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**COMPREHENSIVE ANALYSIS OF THE TAKE-OFF AND LANDING
STRUCTURE OF THE AIRCRAFT, IDENTIFICATION
OF THE MAIN FACTORS OF ITS BREAKING ON THE EXAMPLES
OF CATASTROPHES IN RECENT YEARS**

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The goal of this investigation is analysis of landing gear construction, its disadvantages and identifying the causes of airplane crashes. This study is based on student survey who gets technical and humanitarian education. As an answer on question «which part of the structure in your opinion is more likely to fail» 86 % respondents answered that landing gear.

About 70 % of crashes happens during take off or landing. The landing gear, including the landing gear, struts and harvesting block, are subjected to incredible stress. There are several rack layouts: front landing gear, tail landing gear, bicycle chassis. The main landing gear is located behind the aircraft's center of gravity, and the additional strut is in the nose. The most popular scheme in modern aviation, which became widespread with the advent of jet engines.

Advantages of nose layout:

- lower risk of rollover
- Lower risk of skidding
- Better view from the cockpit when driving on the ground

The location in the form of a triangle gives more stability to the liner, but if the pilot is not at the correct altitude during landing, it can lead to a fragment of the front strut. If the speed and mass during landing are not correctly calculated, then the aircraft will be prone to goats, and as a result, the rear landing gear struts can pierce the fuel tanks, which will lead to a splash of fuel and its further ignition (SSJ 100 disaster at Sheremetyevo).

Summing up this work, we came to the conclusion that the layout of the chassis with the front pillar is the safest. Accidents that happened due to breakdown of the struts occurred with a probability of 0.8 due to pilot mistake.

References

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