§ 35.39 Endurance test.

Endurance tests on the propeller system must be made on a representative engine in accordance with paragraph (a) or (b) of this section, as applicable, without evidence of failure or malfunction.

(a) Fixed-pitch and ground adjustable-pitch propellers must be subjected to one of the following tests:

(1) A 110-hour endurance test that must include the following conditions:

(A) Five hours at takeoff power and rotational speed and thirty 10-minute cycles composed of:

(A) Acceleration from idle,

(B) Five minutes at takeoff power and rotational speed,

(C) Deceleration, and

(D) Five minutes at idle.

(c) A fatigue evaluation of the propeller must be conducted to show that hazardous propeller effects due to fatigue will be avoided throughout the intended operational life of the propeller on either:

(1) The intended airplane by complying with §§23.907 or 23.907 of this chapter, as applicable; or

(2) A typical airplane.

(Amdt. No. 35–8, 73 FR 63348, Oct. 24, 2008)