

Record of Conversation

Monday, May 15, 2017 3:00 PM

Interview:	Shawn Keleher Scott Price
Phone:	██████████
Location:	Telephone conversation

Narrative:

The following is a summary of conversation with Shawn Keleher and Scott Price, manager and technical representative from the Bell Helicopter facility that repaired both tail rotor blades. Attending the telecon was Joe Epperson (NTSB), Tim Ledbetter (Bell), Robert Figueroa (Bell), and Tom Yakubovich (PHI).

Mr Keleher briefly described the blade repair process that is used when repairing a blade that had cracks in the blade tip end block.

The first step is to use a dremel tool to remove the tip block material and then grit blasting the area (with 220-grit abrasive media) so that over 80% of the old adhesive residue is removed. The abrasion strip is grit blasted and then cleaned with acetone. The replacement tip block (longer than required) is prepared by wrapping AF 163-2K (supported) adhesive film over the nose and around the tip block. An extra ply of AF 163-2K adhesive is applied just over the nose area. If needed additional unsupported adhesive is added if there are any open areas. The tip block is slid into place into the end of the blade. Thermocouples are placed on the blade, wrapped in thermal blankets, and the assembly placed in a positive pressure tool (12x12 air bladder to place pressure over the entire repair area). Thermal blankets heat up to 230°F and 14 psi of pressure is applied to the repair area for 2 hours. The pressure is monitored manually using an external pressure gauge, and the temperature thermocouple readings are recorded. Following the 2 hour cure a 1,320 lb. pull test is performed on the tip block, a tap test is performed to check for voids, and a peel test is performed from skin patch material that was bonded to the extended section of the tip block using the same adhesive. Additionally, a water leak test is performed by submerging the blade in water and looking for escaping air bubbles that would indicate a leak path. The excess block material is removed and the blade painted.

No blades have ever failed the 1,320 lb. pull test. This Bell Helicopter facility does approximately 25 tail rotor tip block crack repairs per year.

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