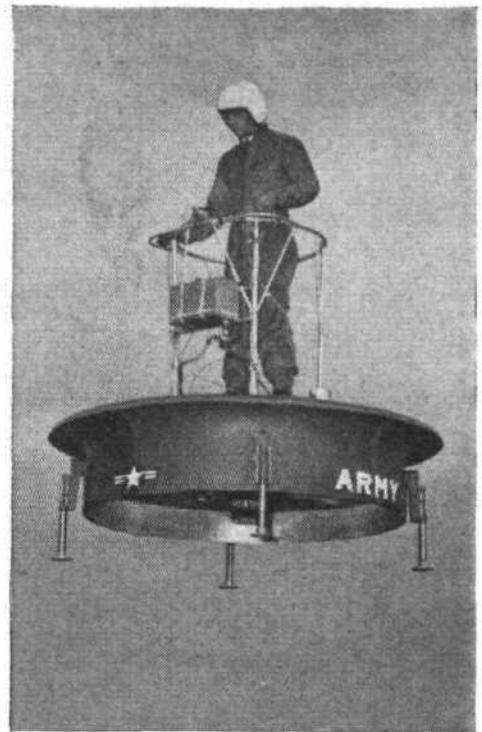




(Above and left) Hiller HJ-1 (H-32).

(Right) Hiller Flying Platform.



range), 71 m.p.h.; range, 138 miles (250 miles with auxiliary tank); service ceiling, 10,100ft; hovering ceiling in ground effect, 2,600ft.

Model 12-D Features of this model include a 250 h.p. Lycoming engine; an entirely new transmission system, designed for 1,000 hr between overhauls, and for powers up to 280 h.p.; and an entirely new tail rotor assembly. Official designation is H-23D.

Model HJ-1 The U.S. Army's first operational ramjet helicopter the HJ-1 (H-32) is being built in limited quantities for tests. The U.S. Navy and Marines have three machines of the same type, designated HOE-1, and the C.A.A. and manufacturer's own name for the aircraft is Hornet. The rotor is driven by two Hiller 8RJ2B ramjets, one at each rotor-blade tip. These units are easily removable, have no moving parts, weigh 13 lb, and develop about 45 h.p. each. For starting there is a small 1 h.p. petrol engine, which spins the rotor up to 50 r.p.m. When the rotor has attained 550 r.p.m. the helicopter can leave the ground. The rotor blades have solid extruded aluminium leading edges and built-up magnesium trailing edges.

- Rotor diam., 35ft; overall length 23ft 8in; empty weight, 544 lb; gross weight, 1,080 lb; cruising speed, 69 m.p.h.; rate of climb at s.l., 700ft/min; service ceiling, 6,900ft; range 28 miles.

XROE-1 This designation applies to a forthcoming ultra-light helicopter for the U.S. Marine Corps. It will be of conven-

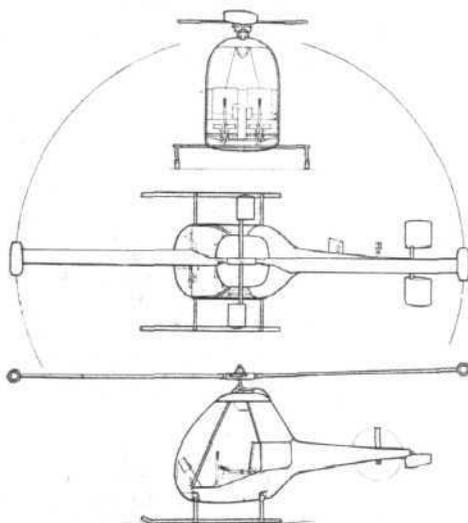
tional layout, with tail rotor, and will be powered by a Nelson engine. A point of interest is that its specified duties will be observation, liaison and—an imaginative application this—escape and evasion.

Flying Platform Of this unique vehicle the makers write: "In April 1955 the Office of Naval Research and Hiller helicopters unveiled the revolutionary one-man Flying Platform. Still a research tool, the Flying Platform is now undergoing modification and additional tests to further explore the principle involved. The Flying Platform is almost literally a flying carpet which the pilot controls by body-balance instead of using manual or mechanical flight controls. Conventional controls and instruments are virtually eliminated. Directional flight is achieved merely by leaning in the direction one wishes to go. Man's dream of flying has always included the idea of flight so simple as to be instinctive. The concept of the Flying Platform, stabilized and controlled by the same instinctive reactions a person uses to stand upright, more closely approximates this ideal than any aircraft ever built.

"The Platform also uses a new principle of lift and propulsion called the ducted fan. It is the first ducted fan type of VTO aircraft to fly carrying a man. Variations of this principle have been flown while tethered, but this is the first such vehicle to achieve piloted free flight. Besides definitely establishing the feasibility of radically simplified flight, it also appears reasonable that variations on the Flying Platform design, both larger for long-range missions, and smaller for short-range missions, could be successful. The primary advantage of such aircraft would be the extreme ease of flying and learning to fly, and their low cost. Maintenance would be relatively simple because of the inherent simplicity of the aircraft."

Large Convertiplane Illustrated on this page is a proposal for what is described by Hiller as "a large transport propelloplane," submitted as the result of a study made for the U.S. Army through the Office of Naval Research. The machine would use the principle of tilting wing and propeller units for vertical take-off, landing and hovering, and in aeroplane configuration should achieve high performance.

Hiller proposal for large convertiplane.



expanded main rotor and control rotor tilt stops, thus improving its controllability and manoeuvrability in turbulent air. Redesign of the cyclic control scissors provides large self-aligning ball trunnions covered by rubberized dust protectors." A bubble-type canopy is now fitted and the instrument panel is much more compact than on earlier Hillers. The engine is a Franklin 6V4-200-C33 of 200 h.p., and the makers state that a supercharged installation will be available to improve altitude performance. A three-seater, the Model 12-C is adaptable for ambulance work and for operation from water. A rescue net can be slung from the skid undercarriage and external loads up to 494 lb can be carried with a quick-release mechanism.

- Rotor diam., 35ft; fuselage length, 27.8ft; weight empty, 1,642 lb; gross weight, 2,500 lb; max. speed, 84 m.p.h.; cruising speed (max.

