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INVESTIGACIÓN  
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## Interim statement IN-002/2012

Incident involving an ATR-72-212A  
aircraft, registration EC-HCG, operated  
by Air Nostrum, at the San Sebastian  
Airport (Spain) on 21 January 2012



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DE ESPAÑA

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SUBSECRETARÍA

COMISIÓN DE INVESTIGACIÓN  
DE ACCIDENTES E INCIDENTES  
DE AVIACIÓN CIVIL

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## **Important notice**

This document constitutes the interim statement envisioned in Article 16.7 of Regulation (EU) no. 996/2010 of the European Parliament and of the Council, as well as in paragraph 6.6 of Annex 13 to the Convention on International Civil Aviation. The statement includes the details of the progress of the investigation and the most important operational safety issues revealed to date. The information provided herein is subject to change as the investigation proceeds.

Pursuant to the contents of Regulation (EU) no. 96/2010 of the European Parliament and of the Council and of Annex 13 to the Convention on International Civil Aviation, the investigation is purely technical in nature and is not intended to determine or apportion blame or liability. The investigation is being conducted without necessarily resorting to evidentiary procedures and for the sole purpose of preventing future accidents.

Consequently, the use of this information for any purpose other than to prevent future accidents may result in faulty conclusions or interpretations.

## **Abbreviations**

ATLB	Aircraft Technical LogBook
ATPL (A)	Airline Transport Pilot License (Airplane)
CVR	Cockpit voice recorder
CIAIAC	Comisión de Investigación de Accidentes e Incidentes de Aviación Civil
FDR	Flight data recorder
F/O	First Officer
g	Acceleration due to gravity
GPU	Ground power unit
h	Hour(s)
JAR-FCL	Joint Aviation Requirements – Flightcrew Licensing
MPC	Multi-purpose computer
P/N	Part number
RPM	Revolutions per minute
S/N	Serial number
s	Second(s)
VIP	Very Important Person

**DATA SUMMARY****LOCATION**

Date and time	<b>Friday, 21 January 2012, 07:30 local time</b>
Site	<b>San Sebastian Airport (Spain)</b>

**AIRCRAFT**

Registration	<b>EC-HCG</b>
Type and model	<b>ATR-72-212A</b>
Operator	<b>AIR NOSTRUM</b>

**Engines**

Type and model	<b>PRATT &amp; WHITNEY PW 127F</b>
Number	<b>2</b>

**CREW**

	Captain	First Officer
Age	<b>39</b>	<b>41</b>
License	<b>ATPL (A)</b>	<b>ATPL (A)</b>
Total flight hours	<b>7074</b>	<b>5357</b>
Flight hours on the type	<b>5254</b>	<b>4791</b>

**INJURIES**

	Fatal	Serious	Minor/None
Crew			<b>4</b>
Passengers			<b>24</b>
Third persons			

**DAMAGE**

Aircraft	<b>Minor</b>
Third parties	<b>Ground power unit (GPU)</b>

**FLIGHT DATA**

Operation	<b>Commercial Air Transport - Scheduled - Domestic - Passenger</b>
Phase of flight	<b>Parking - Start-up</b>

**REPORT**

Date of approval	<b>19 December 2012</b>
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## 1. SUMMARY OF THE FLIGHT

The ATR-72-212A aircraft, registration EC-HCG, operated by Air Nostrum, was preparing to commence flight IBE 8317 to Madrid, which was scheduled to depart San Sebastian at 07:30 local time.

The passengers were boarded, which included a VIP with an armed escort. This made it necessary for the crew to follow the relevant procedure requiring, among other actions, a review of the personal documentation, asking for the stamped service order, etc.

After this, the crew headed to the cockpit to proceed with the start-up procedure. Once in the cockpit they noticed the presence of an EFIS COMP alert.

Due to the unusual checks that had been required by the VIP passenger, they had less time to prepare so as to comply with the scheduled departure time, so they decided that the first officer would focus on resolving the onboard equipment problem while the captain handled the engine start-up procedure, which began with placing the no. 2 (right) engine in mode H (with the propeller brake engaged).

As the captain admitted, when preparing the cockpit they did not read the corresponding checklists (Cockpit Preparation C/L and Before Start), but rather did them from memory. The engine start-up as well as the associated checks were likewise performed in a routine fashion.

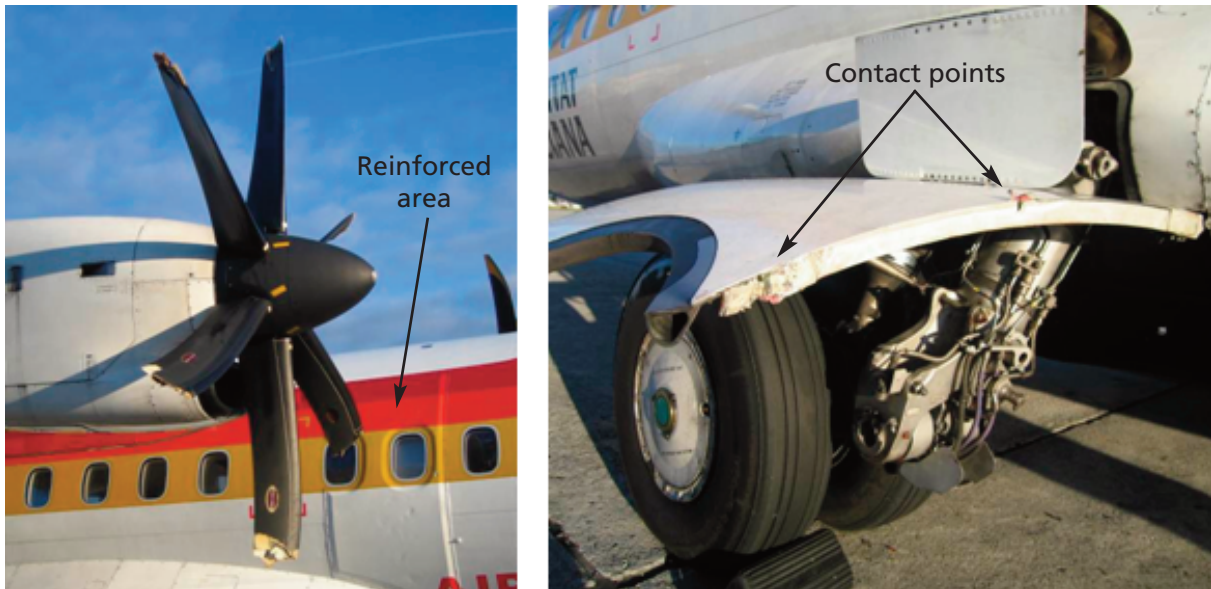
The captain also stated that he ordered the chocks removed and that he then focused, along with the first officer, on watching the F/O's display to see if the technical problem with the equipment was solved.

The support personnel on the ground consisted of two individuals, a coordinator and an operator. The former was in visual contact with the crew and communicated with it using standard visual signals, while the latter was in charge of operating the ground power unit (GPU) and its tow tractor, of disconnecting the GPU, removing the chocks and removing the GPU.

Once the right engine was started, the captain indicated to the coordinator that the GPU be electrically disconnected. He then commenced the left engine start-up procedure. Once this engine was stable, the captain signaled to the coordinator to remove the chocks. The coordinator relayed this instruction to the operator, who removed them and put them on the tractor. As he was preparing to climb onto the tractor to remove the GPU, he was alerted by the coordinator to look at the airplane, which was moving forward and whose right propeller was about to strike the GPU. The operator quickly moved out of the way.

Shortly thereafter the propeller struck the GPU. The impact broke six of its blades, the fragments of which were ejected, some of them striking the part of the fuselage that is reinforced so as to absorb the impact of objects that may be thrown off by the propellers, such as chunks of ice.

The crew felt the impact and stopped the engines. Upon checking the position of the controls in the cockpit, they noticed that the parking brake lever was in the disengaged position.



*Figure 1. Photographs of the damage to the propeller and to the right main landing gear door.*

During subsequent interviews with the crew, the captain stated that when he checked the position of the parking brake before starting the engines, the brake was set. He also acknowledged the possibility that he may have inadvertently disengaged it after starting the engines.

After the incident, they decided to disembark the passengers, who were placed on other Air Nostrum flights.

The brake system on the aircraft was checked and determined to be functioning normally.

The aircraft was equipped with a flight data recorder (FDR) and cockpit voice recorder (CVR). Both were removed from the aircraft and their contents downloaded at the CIAIAC's laboratory.

The CVR was a solid state unit made by L3 Communications, P/N 2100-1020-02 and S/N 000547133. The last few minutes on the CVR were confirmed to correspond to the incident flight.

The FDR was an F1000 solid state unit made by Fairchild, P/N S800-2000-00 and S/N 02266. When the downloaded information was analyzed, it was noted that the last data recorded did not correspond to either the date or time of the event, but rather were from 19 January, two days earlier. The coordinates were checked and determined to be those for the Melilla Airport.

The operator confirmed that on the 19th, at the time indicated by the recorder data, the aircraft was in fact in Melilla. This led investigators to conclude that the FDR had stopped recording at that time, meaning it contained no data on the incident.

The unit was inspected at the manufacturer's facility, which revealed that it had an internal memory fault.

In the cockpit there is a light indicator labeled "STATUS SYST" that should be on whenever certain faults affecting the FDR occur. These faults include the internal memory fault found on the unit installed on the aircraft. The crew stated that said indicator was not on. The Aircraft Technical Log Book (ATLB) was also checked and found to contain no entries regarding the activation of this warning light.

The last data recorded on the FDR were for a flight between the airports of Almeria and Melilla, made on the morning of 19 January 2012.

From then until the incident flight, the aircraft made twelve flights with the FDR inoperative, something that was not revealed by the cockpit indications nor entered in the ATLB. Had this incident not occurred, the fault in the FDR would have gone undetected, allowing the aircraft to remain in service.

The aircraft is also equipped with a flight data recorder unit called the multi-purpose computer (MPC), which stores aircraft information on a memory card. The data contained on this card were recovered with the aid of the aircraft manufacturer.

The analysis of these data allowed investigators to determine that the engine start process was carried out normally and that shortly after the engines were started, a high torque value was recorded for the no. 2 (right) engine in conjunction with a drop in the RPMs of this engine's propeller.

The longitudinal acceleration, the values for which had until then been on the order of thousandths of a g, recorded a relatively high value of 0.3957 g's two seconds later.

Both the captain and the first officer had valid JAR-FCL airline transport pilot licenses (ATPL(A)) and type ratings.

As for the aircraft, its documentation was also in order. The airworthiness review certificate was valid until 21/03/2012.

The aircraft had last been inspected before the incident on 17 January 2012, three days before the event. It had been an A-check (500 hours), performed with 27208 hours and 32582 cycles on the aircraft.

## **1.2. Status of the investigation**

Even though the investigation into the aspects directly related to the incident has been completed, the findings involving the non-activation of the "STATUS SYST" indicating light, which should have alerted the crew to the defective operation of the flight data recorder, warrant the continuation of the investigation so as to determine the causes for the non-activation of said indicator, as well as of the crew's failure to use the procedures.