

ALL-TERRAIN VEHICLE

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Introduction

Apparatus on the air cushion are vessels that support themselves above the ground or water with the help of an air cushion created by ship fans (ventilators). Hovercrafts on the air cushion do not have physical contact with the surface above which they move. Unlike aircrafts, they can not rise above this surface to a height greater than some of their horizontal size.

The movement of the hovercraft is ensured with:

- air screws
- Horizontal nozzles, the air in which is supplied from the lifting fans
- separation of the air flow in such way that there is a pulling force and the cushion of the vessel is inflated.

Military air-cushion ships are designed to receive from the shore of the sea assault with combat equipment, transportation by sea, landing on the enemy's coast and fire support for the airborne troops.

For this vessel, which quietly overcomes trenches and swamps, up to 70 percent of the total length of the coastline of the seas and oceans of the world is open.

A unique combination of carrying capacity, amphibiousness and speed make this ship outstanding. During the tests, it was accelerated to 130 km / h. At high speeds, the flexible guard breaks. In this case, the critical modes are blocked in terms of speed and turn radius.

Another feature is all-weather. Amphibious ships can walk on the ice. It is much easier for them (when driving over water under pressure the ship creates a return pit, which gives resistance). This is especially useful on the freezing rivers and swamps of Siberia.

Results

A model of an all-terrain vehicle with air bag was developed. The basis of the model of all-terrain vehicle is a frame made of a penoplex in the form of an ellipse. This improves handling compared to a round air cushion vessel. Penoplex basis as a frame facilitates the model.

For the operation of a ship on an air cushion, the chamber circuit is used. It includes a ventilator located centrally and supplying air under the domed bottom, into a special chamber that prevents air leakage.

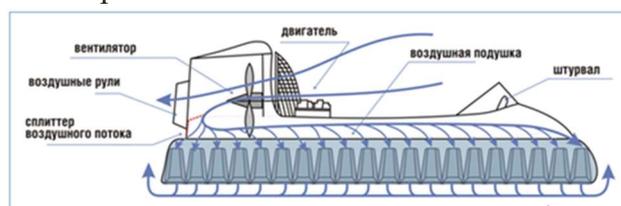
The skirt of the vehicle is made of matte polyester, which does not get wet when it is pulled. Fastening the skirt with velcro tape allows you to quickly change the elements of the skirt.

The place of fixation of the engine is reinforced with plywood. The vehicle is equipped with one impeller motor. The air flow from it is distributed to the air cushion filling and the vehicle's movement in the ratio 1: 3.

Reverse movement of the vessel is carried out by means of rotating damper. It allows you to change the direction of the vehicle. This does not change the direction of rotation of the engine and the skirt is not blown off.

The all-terrain vehicle is controlled by a six-channel remote control. Batteries are placed in the pilot's cabin to avoid contact with water.

The model is able to move on water, land and deep loose snow.



Power is supplied by batteries LiPo 11.4 V 3S.

Conclusions

For their exceptional characteristics, boats and air cushion ships are deservedly popular among specialists of the Ministry of Emergency Situations, in army units, geological exploration and other departments. But in everyday life, they are widely used, allowing you to reach places inaccessible otherwise, for example, for trips to hunting or fishing and other types of outdoor activities.