

# FACT SHEET



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## HELI-STAT

The Heli-Stat is a revolutionary new type of aircraft which is composed of four helicopters mated to an airship. The Heli-Stat is designed to provide heavy, vertical lift capabilities that far exceed those available through the use of conventional helicopters. A helium-filled airship envelope will provide the lift necessary to support the weight of the four helicopters and their interconnecting structure. This will permit the helicopters to apply their total power to lift heavy objects. The helicopters will also be used to provide power for flying the Heli-Stat from place to place.

The Heli-Stat will demonstrate how timber can be economically harvested from remote, inaccessible areas. According to Heli-Stat inventor Frank Piasecki, the Heli-Stat will be able to lift about 26 tons, or twice as much as the largest commercial helicopter now in use in the U.S., and it will complete its mission at an estimated savings of 37 percent over conventional helicopter harvesting methods. Its use will also greatly expand the amount of timberland which can be logged from the air. For example, conventional helicopters can economically transport logs for a distance of only about one mile. It is projected that the Heli-Stat will be able to economically range as much as six miles into the forest to perform its mission. Substantial savings will also result from the fact that the Heli-Stat will eliminate the need for constructing logging roads into remote areas. A single road stretching six miles into the forest could easily cost \$1 million--the Heli-Stat would make such a road totally unnecessary. Not only will the Heli-Stat save money, it will also prevent the environmental alterations which result from road building in remote areas and can contribute to a more healthy forest by providing a means for removing diseased timber in areas which are currently unreachable.

Construction of the Heli-Stat is taking place at the Naval Air Engineering Center at Lakehurst, New Jersey, under a contract awarded to the Piasecki Aircraft Corporation of Philadelphia. The contract was awarded to Piasecki in January 1980 and is valued at \$10.7 million. Most of the development costs for the Heli-Stat could be offset by the sale of timber logged by the new aircraft during initial tests to be conducted in National Forests in the Pacific Northwest. The U.S. Navy is assisting the Forest Service in contracting and monitoring the progress of the Heli-Stat's construction. Piasecki's Heli-Stat design was selected by the Forest Service because the firm could deliver the completed vehicle in two years instead of the five years needed by other potential builders. Piasecki's proposal to make extensive use of surplus government equipment whenever necessary to hold down costs and the firm's reputation as an innovative leader in the field of helicopter design were also important factors influencing the decision to select it to build the Heli-Stat.

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The construction schedule for the Heli-Stat calls for the first flight of the four interconnected helicopters to take place in the fall of 1981. Following the completion of these test flights, the helicopters will be mated to the airship during the winter. After additional testing in New Jersey, the Heli-Stat will travel to the Pacific Northwest in the spring of '82 and will conduct its first logging tests on the Gifford Pinchot National Forest in Washington. Over the next three years, the Heli-Stat will harvest timber valued at nearly \$20 million in the states of Washington, Oregon, Idaho, Montana, California, and Alaska, according to present plans.

Although France, Canada, Japan, and the Soviet Union are all completing designs for heavy-lift airships, the Heli-Stat is the only vehicle of its kind currently under construction. The Heli-Stat's development and use will be monitored closely by a large number of industry and military representatives to see whether or not future models might be of use for a wide variety of activities. In addition to forest management, other possible future uses of Heli-Stats include maritime patrol, transporting military equipment, unloading cargo ships, erecting power lines and oil rigs, and constructing housing and office buildings.

#### Design Specifications

Length: 343 feet	Max. Speed: 80 mph
Height: 111 feet	Working Range: 192 miles
Width: 149 feet	Ferry Range: 2,000 miles
Engines: (4) Wright R-1820	Crew: 4 (pilot and three technicians)
1,525 hp each	Helium Capacity: 1,000,000 cubic feet

