

# Code of Federal Regulations

## Sec. 35.39

Part 35 AIRWORTHINESS STANDARDS: PROPELLERS	
Subpart C--Tests and Inspections	

## Sec. 35.39

Endurance test.

(a) *Fixed-pitch wood propellers.* Fixed-pitch wood propellers must be subjected to one of the following tests:

(1) A 10-hour endurance block test on an engine with a propeller of the greatest pitch and diameter for which certification is sought at the rated rotational speed.

(2) A 50-hour flight test in level flight or in climb. At least five hours of this flight test must be with the propeller operated at the rated rotational speed, and the remainder of the 50 hours must be with the propeller operated at not less than 90 percent of the rated rotational speed. This test must be conducted on a propeller of the greatest diameter for which certification is requested.

(3) A 50-hour endurance block test on an engine at the power and propeller rotational speed for which certification is sought. This test must be conducted on a propeller of the greatest diameter for which certification is requested.

(b) *Fixed-pitch metal propellers and ground adjustable-pitch propellers.* Each fixed-pitch metal propeller or ground adjustable-pitch propeller must be subjected to the test prescribed in either subparagraph (a)(2) or (a)(3) of this section.

(c) *Variable-pitch propellers.* Compliance with this paragraph must be shown for a propeller of the greatest diameter for which certification is requested. Each variable-pitch propeller (a propeller the pitch setting of which can be changed by the flight crew or by automatic means while the propeller is rotating) must be subjected to one of the following tests:

(1) A 100-hour test on [a representative engine with the same or higher power and rotational speed and the same or more severe vibration characteristics as the engine with which the propeller is to be used.] Each test must be made at the maximum continuous rotational speed and power rating of the propeller. If a takeoff rating greater than the maximum continuous rating is to be established, an additional 10-hour block test must be made at the maximum power and rotational speed for the takeoff rating.

(2) Operation of the propeller throughout the engine endurance tests prescribed in Part 33 of this subchapter.

Amdt. 35-3, Eff. 2/1/77