



MEMORANDUM FOR RECORD

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Air Safety Investigator
Eastern Region Aviation

October 23, 2020

Subject: NTSB investigation ERA17MA316 MBB BK117 C2 Helicopter, N146DU, Hertford, North Carolina, September 8, 2017.

Serious Incident – N911MK

About 8 months prior to the N146DU accident, another BK117 C2 helicopter experienced a seizure of the rear bearing in the No. 2 engine.

On January 26, 2017, a BK117-C2 helicopter displayed an in-flight engine fire indication, and the pilot made an uneventful emergency running landing at Sioux Falls Regional Airport, Sioux Falls, South Dakota. The pilot reported that the first abnormal indication displayed was a No. 2 engine twist-grip light that illuminated intermittently, which was followed by the ENG PA DIS caution message for both engines. He referenced the FLI, which showed that both needles were "married" (meaning that both were aligned) and that all parameters were in the proper range. However, at least one parameter should have exceeded the criteria (or lost signal) to cause the ENG PA DIS message. The pilot then heard a "winding down" sound and a "hissing" sound and smelled exhaust fumes in the cabin. He began a turn to go back to the airport because he "was unsure of exactly what was happening." During the turn, the No. 2 engine fire light illuminated. As the pilot was slowing the helicopter, he noticed that an orange glow was coming from the aft section of the helicopter. He pushed the No. 2 engine fire button, noticed that the FLI needles "split," (which would be expected as the engine shuts down in response to pressing the fire button) and subsequent cautions/warning lights illuminated. He followed the procedure to activate both fire bottles in the No. 2 engine. The fire light extinguished, and the pilot performed an emergency OEI landing on a paved runway at the airport.

Examination of the engine revealed crystalline carbon-like debris (oil coking with no metallic particles) had completely clogged the rear bearing oil return strainer/chip detector and was also found in the three-way union deck fitting. Metallic debris was found in the rear bearing vent line. For more information about this incident, see [CEN17IA094](#) at the [NTSB's website](#).

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