

AAIB Bulletin No:	7/94	Ref:	EW/G94/05/16	Category:	1.2
Aircraft Type and Registration:	Piper PA-31-350 Navajo Chieftain, G-YSKY				
No & Type of Engines:	2 Lycoming TIO-540-J2BD piston engines				
Year of Manufacture:	1979				
Date & Time (UTC):	13 May 1994 at 1840 hrs				
Location:	Clacton Airfield, Essex				
Type of Flight:	Positioning				
Persons on Board:	Crew - 1	Passengers - 1			
Injuries:	Crew - None	Passengers - None			
Nature of Damage:	Damage to nose landing gear, nose, propellers and engines				
Commander's Licence:	Commercial Pilot's Licence				
Commander's Age:	29 years				
Commander's Flying Experience:	1,320 hours (196 of which were on type) Last 90 days - 128 hours Last 28 days - 81 hours				
Information Source:	Aircraft Accident Report Form submitted by the pilot, AAIB enquiries and metallurgist's report				

The aircraft was engaged on a positioning flight from Clacton to Duxford. The passenger was a new company pilot on an experience flight and took no part in the conduct of the flight. The pre-departure checks were carried out normally and the aircraft was lined up for takeoff on the grass runway in the normal manner. Power was increased to 2,000 RPM and the brakes released, after which take-off power was set. All indications were normal at this stage. After about 70 metres of ground roll, during which full up elevator had been maintained, the nose landing gear collapsed at about 20 kt and the aircraft's nose contacted the runway. The throttles were retarded and both engines secured in accordance with the 'Engine fire on ground' checklist. The aircraft was evacuated without injury. There was no fire.

Examination of the runway showed no large bumps or other defects which might have overstressed the nose gear, however there was reported to be a small hollow at a runway marker which the aircraft may have entered. Examination of the nose landing gear showed that the fork, securing the nosewheel to the lower oleo, had fractured causing the wheel to detach and allowing the stub of the oleo assembly

to dig in to the ground and cause the nose landing gear to collapse. A metallurgical examination of the fork fracture concluded that the fracture had been the result of rearward bending of the fork, with a small superimposed torsional component relative to the nose landing gear, and that the bending load exceeded the mechanical strength of the fork. The metallurgist considered this consistent with the wheel entering a hole while the aircraft was travelling forward. There was no evidence of any previous damage, or material defects, which might have reduced the strength of the fork.

Information Source:	Aircraft Accident Report Form submitted by the pilot AAIB enquiries and metallurgist's report
Commander's Flying Experience:	1,350 hours (106 of which were on type) Last 90 days - 158 hours Last 28 days - 81 hours
Commander's Age:	39 years
Commander's Licence:	Commercial Pilot's Licence
Nature of Damage:	Damage to nose landing gear, nose, propellers and engines
Injuries:	Crew - None Passengers - None
Persons on Board:	Crew - 1 Passengers - 1
Type of Flight:	Positioning
Location:	Claxton Airfield, Essex
Date & Time (UTC):	13 May 1994 at 1840 hrs

The aircraft was engaged on a positioning flight from Claxton to Duxford. The passenger was a new company pilot on an experience flight and took no part in the conduct of the flight. The pre-departure checks were carried out normally and the aircraft was lined up for take-off on the grass runway in the normal manner. Power was increased to 2,000 RPM and the brakes released, after which take-off power was set. All indications were normal at this stage. After about 30 metres of ground roll, during which full up elevator had been maintained, the nose landing gear collapsed at about 30 kt and the aircraft nose contacted the runway. The brakes were retained and both engines secured in accordance with the engine fire on ground checklist. The aircraft was evacuated without injury. There was no fire.

Examination of the runway showed no large bumps or other defects which might have overstressed the nose gear, however there was reported to be a small hollow at a runway marker which the aircraft may have entered. Examination of the nose landing gear showed that the fork, securing the nosewheel to the axle, had fractured causing the wheel to detach and allowing the stub of the oleo assembly