

PILOT Western Editor who flight-tested one of American Aviation's first two-place Yankees goes back to Cleveland for a look-see at company's operation and a flight check of its first four-place entry

American's Traveler Really Does

by DON DOWNIE
AOPA 188441

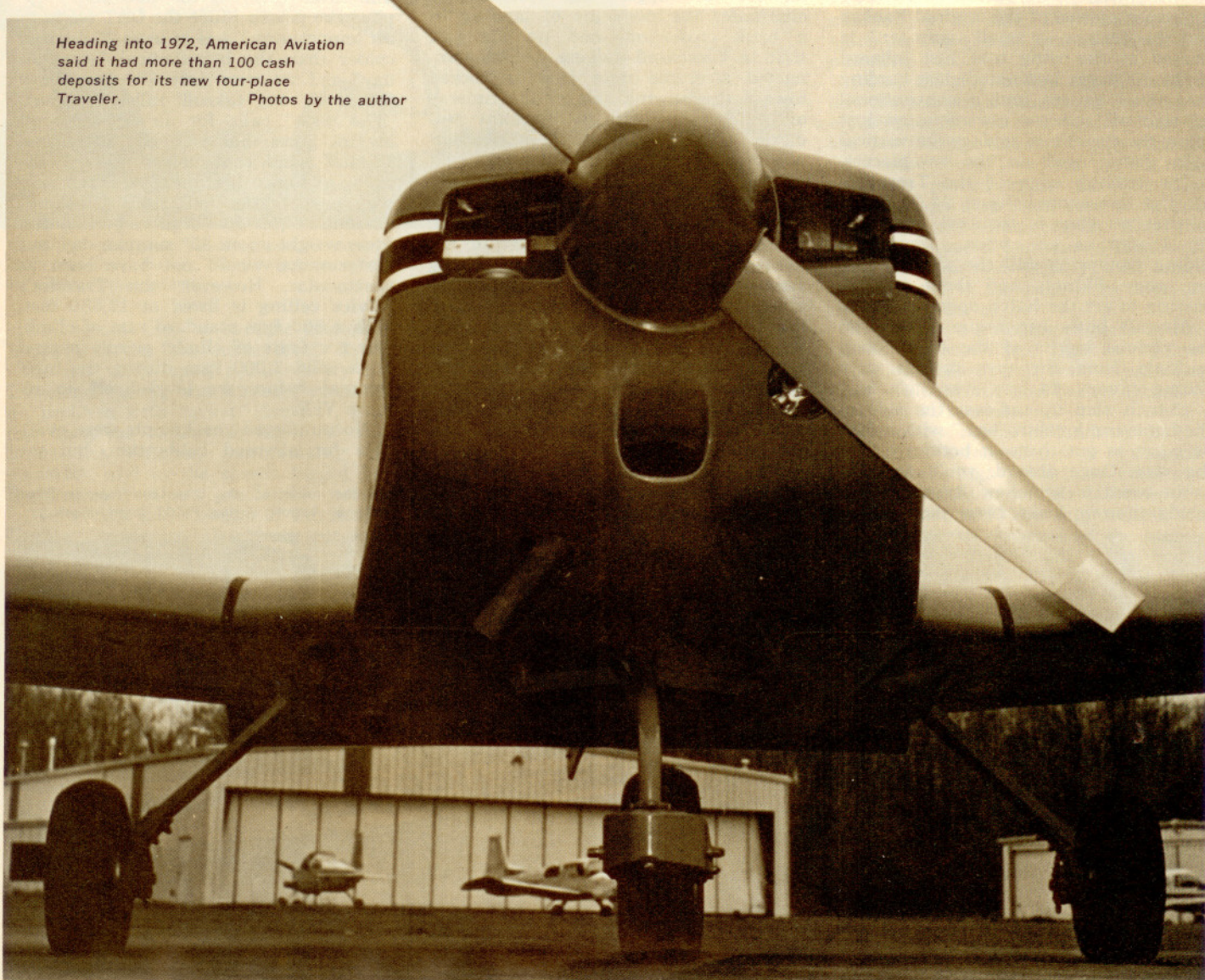
■ ■ Cleveland, Ohio. The new four-place American Aviation Traveler does just that. Big brother to the Yankee and the more docile Trainer, the Traveler is refreshingly new, both in design concept and flight characteristics. With emphasis on the most "go" for the least dollar, the new Traveler represents a surprisingly successful compromise between outstanding top speed and acceptable slow speed handling.

This midwinter visit to colorful Cleveland was my first in 2½ years. It was interesting to see how far this newcomer has come in the highly competitive field of general aviation. The factory has grown from one building adjoining Cuyahoga County Airport to three structures totaling 95,000 square feet. Employment is over 300. At the beginning of this year, there were cash deposits on more than 100 new Travelers and on another 100 two-place Trainers. November 1971 was the best month ever for the factory. The entire organization had a contagious spirit of optimism when I was there.

And, for a reporter who has been vying with *PILOT* Editor Max Karant on these "pilot report" articles for more than 25 years, I found that I was in for a pleasant surprise.

When you walk down the parallel

Heading into 1972, American Aviation said it had more than 100 cash deposits for its new four-place Traveler. Photos by the author



final assembly lines—one for Trainers, the other for Travelers—it takes a little while to figure out that there's a subtle difference between this factory and any other. Then it gets through to you—things are quiet. Except for an occasional sander or buffer, there just isn't any noise. No rivet guns and no drop hammers in view. There's just the silent bonding of metal that has become American Aviation's hallmark.

Even the weather in Cleveland was good for midwinter. The ceiling was a ragged 3,000 feet with a more-or-less five-mile visibility. The temperature was up into the low 40s and wind was only 18 knots, a decided improvement over the gusts up to 70 mph the day before that had upended aircraft—not American's—on the county airport.

While it was still VFR, young, lanky Dave Lindsey, American's sales coordinator (a CFI and charter pilot, former FAA controller and Kent State aerospace technology graduate) and I walked out into the chill wind to "kick the tires" on N5802L. This was the second Traveler to be completed; it showed 75 hours on its recording tachometer.

Preflight on the Traveler is completely straightforward. Conventional fuel tanks are in the inboard leading edge of each wing and stretch back to within eight inches of the rear spar. Each holds 18½ gallons and has a quick drain under the wing. Gone is the fuel-in-the-tubular-wing-spar system of the original Yankee and the Trainer. A small sump tank is located at the wing root just inboard of the 100-layer laminated-glass landing gear. Fuel gauges and a conventional left-right-off selector are mounted just below the throttle to replace the vertical sight gauge used on the two-placers.

The trailing edge of the Traveler's wing is low enough—just 24 inches—so that no step is required. You can get a step as an option. American's sliding canopy is still the slickest system since Shinola and there was no cussing to get the hatch open or closed.

Aircraft buffs can argue all day on the various merits of the cabin door, multiple doors, the open cockpit, or a sliding canopy. In any event, it's only a 15-inch step up-and-over the side of the honeycomb cabin "box," with a flick of a toe to put the seat bottom out of the way. Once aboard, you'll find the cabin room is somehow larger on the inside than it looks from the outside.

Both factory pilot Lindsey and I are 6'2" and weigh 180, although his weight may be distributed better than mine. Yet there was a full 13 inches between the back of the front seat and the front edge of the back seat after we'd adjusted the front seats to a comfortable one notch up from full aft.

During part of our flight, I climbed into the back seat to shoot some instrument panel pictures. This 90° juxtaposition is easy to do with the 5½-inch gap between the two front seats. There's a generous portion of leg room in the back seat, plus a tricky fold-down rear-seat back that converts the entire aft area into an instant 41.5-cubic-foot cargo bay. However, head room in the back seats of N5802L was just barely enough to be comfortable in the configuration that we flew it. By contrast, there was more than enough head room up front.

We fired up the No. 2 Traveler, called County Ground, and taxied out the narrow factory ramp and across the active runway. When you don't fly a castoring, nonsteerable nose gear every day, it does take a few minutes to get the feel of the thing. By using a little extra power and dragging the brakes a bit, I had no trouble in going where I wanted to on the ground. This castoring nose gear has two distinct advantages: It's a cinch to swivel on a dime, just like an old taildragger; the system also eliminates the problems of landing in a brisk crosswind—and we did just that in Cleveland—where an interconnected steerable nose gear is cocked toward the upwind side of the runway on touchdown, with a resultant tendency for the ship to start to weather-vane.

During runup, everything is conventional and the popular 150 hp Lycoming O-320-E2G sounds like an old friend. Carburetor heat is on the left of the conventional throttle and there's a strong ratchet on the mixture control at the right of the throttle to serve as a reminder not to pull the wrong knob. As a graying pilot who spent some time in WW-II military trainers, I still look with some suspicion on any mixture control that can go into idle cutoff without unlocking some sort of a mechanical stop. Personally, I'd put the mixture control outboard of the engine primer, just to get it a bit farther away from the carb heat. However, the sys-



Inboard and outboard spoiler strips on the airfoil help make the Traveler slow to stall.

tem on the Traveler is better than that used on many of its contemporaries.

We rolled onto the active runway (23) at Cuyahoga County and fussed a little to get the nose gear centered. The tower gave us the nod and I applied the power. Since the OAT (outside air temperature) was at least 20 degrees colder than the hypothetical "standard day" and we were only 874 feet above sea level, our takeoff roll was short. "The book" calls for an 800-foot roll at full gross, but we were facing an 18-knot wind that helped us get airborne in something under 600 feet. Had we been taking off from Flagstaff, Arizona's 7,000-foot-high airport at full gross weight on an 85° summer day, our performance would not have been as spectacular. However, the Traveler's service ceiling is listed at 12,650 feet, with a 660 fpm standard rate of climb. Our r/c (rate of climb) needle pegged on a solid 1,000 fpm during the brief interval before we leveled off to remain VFR.

No numbered checkpoints were available for airspeed calibration, but the

On the ramp at the Cleveland-Hopkins International Airport during PILOT flight check.



Traveler's published cruising speed of 140 mph at 9,000 feet seems in line. We were able to indicate 145 mph (2,700 rpm) with 2,500 feet of "scuddy" altitude without difficulty. Our in-flight instrument panel photos showed 130 mph indicated in a conservative 2,375 rpm at 2,500 feet.

One of the unseen and unheard improvements of the bonded honeycomb cabin area of the Traveler is its noise suppression. American's new four-placer, unlike some aircraft with large window

"It is possible to develop a spin at forward loading," Kemper said, then added, "but it is difficult."

I'd agree 110%. I tried a full series of stalls with the wheel all the way back catching a wing drop alternately with aileron and/or rudder alone. I even held the wheel all the way back with both hands—the stall warner squawking—and went through four oscillations of a stall and picked up the wing each time, just with application of top rudder.

A change in airfoil was begun on

and nibbling at the bottom of the over-cast but he seemed unperturbed; so, we went through a complete series of stalls up to the point where I had full flaps, full back-wheel and full rudder, without a break into a spin. In a cross-controlled situation, the Traveler runs out of rudder long before the ailerons become mushy; so, there's a tendency for the nose to slide toward the low wing, even with full opposite rudder after the turn has passed about the 30° point. We had some ridiculous positions approaching vertical, without a spin.

For a short-coupled airplane—only 22 feet from spinner to tail cone—the Traveler is surprisingly stable in moderate turbulence. An eye-pleasing dorsal fin has been included to increase stability, while the ventral fin under the fuselage helped both yaw stability and spin recoveries. The Traveler should be a good instrument airplane, since it is inherently stable and flies well hands-off. I flew for several minutes in moderate turbulence using nothing but rudder and trim tab.

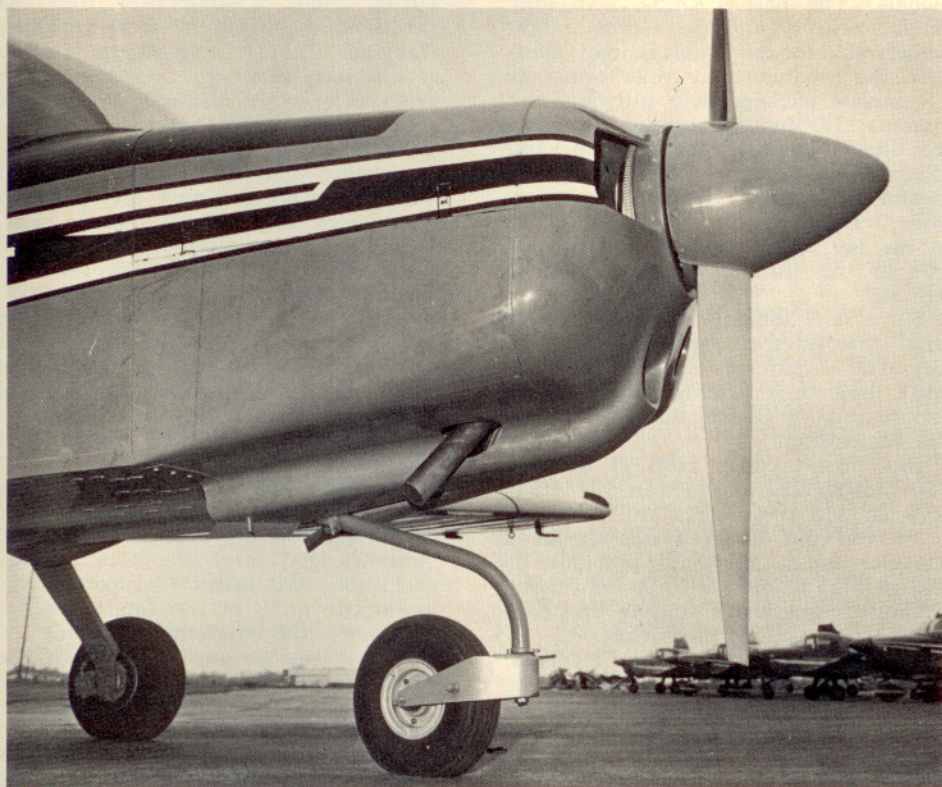
Wing loads are all carried by the 6½-inch-diameter tubular spar. There are three individual sections of the wing on each side of the fuselage. Each section has a wing-skin covering that is completely independent of the others with only a lap-over cap strip to cover the gaps. This design results in one additional rib per section, but the wing can flex without disturbing wrinkles (oil canning) in the skin. The inboard wing skins are two gauges heavier than those outboard.

Rains the day before our flight had left the sod strips muddy, so we stayed on pavement. Our first landing was at the new Geauga County Airport (Indian for "move West"), where an 80 mph approach proved to be too fast. The electric flaps drop from zero to full 30 degrees in just seven seconds. When the ship is trimmed out for a hands-off glide, the nose rises slightly, then comes back almost to its original position as the flaps go down.

We made a maximum performance takeoff without flaps. Into an 18-knot wind, our takeoff roll from a standing start—full throttle and brakes locked—took just 12 seconds.

We shot a couple of landings on the narrow, 2,000-foot oiled strip at Chagrin Falls, where high powerlines cross one end of the field and fairly tall trees are off the other end. You might think it's called "Chagrin" because of the humps in the runway, but actually it's the name of a nearby town. There was a stiff crosswind from at least 270 degrees for Runway 24 just to make things a little more interesting. We made a long, cautious approach over the well-marked wires at 70 mph indicated. With our light loading, there was just a little float before we touched down. The castoring nose gear eliminated any tendency for the ship to "duck" toward the upwind side of the runway as we touched down and we made a one-eighty on the narrow strip well short of the midpoint.

Back at the factory we asked to make



Castoring nose gear, same as that on American's two-place Trainer, "is a cinch to swivel on a dime," says author.

areas, would keep an ardent ecologist happy with its low noise level. Even with the vents open (unnecessary in Cleveland during the winter), there is no problem with racket. However, you can open the canopy in flight for extreme hot weather, picture-taking or whatever, and at the speeds logged by the Traveler, there's predictable noise.

We worked our way east of Cuyahoga County Airport and began to get the feel of this new bird. Rate of roll is excellent and it is foreseeable that either this model or the Trainer, perhaps both, could be certificated for aerobatics. However, we restrained ourselves to nothing more than a 90° roll. It wasn't easy.

Perhaps the most delightful surprise to me was the docile stall characteristics of the Traveler. During a post-flight debriefing, Dick Kemper, American's director of planning and corporate development, assured me that it is possible to spin the Traveler with just two people up front. He said that while the Traveler is not approved for spins, it has been spin-tested.

the AA-1-A Trainer design that added 1.32 inches to the chord of the wing and a larger radius to the "cuffed" leading edge of the wing. This modification produced a markedly different stall characteristic than that in the first Yankees and it eventually led to the development of the present four-placer. It took just 15 months after the Trainer design was firmed up to obtain FAA certification on the Traveler.

There's a conventional spoiler mounted inboard on the leading edge of the Traveler's wing to help make the center section stall while the tips are still flying. A second spoiler strip, mounted on the middle bay, in front of the aileron-flap junction, is set very low on the leading edge curve so that this portion of the wing stalls at the same time. The new airfoil is slow to develop a full stall, according to Dick Kemper, so that the aileron section and wing-tips are still "flying" while the inboard two-thirds of the wing is stalled. There is no twist to the wing as found in many other aircraft where the tip is "drooped" to keep the tips from stalling.

I asked the factory pilot if he minded cross-controlled stalls clean and with full flaps. We were under 3,000 feet

a couple of circuits of the field with the new Trainer. N9454L seemed to be a much more docile airplane in slow flight than I had remembered the original Yankee I had flown in October 1968 [Feb. 1969 PILOT, page 40]. It also seemed more docile than N5720L, which I ferried to the West Coast in May 1969. The Yankee, with its sharp leading edge airfoil, is still available on an "as-ordered" basis and the factory reports that most of the initial 450 owners prefer it to the new Trainer. Personally, I thought the Trainer a much more comfortable airplane.

During our initial introduction to the honeycomb bonded structure used by American Aviation, we questioned the problems that might be encountered with in-the-field repairs. Paul Seibert, customer service manager, explained that any qualified metal shop can repair any bonded structure with conventional flush-riveted patches. In some cases, factory-new sections are more economical and these can be riveted to the existing structure. Seibert cited the case of the errant skydiver near Chicago who landed atop the aft fuselage of a Yankee and buckled the "turtleback." The factory made up a new fuselage section that was riveted to the undamaged section in the field, and the aircraft was back in the air promptly. AOG (aircraft on ground) replacement parts reportedly take priority over production parts at American Aviation, as they reportedly do at the other manufacturers' facilities.

American has instituted a new wing exchange program where bent panels can be swapped for rebuilt units, as long as the tubular spar is intact. Seibert plans to have at least two sets of left

In-flight photo during flight test shows 130 mph indicated "in a conservative 2,375 rpm at 2,500 feet" configuration.

and right rebuilt wings, for both the Traveler and the Trainer, in stock at all times.

Dick Kemper pointed out that American's bonded construction saves one-third of both the number of parts required and the man-hours to put them together. He stated that more than 30% of the parts, including the entire tail cone, are identical on both aircraft, while another 30% have an "indirect commonality" where only minor changes in metal thickness or the location of drilled holes are required.

The new Traveler is listed in two models: The basic "AA-5," with only single controls and no radios, might be desirable for the export market. However, the production Traveler comes as a complete package with full nav/com systems, IFR-instrumentation, and all the other "goodies," for \$15,850. Add \$235 for the required ELT (emergency locator transmitter) from Communications Components Corporation, installed in the tail of all models, and the face cost of the "full-house" four-placer is \$16,085.

Since it is difficult to detail exactly what constitutes a "comparably equipped aircraft," American's spokesmen prudently limit their pricing statements to "approximately \$1,500 to \$1,700 below the competition."

American predicts sales of at least 350 four-placers in 1972. In 1971 they forecast 315 two-placers and sold 325.

"If you put down a deposit on a Traveler today, it would probably be 4½ months before we could deliver it," explained American's smiling President Russ Meyer, Jr., at press time.

From everything we saw in Cleveland, the new American Traveler should be a strong competitor in today's marketplace for four-place, economy aircraft. □

