

Safety Notice SN-34

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AERIAL SURVEY AND PHOTO FLIGHTS - VERY HIGH RISK

There is a misconception that aerial survey and photo flights can be flown safely by low time pilots. Not true. There have been numerous fatal accidents during aerial survey and photo flights, including several involving Robinson helicopters.

Often, to please the observer or photographer, an inexperienced pilot will slow the helicopter to less than 30 KIAS and then attempt to maneuver for the best viewing angle. While maneuvering, the pilot may lose track of airspeed and wind conditions. The helicopter can rapidly lose translational lift and begin to settle. An inexperienced pilot may raise the collective to stop the descent. This can reduce RPM thereby reducing power available and causing an even greater descent rate and further loss of RPM. Rolling on throttle will increase rotor torque but not power available due to the low RPM. Because tail rotor thrust is proportional to the square of RPM, if the RPM drops below 80% nearly one-half of the tail rotor thrust is lost and the helicopter will rotate nose right. Suddenly the decreasing RPM also causes the main rotor to stall and the helicopter falls rapidly while continuing to rotate. The resulting impact is usually fatal.

Aerial survey and photo flights should only be conducted by well trained, experienced pilots who:

- 1) Have at least 500 hours pilot-in-command in helicopters and over 100 hours in the model flown;
- 2) Have extensive training in both low RPM and settling-with-power recovery techniques;
- 3) Are willing to say no to the observer or photographer and only fly the aircraft at speeds, altitudes, and wind angles that are safe and allow good escape routes.

Also see Safety Notice SN-24.