CLAIMS

1. Method for measuring the angle of attack of the longitudinal axis (L-L) of an aircraft with respect to the relative wind, in which method a probe (11) is used which is provided, at the front end thereof, with a central directional sensor (3) which is arranged at the intersection of the 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 the aircraft;
- said probe (11) is rotated about said first pivot axis (8) in order make said probe assume the particular inclined position in which the measurements provided by said eccentric midplane directional sensors (4, 5) are equal; and
- the particular angle of inclination (a) which is produced, in this particular inclined position, between said horizontal midplane (H-H) of the probe and the longitudinal axis (L-L) of the aircraft is measured,

characterised in that said probe (11) is provided, at the 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 the sideslip of the 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 the 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 the 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 the measurements provided by said lateral directional sensors (13, 14); and
- the particular value of the 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 the aircraft, said particular angle of inclination which is produced between the horizontal midplane (H-H) of the probe and the longitudinal axis (L-

L) of the aircraft, and said particular value of the 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 the corresponding position of said movable actuation member (9A) of the 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 the angle of rotation of said second pivot axis (X-X) is measured by the corresponding position of said movable actuation member (16A) of said actuator (16).

7. Method according to any of claims 1 to 6,
characterized in that:

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

8. Device for measuring the angle of attack (α) of the longitudinal axis (L-L) of an aircraft with respect to the relative wind, comprising a probe (11) which is provided, at the front end (2) thereof, with a central directional sensor (3) which is arranged at the intersection of the 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 the aircraft;
- first means (9) for rotating said probe (11) about said first pivot axis (8) in order to make said probe assume the particular inclined position in which the measurements provided by said eccentric midplane directional sensors (4, 5) are equal; and
- first means (9A) for measuring the particular angle of inclination which is produced, in this particular inclined position, between said horizontal midplane (H-H) of the probe and the longitudinal axis (L-L) of the aircraft,

characterised:

- in that said probe (11) is provided, at the 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 the 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 the 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 the measurements provided by said lateral directional sensors (13, 14); and

- second means (16A) for measuring the particular value of the angle of rotation of said second pivot axis in said particular combined inclined position of the probe, said angle of rotation representing the sideslip of said aircraft.

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