











THE AOA INDICATOR AT WORK

As an example of how AoA systems perform, consider the table at right, adapted from BendixKing's Pilot's Guide for the KLR 10 lift reserve indicator. First introduced in 2013 and initially only for experimental and non-certificated aircraft, the KLR 10 now is available for almost any CAR 3/FAR 23 airplane, along with offerings from Alpha Systems and Garmin. All three product lines meet the consensus standards of ASTM Standard F3011-13, so they display and behave similarly.

Once calibrated and in operation, the KLR 10 and similar devices display an optimal cruise angle and an optimal approach angle, and also advise when the alpha starts to cut into the aircraft's lift margin. The color coding and audio annunciation capability AoA indicators provide should be self-explanatory: Try to fly to the blue donut when landing. Any higher AoA will be reflected with some red; a lower AoA will bring yellow.

SEGMENT	CONDITION
	Green Bar with no other segments indicates Cruise set point, (lots of lift).
	Single lower Yellow Bar with no other segments indicates slowing/moderate AOA.
	Double Yellow Bars with no other segments indicates pattern entry/increasing AOA.
	Single upper Yellow Bar with no other segments indicates Base leg/increasing AOA.
	Single upper Yellow Bar with Blue lower Half Circle indicates Final/slightly fast.
	Blue Circle / Donut with no other segments indicates Optimum Alpha Angle (AOA).
	Single Red Bar with Blue upper-Half-Circle with no other segments indicates slightly slow/below OAA.
	Red Bar with inverted Red Chevron with no other segments indicates too slow (level 1) KLR 10 announces "Check AOA".
	Red Arrow with inverted Red Chevron with no other segments indicates too slow (level 2) and KLR 10 announces "Caution. Too Slow".
	Flashing Red Arrow , with no other segments indicates critical AOA (level 3) and KLR 10 announces "Too slow! Too slow!"