CLAIMS

1. Method for measuring an angle of attack of a longitudinal axis (L-L) of an aircraft with respect to relative wind, in which method a probe (11) is used which is provided, at a front end thereof, with a central directional sensor (3) which is arranged at an intersection of horizontal (H-H) and vertical (V-V) midplanes of said probe, and with at least two eccentric midplane directional sensors (4, 5) which are in parallel with said central directional sensor (3) and are arranged at an equal distance therefrom on either side of said horizontal midplane (H-H) of said probe, according to which method:

- said probe is pivotally connected to said aircraft about a first pivot axis (8) which is in parallel with said horizontal midplane (H-H) of said probe and is orthogonal to said longitudinal axis (L-L) of said aircraft;
- said probe (11) is rotated about said first pivot axis (8) in order make said probe assume a particular inclined position in which measurements provided by said eccentric midplane directional sensors (4, 5) are equal; and
- a particular angle of inclination (α) which is produced, in this particular inclined position, between said horizontal midplane (H-H) of the probe and said longitudinal axis (L-L) of said aircraft is measured,

characterised in that said probe (11) is provided, at said front end thereof and in addition to said central directional sensor (3) and said eccentric midplane directional sensors (4, 5), with at least two lateral directional sensors (12, 13) which are in parallel with said central directional sensor (3) and are arranged at an equal distance therefrom on either side of said vertical midplane (V-V) of said probe (11), and in that, in addition, in order to measure sideslip of said aircraft:

- said probe (11) is pivotally connected to said aircraft about a second pivot axis (X-X) which is in parallel with said longitudinal axis (L-L) of said aircraft;
- said probe (11) and said first pivot axis (8) are rotated about said second pivot axis (X-X) in order make said probe (11) assume a particular combined inclined position in which not only are the measurements provided by said eccentric midplane directional sensors (4, 5) equal, but so too are measurements provided by said lateral directional sensors (13, 14); and
- a particular value of an angle of rotation of said second pivot axis in said particular combined inclined position of the probe (11) is measured.

2. Method according to claim 1,
characterised in that, during the flight of said aircraft, said particular angle of inclination which is produced between said horizontal midplane (H-H) of said probe and said

longitudinal axis (L-L) of said aircraft, and said particular value of said angle of rotation of said second pivot axis are continuously determined.

3. Method according to either claim 1 or claim 2,
characterised in that said central directional sensor (3), said eccentric midplane directional sensors (4, 5), and said lateral directional sensors (12, 13) are of the same type.

4. Method according to claim 3,
characterised in that said central directional sensor (3), said eccentric midplane directional sensors (4, 5), and said lateral directional sensors (12, 13) are pressure sensors.

5. Method according to claim 3,
characterised in that said central directional sensor (3), said eccentric midplane directional sensors (4, 5), and said lateral directional sensors (12, 13) are temperature sensors, such as thermocouples.

6. Method according to any of claims 1 to 5,
characterised:

- in that, in order to rotate said probe (11) about said first pivot axis (8), an actuator (9) provided with a movable actuation member (9A) is used, and said particular angle of inclination (α) is measured by a corresponding position of said movable actuation member (9A) of said actuator (9); and
- in that, in order to rotate said probe (11) and said first pivot axis (8) about said second pivot axis (X-X), an actuator (16) provided with a movable actuation member (16A) is used, and said value of said angle of rotation of said second pivot axis (X-X) is measured by a corresponding position of said movable actuation member (16A) of said actuator (16).

7. Method according to claim 6,
characterized in that:

- said actuator (9), which rotates said probe (11) about said pivot axis (8), corresponds to an actuating cylinder and said movable actuation member (9A) corresponds to a piston, said particular angle of inclination (α) being measured by a corresponding position of said piston,
- said actuator (16), which rotates said probe (11) and the first pivot axis (8) about the second pivot axis (X-X), corresponds to an actuating cylinder and the movable actuation

member (16A) corresponds to a piston, said value of said angle of rotation of said second pivot axis being measured by a corresponding position of said piston.

8. Device for measuring an angle of attack (α) of a longitudinal axis (L-L) of an aircraft with respect to relative wind, comprising a probe (11) which is provided, at a front end (2) thereof, with a central directional sensor (3) which is arranged at an intersection of horizontal (H-H) and vertical (V-V) midplanes of said probe (11), and with at least two eccentric midplane directional sensors (4, 5) which are in parallel with said central directional sensor (3) and are arranged at an equal distance therefrom on either side of said horizontal midplane (H-H) of said probe, said device comprising:

- first means (7) for pivotally connecting said probe (11) to said aircraft about a first pivot axis (8) which is in parallel with said horizontal midplane (H-H) of said probe and orthogonal to said longitudinal axis (L-L) of said aircraft;
- first means (9) for rotating said probe (11) about said first pivot axis (8) in order to make said probe assume a particular inclined position in which measurements provided by said eccentric midplane directional sensors (4, 5) are equal; and
- first means (9A) for measuring a particular angle of inclination which is produced, in this particular inclined position, between said horizontal midplane (H-H) of said probe and said longitudinal axis (L-L) of said aircraft,

characterised:

- in that said probe (11) is provided, at said front end thereof, in addition to said central directional sensor (3) and said eccentric midplane directional sensors (4, 5), with at least two lateral directional sensors (13, 14) which are in parallel with said central directional sensor (3) and are arranged at an equal distance therefrom on either side of said vertical midplane (V-V) of said probe; and
- in that said device further comprises:
  - second means for pivotally connecting said probe (11) to said aircraft about a second pivot axis (X-X) which is in parallel with said longitudinal axis (L-L) of said aircraft;
  - second means (16) for rotating said probe (11) and said first pivot axis (8) about said second pivot axis (X-X) in order to make said probe (11) assume a particular combined inclined position in which not only are the measurements provided by said eccentric midplane directional sensors (4, 5) equal, but so too are measurements provided by said lateral directional sensors (13, 14); and
  - second means (16A) for measuring a particular value of an angle of rotation of said second pivot axis in said particular combined inclined position of the probe, said angle of rotation representing sideslip of said aircraft.

9. Device according to claim 8,
characterized in that:
- said first means (9) for rotating said probe (11) about said first pivot axis (8) correspond to an actuating cylinder, said first means being provided with a movable actuation member (9A) corresponding to a piston,
- said second means (16) for rotating said probe (11) and said first pivot axis (8) about said second pivot axis (X-X) correspond to an actuating cylinder, said second means being provided with a movable actuation member (16A) corresponding to a piston.

10. Aircraft,
characterised in that it comprises a device for measuring said angle of attack and said sideslip as specified in claim 8 or 9.