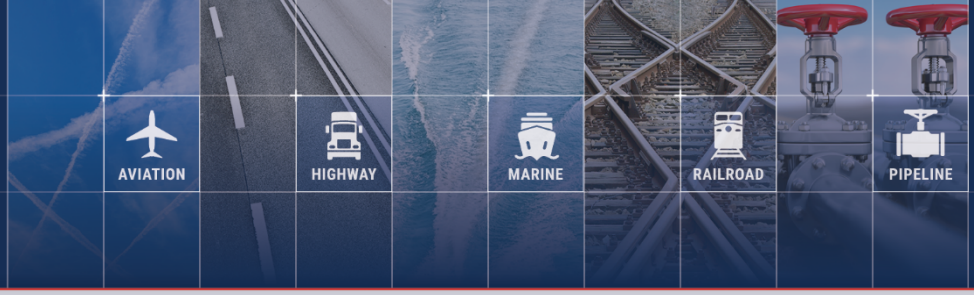

Aviation Investigation Factual Report

Location:	Anchorage, Alaska	**Accident Number:**	ANC05LA001
Date & Time:	October 7, 2004, 17:30 Local	**Registration:**	N5760D
Aircraft:	Piper PA-18-150	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Factual Information

On October 7, 2004, about 1730 Alaska daylight time, a tundra tire-equipped Piper PA-18-150 airplane, N5760D, sustained substantial damage during a hard landing and subsequent collapse of the left main landing gear while landing at Merrill Field, Anchorage, Alaska. The private pilot/airplane owner and the sole passenger were not injured. The Title 14, CFR Part 91 personal flight originated at Kenai, Alaska, about 1610, and the destination was Anchorage. Visual meteorological conditions prevailed, and no flight plan was filed.

The pilot reported in his written statement to the NTSB investigator-in-charge (IIC) that he was landing on runway 33, and flared too high, about 8 to 10 feet above the runway. The airplane subsequently stalled, and "dropped in." The left main landing gear collapsed on touchdown, and the left wing struck the runway. The pilot also noted in his written report that: "Pilot awareness is the key to prohibiting future incidents." He indicated that the airplane had no preaccident mechanical problems, that it was approved for use with over-sized tires, and that it was operating at near gross weight.

The NTSB IIC examined the airplane and discovered structural damage to the two outer ribs on the left wing.

An inspection of the left main gear assembly by the NTSB IIC disclosed that the original equipment manufactured (OEM) main landing gear (MLG) had been replaced by an assembly manufactured by F. Atlee Dodge Aircraft Services, of Anchorage. The Dodge MLG assembly on the accident airplane, Dodge part number 3165L, had fractured at the shock strut attachment lugs. An inspection of the fracture surfaces disclosed fracture surfaces consistent with overload failure. The pilot of the accident airplane provided an older, OEM type gear leg for comparison, and it was noted that the older MLG assembly strut attachment tabs were considerably thicker and wider than the Dodge tabs. The NTSB IIC requested assistance from the Anchorage FAA Aircraft Certification Office in evaluating the design strength of the Dodge MLG strut tabs, and reviewing any supplemental type certificate (STC) or primary manufacturing authorization (PMA) that had been submitted to the FAA certification branch by Dodge for approval.

According to the two FAA aerospace engineers who were assigned to assist in the investigation and review of the Dodge MLG, Dodge had not been issued an STC or a PMA for the MLG assembly, even though the gear assembly had been stamped by Dodge "PMA." They noted that Dodge has recently applied for both an STC and PMA for an improved, stronger version of the MLG assembly. The FAA engineers indicated that their calculations determined that the accident MLG assembly was approximately 50 % weaker than the OEM MLG, and may be below the original certification standards that were in place when the airplane was certificated.

The Anchorage FAA certification office is presently working with Dodge in determining how many gear assemblies for the Piper Cub series airplanes (J-3, PA-11, 12, 14, 18 and 19) airplanes have been distributed, and over what time period. The manufacturer was unable to state exactly when he started producing the accident MLG, but that it has been in production for several years. The certification office has requested that the manufacturer issue a Service Bulletin for the gear assembly, and, in addition, the FAA will issue either an Airworthiness Directive or a Special Airworthiness Information Bulletin, predicated upon further testing of the currently unapproved gear leg.

Pilot Information

Certificate:	Private	**Age:**	48,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 3, 2004
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	December 16, 2002
Flight Time:	567 hours (Total, all aircraft), 228 hours (Total, this make and model), 567 hours (Pilot In Command, all aircraft), 61 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N5760D
Model/Series:	PA-18-150	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal; Utility	**Serial Number:**	18-5262
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	March 1, 2004 Annual	**Certified Max Gross Wt.:**	1750 lbs
Time Since Last Inspection:	84 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2735 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-320
Registered Owner:	Dwight E. Johnson	**Rated Power:**	150 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PAMR,137 ft msl	**Distance from Accident Site:**	
Observation Time:	18:06 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Scattered / 1500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 6500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/ None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.64 inches Hg	**Temperature/Dew Point:**	11°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	KENAI, AK (ENA)	**Type of Flight Plan Filed:**	None
Destination:	Anchorage, AK (MRI)	**Type of Clearance:**	None
Departure Time:	16:10 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Merrill Field PAMR	**Runway Surface Type:**	Asphalt
Airport Elevation:		**Runway Surface Condition:**	Dry
Runway Used:	33	**IFR Approach:**	None
Runway Length/Width:	2640 ft / 75 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	61.186943,-149.96527

Administrative Information

Investigator In Charge (IIC):	LaBelle, James
Additional Participating Persons:	Scott Schweizer; FAA, Anchorage Flight Standards District Office; Anchorage, AK David D Schwartz; FAA; Anchorage, AK Michael A Heusser; FAA; Anchorage, AK
Report Date:	April 15, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=60328