



# Aviation Investigation Final Report

|                                |  |                         |             |
|--------------------------------|--|-------------------------|-------------|
| <b>Location:</b>               | Deer Park, Washington                      | <b>Accident Number:</b> | WPR23LA268  |
| <b>Date &amp; Time:</b>        | July 7, 2023, 08:30 Local                  | <b>Registration:</b>    | N633VS      |
| <b>Aircraft:</b>               | VICKERS-ARMSTRONG LTD<br>SPITFIRE IX       | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         | Loss of control on ground                  | <b>Injuries:</b>        | 1 None      |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Other work use |                         |             |

## Analysis

The pilot of the tailwheel-equipped airplane reported that, during landing roll with a 90° left crosswind at 6 kts, the airplane had a slight drift to the left after touchdown. He attempted corrective inputs by using a combination of right rudder and right brake, but the airplane continued drifting to the left and departed the runway. Subsequently, the landing gear collapsed, and the airplane collided with the dirt surface, resulting in substantial damage to the right wing.

The pilot initially reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation and that a gust of wind pushed the tail of the airplane's tail to the right. The pilot later stated he suspected the right brake had locked during landing, which he said would have reduced the braking effectiveness on the right side. Pictures of skid marks on the runway associated with the right tire show a lighter and narrower skid mark initially parallel to the runway heading, that increased in width and darkness as it turned to the left to where the airplane exited the runway. The right main tire was flat spotted and worn through about ½ the thickness of the sidewall. The airplane was not examined or secured after the accident due to the pilot's initial assessment that there were no abnormalities or malfunctions with the airplane, and that the airplane had been affected by wind. The evidence is consistent with the pilot's testimony that he applied right rudder and brake to counter the left turn during landing rollout with a left crosswind.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain directional control during landing with a crosswind.

## Findings

|                             |   |
|-----------------------------|---|
| <b>Personnel issues</b>     | Aircraft control - Pilot                      |
| <b>Aircraft</b>             | Directional control - Not attained/maintained |
| <b>Environmental issues</b> | Crosswind - Effect on equipment               |
| <b>Environmental issues</b> | Crosswind - Response/compensation             |

## Factual Information

### History of Flight

|                      |  |
|----------------------|--|
| Landing-landing roll | Loss of control on ground (Defining event) |
|----------------------|--|

### Pilot Information

|                           |  |                                   |                 |
|---------------------------|--|-----------------------------------|-----------------|
| Certificate:              | Airline transport; Commercial  | Age:                              | 69, Male        |
| Airplane Rating(s):       | Single-engine land; Single-engine sea; Multi-engine land; Multi-engine sea   | Seat Occupied:                    | Single          |
| Other Aircraft Rating(s): | None   | Restraint Used:                   | 4-point         |
| Instrument Rating(s):     | Airplane   | Second Pilot Present:             | No              |
| Instructor Rating(s):     | None   | Toxicology Performed:             |                 |
| Medical Certification:    | Class 1 With waivers/limitations   | Last FAA Medical Exam:            | October 2, 2022 |
| Occupational Pilot:       | No   | Last Flight Review or Equivalent: | April 15, 2023  |
| Flight Time:              | 12400 hours (Total, all aircraft), 155 hours (Total, this make and model), 11400 hours (Pilot In Command, all aircraft), 26 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) |                                   |                 |

### Aircraft and Owner/Operator Information

|                               |                              |                                |                     |
|-------------------------------|------------------------------|--------------------------------|---------------------|
| Aircraft Make:                | VICKERS-ARMSTRONG LTD        | Registration:                  | N633VS              |
| Model/Series:                 | SPITFIRE IX                  | Aircraft Category:             | Airplane            |
| Year of Manufacture:          | 1945                         | Amateur Built:                 |                     |
| Airworthiness Certificate:    | Experimental (Special)       | Serial Number:                 | CBAF IX.571         |
| Landing Gear Type:            | Tailwheel                    | Seats:                         | 1                   |
| Date/Type of Last Inspection: | June 16, 2023 Annual         | Certified Max Gross Wt.:       | 7500 lbs            |
| Time Since Last Inspection:   | 1 Hrs                        | Engines:                       | 1 Reciprocating     |
| Airframe Total Time:          | 1387 Hrs at time of accident | Engine Manufacturer:           | Rolls Royce Packard |
| ELT:                          | Not installed                | Engine Model/Series:           | Merlin 266          |
| Registered Owner:             | On file                      | Rated Power:                   | 1760 Horsepower     |
| Operator:                     | On file                      | Operating Certificate(s) Held: | None                |

## Meteorological Information and Flight Plan

|                                  |                                  |   |                  |
|----------------------------------|----------------------------------|---|------------------|
| Conditions at Accident Site:     | Visual (VMC)                     | Condition of Light:                     | Day              |
| Observation Facility, Elevation: | KDEW,2206 ft msl                 | Distance from Accident Site:            | 0 Nautical Miles |
| Observation Time:                | 07:53 Local                      | Direction from Accident Site:           | 358°             |
| Lowest Cloud Condition:          | Clear                            | Visibility                              | 10 miles         |
| Lowest Ceiling:                  | None                             | Visibility (RVR):                       |                  |
| Wind Speed/Gusts:                | 6 knots /                        | Turbulence Type<br>Forecast/Actual:     | /                |
| Wind Direction:                  | 70°                              | Turbulence Severity<br>Forecast/Actual: | /                |
| Altimeter Setting:               | 29.91 inches Hg                  | Temperature/Dew Point:                  | 23°C / 9°C       |
| Precipitation and Obscuration:   | No Obscuration; No Precipitation |   |                  |
| Departure Point:                 | Spokane, WA (KSFF)               | Type of Flight Plan Filed:              | None             |
| Destination:                     | Deer Park, WA (KDEW)             | Type of Clearance:                      | VFR              |
| Departure Time:                  | 08:00 Local                      | Type of Airspace:                       | Class E          |

## Airport Information

|                      |                 |                           |         |
|----------------------|-----------------|---------------------------|---------|
| Airport:             | DEER PARK DEW   | Runway Surface Type:      | Asphalt |
| Airport Elevation:   | 2210 ft msl     | Runway Surface Condition: | Dry     |
| Runway Used:         | 16              | IFR Approach:             | None    |
| Runway Length/Width: | 6100 ft / 75 ft | VFR Approach/Landing:     | None    |

## Wreckage and Impact Information

|                     |        |                         |                           |
|---------------------|--------|-------------------------|---------------------------|
| Crew Injuries:      | 1 None | Aircraft Damage:        | Substantial               |
| Passenger Injuries: |        | Aircraft Fire:          | None                      |
| Ground Injuries:    |        | Aircraft Explosion:     | None                      |
| Total Injuries:     | 1 None | Latitude,<br>Longitude: | 47.967055,-117.42858(est) |

## Administrative Information

**Investigator In Charge (IIC):** Rho, Paul

**Additional Participating Persons:** Tom Lang; FAA; Spokane, WA

**Original Publish Date:** December 21, 2023

**Last Revision Date:**

**Investigation Class:** [Class 4](#)

**Note:** The NTSB did not travel to the scene of this accident.

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=192586>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).