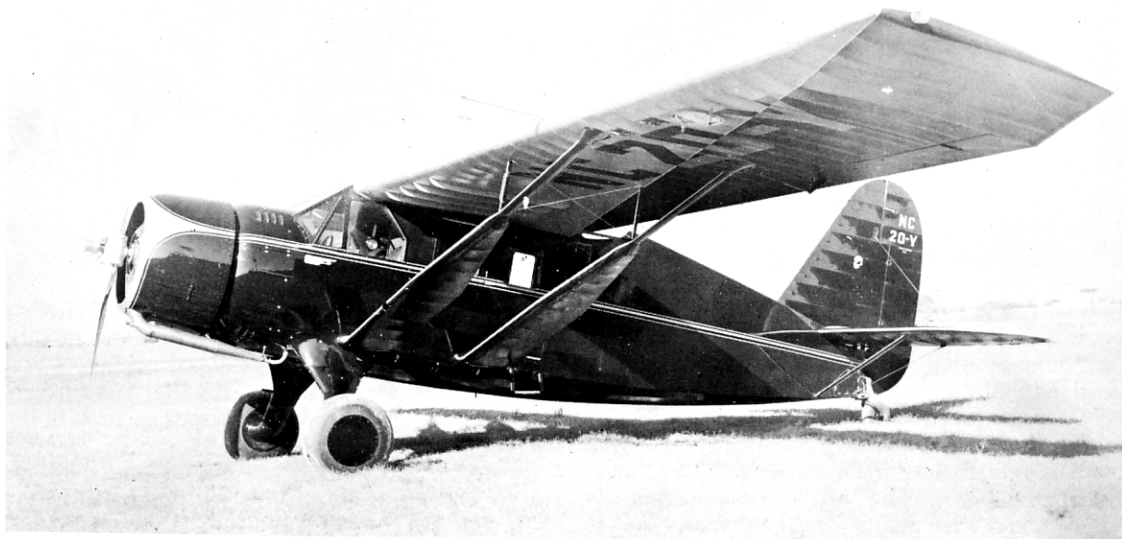


ATC # 578  
(7-20-35)  
BELLANCA, "SR. PACEMAKER", 31-42.



*Fig. 278. Bellanca "Sr. Pacemaker" with 420 h.p. Wright engine.*

The Bellanca "Pacemaker" was still being manufactured, but its demand in the U.S.A. was falling off, and it was taking a back seat to other developments at the factory. Bellanca had just finished an order for 14 of the C-27 "Aircruiser" type that were delivered to the Army Air Corps, 4 of the 77-140 twin-engined bombers (patterned after the Aircruiser) were developed, built, and delivered to the government of Colombia, and the famous "Bellanca Flash" (or Irish Swoop) was being readied for the famous MacRobertson Race. Twelve of the "Pacemaker" were built on order and delivered to Brazil, a few were sold here in this country, and a few exported to other countries. Meanwhile, development of the 28-90 mailplane, a design stemming from the unusual "Flash", kept the factory quite busy; 42 of the mailplanes were slated for France, but somehow wound up in Mexico and then off to China. By 1938 the demand for the Pacemaker, Skyrocket, and Aircruiser had fallen off to nothing, but Giuseppe Bellanca and his design team had not been idle: the Model 14-9 "Junior" (later the "Cruisair") was completed in Dec. of 1937 and it was a sensation that put Bellanca back in volume business. The Bellanca "Pacemaker", even tho' it was still basically similar to the WB-1 of 1925, was continually refined and the model 31-42 of 1934-35-36 was perhaps the zenith of

achievement for this type of airplane. By now the "Pacemaker" had gotten much fatter, and bigger, but it surely was not lazier: it could still out-do any airplane of its type. As powered with either the 9 cyl. Wright R-975-E2 or -E3 engine rated 420-450 h.p. the Model 31-42 had remarkable performance and an unlimited utility: it was available on wheels, skis, or floats, as a personal airplane, an executive-transport in business, or as a freighter in the "bush". The versatile "Pacemaker" was a year-around airplane that asked no favors and it never failed to make a profit. The Bellanca "Pacemaker" was a blue-ribbon airplane, it had more to its credit than many popular airplanes of this type, and tho' its mechanical make-up seemed outdated by 1940, its ability never will be.

The Bellanca "Pacemaker" model 31-42 was a medium-sized cabin monoplane transport with a large, convertible interior. Numerous arrangements were possible from a 5 or 6 place "executive" transport with plush surroundings, to a more austere setting that accommodated up to 8 people. The "Freighter" generally seated a pilot only, and the lined interior could just about carry anything that would go through the door. Being an all-season airplane, designed to work for its keep, the 31-42 performed equally well on wheels, on skis, or on floats. It is unbelievable

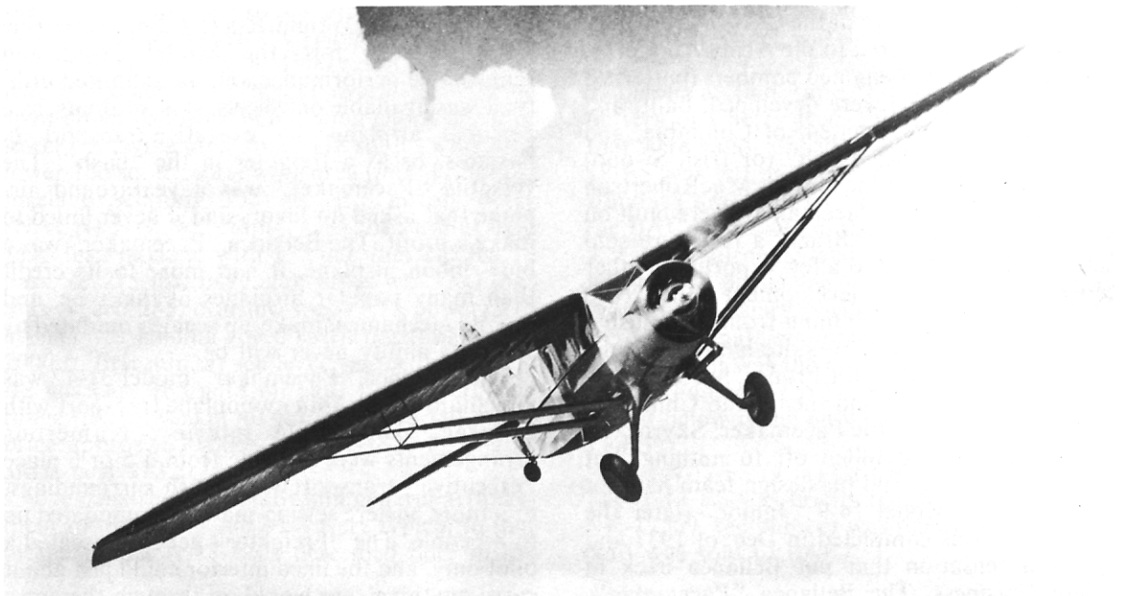


*Fig. 279. A "Sr. Pacemaker" (31-42) in Norwegian service.*

that this airplane, with 3 hours of fuel on board, could still carry nearly a ton of paying load. This fat, boxy-looking machine was no beauty, an airplane that only a pilot could love, but it proved G. M. Bellanca's wizardry with aerodynamics and design; every square foot of airframe was contributing to more than one useful purpose. Bellanca pilots were adventurous people and the "Pacemaker" seemed to revel in adventure, so it is understandable why it was always found in primitive parts of the world. As powered with the 9 cyl. Wright R-975-E2 or -E3 engine rated 420 h.p. at 2200 r.p.m. (450 h.p. available for take-off) the "Pacemaker" model 31-42 was capable of speed and performance that belied its

bulk and its plain, slab-sided figure. Whether loaded with miners, machinery, precious metals, or animal pelts, the 31-42 asked no favors and operated in and out of places that were nearly impossible. Pilots put an uncommon trust in the abilities of the "Pacemaker" and their plaudits formed an aura of story and fame that shall live forever. The type certificate number for the "Senior Pacemaker" model 31-42 was issued 7-20-35 and it is likely that no more than 6 examples of this model were manufactured by the Bellanca Aircraft Corp. at New Castle, Dela.

Listed below are specifications and performance data for the "Senior Pacemaker" model 31-40 (6 pl. landplane) as powered with 420 h.p.



*Fig. 280. The 31-42 was rather frisky for its size.*



*Fig. 281. A 31-42 on Edo floats operated as freighter in Canada.*

Wright R-975-E2 or -E3 engine; length overall 27'11"; height overall 8'6"; wing span 50'6"; wing chord 81"; total wing area (incl. lift struts) 359 sq. ft.; airfoil "Bellanca"; wt. empty 3000 (3250) lbs.; useful load 2350 lbs.; payload with 175 gal. fuel 1040 lbs. (5 pass. & 190 lbs. baggage); gross wt. 5350 (5600) lbs.; figures in parentheses are for model 31-42 with R-975-E3 engine; max. speed 165 at sea level; cruising speed (.75 power) 145; cruising speed (.85 power) 155; landing (stall) speed (with flaps) 54-58; climb 900-750 ft. first min. at sea level; ser. ceiling 18,000 and 14,000 ft.; gas cap. 175-200 gal.; oil cap. 12 gal.; cruising range (.75 power) at 25 gal. per hour 900 miles; price \$16,800. at factory early in 1935 — price was \$19,975. at factory in 1936. A deluxe version with everything in it would cost about \$24,000.

Specs and performance data for 31-42 (1 pl. freighter or 8 pl. coach) as powered with 420 h.p. Wright R-975-E3 engine same as above except as follows: wt. empty 2950 lbs.; useful load 2650 lbs.; payload with 150 gal. fuel 1500 lbs.; payload with 100 gal. fuel 1800 lbs.; gross wt. 5600 lbs.; max. speed 160 at sea level; cruising speed (.80 power) 145; landing speed (with flaps) 58; climb 750 ft. first min. at sea level; ser. ceiling 14,000 ft.; gas cap. max. 200 gal.; oil cap. 12 gal.; cruising range 840 miles; price \$19,700. at factory in 1936. Also available on skis or Edo pontoons.

Specs and performance data for 31-42 (seaplane) as powered with 420 h.p. R-975-E3 engine same as either table above except as follows; wt. empty 3470 lbs.; useful load 2430 lbs.; payload with 150 gal. fuel 1270 lbs. (cargo, or mixed load of passengers-cargo) gross wt. 5900 lbs.; max. speed 150 at sea level; cruising

speed (.75 power) 140; climb 700 ft. first min. at sea level; landing speed (with flaps) 62; ser. ceiling 12,000 ft.; cruising range 800 miles; price not announced. Available as 5 or 6 pl. transport, 1 pl. cargo-plane, or an 8 pl. coach with high-density seating.

The construction details and general arrangement of the "Senior Pacemaker" are similar to "Senior Skyrocket" models 31-50 (31-55) as described here in the chapter for ATC # 565, or as noted. The 9 cyl. Wright R-975-E2 engine was fully cowled with an NACA-type fairing of unusually deep chord; the engine cowl was split and hinged to allow easy inspection and quick maintenance. The improved Wright R-975-E3 engine, also rated 420 h.p., was an optional installation. A variety of interiors were available including the modestly plush 6 pl. transport, the 1 or 2 pl. freighter with payload for up to one ton of cargo, or the 8 pl. coach with folding bench-type seats. A baggage compartment for up to 148 lbs. was behind the rear-most seat, or some baggage could be stowed in a belly compartment with allowance for up to 100 lbs. A throw-over control wheel was standard, but a Y-type column with 2 wheels was available for operations requiring 2 pilots. Extra large cabin entry doors were optional to ease loading of bulky cargo into the 124" long x 58" high x 46" wide interior. A 100 gal. fuel tank was mounted in root end of each wing-half; the right tank had a built-in "reserve" of 12 gal. for about 30 mins. of extended flight after both tanks were emptied. Fuel load and cargo payload were variable according to requirements. The single-strut cantilever landing gear of 96 in. tread was equipped with 31 in. General streamlined tires on Bendix wheels with brakes; 9.50x12 low-pressure 6-ply



*Fig. 282. A "Sr. Pacemaker" in Alaskan service.*

tires were optional. Metal wheel fenders were available to protect the propeller from slung-up debris. The "Senior Pacemaker" was also available on skis, or on Edo twin-float gear; the seaplane was popular in Canada and other foreign countries. A Hamilton-Standard controllable propeller, combination hand-electric engine starter, Exide battery (under floor), engine-driven generator, cabin ventilators, navigation lights, cabin lights, fire extinguisher, compass, full set of engine-airplane instruments, clock, oil-cooling radiator, 5x4 full-swivel tail wheel, fuel gauges, cabin assist ropes, first-aid kit, tool kit, and engine cover were standard equipment. Landing lights, parachute flares, wing flaps, radio, bonding & shielding, cabin heater, lavatory, skis, Edo pontoons, and custom colors were optional. There was enough latitude in the "Senior Pacemaker" design to provide an owner-operator with just about any combination that suited his purpose best; for this reason the models 31-40 and 31-42 were just

about the best airplanes of this type. The same basic design was still manufactured many years later, but only on order. The next Bellanca development was the tiny "Junior" (Cruisair) model 14-9 as described in the chapter for ATC # 716.

Listed below are "Sr. Pacemaker" entries as gleaned from various records:

CF-ANX; 31-42 (# 251) Wright 420.

NC-20Y; 31-42 (# 252) Wright 420.

LN-ABO; 31-42 (# 253) Wright 420.

NC-16707; 31-42 (# 254) Wright 420.

This approval for ser. # 251 and up; CF-ANX del. to Canada on floats; NC-20Y later registered as NC-11642 when reg. no. (NC-20Y) was awarded to a Lockheed "Electra"; ser. # 253 del. to Norway in Feb. of 1936 — LN-ABO was used year-around for tourist service out of Norway; ser. # 254 del. to Alaska; each airplane manufactured after 18 July 1941 must be inspected individually for compliance to pass certification.