Lin's Helicopter - A new type of helicopter which can fly faster

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Abstract

This file proposed a new type of helicopter which can fly faster than a traditional helicopter. It is a coaxial helicopter, but its rotor blades can be used as fixed wings also, and I named this rotor blades Coaxial Wing. It is very easy to switch between vertical flight mode and horizontal flight mode, and it can be switched in seconds. In the horizontal flight mode, it is equal to a fixed wing biplane. In the vertical flight mode, it is a coaxial helicopter. It has both the advantages of fixed-wing aircrafts and helicopters.

Key words: coaxial wing, fast helicopter, helicopter, Lin's Helicopter

1. Lin's Helicopter

Lin's Helicopter is a new type of helicopter which can fly faster than a traditional helicopter. It is a coaxial helicopter, but its rotor blades can be used as fixed wings also, and I named this rotor blades Coaxial Wing. It is very easy to switch between vertical flight mode and horizontal flight mode, and it can be switched in seconds. In the horizontal flight mode, it is equal to a fixed wing biplane. In the vertical flight mode, it is a coaxial helicopter. It has both the advantages of fixed-wing aircrafts and helicopters.

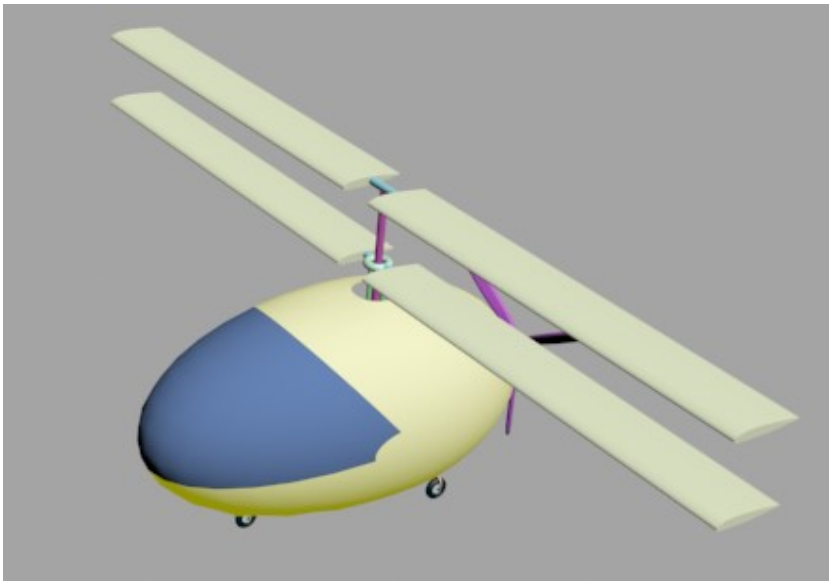

Figure 1: Lin's Helicopter

Lin's Helicopter has the following components: Main Body (1), Coaxial Wing (2), Engine (3), Front Clutch(4), Back Clutch (5), Propeller(6) and Wheels(7).

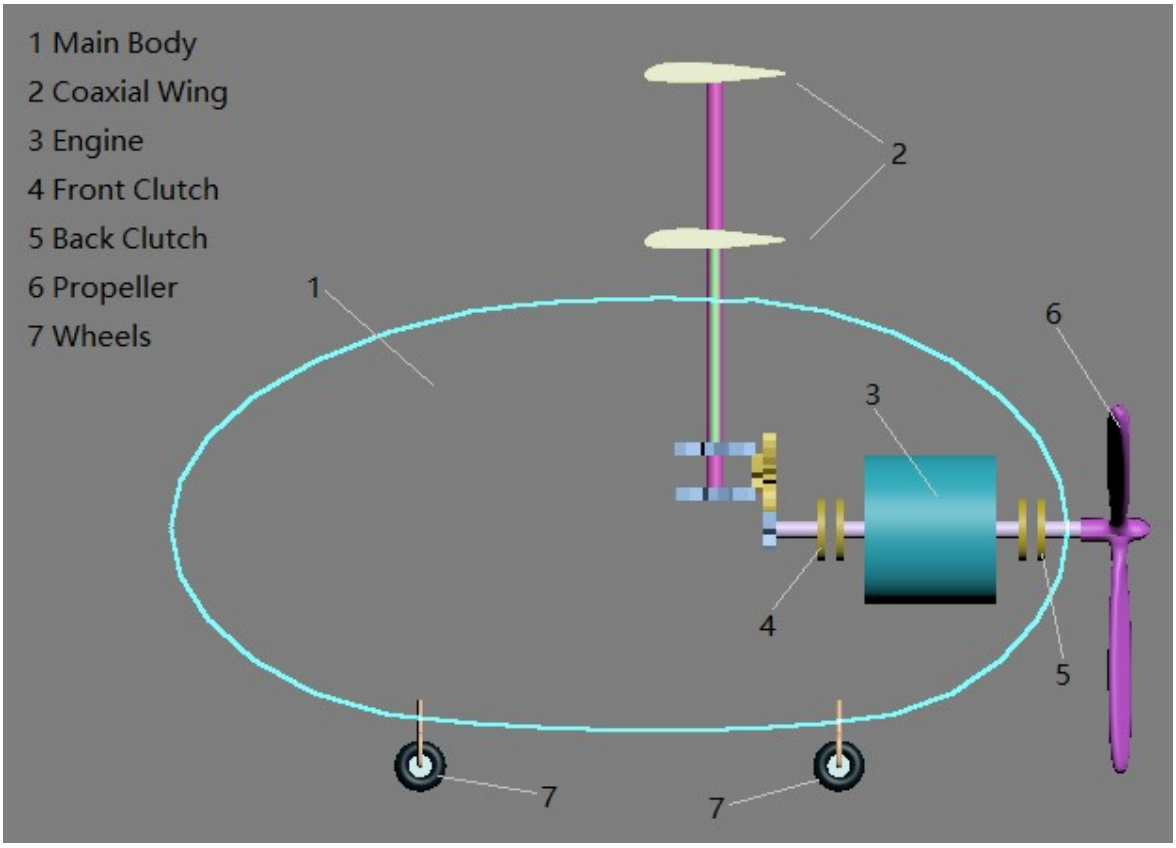

Figure 2: Components of Lin's Helicopter

2. How to take off

2.1 Horizontal take off

The figure 3 is the components connection status when Lin's Helicopter is taking off horizontally. The Coaxial Wing keep perpendicular to the Main Body. The Front Clutch is disconnected but the Back Clutch is connected to the Engine power output shaft, the Propeller is working and pushing the helicopter on the ground.

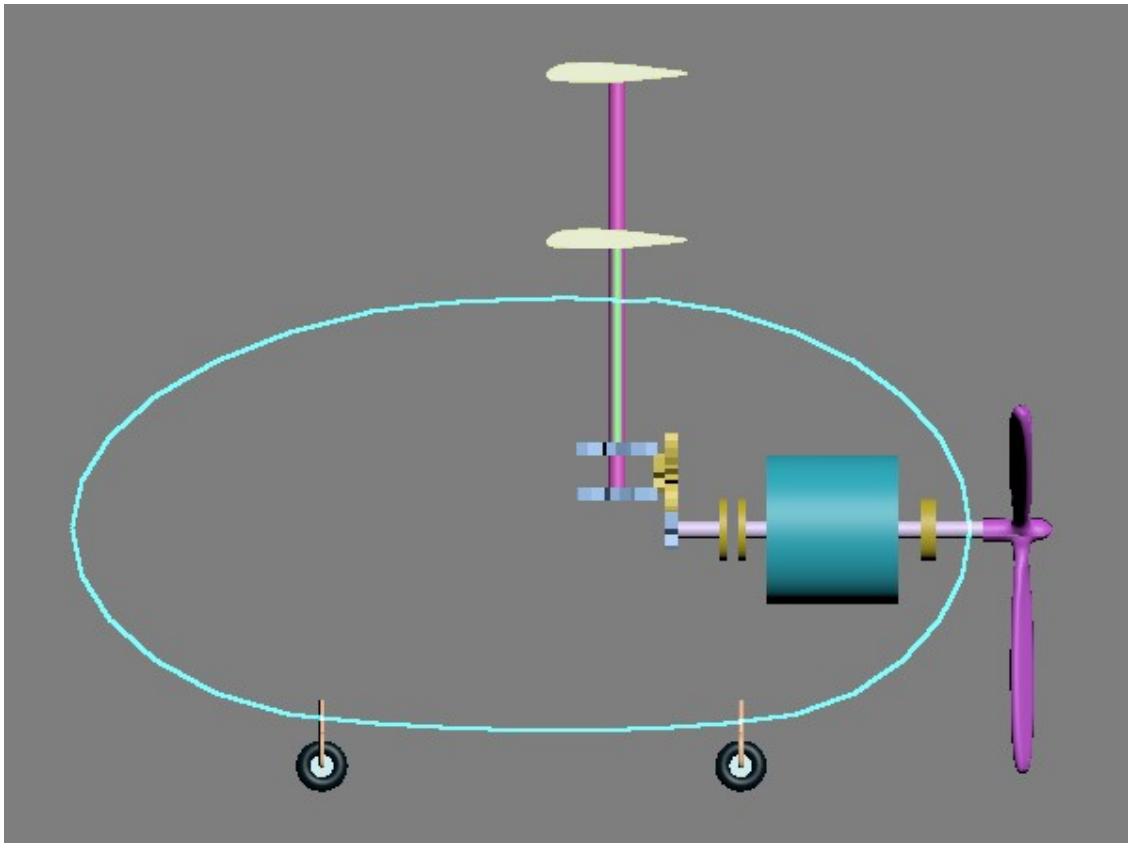

Figure 3: Components connection status when take off horizontally

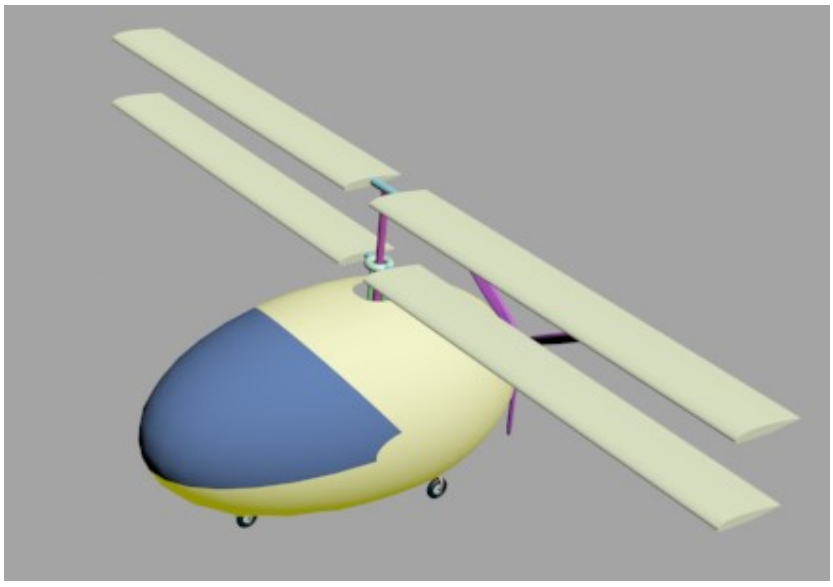

Figure 4: Horizontal take off

2.2 Vertical take off

The figure 5 is the components connection status when Lin's Helicopter is taking off vertically. The blades of Coaxial Wing deflect an angle. The Front Clutch is connected to the Engine power output shaft but the Back Clutch is disconnected, the Coaxial Wing is rotating and pushing the helicopter vertically from the ground.

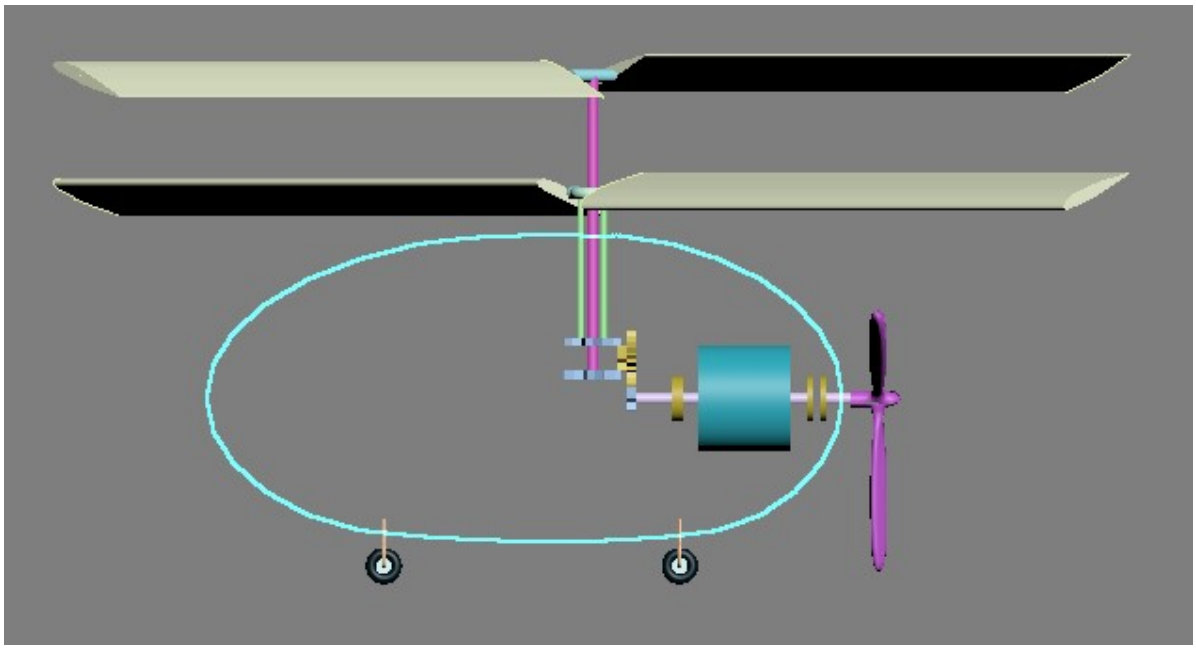

Figure 5: Components connection status when take off vertically

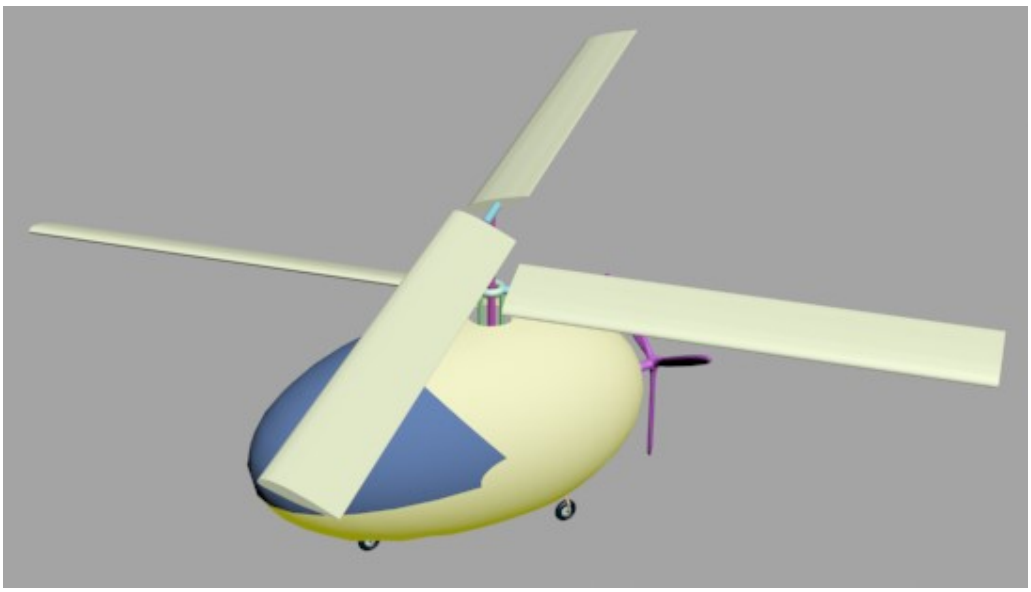

Figure 6: Vertical take off

3. Conclusion

We can see that Lin's Helicopter can easily switch between vertical flight mode and horizontal flight mode, just need to connect or disconnect the Front Clutch and the Back Clutch, and deflect the blades of Coaxial Wing. It has both the advantages of fixed-wing aircrafts and helicopters. It can fly faster than a traditional helicopter and save fuel.