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**Montgomery County Fire and Rescue Service**

**POST INCIDENT ANALYSIS**

**“Miracle on Mallory Place”**

**March 15, 2009**



**Submitted by  
Battalion Chief Shane Darwick**

## Introduction

March 15, 2009 at 1344 hours Montgomery County Fire and Rescue units responded to the intersection of Mallory Place and Snouffer School Road in the Flower Hill Community of Gaithersburg, Md. for a small plane down. The temperature at the time of the incident was 42 degrees. The skies were cloudy with light rain falling and the wind at 3 MPH.

A 2,300-pound Cirrus SR22 airplane lost control shortly after take off veered west over Flower Hill and deployed its emergency parachute and descended onto Mallory Place, narrowly missing the traffic on Snouffer School Road and dozens of homes in the Carriage Walk section of Flower Hill. The pilot walked away from the crash, clipped pine trees lost about 20 gallons of aviation fuel and put a dent in a parked truck.

## Site Layout

The Cirrus SR22 crashed on Mallory Place about 100 feet west of Snouffer School Road.



## Communications

Operational talk group was 7C and was sufficient for the initial operations. Talk group 7D was assigned by command to the Haz/Mat group. The Haz/Mat group requested 7D for their specific operational needs. As the incident progressed the command team transitioned from BC705 vehicle into the Montgomery County Police Command Bus. Command was then able to communicate with Montgomery County Police (MCP), Federal Aviation Administration (FAA) and the Civil Air Patrol in a Unified Command setting. Communication of all agencies, divisions and groups was conducted in a professional manner without any problems.

## On Scene Operations

- A728 arrived on the scene and reported a small plane down, the pilot appeared to be uninjured and reported the aircraft had a fuel leak.
- Structural integrity of the plane, based on the crash on arrival, was somewhat compromised. The plane was leaking aviation grade gasoline (100 Octane) from one of its wings. The plane had two wing tanks each held 40 gallons of fuel a total of 80 gallons.
- Initial command was not identified by A728. Battalion Chief 705 (BC705) enroute to the scene on the radio prompted A728 to establish command, establish a hot zone keeping bystanders back and deny access. A728 did take command and then establish a hot zone keeping bystanders back When E728 arrived A728 transferred Command to E728's officer when he arrived on the scene. Initial reports were indicating a small plane down with the incident somewhat stabilized and one patient was being evaluated for possible injury. BC705 via radio advised command if this was the case; slow all responding units down and to come to the scene routine. Command then told all units responding to come to the scene routine. BC705 arrived and the transfer of command was done face to face with the officer of E728. BC705 then assumed command and maintained command throughout the incident.
- Size up decisions by command on arrival was to assign E728's crew crowd control by establishing a hot zone with fire line tape and traffic control to prevent ignition sources near the scene. .
- Strategy/action plan was to confine the fuel leak and provide emergency medical services to the patient
- Crews executed tactics effectively. An aggressive approach was commenced by E708 to stop the flow of fuel by going to the plane and shutting down the fuel supply to the engine from inside the cockpit. E708's crew pulled an attack line to protect crews after establishing a water supply at a nearby hydrant. E708 then supplied E717. E717's crew advanced a foam line scene protection.
- Standard Operating Procedures were used; establishment of a water supply and deployment of an attack line as well as a backup line.

## Support Functions

- Fire/Rescue personnel were provided with food and drinks by Canteen 708.
- There were no equipment or apparatus failures.
- Functions with outside agencies were properly coordinated: Montgomery County Police (MCP), Federal Aviation Administration (FAA), Civil Air Patrol (CAP), Department of Environmental Protection (DEP), National Transportation Safety Board (NTSB), Maryland State Police (MSP), Federal Bureau of Investigation (FBI), Montgomery County Airpark Airport Authority, Maryland Department of the Environment (MDE) and Washington Suburban Sanitary Commission(WSSC)
- All safety SOPs and regulations were enforced by Command and Safety 700.

## Accountability

- Command ensured actions were taken for accurate personnel accountability by checking with Group Supervisors operating, and monitoring task being performed.
- The status of units, groups and support personnel were maintained throughout the incident by Command utilizing the Command Tactical Worksheet.
- The incident was continuously controlled and monitored by Command and Safety 700.

## Investigations

- Conducted by Federal Aviation Administration and Montgomery County Police

## Injuries

- The pilot of the aircraft was evaluated by the crew of A728. The pilot initially refused treatment and after about 20 minutes on the scene he mentioned he had chest pain probably from the seat belt. EMS 703 notified Shady Grove Hospital and Shady Grove said transport him to Suburban Hospital as a Priority 2 trauma Category D. EMS 703 upgraded A728 and they transported to Suburban.
- One firefighter was injured deploying a 300 ft hand line towards the aircraft. The line was uncharged while he was deploying. While he was pulling the line a coupling became lodged on a stop sign post. He then continued to pull not realizing that the coupling was lodged until he felt a sudden pull and twisting motion of his right middle finger and hand. His finger was pulled backwards and he immediately felt pain. He had his structural firefighting gloves in place during this deployment. He then went to the stop sign and dislodged the

coupling and continued on the incident. He reported the incident after returning to the Fire station he was transported to the Germantown Emergency Center treated and sent off shift to follow up with his doctor.

### Lessons Learned

- **Cirrus Airframe Parachute Systems (CAPS)** are standard on all Cirrus manufactured aircraft. The CAPS Rocket and igniter are located behind the aircraft passenger compartment and if not deployed prior to an emergency crash landing, could pose a SERIOUS threat to bodily injury or death to first responders. **NEVER cut into the cabin roof!** If you encounter a CAPS system that has NOT deployed, you must enter the cockpit area, accomplish engine shutdown by moving the fuel selector to off to shutoff the fuel, and also secure electrical power by turning the ignition switch off. There are other concerns for first responders in small aircraft that include the fuel tanks, oxygen, and TKS-Fluids (de-icing fluids) tanks. In 2007, the Cirrus Design Corporation produced an excellent video on the CAPS device and on the dangers of small aircraft scenarios where the system has NOT deployed and concerns over these and other safety issues. You can see a short video on parachute deployment on the Cirrus website at <http://cirrusaircraft.com/parachute/> other concerns for emergency responders should be the **AmSafe Aircraft Inflatable Restraint system (AAIR)**. The AmSafe Web site has several links to news reports on the aircraft equivalent to vehicle airbag systems designed to improve occupant protection from serious head-impact injury and enhance one's ability to exit the aircraft following an otherwise survivable accident. <http://www.amsafe.com/news/videos/aviation/> All first responders should take a few moments to review or investigate the concerns they may face when the incident involves small aircraft. Those few moments can be the difference in success or disaster in an emergency response to a downed small aircraft.
- The use of barrier tape (YELLOW- FIRE LINE TAPE) used for marking off the hot zone area was determined by Command by referencing the *2008 Emergency Response Guidebook*, weather conditions and other factors were considered in the decision. This barrier kept the bystanders back. Command observed Firefighters as well as Haz/Mat officers including Police inside the HOT ZONE without proper PPE. Command and Safety then used (RED FIRE LINE TAPE) cordoned off the area with more tape and announced all personnel stay out of the HOT ZONE unless given direction to be in it with proper PPE this was also told to MCP and they complied with the direction given them.

Montgomery County Fire and Rescue Units on Incident

A708	A708B	A728	AT708
BC705	C717D	CT708	DC700
DC700B	E707	E708	E717
E720	E728	EMS703	EW717
HM707	M708	RS717	SA700