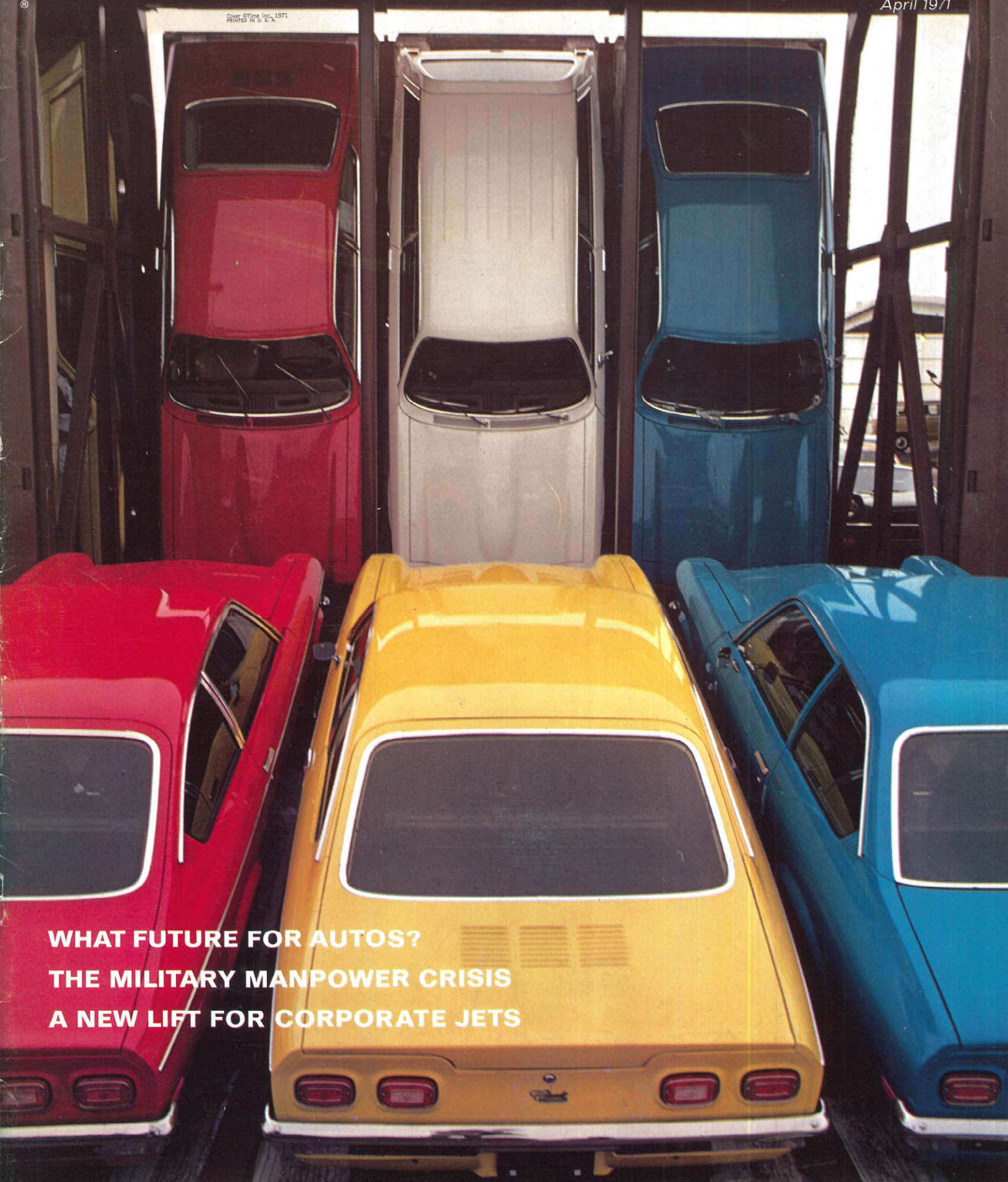


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**WHAT FUTURE FOR AUTOS?
THE MILITARY MANPOWER CRISIS
A NEW LIFT FOR CORPORATE JETS**

THE PLANE THAT COULD TEACH AN INDUSTRY TO FLY

by Philip Siekman

With too many competitors and too few customers, the market for personal and business aircraft has never really got airborne. But here comes Cessna with...

THE PLANE THAT COULD



In an industry that stretches for superlatives to describe each new product, Cessna Aircraft's \$695,000 Citation is an anomaly. With room for only two crewmen and five passengers, it is smaller than all but one of the corporate jets now flying. While other business jets zip along at over 500 mph and have a range of 1,600 to 4,000 miles, the Citation cruises at 400 mph and has a range of only a little over 1,200 miles. But this flying version of the compact car could not only alter the fortunes of Cessna, but could eventually transform the structure of the general aviation industry.

The first production models of the Citation, already taking shape in a Wichita, Kansas, factory, will be delivered to customers this fall. Although less than 100 executive jets of all types were sold in the U.S. last year, Cessna expects to deliver more than ninety Citations by

the end of 1972. The company confidently predicts that before a decade is out, 1,000 will be in the air, a sum roughly equal to the total of all corporate jets sold in the U.S. since the first ones were introduced in 1961.

Given the recent history of the general aviation industry—two dozen companies that sell jet or piston-powered business and personal airplanes—Cessna's hopes for its new plane seem optimistic to a point bordering on megalomania. Last year Cessna was probably the only sizable company in the group that did not lose money. Even so, in its fiscal year ending last September 30, Cessna's sales declined by 20 percent to \$227 million and its profits nose-dived to \$9,300,000 from \$15,200,000 in 1969. In the company's first 1971 quarter, sales were down nearly 40 percent, profits off some 50 percent from 1970.

Research associate: Peter Schuyten

TEACH AN INDUSTRY TO FLY *by Philip Siekman*

With few signs of much better weather in the rest of 1971, Cessna seems to be taking an awesome risk. By the time the first Citation is delivered, Cessna will have put \$35 million or more in the project, a sum equal to roughly 40 percent of its net assets. Dwane Wallace, Cessna's chairman, contends that this is not as much of a gamble as it seems, since research, development, and engineering costs are being written off as they are incurred. However, the wager on the Citation is far larger and riskier than anybody in Wichita is wont to admit.

Cessna is the leader of its industry. It sells more single-engine planes than all of its competitors combined. And it has one-third of the market for piston-powered, twin-engine aircraft, a larger share than any competitor. Yet Cessna remains essentially a relatively small, light-plane producer with limited assets. It has never manufactured a turboprop plane, a combination of jet engine and propeller that its executives believe is an intermediate, soon-to-be-discarded propulsion system. And while it has made 1,500 small military jets (the T-37 trainer and the A-37 light fighter), the Citation is its first commercial jet.

The high price of being late

With its \$695,000 price tag, the Citation is taking Cessna into unexplored market territory. The most expensive plane in the company's present line is the 421 Golden Eagle, a deluxe, conventional twin-engine plane that sells for around \$225,000 and that is distributed and serviced by Cessna's network of independent dealers. Over the last decade or so, Cessna has painstakingly built the nation's largest and strongest general aviation marketing organization. It has well over 600 dealers in the U.S., half again as many as any other aircraft company. Yet no Cessna dealer will be allowed to sell or service the Citation. Instead, the company is putting together a separate Citation marketing team with its own new Wichita office, seven sales offices, and a network of specially constructed service centers.

By fall, Cessna's commercial-jet marketing organization will be far larger than any comparable group. The company will have added some \$800,000 to its annual payroll and invested a substantial sum in the new sales and service facilities, in parts and finished-aircraft inventory, and in demonstrator planes. Cessna's executives cogently argue that their late arrival in the market with a radically different plane forces them to make this investment. But all that overhead could be a heavy burden.

If the new jet is an immediate, clear-cut failure, Cessna could disband the marketing group, write off the tooling and the rest of its investment, and walk away limping, but not permanently crippled. It would not be a new experience. In the late Fifties, Cessna brought a conventionally powered, four-engine corporate plane to the prototype stage and then aborted the program when the market was flooded with secondhand airliners. While Cessna's financial and psychological commitment to the Citation is far larger, it could do the same thing again.

The worst thing that could happen is not an outright failure, but a minor success, a far more likely outcome than quick defeat. If Cessna sells some Citations, but falls short of its goal—100 sales a year after 1972—the project might become that worst of new ventures, too good to kill. Again on a lesser scale, Cessna has had experience with this sort of program. It spent ten years trying to sell helicopters to civilians and the military before finally writing off the venture at a loss in 1963.

Looking back on the helicopter fiasco, Wallace admits that "it takes a lot more courage to stop a program than it does to start one." With the Citation, Cessna could be seduced into a program where profits always seem a few more months away and where an illusion of success saps the corporate courage to admit defeat. If that happens, Cessna's leadership in the rest of the aviation market, if not its corporate life, will be jeopardized. Money and management energy will be diverted from other programs. And cash will leak out of the company through the jet project in a slow but steady and debilitating flow. Several computer and semiconductor companies, including some with more assets and deeper management than Cessna's, have been caught and badly mauled in such traps.

But if the Citation is successful, Cessna will be well on its way to Wallace's long-range corporate target: \$1 billion in annual sales by 1980. As that happens, it will become the first company in general aviation with the will, the talent, and the financial strength needed to give the industry the leadership it has always lacked. Indeed, Cessna appears to be the only company with even the potential to establish a position of firm, aggressive leadership. If it makes it, its competitors will have to either give up or reform their ways of doing business. If the Citation fails, the industry's members could well continue for another generation flying in lazy circles and chattering among themselves about a future that somehow is always just over the horizon.

Down from the clouds

Few industries have promised more and delivered less. For half a century, aviation enthusiasts have entertained visions of skies locust-dark with private and business aircraft. That day never came. Unless the industry changes dramatically, it never will.

General aviation propagandists pridefully point out that the business and personal airplane fleet carries about as many passengers a year as the U.S. airlines. Yet if one includes everything with wings and an engine, no matter how old, the fleet contains only some 135,000 planes. All of them could be in the air simultaneously at the same altitude over Montana and every plane could be a mile away from any other one. Says Robert Lair, a senior vice president at Cessna, "If you talk about people and companies who can afford to own an airplane and have a need for that type of transportation, we're making a market penetration of probably 1 to 2 percent at most."

Over a stretch of some five good years that came to an



A leathery ex-pilot, Dwane L. Wallace, Cessna's sixty-year-old chairman and chief executive, took over in 1936 after his uncle, Clyde Cessna, went broke. Wallace kept things going with air-race prize money until World War II military orders for multi-engine trainers gave Cessna the base from which the company has since grown.

A new-style salesman, James B. Taylor, forty-nine, came from Pan American to be Cessna's vice president of commercial jet marketing. Taylor gave the Citation its name, set a new pricing policy, and put together his own marketing and service group, which will bypass the company's 800-some U.S. and foreign dealers.



abrupt halt in the winter of 1969-70, the industry became increasingly convinced that if it had not yet reached the take-off point, it was at least on the right runway. More and more businessmen took to the air. More and more new students showed up at flight schools. And sales of all types of planes soared, topping out at 15,000 planes delivered in 1968. As 1969 began, a few squalls could be seen on the horizon, but as late as August, industry executives remained optimistic. Within six months, practically every producer of personal and business aircraft was running out of places to park unsold planes.

From 1969 to 1970, sales of general aviation planes fell 42 percent. A number of production lines were completely shut down for weeks or months. And profits disappeared. For example, Beech Aircraft, a Wichita neighbor of Cessna, kept its 1970 sales within 10 percent of 1969's (\$169,800,000 versus \$187,300,000). But about halfway into its fiscal year, President Frank Hedrick discovered, "We had sold quite a bit of merchandise and we didn't have any earnings." Apparently concluding it would be as damned for a small loss as for a big one, Beech seemingly wrote off everything in sight except the lady chairman's wardrobe. In contrast to a \$4-million pretax profit in 1969, it ran a \$14,300,000 pretax loss in 1970.

A recession economy was the immediate cause of the 1970 crash landing. Potential customers were without cash, credit, or inclination to buy. However, basic weaknesses in the industry were revealed by the depths to which the market plunged and by the sluggish manner in which the companies reacted to their troubles. Bemused by the boom and by faulty projections, all of them went on producing long after inventories had started to mount dangerously.

On a wing and a prayer

One weakness is an excess of competitors. There are over twenty of them, roughly divided into two groups: those who make business jets but no conventionally powered planes, and those that make everything else but pure jets. The jet makers' products extend in price from less than \$1 million for a Learjet to well over \$3 million for a Grumman Gulfstream II or an executive version of a plane designed as an airliner such as the Boeing 737 or Douglas DC-9. Grumman has the single-year sales record: it delivered \$110 million worth of Gulfstream II's in 1969. The group leader in numbers is Lear, the only independent producer of jets. It has sold nearly three out of ten of the corporate jets flying, but it has lost more money than it has made since it started in 1965. Lear, which is controlled by Gates Rubber, says it now makes money on jets, but loses all that and more on other products such as stereo-tape players. The other jet makers are either divisions of large U.S. aerospace companies, such as Lockheed (which has shut down its corporate-jet line, possibly for good), or government-assisted foreign corporations such as France's Dassault.

The rest of the industry, with planes ranging from \$5,000 two-seaters to \$600,000 turboprops, contains a number of firms with little more than a garage, a wing, and a prayer. This part of the market is dominated by Cessna, by Beech, and by Piper, the best-known light-plane producer. Since an acquisition battle in 1969, Bangor Punta has owned 51 percent of Piper and Chris-Craft has had 42 percent. But a suit over the way Bangor got some of its shares could alter this arrangement. Piper's sales dropped from \$106,600,000 in 1969 to \$68,400,000 in 1970; its pretax

revenue went from \$10,200,000 to a \$1,600,000 loss.

So far, North American Rockwell has been the only company that has made an effort to spread itself across the jet barrier with a line of planes running up from light single-engine aircraft to turboprops and pure jets. Beginning in 1958, Rockwell got into general aviation by acquiring several small light-plane companies and by developing the Jet Commander. But no matter what it has sold, somebody else always has a slightly better plane or a slightly lower price. Its general aviation division has made a profit in only one year. North American's Sabreliner jet was added to the line when that company and Rockwell merged in 1967. But the combine was forced by the Justice Department to get rid of the Jet Commander, which was then sold to Israel Aircraft Industries.

The division of the industry into jet makers and non-jet makers is understandable. Corporate jets were a natural development for aerospace companies already turning out jet-powered military planes or airliners. Yet none had the product or marketing experience needed to extend its line downward into lighter planes. At the same time, the traditional light-plane companies had had little or no jet experience and, more important, lacked the resources needed to develop a business jet.

Nevertheless, the separation is an unnatural one. General aviation is divided into two major submarkets—pleasure and business flying. Individuals buy most of the light, single-engine planes in the \$10,000 to \$25,000 range, and corporations are the principal customers for jets. But the market is divided by type of use, not by the cost of the product. Individuals buy planes in the \$50,000 to \$500,000-plus range. Corporate fleets are likely to include a variety of planes down to small single-engine aircraft. One West Coast corporation started with a single-engine plane a decade ago, moved to a piston-powered twin, then a second-hand jet, and is now ready to buy a Gulfstream II. Yet the industry has not developed a common marketing system to reach the broad range of buyers—those who want anything from a \$100,000 twin to a \$1-million-plus jet. For new customers, making a choice can be bewildering. (See page 113 for a buyers' guide to jets and turboprops.)

"Orville and Wilbur are alive and well"

On the lower part of the price scale, another industry weakness is a product that offers far too little for far too much. A properly equipped basic plane that will meet a family's minimum requirements for space and range sells for \$20,000 and up. Just learning to fly that plane in good weather will cost at least \$1,000—a figure that is in large part determined by depreciation and operating costs of the trainer in which instruction is given. At those prices—and with such other high costs as insurance, maintenance, parking, landing fees, and, of course, gas and oil—a mass market is nowhere in sight.

Like all manufacturers, the light-plane makers have been caught in a rising spiral of costs. But they have made little effort to design their way out of it. The bulk of their 1971 models are merely refined, better-powered versions of planes produced two decades or more ago. In a frank moment, an aircraft-company vice president observes, "There's got to be a better way of building airplanes." He recalls with grudging approval a sign seen at a recent industry meeting: "Orville and Wilbur are alive and well and building planes in Wichita."

The industry's reply is that it has a chicken-and-egg problem. If it could get volume up, prices would come

down. If prices came down, volume would rise—and more profits would be available to invest in new developments such as plastic airframes or other new designs that might lower prices. However, the manufacturers have made practically no effort to find out what would happen to volume if prices were cut sharply. Such an experiment would be considered dangerously revolutionary in the conservative, inbred executive suites of many of the companies. Moreover, it would probably not work in a business where marketing has never progressed much beyond the village-bazaar concept of selling—lay out the wares and wait sleepily for customers to pass by.

The industry is weakest where it should be strongest, at the point of sale. The dealership for single-engine and light twin planes is frequently a cluttered hangar run by a man who knows a great deal about handling an airplane and little or nothing about handling customers. Too many dealers are in business only to indulge their passion for flying. For many of them, the only sales tool is price cutting, and some pare their gross margin on new-plane sales to 5 percent. It takes more volume and tighter controls than the majority have to do more than barely survive on such profits. As a result, they also barter used planes, service aircraft, pump gas, teach students, and (oh, wonderful day) make charter flights.

Large planes, from heavy twins to turboprops and jets, are sold with more finesse and expertise by a few well-financed, large dealers, by captive retail outlets owned by independent distributors, or, in the case of most jets, directly by factory sales teams. Yet even here, the industry has done a poor job with what is on the whole a good product.

Many more corporations could use a plane of some sort to improve the efficiency of managers who now spend a good deal of time on airliners, but little effort has been made to show corporate buyers how and why. In a single two-county area, Cessna found over 2,000 manufacturing units and less than twenty corporate planes. Those corporations that have learned how to use aircraft as effectively as any other tool in the factory are mostly self-taught. Others have bought planes as little more than playthings that are dumped on the secondhand market, as many were last year, at the first need for belt-tightening. The industry has no right to complain, as it always does, when the frivolous use of corporate aircraft is publicized or criticized by shareholders. No computer manufacturer would sell a customer an expensive machine on the grounds that it would lend prestige to the company or to the chief executive's expense account—and then not bother to show him how to use it to improve profits.

Pilots first, businessmen second

Cessna is not out of range of the criticism that can be leveled at the industry as a whole. Its 1971 advertising theme, "Whenever you're ready," is unconscious parody of the passive, let-them-come-to-us attitude that characterizes marketing in general aviation. In another industry, Cessna would seem cautious and conservative. In this one, it is the revolutionary that has worked harder, more consistently, and over a broader front at trying to solve basic problems.

The company is far less inbred than many of its peers. In contrast to Beech and Piper, Cessna's board has long been populated by outsiders—e.g., Sheldon Coleman, chairman of Coleman Co., and Harding Lawrence, chairman of Braniff. Moreover, while an executive has a better

chance of being hired at Cessna if he knows how to fly, the company has regularly reached outside its own ranks for management talent. "Pilots first, businessmen second," is a fair description of the executives at other companies.

Cessna is also more likely than others to find out what the customer wants and then build a plane to match, rather than build what it likes and hope the customers will agree. Its \$10,000-plus Model 150 trainer, for example, is less sophisticated than the comparable model in the Piper and Beech lines. But it is also several thousand dollars cheaper and less expensive to operate. As a result, it has become the favorite of flight-school operators. Cessna has sold over 15,000 since 1958, and says nearly half of the Americans learning to fly start out in it. The 150 has strengthened Cessna dealers, whose flight schools can charge less and profit more. More important, students who have been taught to fly in a 150 are more likely to turn to Cessna than to any other company when they buy their first plane and, later, progressively trade up to more expensive models.

A steady trading-up in price and sophistication has also characterized Cessna's own approach. In 1960 it had one twin- and ten single-engine models, all but three of them with a basic price under \$15,000. It has slowly added to these, putting more and more expensive models on the top, and filling in gaps so that no pilot need look elsewhere to find a new plane a notch above his present one in performance and price. Today there are forty models, including fifteen over \$35,000.

Cessna's strength in single-engine planes plus the length of its line has paid off in attracting dealers, who can start with a few relatively inexpensive aircraft and go up from there. Its dealers are not necessarily any better salesmen than their competitors, but there are more of them—which has to help—and they are under considerable pressure from the factory to run their flight schools better, to keep their operations under tighter control, and, above all, to move airplanes. "Cessna," says Bill Piper, chairman of Piper Aircraft, "has more or less adopted automobile tactics with their dealers." He disapproves, but he also admits it "has paid off in statistics."

New flight plan

Cessna first planned to sell and service the Citation through its dealer system like any other plane in its line. In the spring of 1969, however, it hired James B. Taylor to take charge of marketing the new jet, which at that time was called Fan-jet 500. Taylor, an ex-Navy pilot, had been running Pan American's business-jet division and had reached some firm conclusions about how to sell corporate planes. When he arrived in Wichita he found himself in unqualified agreement with his new bosses on very few major points.

Taylor changed the name of the plane—apparently forgetting that Citation was not only a superior racehorse but the top model in the Edsel line. He also quickly altered the pricing policy. Cessna first planned to use the conventional industry approach, that is, to set a basic price on which is added a seemingly unending list of extras from interior decorating to avionics. Not only jets but turboprops and large conventional twins are usually sold as stripped aircraft that are then custom finished, a process that can raise the price 25 to 50 percent.

In contrast, Taylor will try to sell the Citation as a finished aircraft. Its \$695,000 price tag includes avionics, a completed interior, the training of two pilots and two mechanics (by

American Airlines), and a service and maintenance program. The customer will do little more than choose the color of the interior fabric and upholstery. He will be able to use the plane the moment he buys it. His pilots will have been trained in advance on an identical plane. And the price will be kept down through volume purchasing by Cessna from the avionics makers.

The most dramatic Taylor-inspired change was the decision to use a factory team rather than dealers to sell and service the plane. Taylor believes that the sale of executive jets is most closely allied to the sale of computers, where the buying decision is made at the top of the customer's organization and is, or should be, based on a careful cost/benefit analysis. Consequently, jet salesmen ought to be able to deal effectively with the chief executive and the financial vice president. Asking them to be expert pilots as well is like asking computer salesmen to be experts in data-processing operations.

By September, Taylor will have sales offices in Canada and Europe as well as the U.S., and his group will contain some seventy-five people, almost all of them new to Cessna and many of them new to aircraft sales. The typical Citation sales manager or salesman was trained to fly in military service, but has since been working for such companies as I.B.M. and Xerox.

On one point Taylor and his bosses have always agreed: the Citation is the right plane at the right time. The least expensive jet on the market, it will also, says Cessna, cost less to operate than any jet and some turboprops. Such economies are not out of temper with the mood of most executives in 1971. This fall, with easier credit and liberalized depreciation allowances, Cessna might find itself flying in a balmy clime, where a desire for economy remains but a willingness to invest in expensive equipment has revived.

Easy to handle

The Citation's low price has been achieved only by designing the plane to fly slower, lower, and for shorter distances than other business jets. But Cessna contends that the Citation is just what many corporations need, since its research indicates that corporate aircraft rarely carry more than three passengers over distances that average 600 miles. On short trips much of the total time is spent at low speed, landing and taking off, so the difference between flying in the Citation and some other jet will be only a matter of minutes. Moreover, the Citation will be able to land and take off from relatively short fields, probably including unimproved grass strips, which could mean that it will be able to land closer to the factory (or hunting and fishing camp) on runways that are out of bounds for other jets.

Cessna also contends that the Citation is easier to fly than any other jet and is as easy to handle as many conventional twin-engine planes. The company expects that it will be the first corporate jet certified by the FAA as a one-pilot plane. (Insurance companies might still insist on a copilot, as they sometimes do now in turboprops that can be legally flown by one man.) For large corporations with a staff of professional pilots, ease of handling may not be important. But most of the corporate fleet is composed of smaller, more conventional planes flown by pilots without jet experience. In many smaller companies the corporate plane is flown by the executives themselves.

Cessna believes that any company with some geographical spread in its operations and either \$10 million in annual sales or 400 employees is a potential customer. The prospect list

A Buyers' Guide to Corporate Aircraft

Any corporation in the market for a new plane has a lot to choose from. The list below is limited to popular current models of pure jets and turboprops. A number are available in several versions, and older, discontinued models can be found on the used-plane market. These days, the careful buyer should look first at the used market, where even the latest-model planes can be found in near-perfect condition and at fire-sale prices. For example, Jetstars that have been flown only 600 hours can be purchased for \$1,200,000 or less as opposed to about \$2 million new. Since all aircraft must be rigorously maintained to meet FAA regulations, used planes can be just as safe and economical as new ones.

Among those missing from the list are airliners that can be purchased with interiors designed for executive use. I. T. T., for example, bought a Boeing 727, L-T-V owns a 737, and other companies have Douglas DC-9's. Used, small, first-generation jet airliners—e.g., BAC 1-11's and Caravelles—can also be purchased and converted to corporate use.

The prices shown below are averages, includ-

ing interiors and avionics. If executives have a taste for the luxurious or the pilot a fascination with electronics, the bill can run considerably higher.

Operating costs vary, depending on how extensively the plane is used, how it is flown, and how much it carries. A Conference Board survey of corporate aircraft operators, for example, discovered ranges from \$466 to \$1,229 an hour for a Pan Am Falcon, \$329 to \$449 for a Lear, and \$257 to \$290 for a King Air.

A good corporate pilot will know how to get the most out of any plane at the lowest possible cost. But he can't be hemmed in by arbitrary demands from his passengers for, say, top speed or extremely high altitudes. Moreover, fixed costs—e.g., depreciation, crew salaries, hangar space—are a large part of the cost. The corporation that buys a plane which meets its needs and then keeps it flying has a bargain. Those that do not, have an expensive toy.

The figures used here were supplied by the manufacturers. Deliveries are as of April 1, 1971, and include all versions and models of the plane, sold anywhere in the world. The per-

formance specifications are normal maximums. On any plane, the passenger load, range, speed, and altitude are closely interrelated; one influences the other. Plane salesmen can make a shell game out of these figures for the inexperienced. Buyers should remember that no plane can fly at top speed with a full load for its maximum range. The length and type (paved or not) of runway needed also vary, depending on load, fuel on board, airport altitude, and air temperature. The corporate buyer should first determine how, where, and when he will use any plane, and then measure everything he is offered against these requirements with the help of an experienced pilot, a sharp-pencil accountant, and demonstration flights that are something more than a joy ride to a distant golf course or hunting camp.

Buyers could do worse than decide on a particular model and then charter a similar aircraft for a month or more before making a final decision. It doesn't always pay to ask the man who owns one. For pilots and executives alike, expensive planes are like wives: only the most dissatisfied will ever admit they chose a lemon.

PURE JETS

	Average price	Passengers	Range (miles)	Cruise altitude (feet)	Cruise speed (mph)	Number delivered	
 BAC 1-11 series 475	\$4,000,000	25	4,000	40,000	550	12	Executive version of the BAC 1-11 airliner.
 Grumman Gulfstream II	3,600,000	12	3,884	43,000	590	96	Successor to the Gulfstream I, a popular \$1,500,000 turboprop.
 Lockheed Dash 8 Jetstar	2,000,000	8	2,342	30,000	600	140	Production suspended. Usually flown with three-man crew. Only four-engine business jet.
 Falcon 20 F	1,900,000	10	2,250	39,000	475	135	Manufactured by France's Dassault. Pan Am also sells shorter range, \$1,700,000 Model 20D. Smaller Model 10 is due early 1973.
 Sabreliner 60	1,400,000	9	2,100	45,000	563	159	Due in two years: new engines that will provide transatlantic range.
 HFB 320-9 Hansa	1,150,000	7	1,600	41,000	530	34	Only jet with forward swept wings.
 Beechcraft-Hawker BH-125 series 400	1,130,000	8	1,715	41,000	508	243	North American distributor rights acquired by Beech from Britain's Hawker Siddeley in April, 1970. Larger Model 125-600 available in early 1972.
 Gates Learjet 24D	840,000	6	1,900	45,000	550	310	Also available: Model 25C with longer range and less room and the 8-passenger 25B.
 IAI Commodore Jet 1121 B	796,000	8	1,600	41,000	510	142	Was Jet Commander. Plane renamed when purchased from North American Rockwell by Israel Aircraft. Deliveries include 107 sold by Rockwell.
 Cessna Citation	695,000	5	1,230	35,000	400	—	

TURBOPROPS

 Fairchild-Hiller 227D	1,100,000	20	1,620	25,000	290	59	Deliveries include predecessor F-27, built under license from Netherlands' Fokker.
 Swearingen Merlin III	650,000	6	2,710	28,000	316	114	Also available is 12-passenger, \$750,000 Merlin IV.
 Beechcraft King Air 100	605,000	8	1,089	21,000	282	594	Also available: \$399,500 Model C90 and 17-passenger Model 99, a commuter airliner.
 Mitsubishi MU-2F	467,549	7	1,640	23,000	340	144	Sister ship is \$500,000-plus, 8-passenger MU-2G.
 Hawk Commander	390,000	6	1,491	25,600	290	88	Has optional seating arrangement for up to nine people.

contains 7,200 names. The company expects to sell the Citation to corporate fleet operators who will use it as a supplement to bigger machines and to customers trading up from deluxe conventional twin-engine planes. However, the thrust of the marketing effort will be aimed at companies that would otherwise buy a turboprop, which is not much below the Citation in price, might cost just as much to operate, and cruises at lower speeds (260 to 340 mph) and lower altitudes.

If Cessna is right in its belief that its jet will compete with turboprops, the first company to feel the impact of the Citation will be Beech. Unlike Cessna, Beech has long concentrated on the upper end of the general aviation market and it has handily dominated the turboprop business since 1964. Over 40 percent of its aircraft sales and, possibly, a larger part of its profits are accounted for by the \$600,000 King Air turboprop, and the pressurized Queen Air, the Cadillac of conventional twins, which sells for \$178,500 to \$260,000. Although Beech makes a line of smaller twins and single-engine planes, down to a two-seat trainer, it has had little success in penetrating this part of the market. "Our dealers," says Beech's President Hedrick, "have upgraded themselves until they're only interested in the top of the line, and that isn't where your customers come from."

France before the revolution

Although Beech has a marketing organization oriented to corporate buyers, it has not brought out a corporate jet. Convinced that the King Air was all the plane most companies needed, it was also fearful of spending what it estimated to be some \$50 million to get a jet to market. As a result, customers have traded up through the Beech line and then moved on to higher speeds and greater prestige with somebody else's jet. Indeed, conservatism characterizes much of Beech's strategy and tactics. Asked to compare the two companies, a man who deals with both Beech and Cessna says, "It's like France before and after the revolution."

Well aware that the Citation could raise havoc with sales of the King Air and Queen Air, Beech has made two countering moves. It has introduced an economy version of the King Air, the \$399,500 C90, and it has taken over North American distribution of Hawker Siddeley's Model 125, a \$1,130,000, eight-passenger business jet. Under its agreement with the British company, Beech will also sell a larger jet that Hawker is now testing. The two companies are planning to pool development and, possibly, manufacturing of a small jet somewhat similar to a Lear in price and performance. But it

will not reach the market until 1975, if then.

There are several drawbacks for Beech in its arrangement with Hawker. If the risk is less, so will be the profits. Moreover, the BH-125 is nearly twice as expensive as the Citation and is in the most competitive part of the business-jet market. And while Beech is selling the 125 through the distributors of its regular line, it is having trouble getting them all signed up. Only thirteen out of twenty-three (six of them company owned) are handling the jet. Although the company contends that the net profit will be the same, some distributors complain that the commission on a 125 is much less than their margin on a King Air.

A two-flank aerial attack

While Beech is in the most immediate danger, the effects of a successful Citation program will soon ripple out through the rest of the industry. In the near future, the Citation poses no real threat to bigger jets. In fact, Cessna says it will not stretch the airplane's size or performance, but might try to improve it so it can land and take off from even smaller fields. However, Wallace admits that, with "this special setup to sell the Citation," the company will eventually develop bigger, more sophisticated jets. In time, the jet makers might look down from their own running dogfight and see a big, strong competitor coming at them from below, all guns blazing.

At the same time, profits from the jet business could improve Cessna's ability to invest in light-plane product and market development to a point that will leave Beech and Piper breathless, and suffocate smaller companies. Cessna is already hinting at a smaller, cheaper jet that would compete with conventional twins, and it is flying an experimental plane that at least appears to be a new approach to light, single-engine aircraft. (See the photograph below.)

Cessna, of course, is not home free yet. The Citation must prove itself. And even then, there remains the possibility that the elusive, but still bright, future of general aviation will attract the attention of a large corporation now outside the industry, but with resources that far exceed Cessna's. Nor is general aviation without its own Japanese threat. In 1970, Mitsubishi sold an estimated forty MU-2's, a turboprop corporate plane that is assembled in San Angelo, Texas.

At the moment, there is only one dark horse in the field, North American Rockwell, and it's a long way behind the pack. Willard Rockwell Jr., the company's chairman and chief executive, says he expects to quadruple general aviation sales to \$200 million by 1975. But while Rockwell has the assets to stay in general aviation for as long as he cares to use the company's money this way, at least one of his directors has already asked, "Why are we in this business?"

Bill Piper provides the best answer. He says, "A person gets carried away with this business and sometimes allows his enthusiasm to overcome his better judgments. You'll find the industry is enthusiastic at all times, that's the nature of people who fly airplanes. As far as we're concerned, there's just no question about the future. Thirty years ago we thought it would take maybe fifteen years. Twenty years ago we thought it might take another ten or fifteen. Now we think it might take another generation. But sooner or later, this will be a tremendous business. It just can't help but be a big business. It just can't help going someplace."

No one should fault a dream or hobble an enthusiasm. But it's an old hope, a long-held vision. It could be time to stop talking about going someplace and start getting there. That little jet now being test-flown high over the spreading farmlands of Kansas could be the way to do it. END



A new approach to light-plane design, Cessna's recently unveiled experimental XMC has twin tail booms, a slightly swept wing for better visibility, and a single engine behind the cabin.