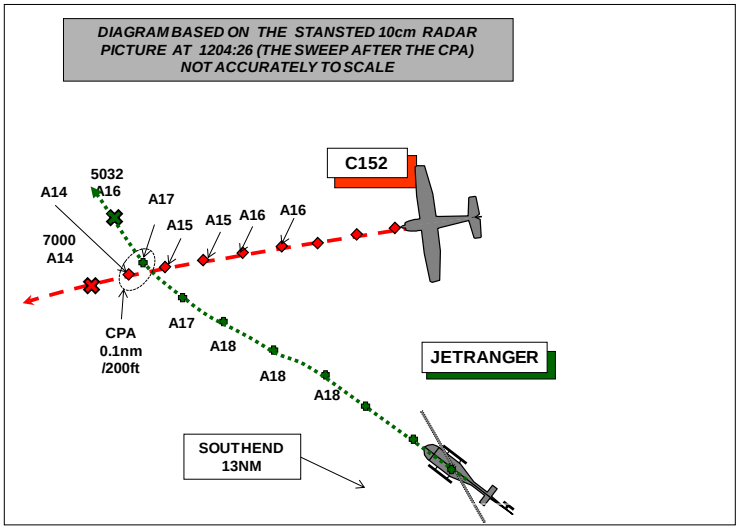
AIRPROX REPORT No 2012043

Date/Time:	22 Mar 2012 1204Z	
Position:	5139N 00022E (4nm NW Basildon)	
Airspace:	Lon FIR	(*Class: G*)
	Reporting Ac	*Reported Ac*
Type:	Bell JetRanger	C152
Operator:	Civ Trg	Civ Trg
Alt/FL:	1500ft 1027hPa (QNH)	NK NK
Weather:	VMC Haze	VMC Haze
Visibility:	4-5km	NR
Reported Separation:	0ft V/50m H	Not Seen
Recorded Separation:	200ft V/<0.1nm H (See UKAB Note (1)).	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BELL JETRANGER FLIGHT EXAMINER (FE) reports conducting a VFR training flight from Manston to Leicester in a white and maroon helicopter with all external lights switched on; they had checked the NOTAMS for the route. At the time of the incident they were N of the Thames heading 300° at 95kt, in receipt of a BS from Farnborough LARS N and squawking as directed with Mode C; Mode S was not fitted. He had just told the handling pilot (HP) to keep a very good lookout because of the haze and especially because the clear skies and perfect sunny conditions meant that 'all the private Cessna pilots will be out and about'. His exact words were 'It's very easy to get hit on a day like this even when you're on home ground – it'll happen anytime'.

They were both undistracted with no other task being undertaken when he saw a white and grey Cessna 200m away on their right. After 3-4secs he realised they were on a converging course and said 'down, down now'.

The HP lowered the collective 'almost into autorotation'. This seemed to have no effect and the HP remained undecided as to which way to turn (L or R) away from the Cessna. The Flight Examiner (FE) said 'right, turn right', which the HP did. The FE realised the Cessna was now 'blooming' and much greater AOB was required to turn behind it so he assisted and increased the AOB to 60-70°.

As soon as they'd levelled their 'wings' the ATC controller said 'you have another ac 200ft beneath you'; the FE replied 'seen' and made an effort to calm the HP down as he was quite shaken.

He assessed the risk as being high and reported it to Southend ATC and later by telephone to Farnborough.

This type of incident will always be possible in a VFR 'see and be seen' environment when ATC have a wide area coverage with many responsibilities. Other than learning the lesson of 'vigilance' little else can be done to avoid these situations.

The Examiner reported the incident to his QA Manager who asked if anything should have been done differently. He thought however, that the pre-flight briefing had been adequate and had identified the need for workload reduction in the busy Essex-Stansted-Luton environment and this was achieved.

THE C152 PILOT reports that he was instructing on a VFR GH sortie (exercises 7 and 8.1, climbing and descending) in the Hanningfield reservoir area in a blue and white ac with external lights switched on. They were receiving a BS from Southend Radar, squawking 4575 with a Mode S compliant transponder with altitude reporting selected on.

Being unaware that an Airprox had taken place, he was uncertain of his altitude and position at the exact time of the incident; however, his airborne and landing times according to the ac tech log were 1120 - 1210.

He added that due to the nature of the exercises being demonstrated & practised, a very good lookout was maintained throughout the entire flight.

THE FARNBOROUGH CONTROLLER reports working moderate levels of traffic on LARS N when the Bell JetRanger called on frequency but he had little recollection of the event. He believed the squawk assignment was not immediately apparent as it was in an area with several other Southend squawks which appear very similar to their own as they begin with 50.

ATSI reports that a Bell JetRanger pilot reported an Airprox when his helicopter came into proximity with a C152 approximately 13nm WNW of Southend at alt 1800ft. The JetRanger was operating VFR on a flight from Manston to Leicester and was in receipt of a BS from Farnborough LARS (N). The C152 had departed Stapleford for GH manoeuvres and at the time of the incident was believed to be in contact with Stapleford Radio as it returned to Stapleford. The Farnborough LARS (N) controller was providing services with the aid of surveillance data from the Stansted 10cm radar.

ATSI had access to the pilots' reports, Farnborough LARS (N) controller's report, the Farnborough unit report and recorded area surveillance. In addition, transcription of the Southend Radar frequency [130.775MHz] was obtained. Stapleford Radio is not recorded.

Both the JetRanger and C152 pilots reported meteorological conditions as VMC in haze.

The C152 had been operating VFR in the Hanningfield area and had been in receipt of a BS from Southend Radar since 1122. The C152 was operating on the QNH of 1030hPa and was displaying the Southend Conspicuity code of 4575.

The JetRanger departed Manston at 1145 and flew W towards the Isle of Sheppey from where it turned onto a NW track. At 1151 the pilot called Southend Radar requesting a BS as it flew to the W of Southend. A BS was agreed, the QNH confirmed as 1030hPa, and a SSR code of 5060 allocated. The JetRanger pilot reported to Southend Radar at 1200:20 that they were changing frequency to Farnborough LARS and Southend instructed the JetRanger to squawk 7000. At 1200:44 the JetRanger called Farnborough LARS North, a BS was agreed and the QNH passed as 1029hPa, an SSR code 5032 was allocated and the JetRanger continued on a NW'ly track.

At 1202:40 the C152 left the Southend Radar frequency and changed to Stapleford Radio, the pilot reported changing the ac's squawk to 7000 and continued on a WSW track. At 1203:26 the C152 was in the JetRanger's 1 o'clock position at a range of 1.5nm. The ac were converging at a converted Mode C alt of 1900ft. By 1203:52 the distance between the ac had reduced to 0.8nm with the C152 coming into the JetRanger's 12 o'clock from the right and both ac were at alt 1800ft. The C152 then appeared to turn right slightly and commence a descent. At 1204:19 the C152 was in the JetRanger's 12 o'clock, range 0.1nm; the JetRanger at alt of 1800ft and the C152 at 1500ft.

At 1204:28 the LARS controller transmitted to the JetRanger, "[C/S] *you've got traffic directly underneath you by two hundred feet right to left"* and the pilot replied, "*just seen…".* As the two ac then diverged the C152 continued descending through alt 1400ft and the JetRanger descended to altitude 1600ft having commenced a turn to the right. At 1206:17 the LARS controller suggested that the JetRanger freecall North Weald but the pilot elected to call Stapleford and stated that he would return to the LARS frequency later.

The Airprox occurred when the JetRanger came into proximity with a C152 at alt 1800ft, 13nm WNW of Southend. Both ac were operating VFR in Class G uncontrolled airspace where the responsibility for collision avoidance rests solely with the pilots.

The C152 had recently transferred from Southend Radar to Stapleford Radio and the JetRanger was in receipt of a BS from Farnborough LARS (N). Under a BS, controllers with access to surveillance derived information may issue a warning to pilots if the controller considers that a definite risk of collision exists.

[UKAB Note (1): An analysis of the Stansted area radar showed the incident. It should be noted that the quoted accuracy of Mode C data is ±200ft. The JetRanger was squawking 5060 (Southend Approach) initially then 7000 and the C152 4575 (Southend Conspicuity) then also 7000; both ac were displaying Mode C alt and the C152 elementary Mode S data. At 1156 the C152 can be seen manoeuvring in the area reported as the JetRanger approaches from the SE on a NWly track. At 1200 the JetRanger passes 5nm W of Southend still tracking 310° and at 1900ft with the C152 manoeuvring in its 12 o'clock at 8nm indicating 1800ft; the ac continue to close. At 1200:37 the JetRanger changes to a 7000 squawk, still at 1900ft with the C152 3.9nm in its 1 o'clock, also 1900ft. One minute later the JetRanger changes squawk to 5032 (alt 2100ft) (Farnborough LARS) and at 1202:50 the C152 changes to 7000 (alt 1900ft) while in the JetRanger's 2 o'clock at 2nm. The ac continue to close on a line of constant bearing, the JetRanger descending to 1900ft, then at 1203:52 both ac indicate 1800ft with the C152 0.7nm in the JetRanger's 1 o'clock. At 1204:09 the C152 is in the JetRanger's 12 o'clock at 0.2nm, the former having descended to 1600ft and the JetRanger having turned about 10° to the left but remaining at 1800ft. On the next sweep the C152 (1500ft) is in the JetRanger's (1700ft) 12 o'clock at 0.1nm and on the following sweep the ac had crossed with less than 180m separation, the C152 indicating 1400ft and the JetRanger 1600ft.]

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controller involved and reports from the appropriate ATC authority.

A number of Board Members questioned why the JetRanger crew's first action was to attempt to descend to avoid collision when the radar replay indicated the C152 was slightly lower. The helicopter pilot Members opined that a probable poor horizon combined with the limited manoeuvre energy of the helicopter would predicate the pilot's response as being a descent in order to achieve separation in the most timely manner.

Members were of the opinion that the JetRanger crew would have been better placed by requesting and receiving a TS rather than a BS. One controller Member opined that the JetRanger crew may not have asked for a TS on the basis that it was unlikely they would have been accommodated. However, Members did not view this as a valid reason not to ask for a TS and agreed that pilots should always ask for the service most appropriate to their task and the Wx conditions.

The reported first sighting range of 200m was a late sighting by the JetRanger crew. From the geometry of the radar replay it would appear that in addition to being on a constant bearing, the JetRanger may have been occulted by the C152's L wing, resulting in a non-sighting by the C152 pilot. Given the series of manoeuvres required by the JetRanger crew to avoid collision, and the radar-recorded separation of less than 0.1nm and 200ft, the Board were of the opinion that the safety of the ac were compromised.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the JetRanger pilot and a non-sighting by the C152 pilot.

Degree of Risk: B.