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In accordance with the provisions of SI 205 of 1997, the Chief Inspector of Accidents, on 15 February 2003, appointed Mr. John Hughes, Inspector of Accidents, as Investigator-in-Charge (IIC) to conduct a Field Investigation into this occurrence and prepare a Synoptic Report.

Aircraft Type and Registration:	Cessna 182P EI-BCL	CAP 10C G-CPXC
No. and Type of Engines:	One Continental O-470-S	One Lycoming AEIO-360-B2F
Aircraft Serial Number:	182-64300	301
Year of Manufacture:	1976	2002
Date and Time (UTC):	15 February 2003 at 1400 hrs	
Location:	Kilrush, Co. Kildare	
Type of Flight:	Ground Accident	
Persons on Board:	Two	None
Injuries:	None reported	None reported
Nature of Damage:	Damage to propeller and engine	One-piece wing destroyed
Commanders Licence:	Irish PPL	N/A
Commanders Age:	51 years	N/A
Commanders Flying Experience:	Total: 111 hours On Type: 10 hours On Type P1 8 hours Previous 30 days 45 Min	N/A
Information Source:		Operator of CAP 10C aircraft

SYNOPSIS

On start-up of Cessna EI-BCL at a licensed private airfield at Kilrush, Kildare, the aircraft shot across the grass and impacted another aircraft G-CPXC which was being refuelled at the time. The offending aircraft suffered substantial damage to engine, propeller and engine cowling. Its propeller completely demolished the port wing of G-CPXC, pieces of which were strewn about the impact site.

NOTIFICATION

The pilot of G-CPXC reported the accident to the Chief Inspector of Accidents, Air Accident Investigation Unit, on 15 February 2003. The Chief Inspector visited the site and decided to conduct a Field Investigation of this occurrence. He nominated Mr. John Hughes, Inspector of Accidents, to investigate the accident and to compile a Synoptic Report. The Inspector visited the site and inspected the aircraft on the following Monday.

1. FACTUAL INFORMATION

1.1 History

EI-BCL, which was almost at the left edge of Runway 29/11, was facing south towards the control tower which was about 39 metres away. G-CPXC was parked beside the control tower and was being refuelled by its owner at the time. The wind was 130º at 12 knots.

The engine of EI-BCL was started and immediately the aircraft started to move in the direction of G-CPXC. The pilot applied right brake to steer his aircraft away from that aircraft. This was ineffective as the aircraft continued to move in the direction of G-CPXC. When the aircraft was approximately 12 metres away from G-CPXC, both brakes were applied. The aircraft skidded on the turf towards G-CPXC, eventually impacting the port wing of this aircraft. The propeller of EI-BCL ran along the wing from tip to root and demolished the complete wing. The propeller then struck the canopy and fuselage and at this stage the aircraft came to a halt. The owner of G-CPXC saw the oncoming aircraft and retreated promptly. A licensed aircraft engineer and another person, who was working at the airfield, also witnessed the accident. They were standing behind the port wing of G-CPXC and moved quickly rearwards when they spotted the other aircraft coming towards them. There were no reported injuries. The pilot stated that the weather conditions were "clear and sunny". Met Eireann reported that the surface wind at the time was 130/12kt with a visibility of 8 km.

1.2 Pilots Comments

In his Accident Report Form, the pilot of EI-BCL stated that he had taxied the aircraft up to the refueller from the lower hangar. Due to the congestion around the fuel bowser he could only taxi straight up to the bowser and not alongside as he normally did. Following refuelling, he pushed the aircraft back as far as possible but was limited by the Runway 11/29 which was active at the time. Placing the aircraft facing west as much as possible, he entered the cockpit. He primed the engine. The engine would not start as the battery was low. He attached the battery pack. Again, the engine turned but would not start. He pumped the throttle several times and the engine fired. He released his hand from the throttle to shield his eyes from the sun and the aircraft accelerated. He looked down to pull out the throttle. He pulled out what he thought was the throttle but in fact he had pulled out the "carb heat" control instead. He applied both brakes but they were ineffective. His aircraft then collided with G-CPXC and stopped. He and his passenger then exited the aircraft. The pilot said that the aircraft brakes were not on prior to engine starting nor was the aircraft chocked.

1.3 Damage to Aircraft

G-CPXC

The port wing of this aircraft was completely destroyed being severed by the propeller of EI-BCL near the wing root. The front spar torsion box, of carbon fibre construction, was cut right through as was the auxiliary rear spar. There were marks on the aileron where the propeller blades impacted and cut through the fabric. On the outboard end these marks were 2 inches apart and 7 inches apart at the inboard end. The perspex canopy was destroyed on impact. The fuselage behind the canopy was also damaged. As the aircraft is constructed of a one piece wing, the complete wing will require replacing. The side impact loading may also require the re-jigging of the fuselage.

EI-BCL

The engine of this aircraft may have to be written off due to the abnormal shock loading caused by the propeller blades impacting G-CPXC at fine pitch and high rotational speed. The engine will also require inspection for further damage. One of the blades was pulled from the propeller hub with the blade retainer visible. Both blades including the hub will require replacing. There was considerable damage to the port side engine cowling. The engine firewall may also require further investigation.

1.4 Personnel Information

The pilot conducted his licence proficiency check (LPC) on a Rallye 100 on 26 April 2001 and was issued with a PPL (Single Engine Piston Land and Touring Motor Gliders) on 11 May 2001, valid until 25 May 2003. At the time of this accident, he had flown a total of 110 hours of which 46 hours were as Pilot-In-Command. He had flown 10 hours on this type, of which 8 hours were as Pilot-in-Command. He flew a total of 45 minutes during the 30 days prior to this accident.

1.5 Meteorological Information

Met Eireann, in a general weather situation report, stated that an anticyclone centred over southern Scandinavia and a complex low-pressure system in Mid-Atlantic maintained a moderate southerly airflow over the area.

Wind:	Surface 130/12kt.
Visibility:	8 km.

1.6 Aerodrome Information

Kilrush Airfield (260 feet AMSL) is located 7 nm SW of Kilcullen, Co. Kildare. It has two grass runways, both 22 metres in width. Runway 29/11 is a level grass runway which measures 600 metres in length and Runway 19/10 measures 750 metres in length.

Kilrush became a licensed privately owned airfield in July 1998 and is operated in accordance with its IAA approved Aerodrome Procedures Manual.

The IAA issued an Aerodrome Licensing Manual Supplement No.003 on 31 October 2001 and all lower category aerodromes, such as Kilrush, are now expected to comply with these requirements.

1.7 Witness Comments

The licensed engineer stated to the Investigator that, immediately following the accident, he observed that the carb heat control on EI-BCL was fully out (Carb Heat ON), the throttle control in (full throttle), propeller in "Fine" and the mixture in "Rich".

The owner of G-CPXC said that EI-BCL was facing more South-East than South West and, to his recollection, the engine of EI-BCL fired immediately the starter was engaged and ran at full throttle.

1.8 Starting Checklist

The starting checklist for the Cessna 182 includes the following:

Aircraft into wind and brakes -- ON, Carb Heat -- COLD, Mixture -- RICH,
Propeller -- FINE
Throttle -- SET ¼ inch (i.e. from fully out)

2. <u>ANALYSIS</u>

A number of factors contributed to this accident. Having just refuelled EI-BCL, the pilot repositioned his aircraft away from the refueller for start. The tracks left by the aircraft indicated that the aircraft was facing a little more than 180º M. The parking brake was not set to on, nor was the aircraft chocked.

The fact that the pilot had to attach the ground battery pack would indicate that he had problems in starting the aircraft engine. These difficulties may have contributed to the inappropriate selection of throttle for engine start.

The sudden jump forward after start, the reported glare of the sun and lack of familiarity on the aircraft type, may all have contributed in some way to the misidentification between the throttle and the carb heat controls.

Ultimately, had the park brake been set or the aircraft chocked prior to start, it is considered likely that even with the inappropriate selection of throttle and subsequent misidentification of controls, the final outcome may not have materialised

In a frank and open conversation with the Investigation, the pilot indicated that he had pulled on the carb heat control rather than the adjacent throttle control and in his opinion, this was the cause of the accident.

3 CONCLUSIONS

3.1 Findings

Prior to engine starting, the aircraft, with brakes off and unchocked, was facing towards the refueller, control tower and G-CPXC. Whilst starting the engine, the pilot lost control of his aircraft on the ground as it slid across the grass. It impacted G-CPXC which was being refuelled at the time and destroyed the port wing .*(see sketch below)*

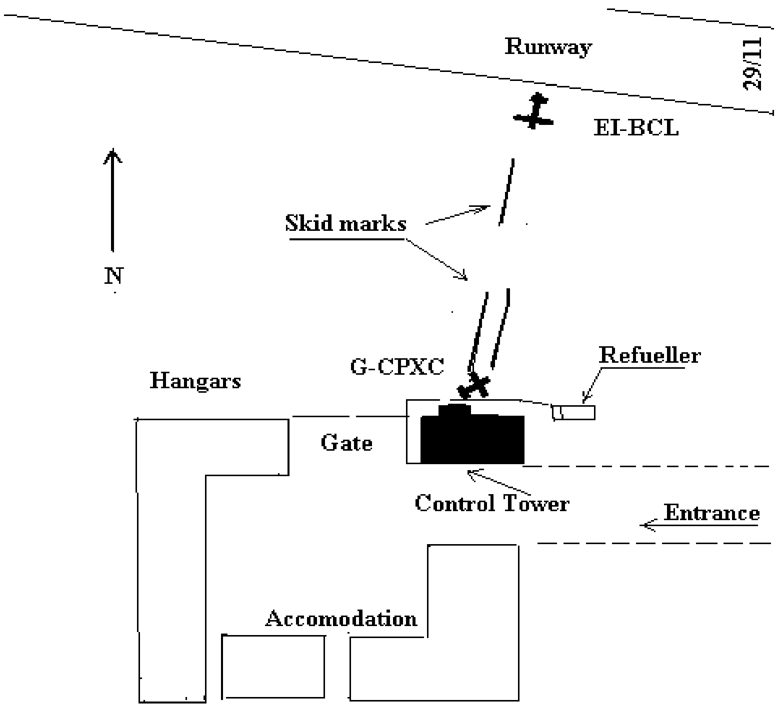
3.2 Cause

Failure of the pilot to configure his aircraft correctly for start.

4. SAFETY RECOMMENDATIONS

This Report does not support any Safety Recommendations.

Updated Information



Site of the accident, showing relative position of the two aircraft prior to the collision. *(not to scale)*