

Zubr Class Hovercraft

Designed and built by Fran Oakey

The Zubr Class air cushion landing craft is built by Almaz Shipbuilding in St Petersburg and the Zubr Class vessels have been in service with the Russian Navy since 1988. These vessels are also in service with other navies throughout the world including China who are now building their own.



Standing upright at the back of the ship giving the Zubr its distinctive appearance are three ducts housing the 5.5m diameter thrust propellers. The three four-bladed, reversible, variable-pitch air propellers provide the ship with a top speed of 60kt. The vessel has four blowers, model NO-10, fitted with axial fans each 2.5m diameter, two on each side of the vessel to generate the air cushion, the lift air.

The ships are equipped with two stabilised multiple rocket launchers, four Igla-1M portable air defence missile systems, and two AK-630 30mm automatic gun mounts. They are equipped with a navigation suite comprising two navigation radars, gyrocompass, magnetic compass, drift log, satellite navigation receiver, Decca receiver, radio direction finder, master gyroscope and day and night vision drift sight.

The model depicted is one of the Chinese vessels, no 702, and is designed and built to a scale of 1/48th. Information to build the model was obtained from one of the many three views and the photos available on the internet. The three view was used to obtain the dimensions for the model with the photographic information to correct the anomalies found on the three view and also to fill in the detail.

Construction of the model is mainly from liteply and balsa with the outer cladding from 0.8mm and 0.4mm thick hard plywood. The lift air is supplied from a single lift fan located near the centre of the model; this is the first deviation from the full size machine, which has four lift fans two on each side of the machine. These four openings now provide the air intake for the single lift fan used on the model. The model is also fitted with a bag skirt, another deviation from the full size. The model sports an opening front door/ramp controlled from the transmitter and working Becker rudders both as fitted on the full size machine.

A Futaba T8FG transmitter and an Fr-SKY TFR6 receiver provide the radio control link to the model. The speed control for the two outer thrust motors is on the elevator channel Ch1, also programmed with this channel is the VVP channel Ch6 which is used for the speed control of the centre thrust motor. In the transmitter, channel Ch6 has mixed with it the rudder channel, Ch2, but as a "V" mix i.e. for either direction of the rudder stick the centre motor's speed is reduced. The channel Ch2 output signal is connected to the three rudder servos and one input of a "V" tail mixer using a multiway connector. Channels Ch1 and Ch2 are mixed on board the model using a "V" tail mixer; this to control the port and starboard thrust motors for controlling the direction of the model using differential motor speed control. A gyro is connected between the Rx Ch2 output and the lateral control elements, i.e. the aileron input of the mixer and the rudders. The gyro sensitivity adjustment is programmed on channel Ch4 using the transmitter control LD. Control for the lift motor is straight forward, for this function the throttle channel Ch3 is used with an aircraft type ESC. Channel Ch5 is programmed to raise and lower the front door/ramp using the transmitter control RD.