CLAIMS

1. A vertical take-off and landing aircraft (100) comprising:

   a fuselage (102);

   at least one wing (104) connected to the fuselage;

   a plurality of rotors (112) connected to the at least one wing for providing lift for vertical take-off and landing of the aircraft;

   a plurality of proprotors (114) connected to the at least one wing and tiltable between lift configurations for providing lift for vertical take-off and landing of the aircraft and propulsion configurations for providing forward thrust to the aircraft; and

   a plurality of booms (122) mounted to the at least one wing, each boom mounting one rotor and one proprotor to the at least one wing;

   wherein the plurality of rotors are rearward of the at least one wing and the plurality of proprotors are forward of the at least one wing;

   characterised in that each rotor is mounted in a fixed position on a corresponding boom.

2. The aircraft of claim 1, wherein a first proprotor (114a) is forward of a second proprotor (114b) that is adjacent to the first proprotor; and/or
   wherein a first proprotor (114a) is mounted at a higher position on the aircraft than a second proprotor (114b) that is adjacent to the first proprotor.

3. The aircraft of any one of claims 1-2, wherein each rotor has only two blades (120).

4. The aircraft of claim 3, wherein each rotor is configured to fix the two blades in position during forward flight.

5. The aircraft of claim 4, wherein each rotor is configured to fix the two blades for cruising in minimum drag positions during forward flight such that a first blade of the two blades is directly in front of a second blade of the two blades.

6. The aircraft of any one of claims 3 to 5, wherein each proprotor has greater than two blades (116).

7. The aircraft of any one of claims 1-6, wherein a first rotor (112a) of the plurality of rotors is canted relative to a second rotor (112b) of the plurality of rotors such that a rotational axis (140) of the first rotor is non-parallel with a rotational axis of the second rotor.

8. The aircraft of claim 7, wherein a cant angle (136a) of any rotor is such that a respective burst disc cannot intersect with passengers or a pilot; and/or
wherein a cant angle (136a) of any rotor is such that a respective burst disc cannot intersect with any flight-critical component.

9. The aircraft of claim 7, wherein a rotor cant angle between the rotational axis of the first rotor and a vertical axis of the aircraft is between 0 degrees and 30 degrees.

10. The aircraft of claim 9, wherein the rotor cant angle is about 12 degrees.

11. The aircraft of any one of claims 1-10, wherein a first proprotor of the plurality of proprotors is canted relative to a second proprotor of the plurality of proprotors such that a rotational axis of the first proprotor is non-parallel with a rotational axis of the second proprotor.

12. The aircraft of claim 11, wherein a cant angle (136a) of any proprotor is such that a respective burst disc cannot intersect with passengers or a pilot; and/or
wherein a cant angle (136a) of any proprotor is such that a respective burst disc cannot intersect with any flight-critical component.

13. The aircraft of claim 11, wherein a proprotor cant angle between the rotational axis of the first proprotor and a vertical axis of the aircraft is between 0 degrees and 30 degrees.

14. The aircraft of claim 13, wherein the proprotor cant angle is about 12 degrees.

15. The aircraft of any one of claims 1-14, further comprising a control system configured to actively alter a tilt of at least one proprotor (114) to generate yawing moments during take-off, landing and/or hover.

16. The aircraft of any one of claims 1-15, wherein attack angles of blades (116) of the proprotors are collectively adjustable during flight.

17. The aircraft of any one of claims 1-16, wherein propulsion is provided entirely by the proprotors.

18. The aircraft of any one of claims 1-17, wherein a range of tilt of the proprotors is greater than ninety degrees.

19. The aircraft of any one of claims 1-18, wherein the plurality of proprotors comprises an outermost wherein a range of tilt of the outermost proprotor is about 100 degrees.

20. The aircraft of any one of claims 1-19, wherein the at least one wing provides the lift required during cruising; and/or wherein the at least one wing is a high wing mounted to an upper side of the fuselage; and/or wherein the at least one wing has control surfaces.

21. The aircraft of any one of claims 1-20, wherein all of the rotors and proprotors are mounted to the at least one wing.

22. The aircraft of any one of claims 1-21, wherein the aircraft is electrically powered and/or wherein the aircraft is manned.

23. The aircraft of any one of claims 1-22, wherein at least two proprotors of the plurality of proprotors are on a first side of the aircraft, wherein the at least two proprotors are aligned such that their blade rotation planes are coplanar.