The 182 lumbers into its second quarter century

BY MARY F. SILITCH

The Cessna Skylane often is described as a forgiving old beast, a sturdy, steady, solid aircraft that can take all sorts of abuse and sloppy flying, yet usually bring its pilot through with nary a warped wing or a scratched elbow. Skylane pilots will admit that it is slower than it should be ("too cotton-picking slow," to use one owner's words) and the fuel economy is not great. But there are a lot of good qualities that outshine its disadvantages.

If sales are any indication, the figures add up to a solid vote of confidence. More pilots have bought 182/Skylanes than any other type of lightplane except Cessna Aircraft Company's two smaller aircraft, the 150/152 and the 172/Skyhawk. More than 18,800 fixed-gear, nonturbocharged Skylanes have been produced; the Skyhawk production run is more than 31,800, and 150/152 sales total almost 28,000, not counting French production. The straight Skylane still outsells the 182 derivatives—the 182RG and T182RG—as well as any competition. Through June this year, 113 straight-leg Skylanes were delivered, compared to 25 Turbo Skylanes, 49 Skylane RGs and 45 Turbo Skylane RGs.

Over the years, the Skylane has been a dependable, reliable, comfortable, big cross-country machine. It has not changed much since it was introduced in 1956, three years after the conventional-gear Model 180 came out.

The annual model changes from the factory were steady but not earth-shattering. A year after its introduction on tricycle gear, the gear legs were shortened. The tail was swept in 1960, and additional side windows were added. The next year, switch ignition, with key, replaced the starter button.

The following year marked the appearance of several significant changes—including a rear window that provided better visibility in flight and easier checking of "flight controls free and clear" and electric flaps. Standard fuel capacity rose to 60 gallons usable, and 84-gallon long-range tanks appeared for the first time.

In 1965, an alternator was used instead of a generator. The main gear was lowered again, in 1969; but the nosewheel could not be changed because of propeller clearance requirements, so these later models dip to the rear.

It was not until the early 1970s that any modification or improvement to the production aircraft was made that had any effect on performance—and that was subtle. Fairings on the wheels on the deluxe Skylane version had added about 3 mph over the bare-tired 182's cruise performance. Robertson Aircraft had started offering a STOL (short takeoff and landing) modification for the 182 in 1967, to increase performance. Cessna—bowing to customer pressure, some feel—added conical-cambered wing tips and in 1972 switched to a camber-lift leading edge on the wings. Later changes streamlined the wheelpant design for more aerodynamic clean-up. In all, the Skylane ended up a few knots faster.

Following the switch to 100LL fuel and design problems with the S version of the 230-hp Teledyne Continental O-470 because of the piston ring design, the engine was switched to the O-470-U in 1977. Tubular steel struts for the main gear replaced the Land-O-Matic cantilever steel-spring main gear legs, long a Cessna hallmark.

Post-1978 models have a 28-volt electrical system; the switch from 12 volts caused problems and expense in the 182 and other Cessna models. Gross and empty weights increased over the years. And bonded materials crept into the line—first in the baggage door, then in the leading edge of the wings, the door and the upper cowl.

The Skylane turned 25 in 1981, and Cessna added an avionics cooling fan and a tighter-closing door latch. During its first quarter of a century, the aircraft has had no major changes. There is no hot new replacement in sight, no rumors of radical, experimental designs in the R&D works in Wichita.

Why has the Skylane been so popular? One obvious answer is that it was for many years the next logical step up for the pilots of the world's two most popular lightplanes, the 150/152 and the Skyhawk. If a 172 pilot wants more speed and more load-carrying ability, the Skylane is familiar enough to be comfortable to handle and just enough more airplane to make the move worthwhile.

For performance, you can count on getting book figures—75-percent power, or 2,400 rpm and 22 inches manifold pressure, at 6,000 feet, will give you 144 knots, burning 12.8 gph. Or you can throttle back slightly for better fuel burn without losing too much speed. For load, you can fill the tanks, the four seats with FAA-standard people and still take a bit of luggage. Ironically, the only real weight and balance problem is having only two people, up front, and no baggage; you are close to forward CG (center of gravity) and the aircraft is harder to flare.

For pilots used to smaller aircraft, the Skylane is heavy. Let it sink and it is harder to recover than a Skyhawk, but not quite as trucky as a Cessna 206.

It handles well for instrument flight, and there are a number of AOPA staff pilots, including me, who regularly do most of their IFR flying in Skylanes. The aircraft is stable and does not get

PHOTOGRAPHY BY ART DAVIS

away from you if you let a wing drop, as speed will not build up that fast. It is difficult to get into trouble with the airplane. It is slow enough on approach to be manageable; yet, if there are three corporate jets behind you and Approach asks you to keep your speed up, you can head for the runway at a rip-roaring 120 or 130 knots. On more normal approaches, you can get it into the country's smaller airstrips with no problem. All in all, it has earned its forgiving reputation.

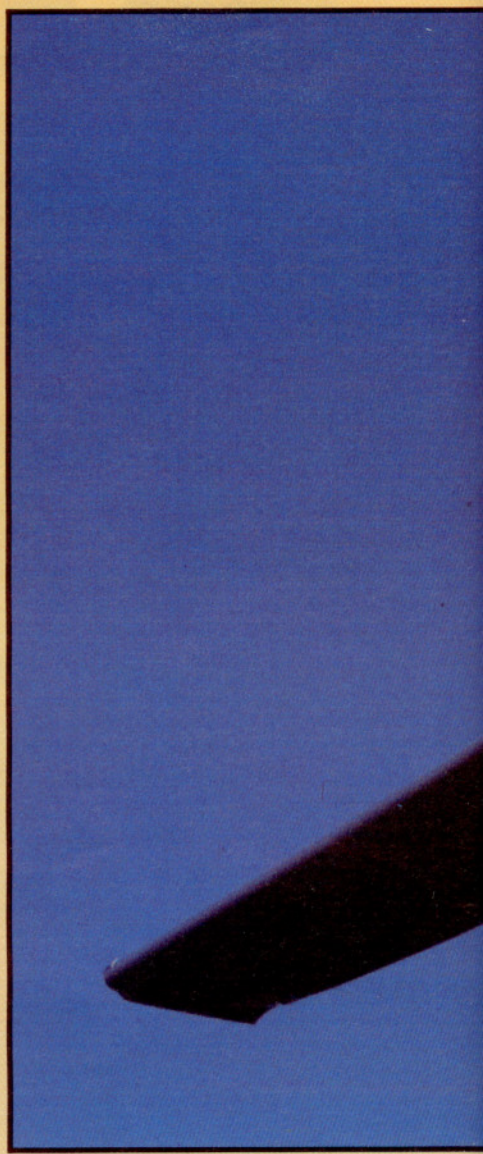
Engine reliability is another point in the Skylane's favor. Most pilots will mention that as one of the features they like best about the aircraft; they have confidence in the engine.

Rate of climb is another plus. You can get off quickly and through weather at a respectable clip. Climbing out at 80 knots produces an initial climb rate of about 1,000 fpm; it gives you a margin that allows you to operate where you might not want to with another airplane.

While prices for new Skylanes are climbing almost as briskly as the aircraft itself does, used ones can make a good investment. The new 1981 Skylane on the cover, without avionics, costs $56,510.92. The $5,000 difference between that price and the list price of $51,500 pays for dual controls, control wheels, alternate static source, necessary lights, an engine priming system and an articulating seat for the pilot. But used 182s cost much less. Two AOPA staff members, Robert Warner (vice president, ATC, Airports and Airspace) and Dennis Wright (director, Airspace Technology Department), own a 1964 model, their second Skylane. They bought it in 1979 for $18,600; book value is now $17,800. When they bought it, the aircraft had 130 hours on a factory-remanufactured, chromed-cylinder engine, brought up to specs. They have had no engine problems, and the compression is still, with half the engine TBO run out, "tight as can be," said Wright.

They have definite ideas about the aircraft, too. Wright said that the engine and the long-range tanks are what he liked best about it. Warner voted for the stability—"it's a great instrument platform"—and capacity—"it's like a bus, in that it will haul anything you can cram into it."

Archie Trammell, executive vice president of the AOPA Air Safety Foundation, also owns an older Skylane and likes it for much the same reasons that Warner and Wright gave. Trammell has flown a number of more sophisticated, faster craft, but he intends to stick with the 182. His was three years old when he bought it in 1972, and a Montana rancher had put 400 rough hours, plus a few dings and dents, on it. It had only one ARC 300-series radio then and the usual Skylane package, but he has been through three or four sets of radios since. He currently has a King KX 170 as the number-one nav/com, with glideslope, and a Collins Microline B as number two. The panel includes a King KR 86 automatic direction finder (ADF), a KN 65 DME (distance measuring equipment), an IDC VNAV (vertical navigation system) hooked to the number-one radio and a King KMA 20 audio panel. A King KN 74 RNAV (area navigation system), a device that Trammell has found to be especially useful, is mated with the KX 170. The eclectic panel also has two transponders, as a backup—a King KT 76 and an IDC servoed altimeter, and a Collins Microline transponder with an Aerosonic encoding altimeter.



The investment in equipment on a 1969 aircraft suggests serious instrument work, and that is exactly what Trammell uses it for. He has flown the aircraft for 2,500 hours, in the nine years he has had it, including a lot of IFR hours. Trammell said he tends to take rather long business trips in it. Though he might make up a few hours in a faster airplane, the whole business day usually is taken up anyway; so saving an hour or two really does not seem a great advantage.

Warner and Wright have not added as much equipment, but they haven't owned their Skylane as long as Trammell has. With dual nav/com (one King 720-channel, one ARC), glideslope, marker beacon, King transponder and ADF and a Brittain one-axis autopilot, they regularly fly IFR, too. Because they do, they have installed an intercom, which was assembled from a

SKYLANE

Third on the lightplane best-seller list, it's roomy and solid.

PHOTOGRAPHY BY NANCY C. MENDEZ

Radio Systems Technology kit, with jacks, push-to-talk buttons and microphones for both.

New Cleveland wheels and brakes were among the first things on the replacement list. The original ones were "noisy and awful," said Wright.

"With the new ones," Wright said, "I think you could recalculate the accelerate/stop distances."

A Brackett air filter works better than the old one, they said, and is less expensive to maintain. The old one had a paper element with a screen on each side, and you had to toss the whole thing when changing the filter. The foam pad element for the Brackett takes "two minutes to install, if you're slow," and costs only $5. Wright and Warner perform oil analyses and said they can tell from the reports when they have overextended the air filter.

Norman Smith's aileron trim is a new addition, which they helped install. A new windshield, without a center post, called for the relocation of the wet compass, which they also replaced at the same time. A DG (directional gyro) gave out and was replaced, and an ADF antenna broke in flight; but the only other maintenance problems the co-owners have had was with normal replacement items, such as tires.

The Goodyear fuel cell airworthiness directive in 1978 had been complied with before Wright and Warner bought the airplane, but Trammell was not as lucky. Since he is also an airframe and powerplant mechanic, he installed the replacement himself. New fuel cells cost, at the time, $700 each, wholesale. Cessna switched to wet wings in 1978.

Trammell has just had his second major engine overhaul. The first, at 1,870 hours, was done in July 1976, after a jug blew and one exhaust valve started leaking. Between majors, he had two chrome cylinders installed and changed the exhaust system. At 2,869 hours, after five years of operation, valve guides were leaking, the propeller-governor drive gear came loose on the shaft, and a couple of other problems surfaced; so the second overhaul was done. The rest of the cylinders were replaced, a new alternator was installed, and the starter was overhauled.

Trammell's original prop was chewed up from ranch operations, so new blades were installed; then a major prop overhaul was done at 1,900 hours.

A cowl flap once broke loose in flight—a not-uncommon occurrence in Skylanes. Replacement cost $100, and the actual break caused consternation in flight. Skylane pilots should caution their mechanics to look carefully for cracks in the cowl-flap hinges when per-

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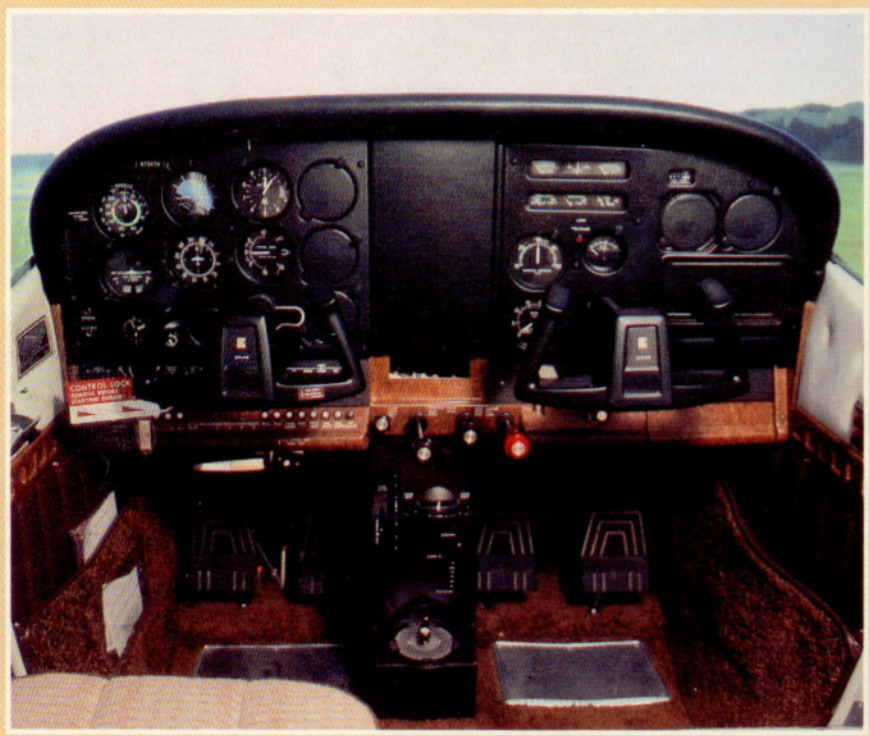
forming inspections, Trammell noted.

Carburetors, because of their location, get a lot of vibration; Trammell has had two new ones and had one of them overhauled.

Skylane pilots should be careful not to bump into the fuel vent under the left wing. The position of the vent is critical to one thirty-second of an inch—if it is off, it could collapse a fuel cell.

Another cautionary note: If you notice oil on the nosewheel pant, it could be a sign of bad intake-valve guides. You can check further by feeling in the carburetor inlet to see if there is oil there. Oil from the rocker-arm covers finds its way through worn guides to the intake manifold and then to the carburetor and wheelpant.

Windshields are another thing to look out for. A couple of years ago, I was flying a 40-hour-old Skylane over Kentucky, through a heavy rainstorm. My copilot started mopping up the water that was bubbling through the base of the windshield. Then, to my horror, I noticed that my feet were getting wet. (My real concern was not for my feet, but for the avionics.) The problem is not confined to new Skylanes. Trammell jokingly said that he judges the severity of instrument conditions by the number of Kleenexes used on the windshield on a flight. Skylane pilots buy a lot of caulking.



Not all Skylanes come with Brand C avionics. The cover aircraft's naked-looking panel (above) was waiting in the shop of Summit Aviation in Middletown, Delaware, for an installation of the purchaser's choice. Chances are, it may not be as well equipped as the one that Summit did for the Delaware State Police, with Collins Microline and a King flight director (below).

The caulking problem with newer Skylanes is one of the difficulties Cessna has been having with quality control. The two most obvious indications are the caulking and what appears to be poor skin preparation before the aircraft are painted.

Everything from the snugness of a door fitting to rigging to electrical wiring can be below par. One staff member flew a new Skylane in which the panel rheostat lighting control somehow had been wired into the avionics speaker. If lights were needed, he had to suffer an unearthly howl. Certain supplied parts, such as gyros, can be below specifications also.

As we have suggested in other articles, it pays to check a new aircraft, as well as used ones, thoroughly. (*Pilot* plans to run an article on preacceptance checks within the next few months.)

There has not been an excessive number of major ADs on the Skylane. However, there were several on magnetos, carburetors, vented fuel caps and dry air pumps. The latest requires the inspection of certain Stewart-Warner oil coolers for leaks before each flight.

Ask a Skylane pilot what could be done to improve the breed, and you will find a relatively content bunch. Cessna has retracted the gear, for the Skylane RG, and turbocharged both the RG and the straight-leg. What else could be done?

Charlie Seibel, AOPA 355532, has an answer. As we reported in the February 1980 issue of *Pilot* (p. 78), Seibel and his wife Julia first worked on cleaning up the Skyhawk, to the tune of an additional 11 knots, then started improving the Skylane's performance. Seibel claims that with his streamlining modifications to the nose gear, main gear, wing-strut fairings, cowling and propeller-spinner closures, flap well and aileron seals, a straight Skylane will cruise better than 17 knots faster, or 20 to 23 mph, depending on the model of Skylane. Or, he puts it another way, you can fly 50 percent farther on a gal-

SKYLANE

New-Skylane prices are climbing as briskly as the aircraft does.

lon of fuel at current cruise settings. "A 30-gallon trip becomes a 20-gallon trip," Seibel said.

Seibel started marketing complete kits the first of the year; his company is Flight Bonus, Post Office Box 665, Hurst, Texas 76053; telephone 817/265-1650. The works would cost you between $1,805 and $2,130, depending on your model of Skylane.

Seibel said that the Skylane SG (for streamlined gear, which is what he is calling the conversions), performs like a Skylane RG, without the increased insurance cost (for the retractable gear) and increased maintenance.

Seibel said that landing gear on the Skylane creates one third of the total drag of the aircraft and the conversion eliminates 83 percent of that. In addition to cleaning up the gear, which includes covering the brakes, Seibel offers flap-well seals to smooth the flow of the air under the wing's lower surface, more streamlined wing-strut fairings and a kit to eliminate what he calls unnecessary airflow through the cowling and the prop spinner.

Flying a Skylane in rain shows some of the more visible areas of drag. Water pools and runs up the wing struts; it pools on the top of the main-gear fairings and also on the tailcone behind the rear window.

Seibel's improvements include more modifications since our 1980 report; we plan to fly an SG for a later article.

Owners can do the conversion; it is time-consuming work, Seibel admitted, for it involves a lot of fitting and trimming. You also can have it done.

George Kennedy, the actor, AOPA 389008, is one Skylane owner who has had the modification done in Texas, by Robertson Enterprises. Kennedy, who bought his 1979 Skylane used, with about 200 hours on it, told me that he has owned seven airplanes, but ended up with a Skylane because he loves it. He has put about 35 to 40 hours on his conversion, flying it from California to Dallas, to Vancouver, to Albuquerque, and has done extensive and detailed checks and cross checks. "I'm not in the business of selling kits for Charlie Seibel," he told me, "but his information is absolutely accurate. My aircraft consistently trues out at 152 knots, instead of 144, at the normal altitudes—4,500 to 9,500 feet. And air temperatures have been running 20° to 30° above normal out here." Kennedy has a Sperry radar pod on the right wing, so he thinks that an SG without radar might do even better than his does. He does say that the cleaned-up airplane is a lot slipperier and floats much more than a regular Skylane does.

Another thing you can do to a Skylane is take it to Robertson Aircraft Corporation for a STOL (short takeoff and landing) conversion. Robertson, at Snohomish County Airport, North Complex-72, Everett, Washington 98204, telephone 800/426-0192, works on customer-owned aircraft. The company does about 20 single-engine Cessna conversions a month at the Washington facility. It also has four franchised installation centers in this country and three in Canada.

In five working days, your 1972 or newer Skylane can be modified for $6,200; 1956 through 1971 models take 10 working days and $7,500. In 1971, Cessna started offering the modified leading edge and wing tips; so Toby Andrews of Robertson said the later models need only the internal interconnections of the flaps and the aile-

SKYLANE

Here to stay, the Skylane has earned its forgiving reputation.

rons, not the new leading edge and wing tips.

Basically, the modification makes the ailerons droop with the flaps for a full-span trailing edge flap that increases lift for takeoff and drag for landing. Andrews said, that with a standard aircraft at gross weight on a standard day with no wind, the Robertson STOL conversion reduces takeoff distance over a 50-foot obstacle from the factory figure of 1,350 to 815 feet. Landing over a 50-foot obstacle is reduced from 1,350 to 777 feet. Takeoff speed goes down to 45 knots, and you approach at 55. Stall speed is reduced by seven knots. (These figures are for a fixed-gear Skylane, but Andrews pointed out that all Skylanes can be converted.)

The next best thing to a conversion is joining the Cessna Skylane Society, recommended Warner and Wright. For $18 a year, you get a monthly newsletter (except in August, when the annual convention is held). It contains six pages of editorial material—ADs, service letters, new products, tips, questions and answers—plus an eight-page advertising supplement that also goes to members of the related Skyhawk and Centurion societies. The advertisements offer substantial discounts to members. Warner and Wright have taken advantage of the discounts for many of the additions and modifications to their Skylane.

Robert Greene runs the three organizations. You can contact him at No. 3 Lafayette Court, Post Office Box 761, Camden, South Carolina 29020; telephone 803/432-3586. Greene flies a Skylane himself and likes it for the same reasons the rest of us do, with emphasis on the roominess—he weighs 280 pounds. He thinks that the design needs little improvement, echoing others' sentiments on the Seibel modifications. Once you have gained an extra 23 mph from the airplane, what more can you ask of it? (One might ask why the factory has not been able to get an extra 23 mph out of it.)

I have flown the Skylane down many a glideslope myself, glad that it is roomy, comfortable, stable, dependable, reliable, solid, sturdy and forgiving. When you receive four clearance changes before you take off and you know it is going to be one of those flights, when you are vectored an hour and a half on what should be a 30-minute leg or when the VFR forecast turns black, it is nice to know that the Skylane is helping you through, not likely to add to your problems.

But Skylane pilots can still wish for a touch more speed, a bit more dash, smaller fuel bills, and a great deal more quality control. □

CESSNA 182R SKYLANE
1981 Base price $51,000
AOPA Pilot Operations/Equipment
Category: IFR

Specifications	
Powerplant	Teledyne Continental O-470U, 6 cylinder, 230 hp @ 2,400 rpm Recommended TBO 1,500 hr
Propeller	McCauley 2 blade, 82 in, constant speed, hydraulically actuated
Wingspan	36 ft
Length	28 ft
Height	9 ft 3 in
Wing area	174.7 sq ft
Wing loading	17.8 lb/sq ft
Power loading	13.5 lb/hp
Seats	4
Cabin length	11 ft 2 in
Cabin width	3 ft 6 in
Cabin height	4 ft
Empty weight	1,720 lb
Useful load	1,390 lb
Payload w/full fuel	862 lb
Max ramp weight	3,110 lb
Max takeoff weight	3,100 lb
Max landing weight	2,950 lb
Fuel capacity, std	552 lb (528 usable) 92 gal (88 usable)
Oil capacity	12 qt
Baggage capacity	200 lb
Performance	
Takeoff distance (ground roll)	805 ft
over 50 ft obstacle	1,115 ft
Rate of climb, sea level	865 fpm
Max level speed, sea level	146 kt
Cruise speed, 75% power	
4,000 ft	137 kt
8,000 ft	142 kt
Fuel consumption	78 pph (13 gph)

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, at sea level and gross weight, unless otherwise noted.

Operations/Equipment Category reflects aircraft model's maximum capability. See June 1981 Pilot, *p. 103.*

Cruise speed, 65% power	
4,000 ft	129 kt
8,000 ft	133 kt
Fuel consumption	66 pph (11 gph)
Cruise speed, 55% power	
4,000 ft	118 kt
8,000 ft	121 kt
Fuel consumption	57 pph (9.5 gph)
Range @ 75% cruise w/45-min res, std fuel, best economy	
4,000 ft	805 nm
8,000 ft	820 nm
Range @ 65% cruise w/45-min res, std fuel, best economy	
4,000 ft	890 nm
8,000 ft	905 nm
Range @ 55% cruise w/45-min res, std fuel, best economy	
4,000 ft	970 nm
8,000 ft	980 nm
Service ceiling	4,900 ft
Landing distance	
ground roll	590 ft
over 50 ft obstacle	1,350 ft
Limiting and Recommended Airspeeds	
Vx (Best angle of climb)	59 KIAS
Vy (Best rate of climb)	81 KIAS
Va (Design maneuvering)	111 KIAS
Vfe (Max flap extended)	
up to 10°	140 KIAS
10° to 40°	95 KIAS
Vno (Normal operating)	143 KIAS
Vne (Never exceed)	179 KIAS
Vsi (Stall clean)	54 KIAS
Vso (Stall in landing configuration)	49 KIAS