

Gretz Robert

From: [REDACTED]
Sent: Wednesday, June 24, 2015 4:15 PM
To: Gretz Robert
Cc: [REDACTED]
Subject: Preliminary Observations for 206L3, S/N 51379, N210MH--T/R Driveshaft

Bob,

(It appears Mark and I were working on the same thing. I was almost ready to push the send button and I received Mark's email. I agree with everything Mark had in his email.)

I know the Bell Field Investigation Lab will be putting a report together for you but I just thought I'd give you a quick update on what we observed yesterday at Bell.

Dan Salas at Bell's lab opened the box and removed the drive shaft two drive shaft segments. An initial inspection of the components was conducted.

The adhesive for the adapter and the shaft that was disbonded was discolored as compared to the original adhesive. It is possible that the adhesive was discolored due to the heat generated when the shaft spun on the adapter. The reason for the two mating surface to become disbonded was not determined. When the shaft spun inside the adapter some material was transferred between the components due to the friction between the components. On the opposite end of the shaft the splined adapter was cut open to reveal the surfaces bonded with adhesive to compare it with the disbonded surfaced. A chemical comparison of the discolored adhesive and the adhesive on the end cut open was conducted and they were both found to be chemically similar.

Both shafts had been painted at some point after the aircraft was manufactured as the paint on the shafts was a different finish that what is applied when manufactured at the factory. The paint was removed from both shafts for inspection. After the paint was removed it was noted that the shaft with the disbond had a faded red X marked on the center of the shaft. On one end of the shaft tube faded numbers .004 were written. The other end had numbers written on it but it was difficult to determine what numbers were written on the shaft. It was noted that the component repair and overhaul manual stated that the maximum amount of runout of the shaft allowed in specified locations was .003 inch. Both shafts exhibited runout well beyond the maximum amount of runout. The shaft with the disbond had a few areas where the anodized finish was either wore off of removed by some other means. It appears that it may have possibly done to remove some corrosion at some point. Mark Stuntzner has contacted Bell Product Support to determine if it is allowable to remove corrosion from the shaft tubes. It is unknown when the shafts were deformed to have an excessive amount of runout but with the runout that was noted these shafts would be considered unairworthy. It was also noted that it appears that the surface of the adapter attaches to the Thomas coupling had fine scratches on it from sand paper of something similar. It appears that there may have been corrosion removed from this area prior to being painted.

Bell's Field Investigation Lab is working on a report to document this information and additional findings and will attach photos of the components.

Thanks.
Mike Hemann
FAA Rotorcraft Standards Staff
[REDACTED]