

From: [Kramer Donald](#)
To: [Malinowski Edward](#)
Subject: Materials Laboratory Factual Report - CEN16FA276 - Plainfield, IL - Piper PA-30, N7409Y - July 21, 2016
Date: Wednesday, August 31, 2016 11:13:29
Attachments: [IMG 0161.JPG](#)
[Forward crankshaft piece.JPG](#)

ACCIDENT INFORMATION:

Place: Plainfield, Illinois

Date: July 21, 2016

Vehicle: Piper PA-30, N7409Y

NTSB No.: CEN16FA276

Investigator: Ed Malinowski, ASI-CEN

COMPONENTS EXAMINED:

Two pieces from forward end of crankshaft: First piece from propeller flange to a fracture through the oil tube hole in the first main bearing journal; second piece from the fracture to a cut through the second connecting rod journal.

Forward main bearing shells (both halves).

DETAILS OF THE EXAMINATION:

The two pieces of the crankshaft and the bearing shells were sent to the NTSB Materials Laboratory for examination. The propeller flange on the crankshaft exhibited bending deformation, with one region bent forward and the opposite region 180 degrees around the shaft bent aft. A portion of the oil flinger flange was fractured leaving an approximately 120 degree region intact. The crankshaft was fractured in the circumferential direction at the oil tube hole in the first (forward) main bearing journal. The fracture surfaces had a comparatively rough appearance and were inclined approximately 45 degrees to the bearing surface. Taken together, the features were consistent with a bending overstress fracture.

The bearings were deformed but exhibited no otherwise notable features.

Donald Kramer, Ph.D.

Materials Engineer



