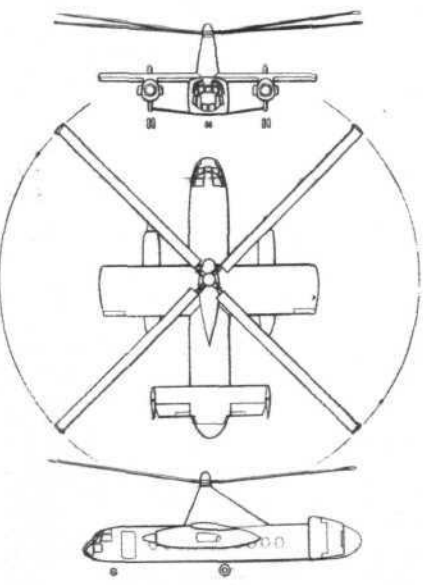


Power plant ... Rolls-Royce Avon
 Span ... 27ft
 Length ... 52ft

Above, F.D.2

Below and right, Rotodyne
 Power plant ... Two Napier Eland
 Rotor diam. ... 90ft
 Gross weight ... 33,000 lb



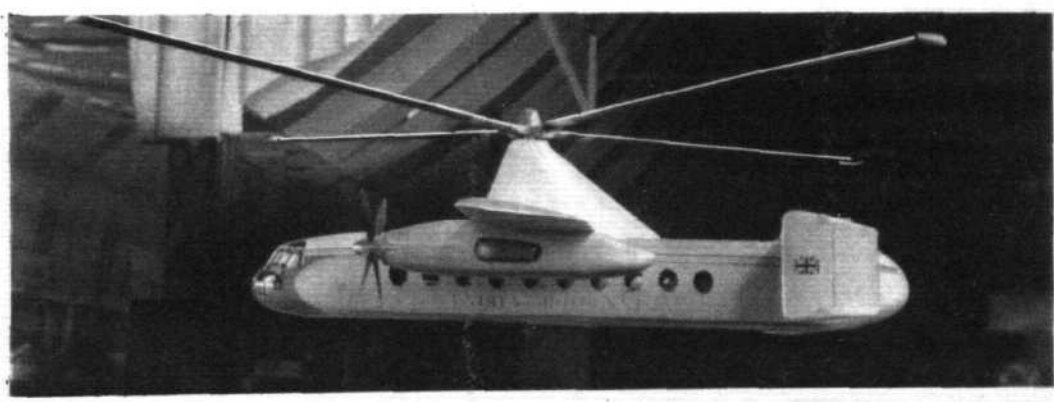
Below, Jet Gyrodyne

taxying, the entire nose portion is hinged. The wing is, perhaps, the thinnest yet flown in this country, as will be gathered from the photograph above.

Rotodyne Two prototypes of this very large single-rotor helicopter are under construction, each to be powered by two Napier Eland NEL.3 turboprops of 3,000 h.p. each. The aircraft is expected to offer "a direct transportation challenge to the Douglas Dakota" and to be able to maintain height at maximum designed weight with one engine out, irrespective of the forward speed at which failure occurs. The Elands incorporate auxiliary compressors for the Fairey tip-mounted pressure jets. For take-off, these compressors are engaged and supply air through the hollow rotor blades to the jets; in these, the air is mixed with fuel and burnt to drive the rotor. Thus, the machine takes off as a helicopter, though sufficient power is directed to the forward-facing airscrews to provide directional control on the ground and in the air. When a pre-determined forward speed has been attained, the auxiliary compressors are declutched, and engine power is transferred to the airscrews. The rotor then auto-rotates to provide about half the lift of the aircraft, the other half being provided by a high-mounted fixed wing of 47ft span. The cabin offers 3,300 cu ft of unrestricted space, and the payload is 11,000 lb. Economical speed is to be not less than 150 m.p.h., and still-air range about 270 nautical miles. Representative loads could be: 44 passengers and baggage; 30 stretchers and ten attendants; three motor cars and 12 passengers; a continental touring coach and passengers; a Hawker Hunter fighter, without engine, and with wings removed; a jeep and a 25-pounder gun; 300 lambs or 150 sheep, or 20 cattle (alive or as carcasses); 4,000 cans of milk or beer; or four ultra-light helicopters.

Jet Gyrodyne This machine has been adapted from one of the two Gyrodyne prototypes to investigate problems associated with tip-jet propulsion. In place of the original three-blade rotor there is a large two-blade structure, carrying Fairey pressure-jets at the tips. The Alvis Leonides engine drives compressors which supply air to the jets for take-off and landing, but for cruising the greater part of the power is transferred to two pusher airscrews at the tips of the stub wings.

Ultra-Light Helicopter Built primarily to satisfy a requirement of the British Army, this two-seater is powered with a Blackburn-Turboméca Palouste and is suitable for communications and observation. The crew of two sit facing in opposite directions and are thus assured of an almost unrestricted view. The first prototype is expected at Farnborough.



Below, Ultra-Light Helicopter

