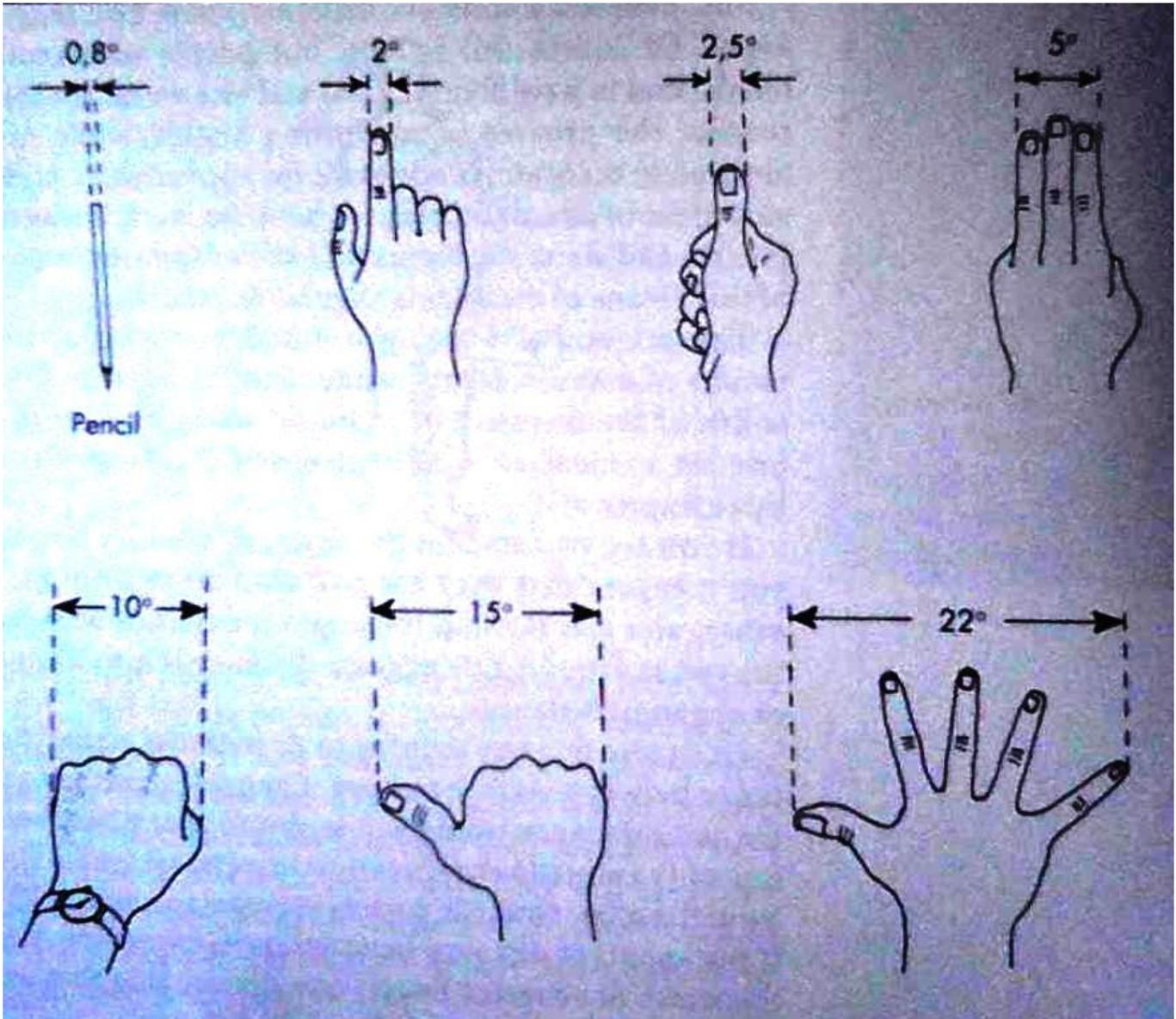


Degree offset at the end of your arm

Have you ever wondered how far off from your present track that other direction is? When ATC tells you to turn 10 degrees, where should you be looking outside? Guilherme de Almeida, in a book for amateur astronomers (“Navigating the Night Sky”, 1999), shows a quick method to estimate the angular separation as represented by degrees. Simply hold your hand up at arms length and refer to the illustrations below.



This technique can be used in the cockpit to locate the result of a change in course.

First you need a consistent point of reference – some part of the aircraft panel or cowl that is directly in front of you and on the aircraft's current heading. Next identify a point in the distance that lines up with that point – your current visual destination. Now identify a point in the distance to which you want to fly and “measure” the angular change using your hand. Extend your arm with one side of your hand aligned

with the panel reference point and current flight path, and other side of your hand with the desired new point. (You can estimate the in-between angles by comparing two different hand positions)

This trick could be useful when requesting a course change from ATC to avoid weather. In this way you won't be blindly asking for (or accepting) a 10 degree change when you really need 15 or even 22. The copilot can use this method too when directing the pilots eyes to a location – "Airport in sight 15 degrees to the right." You can also estimate your crab angle by comparing the GPS track to the outside view – the airplane is flying this direction, but is pointed this many degrees to the side. Knowing your crab angle on final could be a lifesaver. Is a 10-degree crab due to crosswind near your personal minimum limits? Would knowing that it is more like 15 degrees make you look for a different runway?

This tool is always available and only an arms length away. Pretty handy, right?

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