
Customer group identifier :
Customer name :

Filtim : 171000, Originator : LDDUZPZX

LDZOZFXX LDDUZAZX LDDUZTZX LDSPZTZX LDSPZAZX LDSBZTZX
(FPL-OEDDD-VG
-SR20/L-SR/S
-LDDU1100
-N0130F065 NERRA SPL
-LDSP0050
-DOF/120817)

Supplementary informations

Endurance	:	0300
Persons on board	:	003
Emergency radio	:	E
Survival equipment	:	
Jackets	:	
Dinghies number	:	
Dinghies capacity	:	
Dinghies cover	:	False
Dinghies color	:	
Aircraft color and marking	:	WHITE
Remarks	:	
Pilot in command	:	ZIERLER

Additional informations

Taxitime	:	0005
Attention	:	
Phone number	:	
Fax number	:	
E-mail	:	
Second pilot	:	
ADES charge	:	

5.5. Aircraft Certificate of Release to Service

Freigabebescheinigung Aircraft Certificate of Release to Service

Kennzeichen: **OE-DDD**
Registration:

Flugwerk / Triebwerk / Bordausüstung, ausgenommen Avionik
Airframe / Powerplant / Electrical, non Avionic Equipment

Manufacturer/Type: CIRRUS DESIGN / SR20	Inspection Report No.: 120120240	Work Order No.: 120120240
Baujahr / Year: 2005	Halter / Owner/Operator: Steirische Motorflugunion	
Description	Serial No.	TSN
AIRFRAME	1506	1313:32
ENGINE	357963	1313:32
PROPELLER	FP-8015B	0:00
		TSO/1000
		311:42
		0:00
		--

--- hrs Inspection Airframe and Equipment (non Avionic)
--- hrs Inspection Powerplant

Others: Repair after propeller strike

Instandhaltungshandbuch / Maintenance Manual: 12137-001	Revision: B4	Issue Date: 01.05.2012
Operators Maintenance Programm: IHP-STMFU9-SR20	Revision: Rev.0	Issue Date: 19.03.2008

Es wird bescheinigt, daß die angeführten Arbeiten, wenn nicht anders ausgewiesen, in Übereinstimmung mit dem PART-145 ausgeführt wurden und daß hinsichtlich dieser Arbeiten das Luftfahrzeug/Luftfahrzeugbauteil als tauglich zur Verwendung betrachtet wird.

Certifies that the work specified, unless otherwise noted, was carried out in accordance with PART-145 and in respect to this work, the aircraft/aircraft component is considered ready for release to service.

Location: LDSP	Typ: Cirrus SR 20	Serialnumber: 1506	TSN	TSO
Works:		Aircraft	1313:32	311:42
Repair after Propeller strike		Engine	1313:32	0:00
		Propeller	0:00	---
Owner: Steirische Motorflugunion				

Pt	Works
1	Aircraft had a Propeller strike in LDSP: Hard/Overweight Landing Inspection has to be performed: Hard/Overweight Landing Inspection acc. Maintenance Manual AMM Chapter 05-50 performed: Defects on Engine, Propeller, Nose Landing Gear and Tail Bumper were found.
2	Propeller has to be removed after Propeller strike: Propeller removed and sent to Krems, (Austria) afterwards sent to MT Propeller for Inspection.
3	Governor has to be removed: Governor removed and sent to Krems, afterwards sent to MT Propeller for Inspection.
4	Engine has to be removed: Engine removed and sent to Krems, afterwards sent to Nikolaus Ghönert GmbH for Inspection.
5	Engine Mount has to be removed: Engine Mount removed and sent to Krems, afterwards sent to Gomolzig GmbH for Inspection.
6	Nose Landing Gear has to be removed: Nose Landing Gear removed and send to Krems, afterwards Landing gear disassembled and inspected. Nose Landing Gear Leg, Fork and Fairing renewed and assembled.
7	Main Landing Gear Fairings are defect: Main Landing Gear Fairings removed and sent to Krems, afterwards Fairings repaired.
8	All Parts has to be prepared for sending to LDSP: All Parts pre-assembled and prepared for export to LDSP.
9	Engine has to be installed: Overhauled Engine P/N: IO-360-ES S/N: 357 963 with inspected Engine Mount 11925-003 installed and torqued acc. AMM Chapter 71-20. All Hoses, Wires and Bowden Cables installed and Function checked. No defects were found.
10	Governor has to be installed: Overhauled Governor P/N: C290D3R/T23 S/N: 050054 installed and Function checked. No defects were found.
11	Propeller has to be installed: Inspected Propeller P/N: PHC-J3YF-1RF/F7392-1 S/N: FP 8015B installed, torqued and Blade track checked. No defects were found.
12	Static run up has to be performed: Static run up performed and all Engine Parameters checked, Engine idle and idle mixture checked and adjusted, after run up inspected for Oil and Fuel leaks. No defects and leaks were found.
13	Cowling and Main Landing Gear Fairings have to be installed: Cowling and Repaired Main Landing Gear Fairings installed.
14	SID 97-3E has to be performed: Engine Fuel Parameters according SID 97-3 checked and adjusted.
15	Tail Bumper has to be renewed: Tail Bumper removed and new Bumper P/N: 16678-001 installed.
16	Magnetic Compass compensation has to be performed: Magnetic Compass and HSI compensated, Compensation report, and Deviations table in the aircraft installed.

Location:	Typ:	Serialnumber:	Page
LDSP	Cirrus SR 20	1506	
17	Perform static run up: Static run up performed, no defects were found, engine inspected after run up for oil and fuel leaks, no leaks were found, OK		
18	Aircraft cleaning has to be performed: Aircraft cleaned.		

5.6. Audio recording of communication between the pilot of the OE-DDD aircraft and TWR Split Airport

Time	Unit	Transcription (A/G)
11:45:50	PIL	SPLIT TWR, OEDDD
11:45:54	TWR	OEDDD, SPLIT TWR DOBAR DAN, RWY IN USE AT AIRPORT SPLIT 23, QHN 1015, CONTINUE ORBITING, EXPECT CLEARANCE SHORTLY
11:46:01	PIL	QHN IS 1015, RWY IN USE IS 23 AND CONTINUE TO SPL, IS IT RIGHT?
11:46:11	TWR	NEGATIVE, CONTINUE ORBIT AT PRESENT POSITION CALL YOU BACK FOR APPROACH
11:46:17	PIL	KEEP PRESENT POSITION, MAKE ANOTHER 360 TO THE LEFT AND YOU WILL CALL ME, OEDDD
11:46:27	TWR	THAT'S CORRECT
11:51:30	TWR	OEDDD, PROCEED INBOUND AIRFIELD, REPORT ON LEFT HAND BASE RWY 23
11:51:36	PIL	INBOUND TO THE FIELD WILL REPORT WHEN ON LEFT HAND BASE FOR RWY 23, OEDDD
11:53:24	PIL	OEDDD, ON LEFT HAND BASEFOR RWY 23
11:53:29	TWR	OEDDD, CLEARED TO LAND RWY 23, WIND 210 DEGREES 9 UP TO 14 KNOTS
11:53:37	PIL	WIND IS CHECKED AND CLEAR FOR LANDING RWY 23
11:56:31	PIL	GOING AROUND
11:56:35	TWR	OEDDD, ROGER, PULL UP
11:56:49	TWR	JOIN LEFT HAND DOWNWIND RWY 23
11:58:47	TWR	OEDDD, CLEARED TO LAND RWY 23, WIND 220 DEGREES 8 UP TO 14 KNOTS
11:58:52	PIL	CLEARED TO LAND RWY 23, OEDDD
12:00:11	PIL	OEDDD, TOO HIGH ANOTHER GO AROUND
12:00:15	TWR	OEDDD, ROGER, JOIN AGAIN LEFT HAND DOWNWIND RWY 23 REPORT ON DOWNWIND
12:00:24	PIL	JOIN LEFT HAND DOWNWIND AND WILL REPORT WHEN ON LEFT HAND DOWNWIND, OEDDD
12:00:31	TWR	OEDDD IS EVERYTHING OK WITH YOU, DO YOU REQUIRE ANY ASSISTANCE ON THE GROUND
12:00:37	PIL	SAY AGAIN, OEDDD
12:00:39	TWR	I SAID IS EVERYTHING OK IF YOU REQUIRE ANY ASSISTANCE AFTER LANDING, MAYBE
12:00:44	PIL	EVERYTHING IS OK, OEDDD
12:00:47	TWR	ROGER
12:02:09	PIL	ON LEFT HAND DOWNWIND, OEDDD
12:02:13	TWR	OEDDD, CLEARED TO LAND RWY 23, WIND 220 DEGREES 9 UP TO 13 KNOTS
12:02:21	PIL	WIND IS CHECKED AND CLEARED TO LAND RWY 23
12:05:30	TWR	OEDDD, VACATE RWY VIA FIRST CONVENIENT
12:05:38	PIL	VACATE VIA TWY CONVENIENT, OEDDD

5.7. Security camera footage from Split Airport

First contact with runway, failed landing



Flying over taxiway B after the failed landing



Flying over the apron after the failed landing

