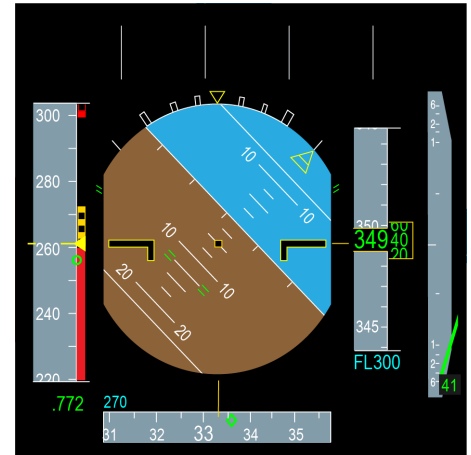


# TUNING ANGLE OF ATTACK PROTECTIONS AT HIGH MACH NUMBER



## Definitions

On large aircraft, in clean configuration and high altitude, when the AOA increases some buffeting appears. It intensifies progressively up to a point where it becomes deterrent for the crew. This defines the limit AOA of the flight domain. This limit AOA reduces when the Mach Number increases.

## Purpose of the Flight Tests

The purpose of the tests is:

- first to determine the AOA limit as function of the Mach Number; this is done in direct law at various Mach Numbers, up to MMO;
- and second to tune the AOA protection in order to ensure maximum maneuverability of the aircraft while ensuring no exceedance of the flight domain, during static and dynamic maneuvers up to full back stick; this is done in normal law, in the same range of Mach Numbers.

Note: At high Mach, the maximum AOA reachable in normal law is set by design so as a mild buffeting (called buffet onset), far from being deterrent, is reached.

## Application to Line Operations

Should a crew face a need to perform a dynamic maneuver at high altitude (e.g. avoidance maneuver), the aircraft is fully protected in normal law while ensuring maximum maneuverability, even though mild buffeting may be encountered.

Those videos are presented exclusively for a general educational purpose. They contain general information on Airbus Flight Test activities and shall not be deemed as providing any specific training, technical analysis, guidance and/or opinion to be used in a business context. All information and content of those videos are the sole property of AIRBUS S.A.S. No intellectual property rights are granted by any access to those videos or any disclosure of their content to the public. Those videos shall not be reproduced or displayed without the express written consent of AIRBUS S.A.S, nor be used for any purpose other than that for which they have been released by Airbus.

**AIRBUS**