



Helicopters equipped with crash resistant fuel systems, crash resistant seats and structures provide the highest level of protection for pilots and passengers. A crash resistant fuel system increases the likelihood of surviving a helicopter crash due to a reduced threat of injuries from fire. Crash resistant seats and structures increase the probability of surviving the initial collision from an accident.



### New Legislation

In the FAA Reauthorization Act of 2018, Section 317 prohibits helicopters manufactured after April 5, 2020, from flying in U.S. airspace unless certified with a crash resistant fuel system. The chart shows which helicopters will require a crash resistant fuel system according to their certification and manufacturing dates.

#### Which Helicopters Require a Crash Resistant Fuel System?

	BEFORE April 5, 2020	AFTER April 5, 2020 (*)	
Certification Date Prior to Nov. 2, 1994 and Manufacturing Date After April 5, 2020	---	YES	(new requirement)
Certification Date** Prior to Nov. 2, 1994 and Manufacturing Date Prior to April 5, 2020	NO	NO	(not affected by legislation)
Certification Date After Nov 2, 1994 and Manufacturing Date Prior to April 5, 2020	YES	YES	(no changes)
Certification Date After Nov 2, 1994 and Manufacturing Date After April 5, 2020	---	YES	(no changes)

(\*) Date required by FAA Reauthorization Act of 2018

(\*\*) The date when the original type certificate was issued.



### Background on Crash Resistant Fuel Systems

Crash resistant fuel systems increase safety for occupants by decreasing or delaying a post-crash fire. Systems that meet the FAA's regulatory requirement minimize fuel leaks and lessen fuel ignition sources.

Crash resistant fuel systems are required for all helicopter models that were certified after 1994. However, the requirement did not apply to newly built helicopters if the original design was certified before 1994. Most newly built helicopters continued to be those certified before 1994. As a result, nearly 25 years later, a low percentage of U.S. helicopters (about 15 percent) meet the regulatory requirement.



## Crash Resistant Seats and Structure

Similar to fuel systems, the design requirements for crash resistant seats and structures also improve survivability of a crash. They absorb a greater amount of the crash energy and they can prevent an occupant's head from hitting the interior of the helicopter.

Due to the FAA regulatory requirement, all helicopter models certified after 1989 must have crash resistant seats and structures. However, if the original design was certified before 1989, the regulatory requirement does not apply. As a result, 30 years later, a low percentage of U.S. helicopters (about 10 percent) meet the regulatory requirement.



### Q & A

Q: Which helicopters will require crash resistant fuel systems?

A: All helicopters manufactured after April 5, 2020, will require crash resistant fuel systems, no matter when the models were originally certified.

Q: Do older helicopters need to be retrofitted with crash resistant fuel systems?

A: The FAA reauthorization law of 2018 does not require retrofits.

Q: Does the legislation address the installation of crash resistant seats in older helicopters?

A: No, the legislation does not address this, however, all helicopter models certified after 1989 must have crash resistant seats and structures.

Q: How many fatalities have occurred because of post-crash fire after a helicopter accident?

A: There were 58 deaths, from 2009 to 2017, attributed to fire that occurred after a helicopter accident.



## Q & A

(Continued)

Q: How many fatalities have occurred because of blunt force trauma during a helicopter accident?

A: From 2009 to 2017, blunt-force trauma (seat issue) was the cause of 307 deaths of people involved in a helicopter accident.



## Resources

### Compliant Crash Resistant Fuel Systems

[www.faa.gov/aircraft/air\\_cert/design\\_approvals/rotorcraft/media/rot\\_CRFS\\_Compliant\\_List.pdf](http://www.faa.gov/aircraft/air_cert/design_approvals/rotorcraft/media/rot_CRFS_Compliant_List.pdf)

### Compliant Crash Resistant Seats and Structures

[www.faa.gov/aircraft/air\\_cert/design\\_approvals/rotorcraft/media/rot\\_CRSS\\_Compliant\\_List.pdf](http://www.faa.gov/aircraft/air_cert/design_approvals/rotorcraft/media/rot_CRSS_Compliant_List.pdf)

### Rotorcraft Occupant Protection – Final Analysis Report

[www.faa.gov/regulations\\_policies/rulemaking/committees/documents/media/ROPWG%20Task%206%20Final%20Report%20Revised%202018-09-27.pdf](http://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ROPWG%20Task%206%20Final%20Report%20Revised%202018-09-27.pdf)

### Congressman Ed Perlmutter's Amendment to Helicopter Fuel Systems

[www.perlmutter.house.gov/news/documentsingle.aspx?DocumentID=2095](http://www.perlmutter.house.gov/news/documentsingle.aspx?DocumentID=2095)

### U.S. Public Law on Helicopter Fuel System Safety

<https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title49-section44737&num=0&edition=prelim#sourcecredit>