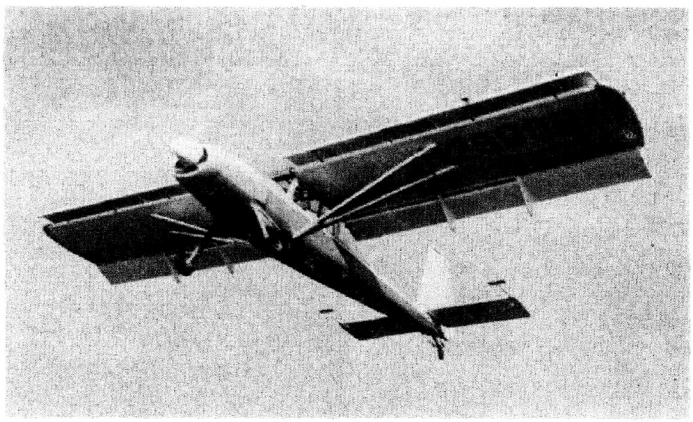
Project Skylark



A new type of airplane, combining the usefulness of a helicopter with the speed and simplicity of a conventional airplane, is now undergoing accelerated flight testing by the Robertson Development Corp. of Fort Worth, Texas. The flights are being conducted under the expert control of Marion Cole, intrnationally famed aecbatic champion and an E.A.A. member, who has joined the company as Chief Test pilot. This aircraft is capable of operating from helicopter-sized londing areas less than 120 feet long, and still retain a cruising speed in excess of 150 mph.

This aircraft, known as the "Skylark SRX-1", has undergone about 30 hours of flight testing. It was designed by James L. Robertson, 27 year old St. Louis aeronautical engineer.

The five place prototype Skylark, carrying an equivalent useful load of 1250 pounds, has already demonstrated its ability to land and take off from turf fields in less than 100 feet. Moreover, the stall-proof, spin-proof plane is capable of maintaining level flight at speeds from 25 mph. to 165 mph. with excellent stability and control, within the whole of this speed range. Although currently using a reciprocating engine and grossing 3500 pounds, it is believed to be the first American light airplane specirically designed to accoodate a turboprop propulsion system.

Planned primarily for the executive and industrial markets, "safttey and usefulness" were the prime operating objectives. Stall-proof and spin-proof design, flight speeds of less than 25 mph., and the ability to make emergency power-off landings in almost any clleared area longer than 100 feet, provvides flight saftey. Use of a design load factor more than twice that required by the C.A.A., fire resistant all-metal construction, and a steel-tube cabin framework, provide structural saftey. Usefullness is maximated in that the short operating areas required by the aircraft open up many plant-side locations and bases of operation now accessable by air only with a helicopter.

The unusual performance of the airplane is due to the use of aseries of new aerodynamic inovations. The most important of these are:

1) SHROUDS: A leading edge extension running the full span of the wing, which serves as an aeodynamic balance for the flapp, and which also prevents the airplane from stalling.
2) ROBERTSON FLAP: This is a full span, double-slotted configuration of the Fowler flap. The Skylark has more flap area than many of the hwin-engined commercial airliners. The flap-shroud combination, on which kseveral patents are pending, triples the lift of the basic wing and thus permits the extremely low flight speeds and short landings and takeoffs.
3) SPOILERONS: These are flush plates on the top of the wing that operate in tanden to provide lateral control.
4) TURULATOR CONTROL: Turbulence inducing surfaces are used to supply positive ground control in high winds and to provide steep glide angles over high obstacles withont increasing forward speed.
5) STABILATOR or FLYING TAIL: An all-movable horizontal tail surface rotating about a lateral axis determined by its hinge line, is used for longitudinal control.
6) ELEVANCES: These are tubes which protrude forward from the staibator, and have small plane surfaces mounted on them, which provide aerodynamic balance for the all-moving stabilator type elevators.
7) SPINNER DUCT COOLING: Special cowling provides engine cooling at low air speeds.

The production version of the Skylark series aircraft will incorporate all the saftey and performance features of the prototype along with a somewhat more powerful engine. Current flight test dataindicates that the production models will attain cruise speeds in excess of 200 mph. at 10,000 feet.

The Corporation is planning to initiate volume production of the airplane as soon as cueent financing and production arrangements have been completed, probably about June 1, 1955. Marketing plans will be announced at the completion of the current flight test program.

Also involved in this project are several other E.A.A. members ....Ned Kensinger, formerly of Peoria Chapter, Louis Woods and Bob Ferguson. Respite the fact that Marion Cole is the Chief Test Pilot for the project, he will contnue as the feature attraction of the Cole Brothers Air Shows. The Robertson Development Corp. has graciously consented to allow Marion to continue in his air show work, for which they are to be commended. Thogh Marion is located in Texas, the Air Show will still operate out of Kewanee, Ill., with Duane Cole as its general manager.

Specifications of the Robertson SRX-1 "Skylark" are:

Dimensions
- Wing span....40 ft.
- Length.....30.5 ft.
- Height.....7 ft. 10 in.
- Tread.....8 ft. 10 in.
- Cabin length .. 10 ft. 6 in.
- Cabin width...44 in.
- Number of seats.4 to 5

Weights
- Empty.....2250 lbs.
- Useful load (Normal)..... .....1250 lbs.
- Gross weight (Normal) ... .3500 lbs.
- Useful load (Utility ....4000 lbs.
- Gross weight (Utility)..... .....6250 lbs.

Equipment
- Engine ..... Continental GE-260-2X @ 260 hp.
- Propellor ..... Hartzell HC-12x20-8C
- Radio ..... NARCO VTR-1 Omnigator and LFR-1 low frequency receiver

PERFORMANCE Achieved to date during initial flight testing program at normal full gross weight, zero wind.)
- Maximum speed ..... Over 165 mph. at sea level
- Cruising speed ..... Over 150 ph. at sea level
- Minimum level flight speed ... Under 25 mph.
- Take-off distance ..... Under 120 ft.
- Landing distance ..... Under 120 ft.
- Take-off distance over 50 foot obstacle ..... Uuder 350 ft.

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Books For The Homebuilders

Continued from page 12

practical material and AN reference, as well as a complete aircraft maintenence, book for the student or mechanic.

All of these in addition to AIRCRAFT DESIGN THROUGH SERVICE EXPERIENCE and CIVIL AERONAUTICS MANUAL 18, both also available from the Superintendent of Documents, should be all that anyone should need if they are bent on designing their airplane on a little more technical level.

Leo J. Kohn

BOOKS

Aircraft Weight and Balance Control is a book of 50 pages which is a must for the homebuilder. It will give the homebuilder a good understanding of controlling weights and locations, center of gravity, weighing procedures, etc. We are very happy to recommend this book. (SEE CLASSIFIED AD).