

The Stinson Model U Trimotor of 1932



by Al Hansen

The prototype Model U, NC432M (s/n 9000), a Stinson-owned demonstration aircraft at Akron, Ohio, Municipal Airport, August 1932. (Photo by Emil Strasser courtesy of Gerald Liang)

The Stinson trimotored “Model U” was basically a transport-type high-wing monoplane with seating arranged for 10 passengers and a crew of two. Often called a sesqui-plane (wing and a half) because of the thick lower stub wing that the new “Trimotor” used to mount the recently developed Lycoming transport-type engines of 240 hp each. The design made for a much “cleaner” aerodynamic configuration, despite its increased bulk. The Model U offered gains in operating efficiency and performance over its predecessor Model T. Stinson began delivering the Model U in 1932.

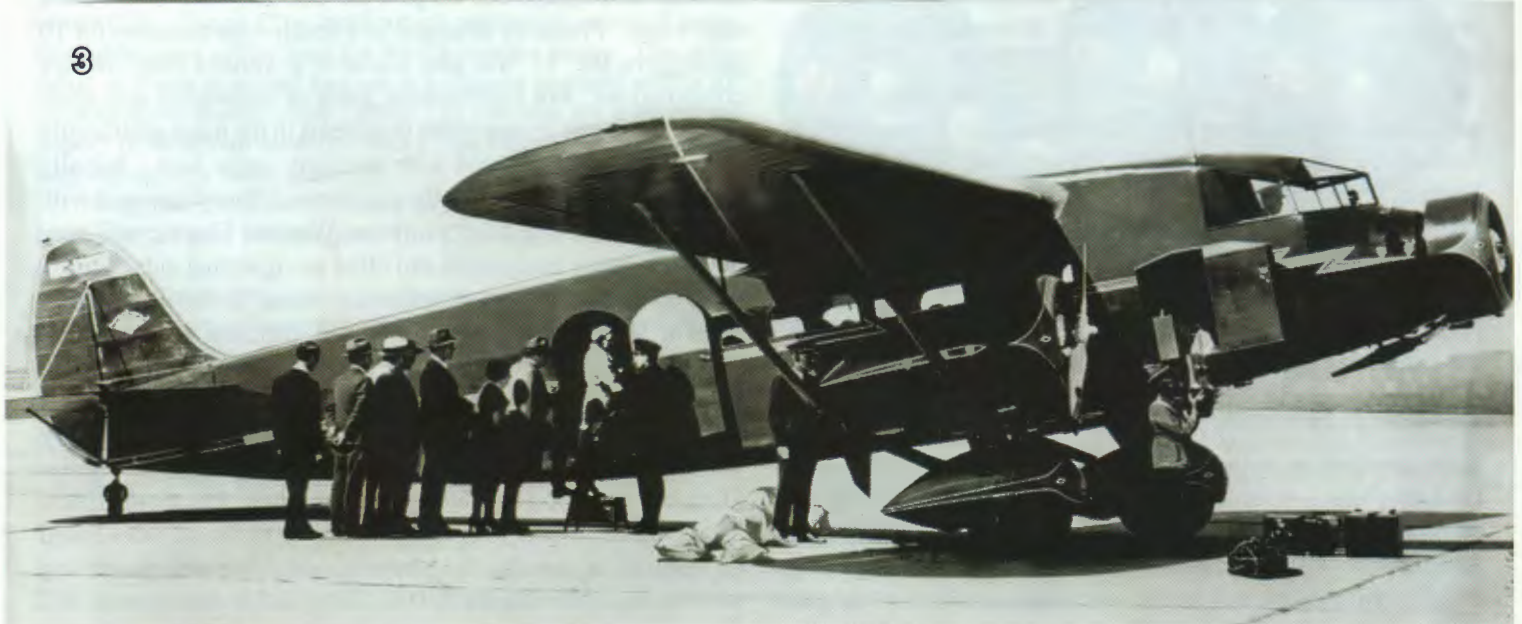
At least 16 of the new “Airliners” were hurriedly put into service on various American Airways routes. Transamerican Airlines operated one initially on alternate routes among Buffalo, Cleveland, Detroit and Chicago; Eastern Air Transport operated a special Wright-powered version (Model U-1) for evaluation on their eastern seaboard system. One example of the trimotored U was specially fitted as an eight-place deluxe “club plane,” with plush accommodations for the executives of the *San Francisco Examiner*, a Hearst newspaper.

A big beautiful airplane that was studded with an array of mechanical and aerodynamic refinements, the Model U offered more payload at better speeds over that of the “Model T” (SM-6000-B). But these increases were quite small in comparison to the rapidly mounting demands. As a consequence, its actual service life on major routes was quite short, as it was rapidly replaced by still larger and faster equipment. A good

indication of the transition taking place in the nation’s airlines is illustrated by the fact that in July 1932 some 580 aircraft were operated by the various lines. One year later in July 1933, the number of aircraft operated had dropped to 544, but the lines were handling considerably more business.

The lower stub wing was arranged to offer bracing for the main wing, to offer mounts for the outboard engines and attachment point for the landing gear. Compartments for the stowage of baggage and cargo were also provided in the thick stub wings. Primarily arranged as a coach-type transport for 10 passengers, the “U” was also available in various other interior combinations. For combination loads of passengers and mail/cargo, either one or two of the front seats in the main cabin could be removed and replaced with auxiliary cargo bins. Initially operated by a crew of two, the copilot was later dispensed with and his station was used to mount Western Electric two-way radio-telephone equipment and other navigational aids.

Powered by three, 9-cylinder Lycoming R-680-BA engines rated at 240 hp each, the Model U had sufficient power reserve to continue flight in case of an engine failure. Fully loaded, normal flight on any two engines could be maintained to a ceiling of 7,000 ft. Performance on all three engines was very good and flight characteristics were comparable to the earlier Stinson Trimotor. Distribution of useful load was more critical and could be favorable or unfavorable on flight attitudes based on loading. In general, the Model U was not as popular among pilots as the older Model T.





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1. A Stinson U as a deluxe club-plane for executives of the San Francisco Examiner. (Photo from the Peter M. Bowers collection)

2. A Stinson U, NC12121, of Mayflower Airlines when retired by American Airways. (American Airlines photo # A00-41)

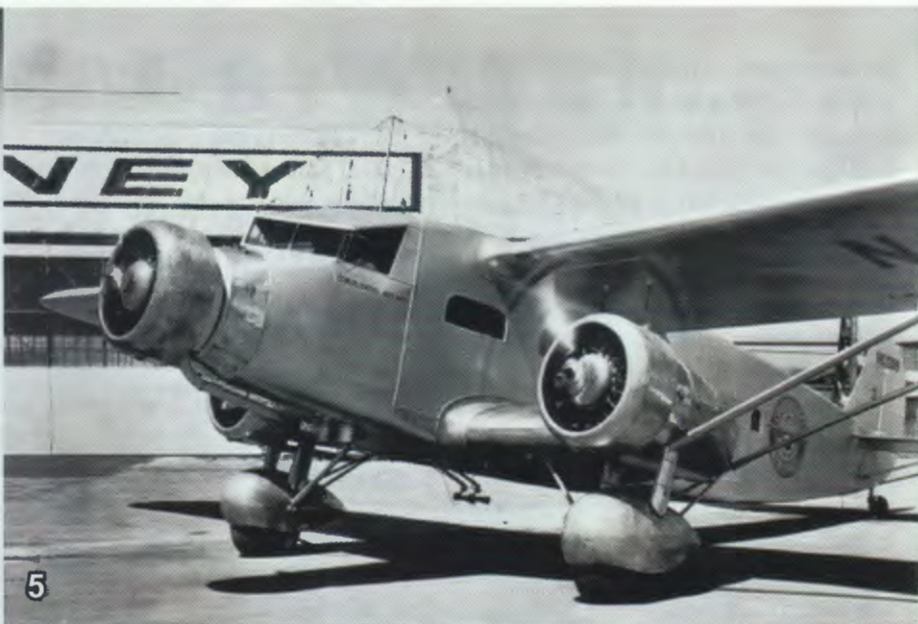
3. Stinson U NC12171 of American Airways loading passengers and luggage for a trip. (American Airlines photo)

4. Columbia Airlines "City of Evansville" Stinson U, still sporting the American Airlines style trim, at Evansville Airport in 1935. (From the AAHS collection)

5. Stinson U NC12118, originally delivered to American Airlines but now in Consolidated Airlines colors. This view clearly shows the stub wing arrangement. (Photo from the San Diego Air & Space Museum collection)

6. Another view of NC12118. (Photo from the San Diego Air & Space Museum collection)

7. An unidentified Stinson U being prepared for flight. Note the luggage compartment access door below and behind the cockpit. (Photo from the Behaven Museum archives)



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Because of its failing to provide sufficient capacity for the rapid increases in passenger traffic and cargo tonnage, plus the fact that it was soon outmoded by new designs in airline transports, the Model U was relatively unsuccessful on the major routes. By 1936 most of these trimotors had either been shunted onto secondary lines or were in unscheduled service by flying-service operators.

The type certificate number for the Stinson trimotored Model U was issued May 12, 1932, and 23 examples of this model were manufactured by the Stinson Aircraft Corp. at Wayne, Michigan. In the winter of 1932, B.D. DeWeese, V.P. and General Manager at Stinson, was flown to the west coast in a Model U for demonstration to Western Air Express, but the

demonstration did not produce a sale to the airline. However, the sale of an eight-place deluxe "club plane" to the *San Francisco Examiner* did result.

Listed below are specifications and performance data for the Stinson trimotored Model U as powered with three 240-hp Lycoming R-680-BA: length overall 45'3," height overall 12'6," main wing span 66'2," main wing chord 105," stub-wing span 14'3," stub-wing chord 84," main wing area 460 sq.ft., stub-wing area 54 sq.ft., total wing area 514 sq.ft., area including wing struts 574 sq.ft., airfoil (main wing) Goettingen 398, weight empty 6230-6300 lbs, useful load 3,070-3,100 lbs; payload with 140 gal. fuel 1,795-1,825 lbs, gross wt. 9,300-9,400 lbs., max. speed 145 mph, cruising speed 123 mph,

landing speed 60 mph, climb 900-850 ft. first min. at sea level, ceiling 14,500-14,000 ft., fuel capacity normal 140 gal, fuel capacity max. 160 gal., oil capacity 12-15 gal., cruising range at 40 gal. per hour 440-500 miles; price \$22,900 at factory field, reduced to \$19,500 in late 1932.

The fuselage framework was built of welded chrome-moly steel tubing faired to shape with formers and fairing strips, then fabric covered. The forward portion of the fuselage to leading edge of the wing was covered in metal panels. The main cabin walls were lined with ply-metal for sound-proofing and insulation; upholstery was in fine durable fabrics. Ten seats were arranged in the main cabin with lavatory facilities aft of the main entry door; all windows were of shatter-proof glass and individual fresh-air vents and a reading light was provided at each seat. One or two of the front passenger seats in the main cabin were removable to provide aux. cargo bins. The pilot's cabin normally seated two with dual wheel controls, but the copilot station was sometimes used to mount two-way radio gear. Two baggage compartments of 58-cu.ft. total capacity were in the stub-wing with allowance for 335 to 400 lbs., a fuselage compartment just behind and below the pilot station was allowed 200 lbs, and aux. cargo bins that had replaced a passenger seat were allowed 170 lbs each. The wings were built-up of welded chrome-moly steel tube girder-type spar beams with wing ribs, built up of dural tubing; the leading edges were covered with dural metal and the completed framework was covered in fabric. A 70 or 80 gal. fuel tank

was mounted in the root end of each main wing half; the upper main wing was braced to the end of stub wing by heavy-gauge duralumin struts. Outboard engine nacelles were mounted to extremities of the stub-wing and each engine was shrouded with an NACA-type low drag cowling; each landing gear unit was "sprung" by two large "Aerol" struts and fastened to the underside of the engine nacelles. The 12.50x14 wheels fitted with low-pressure tires were encased in streamlined pants and provided with hydraulic brakes. The fabric covered tail-group was built up of welded steel tubing; movable control surfaces had aerodynamic balance, and both fin and horizontal stabilizer were adjustable for trim in flight. Metal propellers, exhaust collector rings, electric engine starters, wheel brakes, batteries, generator, lavatory compartment, reclining chairs, tail wheel, fire extinguishers, and wheel pants were standard equipment. Night-flying equipment and Western Electric two-way radio telephone were optional. □

References:

Fleet Lists, U.S. Scheduled Airline Operators 1927-1941, compiled by Kenn C. Rust.
Airlines of the United States since 1914, by R.E.G. Davies.
U.S. Civil Aircraft, Vol. 5, by Joe Juptner.

Model U registration information from the Civil Aircraft Register:

Construction Number	Registration Number	Airline
9000	NC432M	National Airline
9001	NC12113	American Airline
9002	NC12114	American Airline
9003	NC12115	American Airline, Sold May 1936
9004	NC12116	American Airline
9005	NC12117	American Airline, Sold May 1936
9006	NC12118	American Airline
9007	NC12119	American Airline, Crashed February 6, 1936
9008	NC12120	American Airline, Sold 1936
9009	NC12121	American Airline, Sold April 1936, Mayflower Alines; Crashed September 3, 1936
9010	NC12122	American Airline, Sold April 1936
9011	NC12127	American Airline, From TAC*
9013	NX12132	Stinson Aircraft, Crashed during flight testing February 8, 1933
9014	NC12129	Eastern Airline
9015	NC12133	American Airline, To Columbia Air Lines August 1935
9016	NC12136	American Airline, To Columbia
9017	NC12137	American Airline, To Colombia July 1935
9018	NC12192	American Airline, Sold to Columbia A/L Aug. 1935
9019	NC12193	American Airline, Sold to Columbia A/L July 1935
9020	NC12194	American Airline, To salvage August 1934
9021	NC12195	American Airline
9023	NC12196	San Francisco Examiner club-plane configuration

*Thompson Aeronautical Corp./Transamerican Airlines Corp.