



(Photo - Rev. B. C. Reed)

We Fly The Robin

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Since Aviation Week (or whatever magazine) first began publishing technical, personal "We Fly the What-zis" flight-test reports some 15 years or so ago, practically every aviation magazine (and even others) have solemnly joined the act. Surely our JOURNAL must (?) keep up with current trends, yet with all the technical meat, a little "ham" should not be out of place. Must we use an E-6B computer and latest jargon when reporting antique airplanes? The editorial "we" is also rather ridiculous, especially when the airplane is a single-seater, but if it's the current fashion maybe we'll uphold it. And so in the spirit of earlier days, we offer for your fun and fascination the following flight by our ancient aircraft enthusiast. Yes, Larkins, both the aircraft and the enthusiast are ancient! (Newcomers please note the 1956 editor's rude remark on page 172, 1/4 JOURNAL.)

AIRCRAFT: The Curtiss Robin put at the disposal of our A.A.H.S. test pilot was a J-1 series, c/n 681, registration N780M, built in 1929 under ATC 220 by the Curtiss-Robertson Corp. of St. Louis. The original side-by-side passenger seats and cabin windows have completely disappeared during the several rebuilds over 35 years. It is now a working antique, earning its keep for owner John J. Coghlan as a crop-duster in the fertile San Joaquin Valley of central California. Registration is temporarily "Experimental" until the FAA completes engine installation and monoxide tests, when it will be given "Restricted" category. Replacement wheels mount 24 x 7.7 Type VII tires, and tail-wheel assembly came from a UC-78. Current color combination sports a bright yellow fuselage, stabilizer, elevators and ailerons, with white wings, fin and rudder. Spray-boom, struts and landing gear yellow.

Awaiting rebuild in hangar are parts of two other

Robins: c/n 682 (N781M), and c/n 711 (N517N). Of additional interest is a 1930 Laird LC-R300, c/n 188 (only three others remain) N10402, also awaiting rebuild - wouldn't that make a beautifully restored antique with original black fuselage and gold wings!

ENGINE: The Curtiss J-1 Robin was originally produced with a 165 hp Wright R-540 Whirlwind J6-5. The original aircraft nameplate, however, indicated a Challenger engine and was stamped Engine No. 11232. After an unknown number of engine changes and modifications, this Robin is now flying with a war surplus 240 hp Wright R-760-8 Whirlwind J6-7 with sodium-filled exhaust valves, unblown, and swinging a Curtiss-Reed one piece forged aluminum propeller. Civil designation is R-760-ET but old Navy serial number 8306 is still used. Carburetor is NAR-7A. Although not on this flight, an oil cooler was later installed. For ease of maintenance, all cowling is permanently removed back to firewall. Starter, generator and electrical system were totally removed, but later the FAA specified an electric fuel pump, so the complete system and battery were subsequently re-installed. For our flight, however, fuel was gravity fed from the two original 25-gallon tanks in the wing roots.

COCKPIT: The single seat has been moved about two inches forward to make room for the 175-gallon fiberglass hopper immediately aft, in the old cabin area. This slightly crowds a six foot pilot into the rudder pedals (surplus PT-19) and brakes. The door opening is on the right side, but no door. A large window opening at the pilot's left is also uncovered. A clear skylight gives some overhead visibility and the safety glass windshield seems stock - complete with original lower side window panels.

Instrument panel also appears to be original, still with manufacturer's nameplate covered with several coats

of black paint. An old war surplus airspeed indicator, with cracked glass, incongruously spans 200 mph but is red lined at 100 to protect the spray-booms. A non-sensitive al'ti-meter (never al-tim'eter on antiques), and a dimly readable fluid compass complete the flight instruments. Engine instruments include a tachometer with condensation behind the glass, red lined at 2000 rpm, oil pressure and oil temperature. There is an extra pressure gauge and controls for the spray-boom.

A simple throttle and mixture quadrant is beneath the left window. Directly below is the elevator trim, a lever that catches in dents on an arc. Tail-wheel lock is slightly aft, on the plywood floor. Control stick may be original, a light steel tubing with the old rubber grip long gone. And who ever heard of "Fuel System Management" in 1929 - the gas is either Off, Left Tank or Right Tank; takeoff and land on the fullest tank.

PERSONAL EQUIPMENT: Your A.A.H.S. test pilot wore brown slacks and short sleeved sport shirt because it was a hot day. Beltbuckle with engraved USAF wings identified him as an intrepid aviator. Prescription sunglasses and a Longines-Weems sweep-second watch (purchased at McChord Field PX in 1940) completed the burdensome personal equipment items.

PREPARATIONS: Two previous flights in Curtiss Robins were of little benefit for this check out. The first (OX-5, NC-7145, c/n 6), was 25 years ago at Santa Ana, while the second (220 hp Continental, N392K, c/n 556), although only three years ago, was as a passenger. It must be remembered "Golden Age" airplanes with no flaps and old tail-down landing gear simply do not land quite like current types, and early radial engines which are red lined around 2000 rpm or less, have a different feel" than do modern high speed flat engines. Hence, neither B-50s nor Bonanzas provided this pilot with the necessary techniques, but recent flights in some of Pete Bowers' assorted antique aircraft and Joe Pfeiffer's Davis D-1W (Memo 2-394, c/n 127, N854N), refreshed old memories and skills.

A quiet time to sit in the cockpit is mandatory, carefully studying all controls, levers, instruments, etc., and rehearsing emergency plans. While sitting in the cockpit of an old tail-down airplane (we used to call it "conventional" landing gear.), note where the horizon cuts across the windshield and engine cylinders, for it must be in practically the same position to make a three-point landing. We hope our careful preflight inspection gave the owner further confidence in our judgment and maturity (as if sparse grey hair wasn't enough). No, Junior, we didn't kick the tires.

THE FLIGHT: Monday 22 June 1964 - first day the temperature topped 100° - light heat haze obscured High Sierras just east of Pruner Field - several of us pushed the Robin away from the hangar - using a stepladder and hand-pump, filled left wing tank with 80/87 octane gas - right tank was about half - we climbed in, fitted war surplus shoulder harness and safety belt, but could not reach switch or primer - unlatched belt and harness - stood on toe-brakes - gas on LEFT - switch OFF - he pulled the prop thru - we unsuccessfully tried a couple of shots of prime - then remembered to advance mixture control FULL RICH - now eased out the big hypo-like primer again until we felt it fill - heard two shots of prime squirt into cylinders - CONTACT! Throttle full off - snapped on the big old Scintilla E-1 magneto switch with that satisfying sound and feel, so lacking in those modern jobs - brakes on hard - SWITCH ON! we answered - he swung the metal prop - nothing - Still hot? Hot! the prop glinted thru the windshield and stopped - once more - okay - he gingerly pulled the prop on compression - gave it a quick snap - flashing blades blended into a blur - deep-throated exhaust slowly started booming out individual exhausts - ease on some throttle - stiff - a bit more - what a beautiful

sound - not like those new-fangled flying automobiles - oil pressure up and steady - oil temp coming up nicely - rebuckle shoulder harness and belt - watch it, she's rolling - stay on the brakes - ready to taxi - a nod to John and others standing off the right wing - release brakes, heels on deck - ease on a little throttle - careful not to dust off people or hangar - roll down rough taxi strip - S-ing for visibility around the big Whirlwind - ever so easy on the brakes - check for other airplanes - turn left and head into a northwest wind - hard on the brakes and open the throttle - woops! brakes don't hold above 1400 rpm - oil pressure OK - oil temperature OK - check mags: less than a 50 drop on each side - check 'em again, watching the engine cylinders for vibration: smooth as glass - recheck elevator trim - lock tail-wheel - recheck fuel valve - controls free - check sky and runway again - quick glance at our watch: 5 p.m. straight up - let'd go....

TAKE OFF: Ease on full throttle - 2000 rpm - full rich - you don't make sudden abrupt throttle movements with pre-war engines - automatically feed in enough right rudder to compensate for torque - note oil pressure and temp - runway is a little rough - tail coming up - hold her straight - feels light - ease back on the stick - off and climbing - climbs nicely at 70 when she's so light - right wheel still spinning and gives a little vibration - level off for the first turn (we learned that in OX-5 jobs 30 years ago)....

FLIGHT: Throttle back to 1750 - stiff throttle requires too much pull, tach drops back to 1650 - we tap throttle with heel of hand just as Jimmy Stewart did when playing Lindbergh in "Spirit of St. Louis" - 1750 rpm - 1400 feet altitude - about 80 mph (working airspeed is around 85 mph at 1850 rpm with normal load of 150 gallons in the hopper) - execute precision turns smartly - try a 360 to the left - interior brace wires forming X-pattern inside windshield give good indication of gentle bank when parallel with horizon - steepen it up a bit until elevator begins to act as a rudder - reef back on the stick slightly - hold up the nose with a little top rudder, but don't cross-control - snow covered High Sierras drift across our vision - rack it around smartly - roll out on original heading with just a freckle of forward stick pressure - now same thing to the right - feels good - 360° - roll out - bump.' right back thru our old prop-wash - perfect turn without gain or loss of altitude - the old man hasn't lost his touch - let's try a couple of stalls - power off - now power on - just like a baby buggy - no tendency for a wing to drop - John's a good rigger - somewhat nose-heavy with that bigger engine - its fun to fly....

LANDING: Okay, back into the traffic pattern - ease off on the power - crisp turns, smartly - opposite landing spot - chop throttle all the way off - 180° left turn - set up our glide - lined up nicely - short burst of throttle to keep plugs clear - gliding just under seventy - real comfortable - over the fence - flare out for a three-point - get that tail down - stick all the way back - BOUNCE! smack on the wheels - WHY didn't it go in three-point? - oh oh, that heavy J6-7 engine - we didn't adjust trim lever tail heavy - let's try it again - ease on full throttle - forward stick to bring the tail up - now we know how she gets off, so let's horse back on the stick - WOW! how she climbs - like a homesick angel - crank her around the pattern again - chop the throttle and set up our glide - back a bit on the trim - that's more like it - flare out over the end of the strip - little more trim - gently, ever so gently - tail wheel and wheels - aah, just like a baby buggy - stay off the brakes, but keep on the rudder - what a short roll - turn off across the dirt and grass to the hangar - that's just right - brakes - mixture: idle cut-off - prop slows down and stops - switch off - brakes off - we check our watch: 15 minutes - fun - thanks, John....