

LIFTING-BODY CRAFT

unique design, with two separate gas generators on the same shaft. The engine operates in two modes: full power and economy. At full power, both gas generators drive the shaft powering the air-cushion fan. Should one gas-generator fail, the remaining one is capable of providing 70% of full power. It is likely that the economy mode involves shutting down one of the gas generators.

LOW POWER REQUIREMENT

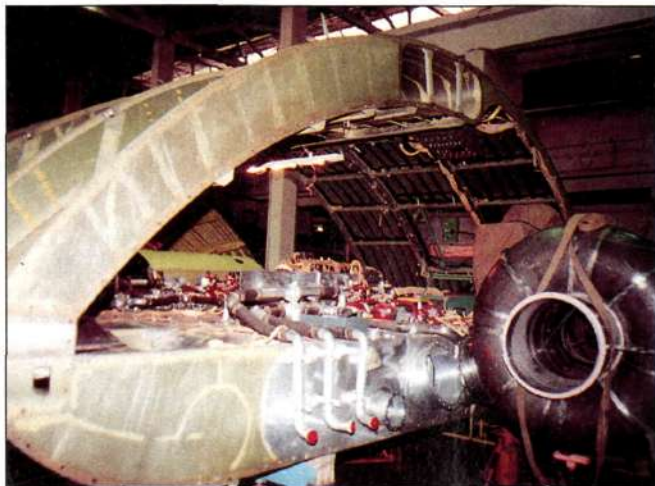
Full power is required for the air cushion during take-off and landing and for the UPS during climb, the only time that the boundary-layer control system requires more than a small percentage of the power available. The Ekip's designers claim that vortices created by the lifting-body's shape can maintain boundary-layer control, even if the engines fail, provided that a speed of at least 75kt is maintained.

Larger, piloted craft would have separate thrust engines, with the AL-34s being retained to power the air cushion and UPS. Preliminary design of a 56m-span, 120t gross-weight Le-2 variant is complete. This vehicle would be powered by two AL-34s and two 177kN (40,000lb)-class Kuibyshev/Kuznetsov NK-92s (a new


Russian propfan/turbofan engine). Still-larger variants could use 230kN Zaporozhe/Progress D-18T turbofans.

In manned versions, the engines would be isolated in a rear compartment to reduce the fire risk and noise levels. A target noise level of 75dB has been set for the cabin. The automatic fire-extinguishing system occupies much of the available space inside the subscale L2-3 fuselage.

The unmanned model is windowless, although passenger variants will have large load-bearing windows, which are under development at Russia's Glass Research Institute. The design of the windows will allow passengers to control the amount of light admitted. The designers have yet to determine the best position for the cockpit on manned versions.



Mid-section from rear showing engine and fire-extinguishing system

Ekip development was funded originally by the Russian defence budget, and the project now receives some civil support. Saratov says that money for the project is included in the 1993-4 European technical-assistance programme, and adds that there is also some private investment in the project and some interest from Western companies. 

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