

**DATA SUMMARY**

**LOCATION**

Date and time	<b>Sunday, 15 July 2001; 13:10 hours</b>
Site	<b>Arraga farmhouse, Deba (Guipúzcoa)</b>

**AIRCRAFT**

Registration	<b>F-PLJP</b>
Type and model	<b>JODEL D 140 E; serial number 452</b>
Operator	<b>Private</b>

**Engines**

Type and model	<b>TEXTRON LYCOMING O-360-A3A</b>
Number	<b>1</b>

**CREW**

**Pilot in command**

Age	<b>58 years</b>
Licence	<b>Private pilot licence</b>
Total flight hours	<b>1,000 hours</b>
Flight hours on the type	<b>60 hours</b>

**INJURIES**

	Fatal	Serious	Minor/None
Crew			<b>1</b>
Passengers			<b>2</b>
Third persons			

**DAMAGES**

Aircraft	<b>None</b>
Third parties	<b>None</b>

**FLIGHT DATA**

Operation	<b>General aviation – Non commercial – Private</b>
Phase of flight	<b>En route – Cruising level</b>

## 1. FACTUAL INFORMATION

### 1.1. History of the flight

On July 15<sup>th</sup>, 2001, the aircraft Jodel D 140 E, registration marks F-PLJP, took off from the Airfield of Itxassou in the French Basque country, and once in Spanish air space it overflew the city of San Sebastián. A few minutes later, the pilot noticed that the engine was not operating properly and decided to report this incident to the control tower of the Airport of San Sebastián as well as his intention to continue the flight to the Airport of Bilbao.

Close to the town of Deba, the propeller became dislodged and the pilot was forced to make an emergency landing. The aircraft landed and no injuries were sustained by its occupants. The aircraft did not suffer damages.

Then, the pilot contacted again the control personnel of the Airport of San Sebastián by means of his mobile phone reporting the incident. The Regional Police units located the crew some 20 minutes later.



Wreckage of the propeller located on the landing place

### 1.2. Personnel information

The pilot in command was a French citizen and held an airplane private pilot licence valid until February 28, 2002, which had been first issued twenty years ago. The total

flying experience of the pilot was 1,000 hours, of which 60 hours had been in this model.

### 1.3. Aircraft information

#### 1.3.1. Airframe

The aircraft Jodel D 140E, registration mark F-PLJP was registered in the French Aircraft Register as «Amateur built aircraft» on 21 December 2000 and the airworthiness certificate was valid until 6 December 2003.

#### Technical specifications

MTOW:	1,200 kg
Empty weight:	638 kg
Maximum speed:	285 km/h
Cruising speed:	230 km/h
Stall speed:	95 km/h
Cross wind limit:	15 knots
Endurance:	6 hours
Seats:	3

#### 1.3.2. Engine

Engine manufactured by Textron Lycoming O-360-A3A with a power of 134 kw (179 HP).

#### 1.3.3. Propeller

Make:	EVRA
Material:	Wood
Skin:	Plastic
Type:	94 79 26 C
Number:	42 ST
Date of assembly:	15-11-2000
Time since new:	56:48 h

Date last inspection: 14-05-2001  
Time since last inspection: 19:55 hours  
Detail of inspection carried out: Verificación del par de apriete frenado de los tornillos y recubrimiento de la pala (¡¡¡OJO!!!)

## 1.4. Tests and research

### 1.4.1. *Trayectoria and inspection of the aircraft*

The distance from the point of departure until its landing in Deba was 80 km approximately, with an estimated flying time of 25-30 minutes.

The terrain where the aircraft landed is slightly uphill and covered with grass. The aircraft did not sustain any damage, except for the loss of the propeller which was located close to the landing area together with two fastening screws and the disk which fastens the assembly system to the rotating axis. The other four screws could not be found.

The visual inspection of the fastening points of the propeller showed a similar wear and tear, evenly distributed in the rim of each of the six holes, more marked in two of them, probably because they were the last ones to maintain the position.

Once the aircraft was recovered, a general inspection of all its systems was conducted and no evidence of malfunction was found.

### 1.4.2. *Maintenance of the propeller*

The assembly and maintenance manual of the propeller specifies a different tightening torque depending on the type of screw been used. It is established that the torque may be checked after the first hour of flight. This torque will be mandatorily checked between the 10th and 30th hours of flight and then as many times as necessary, although at least every 50 h or 6 months.

To lock the screws, a lockwire of stainless steel of 10/10 of diameter is specified for most of the cases. Otherwise, reference to the engine manual must be made.

In this type of aircraft, the pilot has the option to carry out these maintenance tasks by himself. The last inspection of the propeller, according to the pilot's statement, was carried out by himself.

According to some information gathered at the airfield where the aircraft was usually based, the maintenance center that carried out the last inspection advised the pilot to check the torque after 25 h of flight. That center did not inspect the aircraft again.

## 2. ANALYSIS AND CONCLUSIONS

The aircraft was overflying the province of Guipúzcoa coming from the South of France. Moments before the event, the pilot noticed a malfunction that was probably due to the vibration produced by the play caused by the loosening of one or more fastening screws of the propeller.

After the propeller detachment, the pilot carried out a successful emergency landing without damages.

From the information provided, it is considered that the probable cause of the in flight detachment of the propeller was the incorrect fitting and locking of the screws of the propeller that was not detected in the maintenance tasks carried out after the last recorded inspection of the aircraft.