

**NATIONAL TRANSPORTATION SAFETY BOARD  
Office of Aviation Safety**

**November 8, 2012  
MAINTENANCE GROUP CHAIRMAN'S REPORT  
DCA12MA020  
ADDENDUM 1**

A. ACCIDENT

Operator: Sundance Helicopters, Inc.  
Location: Las Vegas, NV  
Date: December 7, 2011  
Time: 1630 Pacific standard time  
Aircraft: N37SH, Eurocopter AS-350B2

B. AIRWORTHINESS GROUP

Chairman: Kristi Dunks  
National Transportation Safety Board  
Member: Maryam Allahyar  
National Transportation Safety Board  
Member: Gary Campbell  
Federal Aviation Administration  
Member: Kyle Reynolds  
Sundance Helicopters, Inc.  
Member: Jack Weese  
Sundance Helicopters, Inc.  
Member: Seth Buttner  
American Eurocopter

### C. SUMMARY

On December 7, 2011 at 1630 Pacific Standard Time, a Eurocopter AS350-B2, registration N37SH, operated by Sundance Helicopters, Inc., as flight Landmark 57, crashed in mountainous terrain approximately 14 miles east of Las Vegas, Nevada. The 14 CFR Part 135 flight was a tourist sightseeing flight, which departed from Las Vegas McCarran International Airport (LAS), Las Vegas, NV, intending to fly to the Hoover Dam area and return to LAS, operating under visual flight rules. The helicopter impacted in a ravine in mountainous terrain between the city of Henderson and Lake Mead. The pilot and four passengers were fatally injured, and the helicopter was substantially damaged by impact forces and fire. Access to the accident site was moderately difficult and the investigators were assisted by the National Park Service. There were no installed on-board recording devices. Weather was reported as clear with good visibility and dusk light conditions.

The purpose of this addendum is to document information that was gathered after the completion of the Maintenance Factual report.

### D. ADDENDUM

The Tour Operators Program of Safety (TOPS) is a voluntary program that air tour operators can become members of to enhance safety. Their mission is to "...provide the public with access to scenic areas while in the care of good, safe and professional air tour operators." Companies purchase a membership at TOPS, and once accepted, undergo yearly audits.

According to the TOPS website,

"Company management will establish and enforce standards to insure that safety is the primary consideration for air tour operations...TOPS also calls for the establishment of a Safety Management Program that includes outside, professional safety management courses for each member company's Safety Manager, ongoing safety training for personnel and yearly safety audits.

Regular safety audits are required to be conducted by an independent auditor designated by TOPS. Passing the independent audit is a condition of becoming an approved TOPS operator. Repeat audits are required every year.

Management also will establish clear flight operating standards and weather minimums to provide safe and consistent day-to-day operations. These standards will never compromise safety and the pilot(s)' professional judgment will be respected at all times. Management will encourage coordination with other operators flying in the same air space. Regular meetings will be held to coordinate route, position reporting, noise abatement and safety procedures."

Review of the Tour Operators Program of Safety (TOPS) information showed that Sundance Helicopters, Inc., was audited by TOPS in July of 2011. During this time, the audit showed that

Sundance met all of the TOPS requirements. One of the requirements for TOPS members is that all maintenance personnel (other than helpers) have three years of helicopter maintenance experience, or prior manufacturer training. Review of the training and employment record for the mechanic that completed the maintenance on the fore/aft servo showed that he did not meet either of these requirements at the time of the audit. The mechanic was hired and working at the facility on June 22, 2011. The TOPS audit was completed on July 11-12, 2011.

The TOPS auditor that completed the Sundance audit was asked about normal audit procedures for company employees, including operations and maintenance personnel. He indicated that when an audit is performed, the operator makes available employee records and training history. Then, approximately 25 percent of the records are audited. The auditor does not keep a list of the employee records that were verified, nor are all employee backgrounds audited during the check.

In June 2012 discussions with TOPS, personnel indicated that auditors are trained to verify all records of pilot and maintenance personnel. This is completed through an evaluation of employment records and the training histories. The records are made available by the TOPS member and auditors review them at the operator's facility. Reviewing a sampling of the records is not a trained or approved audit procedure. In October 2012 correspondence, TOPS personnel indicated that they misspoke and that sampling was an approved audit procedure. As a result of these discussions, TOPS formed an auditing committee to review their auditing practices.

In correspondence with Sundance, they indicated that their understanding of the TOPS requirements was that the endorsed company must meet the experience and factory training requirements collectively. They had maintained TOPS status with yearly audits of their systems with no issues identified. Sundance technicians undergo a 90-day probationary period during which time they are not considered for company sponsored manufacturer training. In July of 2011, two mechanics (in addition to the fore/aft servo mechanic) did not meet the TOPS experience requirements. All three mechanics held airframe and powerplant mechanic certificates and met the Federal Aviation Administration (FAA) requirements for employment at Sundance.

Sundance reported that in 2011, they operated 31,349.7 flight hours and transported over 200,000 passengers. In 2010, Sundance operated 28,029.4 flight hours and transported over 175,000 passengers.