## ACCIDENT

| | | |
|---|---|---|
| **Aircraft Type and Registration:** | Robin DR400/140B, G-BDUY | |
| **No & Type of Engines:** | 1 Lycoming O-320-D2A piston engine | |
| **Year of Manufacture:** | 1976 (Serial no: 1120) | |
| **Date & Time (UTC):** | 16 June 2022 at 0850 hrs | |
| **Location:** | East Kirkby Aviation Centre, Lincolnshire | |
| **Type of Flight:** | Private | |
| **Persons on Board:** | Crew - 1 | Passengers - 1 |
| **Injuries:** | Crew - None | Passengers - None |
| **Nature of Damage:** | Damaged propeller, nose and left main landing gear and lower fuselage damage | |
| **Commander's Licence:** | Private Pilot's Licence | |
| **Commander's Age:** | 52 years | |
| **Commander's Flying Experience:** | 787 hours (of which 646 were on type)<br>Last 90 days - 12 hours<br>Last 28 days - 11 hours | |
| **Information Source:** | Aircraft Accident Report Form submitted by the pilot and further AAIB enquiries | |

### Synopsis

The aircraft landed outside the designated but unmarked runway area at an unlicensed aerodrome and came to rest on a grassy bank. The airfield layout appeared different to what the pilot expected from the chart he was using. The low circuit height, with no overhead joining procedure, reduced the opportunity for the pilot to orientate himself.

The investigation revealed anomalies in published circuit information which the airfield and relevant chart publishers intend to resolve. The report discusses advice for pilots preparing to operate at unlicensed aerodromes.

### History of the flight

G-BDUY had flown in a group of aircraft from Hatton to East Kirkby airfield. The pilot reported that during the final approach he saw a Lancaster aircraft parked on what he thought was Runway 24. He performed a go-around and joined left downwind for Runway 26, at the 500 ft aal circuit height specified on the airfield chart he was using (Figure 1).

The pilot explained that during that approach he was focussed on overflying some trees near his intended landing point. During touchdown he realised the remaining landing distance was too short (Figure 1). Because of more trees straight ahead, he applied maximum braking – rather than performing a go-around – and came to rest on a grassy bank at the edge of the airfield.

## Aerodrome information

*Chart used by the pilot*

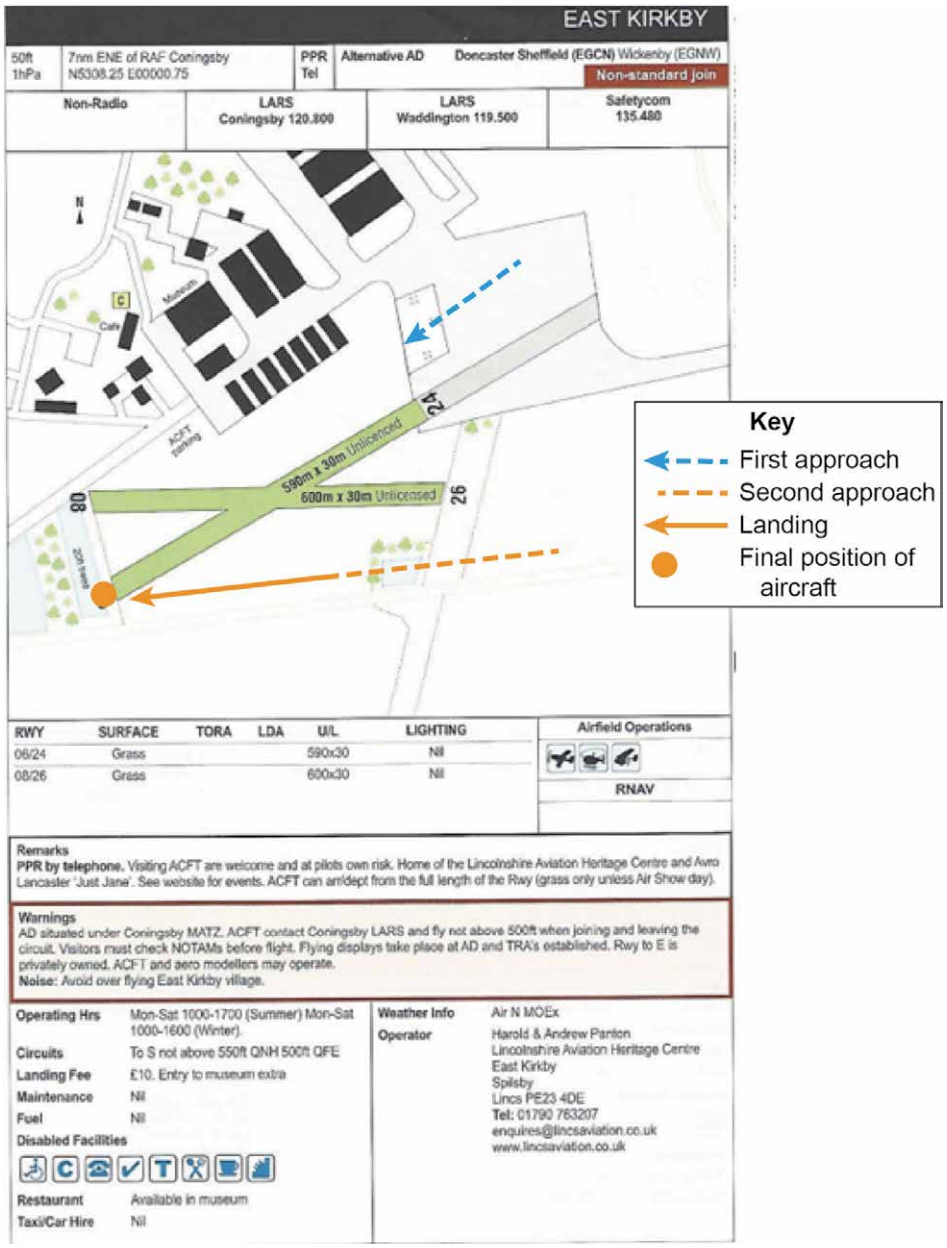


**Figure 1**

Chart used by pilot annotated with the approaches flown, and the landing[1,2]

**Footnote**

1 'PPR' on the chart means prior permission is required to land there.
2 Note chart specified circuit height of 500 ft.

*Information from the airfield's website*

The airfield website stated:

> *'Please look at the airfield plate.*
>
> *There is a wind sock in the Museum compound next to the Control Tower for guidance.*
>
> ***DO NOT OVERFLY THE HOUSE AT THE NORTHERN END OF THE RUNWAY AIRFIELD PROCEDURE***
>
> ***We have two possible grass strips, 24/06 and 26/08. When landing you must use grass only, there should be no use of the concrete areas…***
>
> *Please ring us in advance to check that the runway is clear and available for landing.'*

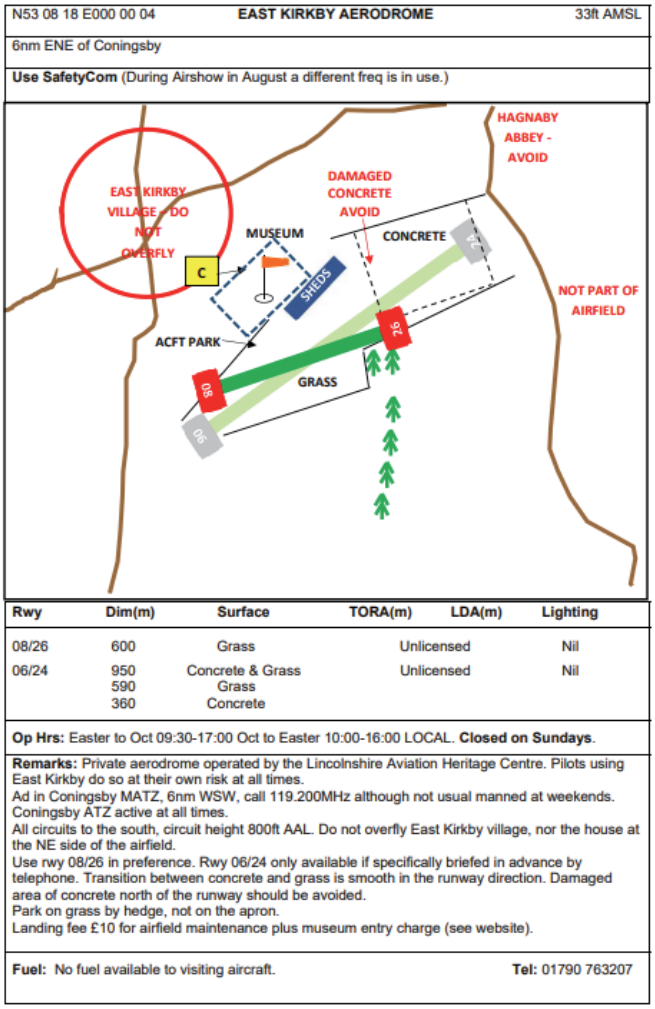


**Figure 2**

Chart promulgated on the airfield's website[3]

**Footnote**

[3] Note chart specified circuit height of 800 ft.

## Additional information

*Arrangements for flying in*

While some of the pilots in the group had flown to East Kirkby before, the incident pilot had not. One of the other pilots phoned for prior landing permission on behalf of the whole group.

*Airfield features*

The pilot reported realising while approaching East Kirby that it looked significantly different to what he was expecting, using his chart. Rather than having marked runways, it was a triangular shaped field of evenly mown grass (Figure 3). The low circuit height with no overhead join made it difficult to identify the runway.

**Figure 3**

Satellite image of East Kirkby[4]

The pilot reported that after the accident, other pilots who were familiar with East Kirkby said they used satellite imagery and information from a navigation app to help them identify the runways. The app's *'Pilot's Notes'* section and an internet site referred to the absence of runway markings.

*Information from the airfield operator*

The airfield operator explained that East Kirkby's circuit height sometimes reduces to 500 ft aal when Coningsby military aerodrome traffic zone is active. It said it would contact relevant chart publishers to clarify circuit height information. The publisher of the chart used by the pilot expressed keenness to collaborate on this point.

**Footnote**

[4] [Accessed 1 February 2023].

## Regulatory information

The Civil Aviation Publication (CAP 793) *'Safe operating practices at unlicensed aerodromes'*[5] stated:

> *'It is essential to mark any obstacles, potholes and bad ground. Runway markers and runway numbers will help line up for both take-off and landing…*
>
> *The usable parts of hard runways (if all of the hard area cannot be used) and of grass runways may be edged with white rectangular paint markings or marker boards…*
>
> *While operations are not confined to marked, paved or unpaved runways, the limits of the usable area may be marked in a similar way…*
>
> *Operators may also wish to notify their aerodrome for publication in one of the general aviation guides…'*

## Additional guidance

An article on *'Safety factors when landing on unlicensed airfields… abridged from GASCO'*[6,7] stated:

> *'Unlicensed aerodromes and private strips… require special consideration.*
>
> *…the criteria of your aviation authority for the licensing of an aerodrome… are unlikely to have been applied to the strip. Since in almost all cases Prior Permission is Required (PPR), your phone call should also include discussion of any difficulties, obstructions, noise sensitive areas to be avoided and the useable length of the strip…*
>
> *Tell the operator of the strip what experience you have, which strips you have used recently, and what aeroplane you intend using. He has probably seen pilots with similar aeroplanes flying into and out of the strip and you can benefit from local knowledge…*
>
> *Carefully examine from the ground, air or maps the approaches to the strip and the go-around area, with particular reference to any runway slope, obstructions or hills within 5 km, windshear or turbulence from nearby woods… buildings and other considerations...*
>
> *Consider having a familiarisation flight to and from the strip with a pilot who knows the strip and is both current on your aeroplane and operations into grass strips…*
>
> *If your approach is bad, make an early decision to go-around. It is often useful to plan to make a go-around from your first approach…'*

**Footnote**

[5] CAP 793 Safe Operating Practices at Unlicensed Aerodromes (caa.co.uk) [accessed 1 February 2023].
[6] Safety factors when landing on unlicensed airfields (pilotfriend.com) [accessed 6 February 2023].
[7] Original GASCO publication was not retrieved.

## Analysis

*Unlicensed aerodromes*

There were significant differences between the airfield chart, promulgated on the airfield's website, and the chart used by the pilot. The latter specified a lower circuit height and did not refer to the special telephone briefing required for landing on Runway 24. Neither chart would necessarily conform to satellite imagery of the airfield or information provided in a navigation app, particularly regarding the absence of runway markings.

Unlicensed aerodromes are not required to mark their runways, nor publish airfield charts. While the airfield operator in this case intended to resolve the anomalies identified on published charts, the accident highlights the importance of pilots researching airfields using all available resources, especially if they cannot perform an overhead join or familiarisation visit beforehand. Important details of a particular aerodrome might include the location of obstacles, circuit procedures, preferred runways, and proximate airspace.

Where there is no overhead join, it may be appropriate for pilots to make an initial approach and go-around to orientate themselves at an unfamiliar airfield; a go-around may also be flown if an approach does not go as expected.

*PPR*

Aside from their administrative purpose, telephone calls for landing permission at an aerodrome present an opportunity to gain local advice. One pilot telephoning on behalf of a group does not preclude others in the group calling individually, for example to discuss their experience.

## Conclusion

The accident occurred because the aircraft landed outside the designated grass runway at an unlicensed aerodrome. The low circuit height and an airfield layout that the pilot had not expected contributed to his misidentifying the landing surface.

The airfield and a chart publisher intend to resolve anomalies on relevant charts.