ACCIDENT

Aircraft Type and Registration:	Robin DR400/180 Regent, G-ETIV
No & Type of Engines:	1 Lycoming O-360-A3A piston engine
Year of Manufacture:	2000 (Serial no: 2454)
Date & Time (UTC):	7 December 2016 at 1327 hrs
Location:	Rochester Airport, Kent
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Right mainwheel spat severely cracked and brake unit damaged
Commander's Licence:	Private Pilot's Licence
Commander's Age:	76 years
Commander's Flying Experience:	863 hours (of which 728 were on type) Last 90 days - 21 hours Last 28 days - 0 hours
Information Source:	AAIB enquiries in response to a report from Rochester Airport

Synopsis

Following a medical procedure, the pilot asked a qualified flight instructor (FI) to act as his "safety pilot". The FI agreed and occupied the right seat of the pilot's dual-controlled aircraft. The pilot had not sought advice from an Aero-Medical Examiner (AME) prior to the flight.

The left of two parallel runways (Runway 20L) at Rochester Airport was being used for takeoff but the pilot was unaware that Runway 20R was being used for landings when he carried out some forced landing practice orientated towards Runway 20L. During the second approach, when the aircraft was close to the ground, the FI in the right seat overrode the pilot's control inputs and turned the aircraft right, towards the parallel Runway 20R. The right mainwheel hit and destroyed an airfield lighting unit before the pilot regained control and landed the aircraft on Runway 20R.

The pilot assessed the accident to be a breakdown in communication and inappropriate aircraft handling by the FI during the approach. A contributory factor was a misunderstanding of the regulations concerning a '*Safety Pilot*'.

History of the flight

Six days after a minor eye operation, the pilot asked an FI, whom he had previously flown with, to act as his "safety pilot" and occupy the right seat of the pilot's dual-controlled,

EASA aircraft for a local flight. The pilot believed his eyesight had fully recovered after the operation[1] but, as it was also six weeks since his previous flight, he thought having a 'safety pilot' was a sensible precaution. However, the role of 'safety pilot' was not discussed before the flight and the FI did not regard himself as the Pilot-in-Command (PIC)[2].

Two parallel runways positioned close together, Runway 20 Left (20L), the '*relief*' runway, and Runway 20 Right (20R), the '*main*' runway, were in use. Runway 20L has a takeoff and landing distance of 684 m and the threshold is displaced more than 100 m upwind from the threshold of Runway 20R (830 m). Before departure, the FI met the airfield's duty Flight Information Service Officer (FISO) and was told Runway 20L would be used for takeoff but Runway 20R would be used for landing. Circuits were not permitted because the condition of the grass was not suitable but practice forced landing (PFL) was allowed. According to the pilot, he was not informed that Runway 20R was to be used for landing.

After takeoff, the aircraft departed the circuit area and recorded radiotelephony indicates both the pilot and the FI spoke on the radio. Returning to the airfield, the pilot asked to fly to the overhead to carry out a PFL and go-around. The FISO asked him to report overhead, ready to commence, stating the circuit was right-hand but without mentioning which of the parallel runways was in use. The pilot's reply indicates he planned to use "THE RESERVE" (referring to the relief Runway 20L), but the FISO did not appreciate this.

The first PFL approach was towards Runway 20L but the aircraft was too high so the pilot went around before attempting a second PFL, also towards Runway 20L. In the latter stages of this approach, at the suggestion of the FI, the pilot "warmed the engine" by advancing the throttle for a short time. He did not recall being advised to go-around during this approach.

The surface wind was from 210º at 15 kt and the pilot believed that, by the time he was approximately 15 ft above the ground, he was in a position from which he could have landed on Runway 20L, albeit the aircraft was pointing left of the runway, because he "overcompensated for the drift". He later stated that he was about to apply power and right rudder when, without warning, his inputs on the control column were overridden and the aircraft turned approximately 60º right. He initially thought there was a malfunction of the flying controls but then the FI declared "20 MAIN" and the pilot realised the FI was manipulating the control column and had rolled the aircraft to the right towards Runway 20R.

The pilot believed the aircraft was now close to stalling, because the power had not been increased, but he managed to regain control and land on Runway 20R. After taxiing to the apron he was made aware that the right mainwheel had struck an abbreviated precision approach path indicator (APAPI) unit positioned in the Runway 20L undershoot (Figure 1).

Footnote

[1] See *Medical.*
[2] See *EASA regulations.*

Figure 1

APAPI units showing damage to the left unit, in a view looking along Runway 20L from the undershoot. The units are installed for Runway 20R which is on the right of the photograph

Following the accident, the pilot realised he and the FI should have briefed carefully before the flight and discussed what they understood the term 'safety pilot' to mean and who was to be PIC. Although after the flight the pilot signed in the aircraft technical log (which was also the journey log) captain column, he thought he was flying as Pilot-in-Command Under Supervision (PICUS) and expected the 'safety pilot' to offer verbal input during the flight. He also thought the FI, acting as 'safety pilot', could take control if safety was compromised and assumed the FI would announce such action in the conventional way, stating 'I have control'.

Instructor's report

The FI had logged 10,309 hours total flying experience (mostly instructional), with 5,010 hours on type and 16 hours total time within the preceding 28 days. When he agreed to act as 'safety pilot' he considered it a 'check flight' rather than an instructional flight, because he knew the pilot was licensed and his currency permitted him to fly with passengers.

During the first PFL, the FI observed the aircraft was positioned too high and that the pilot sensibly executed a go-around. On the second approach the FI saw the aircraft deviate below the optimum glidepath so, at approximately 400 ft, his recollection was that he suggested the pilot apply a "clearing burst of power for five seconds". By doing this the FI thought the engine would be warmed and the additional power would allow the aircraft to regain the glidepath but the pilot did not apply power for as long as suggested. The FI's recollection was that because the aircraft was still low, he directed the pilot to go-around but the pilot did not react.

At a late stage in the approach the FI recognised the aircraft was "in a stalling configuration, low and slow" and was tracking towards a rough area to the left of Runway 20L. He regarded the situation as dangerous and tried to take control by turning the aircraft right towards Runway 20R. However, he was prevented from taking full control because the pilot did not relinquish control. Nevertheless, he believed his unannounced intervention was necessary because the pilot had not, in his opinion, been flying in a "satisfactory manner". He could not explain why he did not announce taking or handing back control, nor why he did not initiate a go-around.

In retrospect, the FI realised a thorough pre-flight brief ought to have been held and that he should have enquired carefully about the pilot's medical situation. When he checked the relevant regulations he (like the pilot) was not aware that 'safety pilot' is not a recognised role in normal operations. Although he felt his intervention prevented a more serious accident from occurring, to refresh his skills and to learn from the event, the flight instructor carried out subsequent training with a flight examiner.

Airfield report

The airfield duty manager was positioned to the east of the Runway 20R threshold when he observed the aircraft approaching left of the Runway 20L approach path. He described the aircraft as appearing to be "very low" and "very slow". He estimated it was two feet above the ground, flying relatively slowly and still downwind and to the left of the Runway 20L threshold when it abruptly veered right towards Runway 20R. He had the impression the aircraft was close to stalling when the right mainwheel struck the left APAPI unit, which detached from its mountings.

EASA regulations

Medical

The pilot possessed an EU Class 2 Medical Certificate valid until 8 November 2017 with one limitation, that he have available corrective spectacles and carry a spare set of spectacles (VNL). On 1 December 2016 he underwent a minor operation to remove a cataract from his right eye and was told he could drive a motor vehicle two days later. He did not seek advice from his AME but was apparently informed during a hospital check on 4 December that the sight in his right eye was "good, 20/20"[3].

A day after the accident, an ophthalmologist stated the pilot's uncorrected vision was 20/20 or better in each eye. The pilot was unable to explain why he did not speak to his AME before flying, except that he believed his eyesight had been adequately checked and that he had thought he was doing the safest thing by flying with an FI, who could take control if necessary.

Footnote

[3] Visual acuity of 20/20 is a US measurement for which the UK equivalent is 6/6. This is better than a score of 6/12 which is the visual acuity a pilot should demonstrate in each eye, with or without corrective lenses, when tested for an EASA Class 2 Medical Certificate.

Annexe IV to Commission Regulation (EU) No 1178/2011 states at PART MED.A.020,

> *'Decrease in medical fitness*
>
> *a) Licence holders shall not exercise the privileges of their licence and related ratings or certificates at any time when they:*
>
> *(1) are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges;*
>
> *(2) take or use any prescribed or non-prescribed medication which is likely to interfere with the safe exercise of the privileges of the applicable licence;*
>
> *(3) receive any medical, surgical or other treatment that is likely to interfere with flight safety.*
>
> *b) In addition, licence holders shall, without undue delay, seek aero-medical advice when they:*
>
> *(1) have undergone a surgical operation or invasive procedure;*
>
> *(2) have commenced the regular use of any medication;*
>
> *(3) have suffered any significant personal injury involving incapacity to function as a member of the flight crew;'*

The PART MED regulations also state (paragraph MED.B.001) that a pilot, who does not fully comply with the requirements for a Class 2 medical certificate, can have a certificate issued with a limitation code if it is assessed they can perform their duties safely by complying with that limitation. If an:

> *'Operational Safety Pilot Limitation (OSL)' is placed on a pilot's medical certificate then he or she 'shall only operate an aircraft if another pilot fully qualified to act as pilot-in-command on the relevant class or type of aircraft is carried on board, the aircraft is fitted with dual controls and the other pilot occupies a seat at the controls.'*

The related Guidance Material states that this '*Safety Pilot* 'is to be aware of the incapacity which the pilot might suffer from and be prepared to take over the controls during flight.

The term '*Safety Pilot*' only applies to pilots with the limitation '*OSL*' on their Class 2 medical certificate and this pilot had no such limitation. Where an '*OSL*' limitation does apply, the '*Safety Pilot*' has to be the PIC.

Pilot-in-command

Regulation (EC) No 216/2008 of the European Parliament is EASA's '*Basic Regulation*' and Annex IV, paragraph 1.c. states:

> *'Before every flight, the roles and duties of each crew member must be defined. The pilot in command must be responsible for the operation and safety of the aircraft and for the safety of all crew members, passengers and cargo on board.'*

The 'Basic Regulation' also states, at Article 7, that:

> *'Except when under training, a person may only act as a pilot if he or she holds a licence and a medical certificate appropriate to the operation to be performed.'*

Further guidance on a PIC's responsibilities during non-commercial operations are given in Commission Regulation (EU) No 1178/2011. PART-NCO.GEN.105 states at paragraph (f):

> *'During flight, the pilot-in-command shall…remain at the controls of the aircraft at all times except if another pilot is taking the controls.'*

Also, in accordance with PART-NCO.OP.130 the PIC is to:

> *'ensure that before or, where appropriate, during the flight, passengers are given a briefing on emergency equipment and procedures.'*

Flight instructors

Subpart J to Annexe I to Commission Regulation (EU) No 1178/2011 states that the privileges of a FI certificate are to conduct flight instruction for the issue, revalidation or renewal of a licence or rating. For an FI to perform such duties, on an aircraft for which he or she is suitably qualified, he or she will be the PIC for the flight and will sign the journey log as the person in charge. There is no EASA or CAA definition for the term '*check flight*', as used by the FI.

The pilot in command of a single pilot aircraft who flies alone or with passengers is responsible for the safe conduct of the flight and logs the time as PIC. However, when accompanied by an FI, exercising the privileges of an FI certificate, the pilot should log the flights as *'pilot under training'* or '*dual instruction time'*. There are exceptions to this, such as when a student pilot on an integrated course receives instrument training and the FI does not control the aircraft for any part of the flight; they may then certify the pilot's log book to state they acted as *'student pilot-in-command (SPIC)'*. Also when a pilot successfully undertakes a flight test in a single pilot aircraft with an EASA or CAA Authorised Examiner they are entitled to log the time as '*pilot-in-command under supervision (PICUS)'*.

AAIB Comment

Prior to the flight the pilot and FI had not appropriately briefed and agreed their roles and procedures. Both the pilot and the FI thought the FI could act as 'safety pilot', providing verbal advice from the right seat, while being available to take control if the pilot became incapacitated. However, the role of '*Safety Pilot'* was not applicable because the pilot's medical certificate was not endorsed '*OSL*' and, because the FI did not sign for the aircraft as PIC, his role being that of a passenger and he should not have tried to perform instructional duties.

Although not causal to the accident, the pilot had an operation to remove a cataract from his right eye. Following the procedure he should have consulted with his AME as it was a surgical operation and also to ensure that the treatment he had received did not '*interfere with flight safety*'.

Safety actions

Following an investigation, a safety action was taken at the airfield to ensure pilots are told the runway in use when they call on the radio prior to arrival.

In May 2017 the CAA published CAP 1535, '*The Skyway Code*'[4] which is intended to provide General Aviation pilots involved in non-commercial and flight training operations with practical guidance on the operational, safety and regulatory issues relevant to their flying. '*The Skyway Code*' includes a section on the responsibilities of the Pilot in Command in a format which is intended to be more accessible than from regulatory documents.

To further clarify the term '*Safety Pilot*' when used with an '*Operational Safety Pilot Limitation (OSL)'* placed on a Medical Certificate, the CAA will produce an article for '*Clued Up'*, its magazine for the general aviation community. Additionally, the CAA will also ask the General Aviation Safety Council (GASCO) to publish the same article in its Flight Safety Bulletin.

BULLETIN CORRECTION

Following publication of the report, further clarification was received from the Civil Aviation Authority relating to the recording of the flight in the pilot's log book. The final paragraph of the section headed '*Flight Instructors*' was amended online on 2 October 2017.

Footnote

[4] See http://www.caa.co.uk/General-aviation/Safety-information/The-Skyway-Code/