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**Headline:** Thermoplane Flight Testing Highlighted

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**Subslug:** [Article by KRASNAYA ZVEZDA correspondent Aleksandr Dolgikh: ``They Are Putting 'Flying Saucers' Together in Ulyanovsk'' ]

**FULL TEXT OF ARTICLE:**

1. [Article by KRASNAYA ZVEZDA correspondent Aleksandr Dolgikh: ``They Are Putting 'Flying Saucers' Together in Ulyanovsk'' ]
2. [Text] The concept of creating an aircraft whose principle of operation is based on lift from an inert gas (hydrogen, helium), as well as hot air, and which acquired the name ``thermoplane'' (this word is not in the dictionaries yet) came into being after 1984, when there was talk of developing the boundless expanses of Siberia as quickly as possible and utilizing its resources more efficiently. It is common knowledge that solution of this problem without the extensive use of aircraft is impossible because of the lack of roads there. Which of the existing types of aircraft are most suited to carry out this task?
3. Helicopters? A little expensive, and their lifting power is limited. Airplanes? It takes a lot of funds and time just to build the runways. Generally speaking, we have returned to where we began in the history of flight. Essentially, we have returned to the balloons. Taking into account everything that has been developed in aircraft manufacturing to date, naturally.
4. The project is being carried out by associates of the ``Termoplan'' Design Bureau, which was created especially in 1988 in the Moscow Aviation Institute imeni S. Ordzhonikidze. The program's objective is ``to devise and develop aerostatic transport and installation aircraft (ALA) with a lifting capacity of 800 metric tons and a range of up to 5,000 kilometers'' (this is how it was defined in the assignment from the Russian Federation Government). It is assumed that in the future, thermoplanes would deliver most of the industrial equipment and various facilities to regions in Siberia and

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the Far North that are under development. One such aircraft is able to carry oil derricks, machinery, houses...that is, an entire settlement with all its infrastructure, for long distances, either suspended externally or carried on board, at a respectable speed (about 220 kilometers per hour).

5. Aside from purely transport assignments, the thermoplane will make it possible to conduct logging work, geological prospecting, large-scale emergency and rescue operations, and to perform work associated with tourism, including international tourism.

6. Dozens of Russian enterprises and different KB and NII [design bureaus and scientific research institutes] have been included in the project. A number of foreign banks and firms in Canada, Germany, Italy, and France have expressed their desire to take part in it.

7. So just what is this mysterious aircraft? From above, it looks like a disk about 20 meters in diameter. From the side, it looks like a lens, to which the fuselage and engines of an airplane have been "attached." It is planned to utilize the fuselages of Tu-142M, Tu-95, An-22, and other aircraft which have completed their service life or which have been removed from active service in the VVS [Air Forces]. The "air" part of the thermoplane consists of two compartments: one of them is filled with inert gas, and the other one holds the engines' exhaust gases. By regulating the intake of hot air, not only the thermoplane's speed but the actual process of ascent and descent can be changed. Incidentally, it is planned to use hydrogen instead of the inert gas. Do not be surprised. One of the MAI [Moscow Aviation Institute] laboratories has developed a special inhibiting additive which makes hydrogen completely safe when it used as a working medium.

8. As already noted, the cargo may be transported on an external platform or, if special care is required in carrying it, within the "balloon." A special chamber has been provided for this. A system of winches here will make it possible to hoist and lower cargoes for a distance of up to 60 meters.

9. The envelope for this "balloon" must be very durable, naturally. The "fabric" for it has already been developed by the specialists—chemists and textile workers. Composite materials, carbon plastics and fiber glass are used in its construction.

10. How are things proceeding now? Yuriy Ishkov, head of the "Termoplan" KB, comments on this.

11. "The other day we completed the first stage in the ground design tests of the industrial test stand prototype of the new

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aircraft. For the time being, this model is one-fifth the actual size, but it has enabled us to thoroughly study all the aspects we were interested in. One or two drawbacks were revealed, of course, but generally speaking, even our boldest predictions were justified."

12. "This is interesting, too," the designer continued. "Even this small replica of the thermoplane, which is only an intermediate link in the research and logically should be turned over for scrap, has attracted the attention of various specialists-in communications, ecology, and polar studies. Specific orders are already being mentioned. Experimental prototypes of the thermoplanes are being put together at the Ulyanovsk Aviation [Plant] now. Most likely the series aircraft will be assembled there as well. I will point out, by the way, that out of all the aircraft with such power today, the thermoplane is the most ecologically clean."

13. So if someone sees an unusual aircraft in the sky which resembles a giant disk in the not too distant future, he should not be in a hurry to talk about NLO [unidentified flying objects].

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