



# CESSNA 140

## A SHAPE OF THINGS TO COME

*The design departure that  
set Cessna's single-engine  
style for 35 years.*

BY EDWARD G. TRIPP

The more things change, the more they remain the same. There is a fair amount of application of the old saw to aviation. It has been said, almost to the point of being a cliché, that by the end of World War I just about every feature of piston airplanes had been thought of and all the variations that have been trumpeted as new have been just that: variations.

The same can be said about aircraft marketing. In the late 1920s, Cessna advertising was pointing to the business advantages of operating their "closed cars of the air..." (1928) and called the four-place Monoplane ideal for business executives and salesmen (1929). A 1930 advertisement states: "Monoplanes Cessna are not only the greatest time savers for the busy executive—but actual records prove that travel in these four-place cabin planes is also the most economical from a cost per mile standpoint."

Then, too, a great deal of aviation advertising, particularly from the thirties when development began to branch off into three distinct lines—air transport, military and light or personal—took much of its lead from the automotive industry.

While Cessna manufacturing was committed to the war effort in the early 1940s, company advertising talked of the car of the air and of the family car of the air. Marketing experts were talking of the age of the personal airplane that was to follow



the great defeat of the Axis powers.

For a time, the prophecies seemed accurate. In 1946 Aeronca, Cessna, Luscombe, Ercoupe, Piper and Taylorcraft offered basically what they had before World War II, so far as light, two-place aircraft were concerned.

"Take to the highway," said one Cessna advertisement. "Thousands of users have already put their planes in the same category of necessity as their cars." Their product was "a tool to perform any travel assignment."

One of my favorites, which appeared in 1949, states: "The Cessna 140 means business... more contacts, more business for you."

That's right—the Cessna 140. We don't think of it as a business airplane today; but that is one of the ways in which the manufacturer tried to position it back in its heyday. One advertisement suggested that the reader

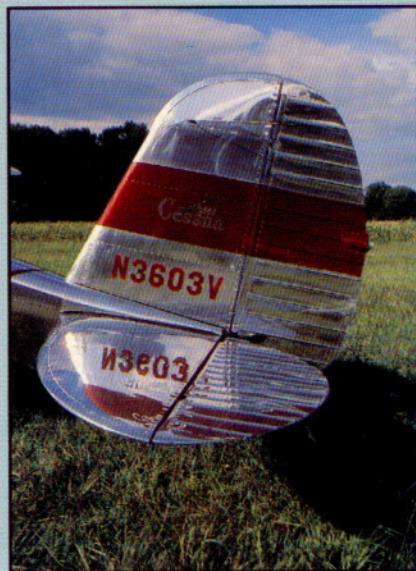
draw three concentric circles from homebase, one of 110 miles diameter, the next 220 and the next 330 miles. That was the business operating radius your 140 could provide in one, two and three hours traveling time.

They were not that far off, really. There have been quite a few people who used 140s and, later, 150s (the heir to the 140) as business airplanes quite successfully.

The 140 was somewhat of a departure for Cessna in that it was a small, light two-place airplane. Cessna almost always had built multi-place, fairly large singles. One of the rare exceptions was Eldon Cessna's development of the depth-of-the Depression glider, the Baby Cessna. Only one of the original single-place, 25-hp airplanes was built. Six variants of it were tried between 1930 and 1931.

Aside from these and the racers,

## CESSNA 140





Cessna stuck to four-place or better singles and finished the thirties with the T-50 twin. The T-50 became a military program, first with the Royal Canadian Air Force, and took its place in the minds, if not the hearts, of pilots of the era of the Bamboo Bomber, the Bobcat, the Box Kite and others.

Whatever the marketing decisions that were made during the war, Cessna decided against the family air car and prepared for the training/personal-use market. The first prototype 140 flew in late June 1945; the first 120 was completed six months later. The two received the same type certificate, Number 768, in March 1946.

While the commitment to produce a small, two-place airplane was a departure for the company, it was fairly consistent with what other light-aircraft manufacturers were doing. In fact, the 120/140 was similar to the

Luscombe 8 series, which had been introduced in 1939 (see "Yesterdays' Wings," September 1968 *AOPA Pilot*).

The 140 offered a few innovations, however. It had the spring-steel gear designed by Steve Wittman, which became the standard for Cessna single-engine airplanes of the fifties, sixties and much of the seventies. It was fitted with toe brakes rather than the heel brakes that were the standard of the day on small aircraft.

The model offered "adjustable, airline-type ventilators"—the orange-juice can, wing-root-mounted ones common to all Cessna singles. The bench seat was adjustable top and bottom and hinged at the top to provide access to the baggage bay. A child's seat could be mounted in the baggage area, which had a maximum capacity of 80 pounds.

Latter-day pilots think the 120 and

the 140 are different aircraft. Actually, the 120 was offered as a stripped, economy version of the 140. All dimensions, weights and performance are the same. Both originally were powered by a Continental C-85-12 or -12F engine rated at 85 hp at 2,575 rpm. They share the same all-metal, fabric-covered wing with a 12.5-gallon (10.5 usable) tank in each wing. The wing was braced with leading and trailing struts.

The major difference between the two is that the 140 had flaps. It also originally was standard-equipped with a steerable tailwheel, additional side fuselage windows, mixture control (!), map compartment (glove box) and an electrical system. The latter included a battery, a generator, a starter, an ammeter, navigation lights, a cigar lighter and wiring and brackets for wing-mounted, retractable land-

# CESSNA 140 AIRWORK

To pilots who have been trained in more modern, tricycle-gear aircraft, the Cessna 140 presents a different prospect and a guarantee of a new set of experiences, but not an overwhelming challenge.

Aside from its conventional gear, there is the prospect of entering the cabin after external preflight has been completed. The doors are quite small and not very sturdy; they are not intended to be used as assist straps. The operating manual suggests entering the left side by stepping onto the step with the left foot,

for the master, the electric turn-and-bank and whatever lights are installed.

Flight instruments in the original deluxe configuration consist of an electric turn-and-bank indicator, airspeed indicator, magnetic compass, tachometer, altimeter and rate-of-climb indicator.

The fuel selector could cause confusion for the uninitiated or the careless, too, since the handle of the selector points to the tank in use.

Once a pilot is familiar with the location of everything, operation is simple.

figure for a new, standard airplane at gross weight is 640 fpm).

The 140 is light and reasonably responsive, although not necessarily sporting in terms of control response. It is not terribly stable, either, so herding it along a course is a full-time but not terribly work-intensive task.

The aircraft was certificated for flight loads of 4.57 Gs positive and 2.26 Gs negative and for limited aerobatic maneuvers. (But one must keep in mind the age and flight time—and probable abuse—on the average 140.) Approved maneuvers are steep turns, spins (without flaps), stalls (no accelerated or whip stalls), lazy 8s and chandelles.

Original recommended spin entry called for a bit of power, but cross controlling or other aerodynamic indignities can induce unintentional spins. Recovery is fairly straightforward. There is fair aerodynamic warning preceding the stall, and recovery is quick. Out-of-rig airframes or highly modified airplanes can produce some nonstandard reactions, so prudence suggests very careful investigation of the characteristics of any particular airplane, with plenty of altitude.

The 140's flaps, even with maximum extension to 40 degrees, are more aircraft attitude adjusters than lift producers or airspeed reducers. They do permit a more nose-down attitude in approach and steeper approaches at the recommended speeds of 65 to 70 mph.

Aileron response is fair, and elevator and rudder response are fairly good. The combination of relatively low airspeeds and reasonable control response makes the 140 a comparatively undemanding airplane for conventional gear. In fact, the most helpful aspect of both takeoff and landing is that it is all over in a short time and covers little runway.

The 140 is not a hairy-chested, fire-breathing, pilot-demolishing taildragger and is not encumbered with the tall tales (however well earned) of other light, conventional-gear aircraft.

In fact, it might be labeled the Clark Kent of taildraggers. As such, it is a good conversion trainer.

With an average fuel consumption of 4.8 gph at maximum recommended cruise (2,400 rpm), its relative direct-operating-cost economy is attractive.

Simple and comparably easy to operate, the Cessna 140 is a good basic pleasure airplane, and its cruising speed of 105 mph makes the 140 a reasonably practical tourer, too.

—EGT



grasping the handhold on the top of the instrument panel with the left hand and the seat back with the right, putting the right foot into the cockpit and following smartly with the rear and the left foot.

Even FAA-standard pilots will find the cockpit quite snug. The available amount of adjustment to the bench-seat back helps a bit if one is not too tall. There is no help if one is too broad.

The array of instruments in a typical 140 is not bewildering, but finding the proper control or switch can be. It is not unusual to see labels scattered over the instrument panel indicating what controls what. Mixture, carburetor heat, brake, cabin heat and starter knobs all look the same, as do the lever switches

Start, preflight check and runup are fairly standard.

The visibility out of the cockpit is good, even during ground maneuvering. The steerable tailwheel and overall lightness of the airplane make taxiing easy.

As conventional-gear aircraft go, the 140 is comparatively docile, particularly if operations are not undertaken in high winds or significant turbulence.

During the takeoff run, the airplane does not have to be pushed 'way over on the mains. A relatively tail-low attitude will produce lift-off below stalling speed. Recommended initial climb speed is 73 mph indicated airspeed. Best rate is 81 mph, which produces an initial rate of climb of more than 600 fpm (the book

ing lights—all standard equipment.

The base prices of the two models averaged \$500 apart: typically \$2,845 for the 120 and \$3,345 for the 140 during the three-year production run of the two (1946-1949). In the beginning, the market looked good. There were 4,000 deliveries in the first year. At one point in 1946, the factory was producing 30 aircraft per day.

Additional options for the 140 included landing lights, dual brakes, a dome light, an outside air temperature gauge, wheel pants, a metal propeller and spinner, flares (the ELT of the day and required for commercial

operations), a carburetor temperature gauge and a Beech controllable-pitch propeller. One also could order a cabin heater, a Maguire radio receiver (which mounted on the cabin floor between the two sets of rudder pedals) or a General Electric AS1BV radio and a cabin speaker.

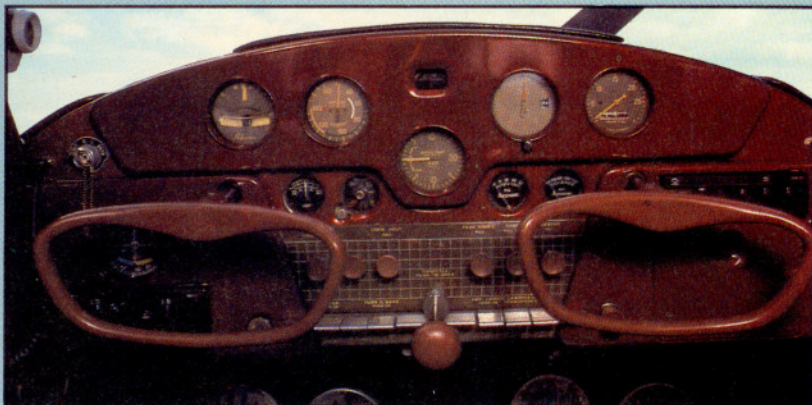
When equipped with a two-way radio, a sensitive altimeter, a turn-and-bank indicator (electric), a rate-of-climb indicator and a clock with sweep second hand, the 140 was approved for night IFR (not for hire).

The two variants shared a common production line and production num-

bers, along with certification. Either 2,164 or 2,172 Model 120s and 4,881 or 4,904 Model 140s were built in their three-year production span.

In 1948 a souped-up version of the 140 was offered—with an optional Continental C-90-12 powerplant rated at 90 hp at 2,475 rpm. It increased basic empty weight by 75 pounds.

Then in 1949 Cessna introduced the 140A, which set the style for all of the company's single-engine aircraft for the next two decades. The 120 and 140 production run stopped. Base price for the 140A was \$3,495 for the 85-hp version and \$3,695 for the 90-



hp (\$310 more than the 90-hp 140).

The difference is noticeable immediately, if familiar with the 140. It was the first all-metal, single-strut wing with the now-distinctive taper from outboard of the flaps to the tip.

In the same year, the four-place 170 became the 170A with the same basic wing design, which has been characteristic of all Cessna single-engine aircraft except for the 177 series.

The wingspan on the 140A is 33 feet four inches, compared to the 120/140's 32 feet 10 inches. Empty weight increased from 785 pounds to 900; gross increased to only 1,500 pounds from 1,450. Maximum still-air range (no reserve) increased from 470 to 500 statute miles.

By the time the 140A was introduced, the general aviation market was depressed. Two-place aircraft were suffering more than larger ones. Manufacturers were discussing the apparent lack of interest in personal

flying. The trainer market was saturated. It was a foretaste of the late seventies.

Production of the 140A was ended in 1951, by which time 525 had been built. Cessna did not build another two-place airplane until the 150 was introduced in 1958. By that time, 140s were selling for more than they had new and were being used extensively in flight-training operations.

While the market demand for the 140 series seemed to be over by 1951, appreciation of its qualities and relative value kept it alive to the extent that Cessna, in effect, reentered a market it had abandoned.

The 140 was a departure for the company in that it was truly a light airplane, particularly in comparison with the original 140 series—the 145 of the thirties—and the 160 and 190 series singles. And, in its final form of 1949-1951, it was the shape of Cessnas to come. □



**Cessna 140**

Basic 1948 price \$3,345  
Current market value \$6,500

**Specifications**

Engine	Continental C-85-12, 85 hp @ 2,575 rpm TBO 1,800 hr
Propeller	McCaughey 1A-90, 50 in
Wingspan	32 ft 10 in
Length	20 ft 11 1/2 in
Height	6 ft 3 3/4 in
Wing area	159.3 sq ft
Wing loading	9.1 lb/sq ft
Power loading	17.06 lb/hp
Passengers and crew	2
Empty weight	785 lb
Useful load	665 lb
Payload with full fuel	539 lb
Gross weight	1,450 lb
Fuel capacity	25 gal (21 usable)
Oil capacity	4.5 qt

Baggage capacity

80 lb

**Performance**

Takeoff distance (ground roll)	663 ft
Rate of climb (gross weight)	640 fpm
Maximum level speed (sea level)	120 mph
Cruise speed @ 2,400 rpm	105 mph
Cruise speed @ 2,200 rpm	92 mph
Range at 2,400 rpm (no reserve)	506 sm
Range at 2,200 rpm (no reserve)	521 sm
Service ceiling	15,500 ft
Landing distance (ground roll)	
flaps up	332 ft
flaps down	302 ft
V <sub>si</sub> (Stall speed with no flaps)	49 mph
V <sub>so</sub> (Stall speed with full flaps)	45 mph
V <sub>y</sub> (Best rate-of-climb speed)	81 mph
V <sub>fe</sub> (Best flap-extended speed)	82 mph
V <sub>no</sub> (Maximum structural cruise speed)	115 mph
V <sub>ne</sub> (Never exceed speed)	140 mph

*Based on manufacturer's figures*

This month's cover airplane, N3603V, is owned by **Curley and Bebe Owen** (left) of Annapolis, Maryland. The aircraft is in the original polished aluminum with paint trim and has a plush, dark maroon interior, with the optional child's seat in the baggage compartment. Curley has owned his 140 for four years. It had been stored unpainted when he located it because he wanted to trade his very original Taylorcraft for something with an electrical system and radios. The 140 has the original instrument panel, a Narco Mark 12A, an older 90-channel radio, a transponder and no directional gyro or artificial horizon. The Owens have traveled extensively in 3603V; they visited Oshkosh this year, for instance. Curley flies a 727 for United when he is not flying their 140.

Floyd, formally known as NC4086N, is owned by **Sue and Fred Lagno** (middle left) of Easton, Maryland. It was Sue who convinced Fred to buy it in March 1975, and she is learning to fly in it. The Lagnos' 140 has been modified extensively, and they plan to do even more. Much of the work has been done by them under the supervision of a rated inspector. The original powerplant was replaced by a Cessna 150's Continental O-200 and propeller, which originally were destined for a VariEze. The wings were metallized. The Imron paint job is by Aircraft Refinishers of Delaware. The Lagnos are considering adding electronics (it has a Narco Superhomer) and will do some interior work, as well. They also have fitted oversize (800 x 6) tires. Although they have invested nearly \$8,500 in the airplane, their insurer will not value it at more than \$6,500. Fred likes the spring-steel landing gear, which he says can provide three landings for the price of one.

**Ralph Campbell** (left) of Kansas City, Kansas, is celebrating his twenty-fifth year as an AOPA member (AOPA 125925) and the second rebuild of his highly modified 140, N2092N. Shortly after the first in 1979, wind destroyed a hangar, which fell on the airplane. The wings, tail and rear fuselage had to be replaced. Ralph has added many Cessna 150 pieces to 2092N, along with a 125-hp Lycoming O-290D engine with a 60-amp alternator and an engine-drive vacuum system, heated pitot, gyros, strobes, dual 360-channel nav/com radios, automatic direction finder, marker beacon receiver and transponder—full IFR. He considers the Model-150 adjustable seats as the most practical, since they greatly increase interior space and pilot comfort. The bright Imron paint was applied early this year. The wings are covered with Ceconite. Ralph, who flies 2092N about 100 hours a year, values it in excess of \$12,500. He, his wife Alma and 2092N are pictured on p. 3.

## CESSNA 140 HOMEWORK

Anyone bitten by the bug to purchase an old airplane needs to do a good bit of homework and fight off the siren song of emotion, if love at first sight is not to turn into a continuous assault on the budget.

The newest Cessna 140 is close to 30 years old now. Many of them have served as first-time, learning aircraft for a string of pilot/owners, and many were out-and-out primary training donkeys.

There are still 2,400 Model 140s and 297 Model 140As in the active registry. Asking price runs from \$4,000 to \$15,000, with the current average at \$6,500.

Even if the apple of your eye looks practically new, or as though it has been the focus of family love and care, or is reputed to have spent most of its life sitting in a hangar or a barn or a living room and never was used as a trainer, be circumspect. No matter how low the total airframe time that is claimed, a thorough inspection of the airframe and

oughly (be suspicious of apparent damage, such as wrinkled skins, or modification that has not been recorded), try to talk to some of the former owners about the actual history of your intended. Any large gaps or discrepancies in the history should be researched carefully.

The list of applicable airworthiness directives is fairly long. ADs have been issued for the wing structure, the engine and accessories, the doors, the windshield, the fuel selector, the controls, the fuselage and, perhaps the most extensive, the empennage.

While the last AD covering the tail section was issued in 1951, it would be prudent to ensure that all have been complied with (rudder stops, horizontal stabilizer attach bolts, vertical stabilizer spar and rudder ribs all have been covered by ADs).

Corrosion also has been a concern on 140s; so even if there is no record of a particular aircraft having been used as a floatplane, a careful inspection should be made.

There are two relatively simple ways to review the ADs and service bulletins for 140s and other aircraft.

AOPA's Aircraft and Airmen Records Department in Oklahoma City is participating in a relatively new service developed by Aircraft Technical Publishers, which provides a computer printout of all ADs, Federal Aviation Administration bulletins and manufacturer's service bulletins applying to a specific airplane. The actual text of the AD is not supplied, just the reference. The service costs \$28 for AOPA members (\$35 for nonmembers), and it can be ordered by telephone (800/654-4700). Give the make, model, N number and serial number.

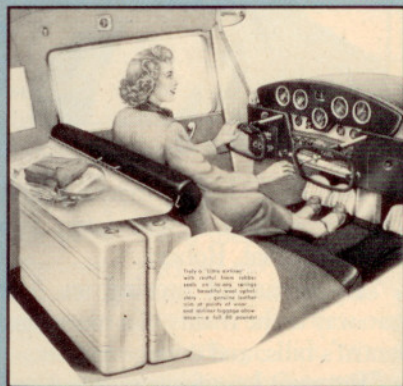
Aerotech Publications, P.O. Box 528, Old Bridge, New Jersey 08857, publishes an *adList* for the 120/140 series. It costs \$9.95 plus \$1 postage.

Owners and enthusiasts are good sources of information and tips on what to look for when you evaluate a 140, possible information about the particular aircraft you are considering and, perhaps, the name of a mechanic who knows and likes the 140 who can inspect your intended purchase and give it the knowing service it will need.

There are two associations that are sources of information, too: the Cessna 120/140 Association (also known as the International Cessna 120/140 Association, Inc.), P.O. Box 92, Richardson, Texas 75080; and the West Coast Cessna 120/140 Association, 2055 Sterling, Menlo Park, California 94025.

Happy hunting.

—EGT



Even advertisements of the day (1949) demonstrate that the 140 was the shape of "The World's Number 1 Business Airline" to come, which is Cessna's current theme.

the engine and accessories, as well as the logbooks, is prudent.

With the average 140 well into its fourth decade and with all the approved (and, possibly, some not approved) modifications, it pays to determine what or how much has been done to a particular aircraft.

There is a long list of approved supplemental type certificates, ranging from propeller options, powerplant swaps and optional fuel tanks to oversize tires, better brakes, a dorsal fin for improved directional stability and metal-wing skins. There are factory options and STCs for such things as float and ski equipment, and a few 140s even were fitted with aerial application spray rigs.

In addition to verifying that the written records are complete and up-to-date and inspecting the aircraft itself thor-