

Effect of CA Accelerator and Thread-Lock on Plastic

CA accelerator is a liquid commonly brushed or sprayed onto cyanoacrylate (CA) glue to make the glue harden more quickly. Thread-lock, such as *Loctite* brand thread-lock, is a liquid commonly applied to screw threads to keep screws from loosening and falling out.

Some brands of CA accelerator and thread-lock contain chemicals, such as acetone and other solvents that can damage parts from certain types of plastic. Most plastic parts of the LMH-100 helicopter are not particularly sensitive to these chemicals. The tail rotor gearbox, canopy mounting brackets and fuselage canopy, however, can be affected.

When applied to the surface of a part made of sensitive plastic, the chemicals in CA accelerator and thread-lock can soak into plastic and cause the plastic to become brittle. These chemicals can also cause the surface of the plastic to craze (form small cracks) that allow solvents to penetrate deeper into the plastic and weaken the part. Some gearbox cracks on the LMH-100 helicopter have been attributed to the use of accelerator when gluing the vertical fin to the gearbox, or the use of thread-lock on the tail rotor bellcrank bolt.

In general, do not apply CA accelerator to the tail rotor gearbox, canopy mounting brackets or fuselage canopy of the LMH-100 helicopter. If using thread-lock with plastic parts, make sure that the thread-lock is labeled "plastic compatible" by the manufacturer.