PIONEERING MILITARY HELICOPTER AT THE EVERGREEN AIR AND SPACE MUSEUM

EVERGREEN'S BIG BANANA

BY HOWARD CARTER

One of the most overlooked aspects of the Warbird Movement is that of early helicopters. As the end of the Second World War approached, the first use of the combat helicopter was taking place but with the end of the war, development of rotary-wing aircraft exploded. There were dozens of new companies and designs — most now long forgotten.

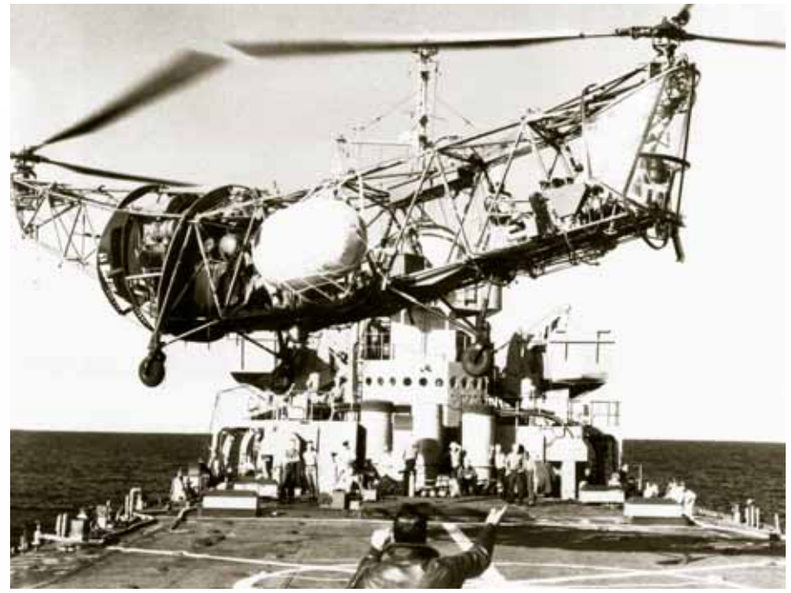
One of the more innovative designers was Frank Piasecki who, during 1940, founded the P-V Engineering Forum (later Piasecki Helicopter Corporation in 1946) and his PV-2 was the second helicopter to fly (during 1943) in the USA after Igor Sikorsky's pioneering VS-300.

Piasecki's designs were immediately recognizable by their tandem rotor configuration. Also, the upward angle of the front and rear fuselage quickly gave the machines the nickname of "flying bananas" — especially since some of the US Coast Guard examples were painted a bright yellow because of their search and rescue role. Piasecki had noted the problems Sikorsky was having with the VS-300's tail rotor that also robbed horsepower from the main rotor. He reasoned that by having one rotor on each end of a long fuselage, the tail rotor could be dropped completely and the long fuselage could be loaded with people/equipment without due concern to center of gravity.

The company's first large helicopter was the PV-3 — employees would give the craft the nickname Dogship — and it was a big machine. Empty weight was 5000-lbs while fully loaded it tipped the scales at 7000-lbs. The fuselage had a huge (for the time) 400-cu-ft of useable space. Power came from a Continental R-975 of 450-hp, so the design was obviously underpowered. The small company had received, on 1 January 1944, a US Navy contract for a single helicopter.

The first example, flown minus its fabric covering, went aloft from Morton, Pennsylvania, on 7 March 1945. The engine had drive trains to the two large rotors. So that the two rotors would not hit each other, Piasecki utilized a patented design created by Drago Jovanovich (who would later build his own series of helicopters). However, the transmissions were derived from automotive units and it received the Navy designation XHRP-X.

Construction was unremarkable — steel tubing with wooden ribs and formers. The entire structure was then fabric covered but for flight testing the fabric was not applied.



Minus its fabric covering, the HRP made for a very strange sight. In this view, the helicopter is being tested for shipboard compatibility.

The HRPs were the first helicopters to give the US military a large load carrying capability.

Although a bit underpowered, the HRPs proved reliable in service conditions.

Flight-testing revealed problems. During one lift off, the machine suddenly pitched up and this caused the rotors to almost become enmeshed with each other — something that would have proven disastrous. Piasecki noted that the transmission was beginning to overheat. Flying from a Navy field, he did not want military personnel to see this problem so he sent his employees out to purchase ice and sodas. He then poured the ice over the transmission to cool the unit. Once this was done, he took off and kept the prototype at low-alti-

The HRP-1G is an imposing aircraft and it stands nearly 15-ft high. Volunteers have made much progress bringing the helo back to life.