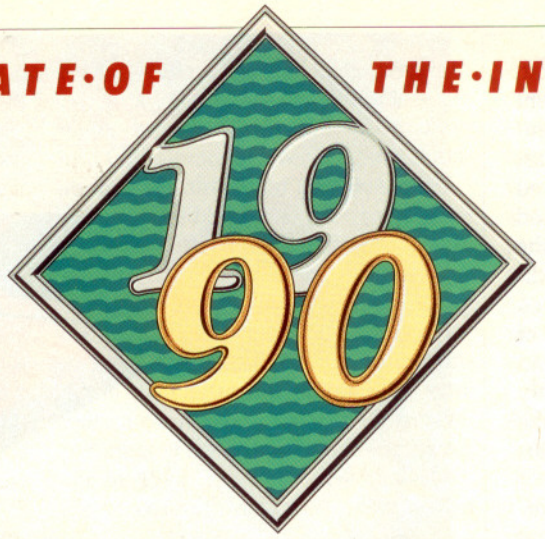
THE·STATE·OF THE·INDUSTRY



MIXED SIGNALS

Crystal balls just aren't what they used to be.

BY SETH B. GOLBEY

The performance of U.S. manufacturers in the general aviation airplane market over the last decade has caused more than one industry analyst to go prematurely gray. The mixed signals received from that industry in 1989 and the early days of 1990 may lighten a few more hairs.

In brief, unit deliveries were up in 1989, but overall billings were down. There is an inherent paradox here, because the former is not necessarily as positive a sign as it might appear, and the latter is not necessarily as negative. The bottom line is, money talks. For the industry to be truly healthy, manufacturers have to be able to sell airplanes for more than it costs to manufacture them. Some can. Some, apparently, cannot.

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Increased unit deliveries in the past two years appear to have arrested a 10-year decline that started in 1979. Airplane shipments by U.S. manufacturers were up 26.7 percent in 1989, to 1,535 units, compared to 1988, according to the General Aviation Manufacturers Association (GAMA). Most of the increase was in deliveries of single-engine piston aircraft. There are two main reasons for this.

One is an increase in student pilot training. At 88,772, student starts were up 10.2 percent in 1989, due largely to marketing efforts such as the General Aviation Market Expansion (GAME) Plan and other programs led by AOPA and other organizations. Many of the light singles sold were delivered to large flight schools, such as the University of North Dakota and FlightSafety Academy.

Another factor is the aging of the general aviation fleet. Today's average piston single is 25 years old, and 25 percent of the single-engine fleet is at least 34 years old.

Shipments of piston singles rose an impressive 46.8 percent, to 1,023 units, and billings were up 44.4 percent, to $104 million. Shipments of piston twins increased 29.9 percent in 1989, to 87 units, and billings doubled, to $24 million. This might not sound like a lot, but it is the first increase in deliveries for light twins since 1979.

Export deliveries were also significant: 558 new airplanes were exported last year, an increase of 31.3 percent over 1988. Exports accounted for 36.4 percent of total shipments and 32.5 percent of total billings for GAMA member companies last year. GAMA Chairman Dr. D. Larry Moore attributes the strength of the export market to aggressive overseas marketing by U.S. manufacturers, strong product support, and the continued relative weakness of the dollar.

Another positive sign is large production backlogs, particularly of business jets. Some of the aircraft delivered in 1989 were ordered two or three years ago; some ordered last year, including new models, will not be delivered for a year or more in the future.

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Manufacturers' billings, which have been up and down

PHOTOGRAPHY BY MIKE FIZER

since peaking at $2.92 billion in 1981, were down again in 1989—by 6.2 percent, to $1.804 billion. This is mainly due to a change in the mix of shipments. More piston singles were shipped, for the reasons mentioned above, but fewer large jets and turboprops were delivered. This is partly because of strong foreign competition in the large-business-jet market, particularly from manufacturers in Canada and France, and in the 19-seat turboprop commuter airliner market. It is also because, at the beginning of the year, several companies were not yet fully spooled up on production of new models—Gulfstream with the G–IV, for example.

Overall, deliveries of business jets were flat in terms of units—157 in both 1988 and 1989—and billings declined 7.5 percent, to $1.149 billion. Billings may not increase strongly in the near term either: The biggest-ticket U.S. business jet, the G–IV, will be produced in lower numbers in 1990 than last year. Other companies, however, like Cessna, introduced new models in 1989 that will not be available for delivery for a year or more. This will stimulate unit deliveries and billings for some companies.

Turboprop deliveries were down 7.9 percent, to 268 units, and billings were off 12.1 percent, to $524 million.

Total export billings were down by 6.5 percent, to $586.2 million.

The weakness of the dollar abroad has had another significant effect: It has stimulated the export of used aircraft. As recently as 1985, just 277 used airplanes were shipped overseas; the number has grown steadily and in 1989 is estimated (using U.S. Customs Service statistics) at 2,000 units. As the remaining fleet ages and high-quality used airplanes become harder to find, the laws of supply and demand drive prices up. According to the *Aircraft Bluebook–Price Digest*, prices for used airplanes climbed 23.6 percent from May 1987 to November 1989. Economists will tell you that the higher the prices of used aircraft climb, the more attractive new aircraft will be. This will presumably have the positive effect of stimulating new airplane production, and this appears to be happening.

In terms of supply and demand, the current situation in the training market must be carefully considered. Significant sales of light piston airplanes to large flight training establishments have undeniably given the market a shot in the arm; there was, and continues to be, a great pent-up demand for new trainers. But experience has shown that flight schools hold on to airplanes for a long period of time. In planning production levels, manufacturers must ask: How long will it take for the training market to become saturated? Once the needs of the large flight schools are satisfied, will the airplanes be affordable enough to the small-town FBO—which also has a need but less cash—to continue to support production?

In a sense, companies are playing against time. Recognizing the demand, Piper Aircraft Corporation, for example, intentionally stimulated the flight training market by pricing its Cadet just high enough to cover the company's direct manufacturing costs. One marketing theory holds that mass production for the training market will enable a manufacturer to realize economies of scale; the savings can then be passed along to consumers in the personal-use market, thereby stimulating that market segment in turn. A symbiotic relationship exists—trainer sales help keep the prices of personal-use airplanes affordable, and the higher profit margins on personal-use airplanes help underwrite the costs of trainer production. The question arises, however: Once the current demand for training aircraft is met (as it could be in as little as two or three years), will sufficient demand from the private sector have been generated to keep all these models in production? This is an important—and often overlooked—question.

As for the future of the light airplane market—well, crystal balls just aren't what they used to be, even a few months ago. Taylorcraft, Commander, American General, Maule, Christen, and Piper North have all promised new production airplanes this year, but some of these programs may be more tentative than they at first appeared. Piper Aircraft—the sentimental favorite of many pilots and aircraft owners—surprised the general aviation world by temporarily laying off a third of its work force in January and shutting down most of its operations for two weeks in February (see "Pilot Briefing: Piper Curtails Production, Lays Off Workers," page 25). The difficulty, according to Piper, was a cash-flow problem that halted delivery of components from outside vendors. The company has a healthy order backlog, but mostly for low-margin Cadets and Super Cubs, which accounted for 323 of Piper's 621 deliveries last year. Meanwhile, Piper is still paying for its Malibu Mirage development program and start-up costs associated with bringing other models, such as the Seminole, back into production. While the long-term effects of Piper's difficulties—and their implications for the rest of the industry—cannot be forecast at this time, recent developments are not an auspicious sign. They are, however, reflective of the continuing volatility of the general aviation market.

Once the current demand for training aircraft is met, will sufficient demand from the private sector have been generated to keep all these models in production?

In terms of product mix and billings for the future, there are at least two safe bets. Military contracts will provide a boost to turbine fixed-wing and helicopter sales over the next few years and will offer a fillip to flight training contractors and simulator manufacturers as well.

The U.S. Air Force's Tanker/Transport Training System contract is to be awarded this month. The winners of this contract will provide 211 off-the-shelf business jets, plus simulators and other training equipment, to the USAF. The Beech Aircraft Beechjet, a derivative of the Cessna T–47 (used by the U.S. Navy and itself a derivative of the Citation S/II), and the Learjet Model 31 are the three aircraft competing for the contract. Beech is teamed with McDonnell Douglas, Cessna with its parent company—General Dynamics—and the Link Division of CAE, and Learjet with FlightSafety International and Allied Signal. Deliveries of the jets will be made over a four- to five-year period; they will be used in training crews of the USAF's larger tanker and transport aircraft. This $1.6-billion program will be the largest single defense contract ever awarded to general aviation manufacturers.

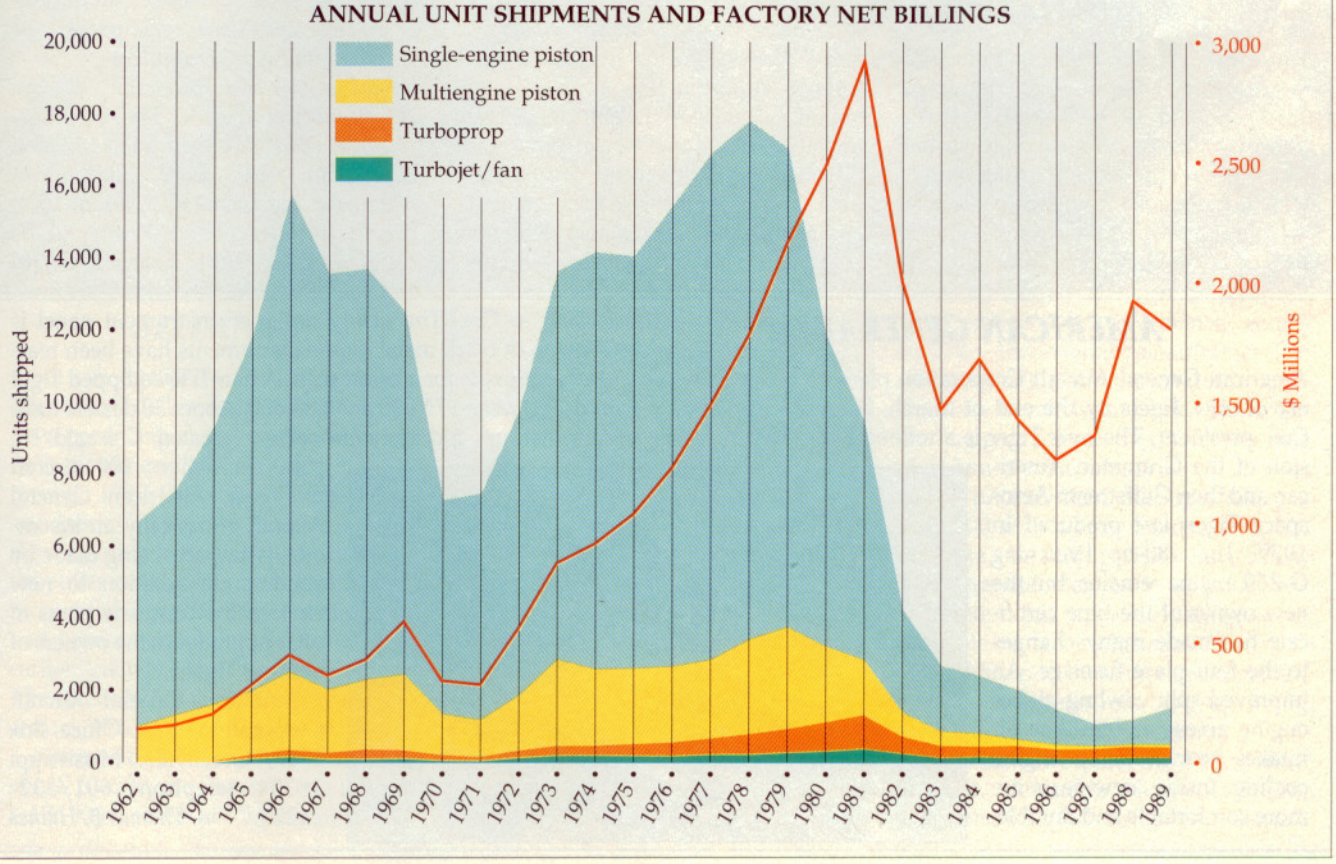
The U.S. Army, meanwhile, is seeking a new basic helicopter. A request for proposals is expected to be issued midyear. (Proposals for training and maintenance services will be sought later.) The New Training Helicopter program, formerly called the Initial Entry Rotary-Wing/Single Contractor Aviator Training program, would require more than 200 helicopters for *ab initio* training. The total contract value is not yet known but is expected to be worth about $100 million. Contenders will include Schweizer Aircraft and Enstrom Helicopter, both of which are developing new turbine-engine models for the competition. Schweizer's entry, the TH–330, made its first public flight in June 1988. Enstrom is developing a turbine model called the TH–28, which first flew last year. Aerospatiale will propose its AS-350, and Imagineering Systems will offer the Pathfinder 206, a modified Bell JetRanger. Schweizer and Enstrom plan to market civil models of their entries—the Model 330 and Model 480, respectively—which will change the complexion of the single-turbine market.

In the rotary-wing market, final figures for 1989 are not yet available, but according to preliminary numbers released by the Aerospace Industries Association of America, Incorporated, the number of helicopters delivered in 1989 was expected to reach 499, a 30-percent increase over 1988. Here, too, however, sales value was expected to decline—by 27 percent, to $243 million. AIA attributed increased deliveries in part to renewed demand for piston-powered models, especially for training purposes. Enstrom delivered 25 piston-engine units last year (its best performance since 1981); Schweizer, 80; and Robinson Helicopter, a breath-taking 310, the largest number of any aircraft model manufactured in the United States. The main market for these helicopters, like many of their fixed-wing brethren, remains overseas.

On another front, the product liability crisis is still with us and is still stifling the development of new light aircraft and components. In the past decade, claims paid by the industry have climbed from an annual level of about $24 million to more than $210 million—and this does not include defense costs—while the general aviation safety record has steadily improved. According to GAMA, Stuart Millar is quoted as saying, "In Piper's case alone, defense costs—exclusive of settlements and judgments—average a quarter of a million dollars every month."

The consequences of the courts' expansion of liability theory and the increase in the sizes of awards have had increasingly detrimental effects on general aviation: Entire aircraft model lines have been shut down, factories have been closed, employment has dropped by more than 65 percent, the price of light airplanes has increased dramatically, domestic sales have declined by a factor of 15 in 10 years, the fleet is aging at an unacceptable rate, innovation and entrepreneurship have been stymied, manufacturers have been forced to spend more on defending against lawsuits and less on technology development, and foreign manufacturers are rushing to fill the void left by crippled American aircraft makers.

General aviation liability reform legislation has been introduced in both the U.S. Senate (S.640) and the House of Representatives (H.R.1307). These bills are supported by all major general aviation consumer, manufacturer, and service organizations, including AOPA, GAMA, the Experimental Aircraft Association, the Helicopter Association International, the National Agricultural Aviation Association, the National Aeronautic Association, the National Air Transportation Associa-



tion, and the National Business Aircraft Association. During the 99th and 100th Congresses, tort reform has also been supported by the U.S. departments of Transportation, Commerce, and Justice. The bills have 31 cosponsors in the Senate and 159 cosponsors in the House. Do they stand a chance of passage in 1990? The opposition, led by the plaintiffs' bar, is formidable. If it came down to a vote on the floors of Congress, tort reform would probably win out. The opponents of tort reform, however, will attempt to kill these bills through delay and filibuster, as they have succeeded in doing in the past. The next hurdles are the judiciary committees of both houses. We shall see.

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In the following pages, *AOPA Pilot*'s editors present thumbnail sketches of manufacturers of new production aircraft available for purchase in the United States in 1990. Wherever possible, 1990 base price information has been provided. There is little commonality among manufacturers, however, on what is included in the base price—some include VFR avionics, for example; some do not. We suggest you contact the company or its local dealer or distributor for more information on specific models. For comparative performance specifications, see *AOPA's Aviation USA*.

Quite clearly, the demand for light aircraft is stronger than it has been for quite some time. The determining factor may turn out to be cash flow—the question is, can manufacturers afford to build new airplanes that people can afford to buy? In other words, can they build airplanes in adequate numbers to realize the economies of scale? Can flight schools continue to provide the market stimulus that has energized production rates recently? We can expect some answers in the next few months. The signals are mixed. This will be an interesting year. □

FIXED WING

Aerospatiale TB-20 Trinidad

AEROSPATIALE

Worldwide, the French manufacturer Aerospatiale shipped 121 Tampicos, Trinidads, and Tobagos in 1989, a significantly larger number than it had done in 1988 or 1987. The company's U.S. subsidiary, Aerospatiale General Aviation, delivered 44 aircraft to its 10 dealers in 1989. The sole Tampico in the United States is currently involved in an innovative market study. Westair, a fixed-base operator at Westchester County Airport in New York, is operating the airplane as part of its flight training fleet. The experimental program is intended to provide insight into the airplane's appeal to instructors, students, and rental pilots and to help define operating expenses in the flight training environment. About a dozen more Tampicos are expected to be imported this year, beginning next month.

Models and base prices for 1990 are: TB–9 Tampico, $70,400; TB–10 Tobago, $91,240; TB–20 Trinidad, $133,640; and TB–21 Trinidad TC, $162,600.

Aerospatiale General Aviation, 2710 Forum Avenue, Grand Prairie, Texas 75051; 214/641-3614. —*Seth B. Golbey*

AMERICAN GENERAL

American General Aircraft Corporation plans to begin delivery of new Tigers by the end of March, according to James Cox, president. The new Tiger is a refined and updated version of the Grumman American and then Gulfstream Aerospace Tiger, last produced in 1979. The 180-hp Lycoming O-360 engine remains, but the new owner of the type certificate has made many changes to the four-place fuselage. An improved split cowling makes engine access easier. New air intakes provide better engine cooling. Inside, new seats are more comfortable and durable, according to Cox. The newly designed instrument panel is now made of black metal. Some instruments have been rearranged to provide for a better scan. A new IFR-equipped Tiger will cost between $75,000 and $85,000. About 30 dealers have been signed up, and more are being evaluated, Cox said. He plans to deliver 100 aircraft this year. American General Aircraft is basically an assembler, with parts being made by vendors. In addition to new aircraft, the company plans to offer upgrades to the owners of existing Tigers.

Grumman American Tiger

American General Aircraft Corporation, Post Office Box 5757, Greenville, Mississippi 38704; telephone 601/332-2422. —*Thomas B. Haines*

ASTRA


IAI 1125 Astra

According to a *Weekly of Business Aviation* survey, Israel Aircraft Industries delivered 11 Model 1125 Astras in 1989, an increase of three compared to the previous year's production. U.S. distribution of the 1125 is handled through Astra Jet Corporation.

The swept-wing, six- to nine-passenger 1125 is powered by Garrett TFE731 turbofans, with a thrust rating of 3,700 pounds each. The 1125 is certified to 45,000 feet and will cruise at 451 knots at 43,000 feet. Marketing and production plans for 1990 were not known at press time.

Astra Jet Corporation, 4 Independence Way, Princeton, New Jersey 08540; telephone 609/987-1125. —*Marc E. Cook*

BEECH

Beech Aircraft plans to produce at least 12 different models of aircraft in 1990. One more, the 1900D, is in development. A 10-percent increase in deliveries is expected for most models this year compared to 1989. Bonanza deliveries, spread out over the F33A, A36, and B36TC, will increase about 10 percent. Incidentally, the F33A Bonanza, with 116 delivered in 1989, was the second most bought aircraft, beaten only by the Piper Cadet. Baron 58 deliveries will increase 15 percent; King Air deliveries, made up of the C90A, B200, 300LW (a "light weight" version of the 300 for use in Europe), and Super 350, are expected to increase by 20 percent. Starship production will increase to about one a month by year-end. Beechjet 400 production for 1990 will be 50 percent higher than in 1989, though that figure is deceiving. Only 10 Beechjets were delivered in 1989 because the assembly line was being moved from Japan to Wichita. The Beechjet 400A, with a new, larger interior, will be certified later this year. The first actual customer delivery of a Starship is scheduled to occur by late March. A Starship was delivered to a customer in a ceremony last June, but Beech kept the airplane to use as a demonstrator. Basic certification was completed in 1988. Final certification was received in December 1989. The company also delivered five 1300 airliners to commuter airlines. In addition, the Beech 1900 turboprop airliners are selling well, and a larger version is in development. The first 1900D is scheduled to fly late this year, with deliveries commencing a year later.

Beech Aircraft Corporation, Post Office Box 85, Wichita, Kansas 67201-0085; telephone 316/681-8674. —*TBH*

Beech Super King Air 350

BELLANCA

From a production facility in Alexandria, Minnesota, Bellanca, Incorporated, has been producing about one Super Viking each month and will continue to do so through 1990. One change to the wood-and-fabric Viking this year is a redesigned nose gear, which the factory says simplifies construction and makes for a more reliable mechanism; the nose gear had been a weak spot on some of the earlier Vikings, according to Bellanca. The electrohydraulic landing gear power pack also received a redesign.

Powered by a 300-hp Teledyne Continental IO-520, the Super Viking turns in a 176-knot cruise at 75-percent power.


Bellanca Super Viking

That impressive performance comes with an unconventional airframe: The wings are wood and the steel-tube fuselage is covered with fabric. The main landing gear retracts longitudinally into pods beneath the wings.

Base price for the 1990 Super Viking is $135,000 with a basic Bendix/King IFR package, including dual nav/coms, ADF, transponder, and Mode C encoder; optional avionics packages are available for factory installation.

In addition to building new airplanes, Bellanca has been refurbishing two to three existing aircraft per month.

Bellanca, Incorporated, Post Office Box 964, Alexandria, Minnesota 56308; telephone 612/762-1501. —*MEC*

BRITISH AEROSPACE

BAe 1000

British Aerospace has promised yet another iteration of its popular business jet based on the 1960s-vintage Hawker Siddeley 125 airframe. The new, larger, and more powerful BAe 1000 will complement the popular mid-sized BAe 800. First flight of the BAe 1000 is scheduled for later this year. Deliveries are expected to commence in 1991. Thirty-one BAe 800s were delivered in 1989. Since the early 1960s, 757 airplanes in the HS–125 series have been produced. The company has 17 "commitments" for the new eight-passenger BAe 1000; projected cost is $10.25 million.

British Aerospace, Incorporated, Post Office Box 17414, Washington Dulles International Airport, Washington, D.C. 20041-0414; telephone 703/478-9420. —*TBH*

CANADAIR

Canadair delivered 26 Challenger 601-3As (including its 200th 601) in its fiscal 1989, which ended January 31, and expects to deliver the same number this year. Base price is $13.75 million "green"; i.e., with avionics but no interior furnishings. Deliveries began in August 1989 on the 601-ER, a higher-gross-weight, extended-range version, and most recent orders have included the extended-range option. Deliveries of a shorter-range 601-S are scheduled to begin midyear, priced at about $11.75 million with a standard interior.

Development continues on the RJ, a 50-seat jet for regional airlines. Prototype construction began last November; the first of three certification airframes will roll out in early 1991, with a first flight scheduled for mid-year. Certification and first deliveries should follow in mid-1992. Canadair is considering development of a 60- to 70-seat follow-on model.

Canadair 601-3A(ER)

Canadair Challenger, Incorporated, 8 Griffin Road North, Windsor, Connecticut 06095; 203/688-7767. —*SBG*

CESSNA

Cessna posted its best year in a decade in 1989 with an almost 100-percent increase in business jet orders over 1988 and a 200-unit backlog. The company delivered 183 aircraft valued at $439,348,000. Production of most models is sold out through the end of the year; the Citation V (which replaced the Citation S/II) is sold out through September 1991, and the Citation II, through March 1991. First deliveries of the new entry-level CitationJet will take place in December 1992, and the 50 units slated for production in 1993 are sold; the order book at the end of 1989 stood at 60 units. Deliveries of Cessna's new top of the line mid-size business jet, the Citation IV, are scheduled to begin in mid-1994.

Almost half of the last two years' sales were to the international market, up from the traditional 30 percent. "Business aviation products really are finding themselves to be highly desired items in a lot of emerging nations—countries where their economies have now reached a point where they will support the purchase of business jets, and the lack of an adequate internal transportation system has made them almost a necessity," says Roy H. Norris, vice president and general manager of Citation marketing. Cessna has also seen a strong market developing in Europe.

The Caravan I also sold well last year. The airplane's largest customer, Federal Express, ordered 50 with an option for 100 more. The production rate may be increased for 1990 to meet the demand.


Cessna CitationJet

Cessna could make a decision as early as the end of this month regarding bringing some other turboprop models back into production, but piston-engine airplanes are another story. "The desire and the commitment here at Cessna to return to that business is as strong as it has ever been," says Norris. "But until we see effective tort reform that will allow us to participate in that business without absolutely risking the company, we do not feel that we can, in good judgment, manufacture piston airplanes." Cessna is encouraged by what it sees as an improving attitude toward product liability by both the judiciary and Congress.

Base prices for 1990 are: Caravan I, $793,800; Caravan IB, $914,500; Caravan II, $1.475 million; CitationJet, $2.495 million; Citation II, $2.865 million; Citation III, $6.775 million; Citation IV, $7.675 million; Citation V, $3.995 million.

Cessna Aircraft Company, Box 7704, Wichita, Kansas 67277; 316/946-6000. —*SBG*

CHRISTEN


Pitts S-2B

Christen Industries, in tiny Afton, Wyoming, specializes in niche marketing. The company got its start building Eagle aerobatic airplanes—a design modeled on the Pitts Special—that owners bought as a kit and assembled on their own. Christen then acquired the rights to the Pitts. The Eagle no longer is produced, but sales of Pitts Specials continue at a strong, steady pace.

The Pitts order backlog extends into mid-1991. Pitts Specials have been built in Afton at the rate of one every two weeks since June 1971, according to Christen owner Frank Christensen. Current price of the two-seat, 260-hp S-2B is $85,250. The single-place, 260-hp S-2S is $82,220. The single-place, 200-hp S-1T is $68,450.

About six years ago, Christen perceived a need for a replacement for the Piper Super Cub, which, at the time, was out of production. Christen attempted to buy the rights to the Super Cub and, later, the Champion line but was stopped by the prospect of shouldering expensive product liability insurance. Instead, the company analyzed the Super Cub's strengths and weaknesses and designed a new and improved version dubbed the Christen Husky. The utility market Christen targeted for the Husky has been receptive. The U.S. Border Patrol has ordered 23, and overseas sales are strong. The production rate, now one a week, will increase 50 percent in 1991 and double to two a week in 1992. The 1990 model features an aft fuselage access door for battery and avionics tray and several other small refinements. The Husky is approved for use on floats and skis. Base price is $61,250.

Christen now has another airplane model in the works. The company has been performing extensive modifications on a Lark Commander to improve the performance and appearance of the 180-hp, four-place, high-wing single. True to its niche philosophy, Christen is considering transforming the Lark into a trainer. However, Frank Christensen is attempting to sell his company, and the fate of the redesigned Lark project hinges on the sale. Regardless of the outcome, Christensen is confident that whomever buys Christen Industries will continue with production of the Pitts and Husky.

Christen Industries, Incorporated, South Washington Street, Afton, Wyoming 83110; 307/886-3151. *—Mark R. Twombly*

CLASSIC


Waco YMF-5

Classic Aircraft of Lansing, Michigan, continues to turn out new Waco YMF-5 biplanes at the leisurely pace of one a month; 1989's production totaled 11 units, bringing the Classic-made fleet of Wacos to 28. Changes for 1990 include three-inch-shorter main landing gear legs, which, according to Classic, makes the YMF-5 easier to land and provides better visibility over the nose.

Other alterations include slightly more foot room in the rear cockpit, thanks to repositioned rudder pedals, and a single nav/com and intercom system standard in the Waco's $160,000 base price. Additional avionics can be factory installed. Company spokesmen say a few Wacos have gone out with full IFR panels, including 3M Stormscope and HSI.

Power for the biplane continues to be from a 275-hp Jacobs R755 radial; Classic says availability of the engine and parts for it is excellent.

Classic Aircraft recently returned from a 41-day, 92-city promotional tour that managed to sell nearly half of one year's production.

Classic Aircraft, Capital City Airport, Lansing, Michigan 48906; telephone 517/321-7500. *—MEC*

COMMANDER

Work continues at Commander Aircraft Company to bring the revived 114 to production. The first deliveries of the airplane, now christened the 114B, are scheduled for the end of June, with production gradually increasing to 20 a month by the end of 1990; Commander hopes to have produced 73 aircraft by that time.

New Commanders will not be "sold," per se, but will be available in the United States only through a finance/leasing agreement. Although details of the lease had not been set by press time, it should look something like this: a 10-percent down payment and seven-year term (amortized over 10 years), at or near the prime interest rate. The basic price of the 114B is $129,500, a figure that will likely apply only to the first year's production, according to Commander spokesmen. The lease allows Commander Aircraft to lessen its product liability exposure somewhat and also enables it to provide insurance to the leasing pilots.


Commander 114B

Also still to be finalized are several minor modifications to the airplane to help improve cruise speed and overall performance, the options list, and various avionics packages.

Currently, Commander is carrying out modification of existing 112s and 114s with new wing-spar-attach fittings. Last year, Gulfstream Aerospace, Rockwell International, Commander Aircraft Company, and the Commander Flying Association reached a settlement after it became apparent Gulfstream's first fixes for cracking spar-attach fittings (required by an AD) failed to solve the problem. The modification is being partially bankrolled by Gulfstream; 114Bs will already have the mod.

Commander Aircraft Corporation, 7200 N.W. 63rd Street, Bethany, Oklahoma 73008; 405/495-8080. *—MEC*

FALCON

Dassault-Falcon Jet comes into 1990 with no major changes to its product line. The upcoming Falcon 2000 twinjet, shown at last year's National Business Aircraft Association convention, is still awaiting assignment of engines and avionics; deliveries are expected to begin in 1994. The 2000 will use a fuselage as wide as the trijet Falcon 900 but only two thirds as long, says Falcon Jet, and cruise speeds will be between Mach 0.80 and 0.85. Price has not been set.

Other news from Dassault: The 200th Falcon 50 has been delivered from France. The 50 was originally delivered in 1979 and is available for approximately $13.5 million. The larger Falcon 900 remains in production for a cool $24 million. Falcon Jet says that about 80 of the 900s have been delivered to the U.S. Falcon Jet Corporation, Teterboro Airport, Teterboro, New Jersey 07608; telephone 201/288-5300. —*MEC*

Falcon 900

GULFSTREAM

Just two months after Gulfstream Aerospace's parent company, Chrysler Corporation, put the business-jet maker on the block, it was purchased by Forstmann Little & Company in partnership with Gulfstream Chairman and CEO Allen E. Paulson. Earlier, Paulson had resigned from the Chrysler board and taken a leave of absence from Gulfstream to acquire financing to purchase the company. Paulson said that while "many well-known organizations offered to be my partner," he chose to team with Forstmann Little because its "integrity is unquestioned and . . . investment successes are unmatched."

Meanwhile, Gulfstream's Savannah, Georgia, facility continues to turn out the G–IV business twin with a slightly reduced work force of 3,800. About 70 employees have been laid off. Partly as a result of this, Gulfstream expects to produce fewer G–IVs in 1990: 30 compared to 49 in 1989. Gulfstream recently backed out of a deal to build a small jet with Swearingen Engineering. The Williams FJ–44-powered twin is now expected to be built by Swearingen and fellow San Antonio, Texas, company, the Jaffe Group. However, Gulfstream's participation with the USSR's Sukhoi Design Bureau for a supersonic business aircraft continues.

Gulfstream Aerospace Corporation, Savannah International Airport, Post Office Box 2206, Savannah, Georgia 31402; telephone 912/964-3000. —*MEC*

Gulfstream IV

HELIO COURIER

Aircraft Acquisition Corporation, which purchased Taylorcraft in late 1989, also bought Helio Courier Aircraft and is moving the tooling to a new production facility at the Waynesburg (Pennsylvania) Airport. The Helio Courier, complete with a built-in crash cage, is said to be one of the safest airplanes ever built. It lands and takes off using as little as 245 feet of runway at speeds as low as 24 knots. AAC President Darus Zehrbach said he expects to produce about 50 aircraft this year, with first rollout in midyear. Included in the product line is a six-seat tricycle-gear aircraft with 295 to 300 hp and a price tag of about $130,000, according to Zehrbach. The turboprop Stallion, which seats 11 to 15 and is powered by a 680-shp Pratt & Whitney PT6 engine, will reenter production in 1991 at a cost of about $700,000. A prototype six-passenger airplane with a 420-shp Allison turboprop engine also is flying and may be produced for sale. The price will be less than $400,000, Zehrbach said.

Helio Courier

Helio Aircraft Corporation, Post Office Drawer 3350, 165 Scott Avenue, Morgantown, West Virginia 26505; telephone 304/291-2376. —*TBH*

LAKE

Lake Aircraft delivered 23 aircraft and made a number of product improvements to its Renegade 250 and turbocharged 270 amphibians in 1989. Chief among them was certification of a three-axis Bendix/King KFC 150 fully coupled autopilot system for both models. Gross weight on both airplanes was raised by 90 pounds. The Turbo 270 received a panel redesign as well; the instrument layout has been "cleaned up a bit," and some electrical switches have been moved to a subpanel on the pilot's sidewall.

For the 1989 model year, Lake increased the power of its turbocharged model from 250 to 270 horsepower and gained about 12 knots in cruise speed. "We're getting a little better than a 155-knot cruise now, which is a big number for an amphib," says Lake's Bruce A. Rivard. Corrosion-proofing for saltwater operation is standard.

The 1990 models will incorporate new interiors with extra soundproofing and "a lot more comfort" through adjustable reclining seats.

The company has expanded the staff at its Kissimmee, Florida, facility (407/847-9000), which will now be primarily responsible for international sales. U.S. and Canadian sales will be handled out of the Laconia, New Hampshire, office. The company also has a West Coast office in Renton, Washington (206/226-2100).

Lake Turbo 270

Base prices for 1990 are $258,800 for the 250 and $288,800 for the Turbo 270, sans radios.

Lake Aircraft, Incorporated, Laconia Airport, 50 Airport Road, Laconia, New Hampshire 03246; telephone 603/524-5868. —*SBG*

LEARJET

In a scenario similar to that of Gulfstream, Learjet Corporation has been put on the auction block by its parent company, Integrated Resources. Gulfstream and Toyota were said to be interested, but neither is likely to purchase the business airplane company.

Learjet continues into 1990 with four models in production—the Models 31, 35A, 36A, and 55C—and an estimated total volume of 36 units. As of mid-January, aircraft slated for production in the first three quarters of 1990 had been accounted for.

Learjet 31

At the bottom of Learjet's line (if you could call a $3.85-million jet the bottom of anything) is the Model 31. Powered by Garrett TFE731 turbofans, Learjet's entry-level model sports a service ceiling of 51,000 feet and 445-knot cruise speed. The 31 might be the baby of the Learjet line, but it's clearly the hot rod of the bunch. With delta fins below the vertical tail (which improve the 31's low-speed handling), the 31 is a most distinctive airplane. Topping the line is the 55C, which also uses winglets and delta fins. This widebody, 10-seat jet carries a basic price of $6.9 million; the 35A is $4.4 million, and the 36A is $4.6 million.

Learjet Corporation, Post Office Box 7707, Wichita, Kansas 67277; telephone 316/946-2000. —*MEC*

MAEL

A new project this year for Mael Aircraft Corporation is the BA–42T-B twin-engine aircraft. According to founder Robert Mael, the new model is scheduled to fly later this year with a pair of 300-hp Teledyne Continental engines. The BA–42T-B has a maximum gross weight of 4,735 pounds compared to the BA–42 at a weight of 4,250 pounds. The six-seat BA–42 uses 210-hp Continental engines. Three of those aircraft have been sold, Mael said. Six more aircraft are stamped out in the parts department. Under consideration is a larger, jet version of the aircraft dubbed the BA–46.

Mael BA–42T-B

Mael Aircraft Corporation, Box 138, Portage, Wisconsin 53901; 608/742-5341. —*TBH*

MAULE

It used to be that deciphering Maule's product line was like trying to keep track of family lines in a Greek tragedy. The many combinations of wings, fuselages, and engines to roll from the factory could confuse even the most die-hard Maule watcher.

Recently, though, Maule has concocted two permutations of its venerable airplane that are the most radical steps yet. One, a turboprop single (on wheels or floats), promises to fill a market niche for a high-performance bush airplane. The other is Maule's first tricycle-gear model.

Maule MXT-7-180

Powered by a 420-shp Allison, the MX-7-420 (with wheels) and M-7-420 (amphibian) turboprop airplanes recently received certification and are in production; Maule had delivered the second by mid-January. Maule recognizes that the market for a $250,000 bush airplane (or $350,000 if you opt for floats) is small; it would be happy to sell five or six of them in 1990. Stellar short-field performance is just part of the turboprop Maule package; rate of climb ranges from 2,200 fpm for the floatplane to an eardrum-bruising 3,700 fpm for the taildragger.

Called the MXT-7-180, the tricycle-gear airplane uses the MX-7 fuselage and wings and 180-hp Textron Lycoming O-360 and receives new main gear as well as a steerable nosewheel. Drop tests had yet to be performed at press time, the only item holding up certification. Maule hoped that the MXT would receive certification by the end of February. Later, a 235-hp O-540 will be offered.

Three other models, all taildraggers, fill out the Maule line for 1990. The MX-7, which has the shortest wing of the Maule lot and a four-place cabin, can be had in carbureted 180-hp and 235-hp form, as well as in fuel-injected, 235-hp trim. Next in size is the M-6 series, which sports the same cabin and fuselage as the MX-7 but a larger wing; it's available with either 235-hp powerplant. A larger cabin and five seats and a still larger wing set the M-7 apart from the others; it comes with the same engine choices as the M-6. Base prices range from $67,900 for the 180-hp MX-7 to $84,748 for the fuel-injected, 235-hp M-7.

All Maules come with full gyro panels and VFR avionics included in the base price. An extensive list of options exists for all models, including radios, autopilots, floats, skis, tow hooks, observation windows, and plexiglass doors. With all the possible permutations, it makes one wonder if any two Maules are alike.

Maule Air, Incorporated, Route 5, Box 319, Moultrie, Georgia 31768; telephone 912/985-2045. —*MEC*

MOONEY

In each of the past several years, Mooney Aircraft Corporation has introduced a new or refined model of its slick and sporty aircraft. This year will be different, according to William Starkey, vice president and general manager of the marketing sales and service division. In 1990, Mooney plans to concentrate on improving customer service, he said. In April, the company will officially unveil a new support and service program. Many of the changes, details of which are not yet available, are the result of suggestions from buyers. Mooney also plans to increase prices for its five models soon, though those prices were not available at press time. At the lower end of the model line and top of the delivery list is the Mooney 201. Sixty-nine 201s were delivered last year. In addition, 11 Mooney ATs, an "advanced trainer" version of the 201, were delivered. Mooney also produces the Porsche-powered PFM, the 252, and the TLS. Starkey admits the unusual PFM—which not only has a unique engine, but a different panel with a host of electronic instruments—has been "perceived as a problem child for Mooney." That is beginning to change, he continues. Porsche and Mooney jointly issued a statement that production and support of the engine and airframe will continue. Fourteen of the airplanes were delivered in 1989.


Mooney TLS

Mooney Aircraft Corporation, 8901 Wetmore Road, San Antonio, Texas 78216; telephone 512/824-2727. —*TBH*


Mudry CAP 10B

MUDRY

For those interested in unlimited aerobatics, the choices of aircraft are few. One option is the CAP 230 single-seat aerobatic airplane marketed by Mudry Aviation, Limited. The firm represents the French aircraft builder Avions Mudry and Company from its base at Poughkeepsie, New York. In addition to the 300-hp Lycoming-powered CAP 230, Mudry also builds the CAP 10B two-place aerobatic trainer, powered by a 180-hp Lycoming engine. The cost of the CAP 230 is about $180,000. The CAP 10B goes for about $135,000, but all prices are dependent on the current value of the franc.

Mudry Aviation, Limited, Dutchess County Airport, Route 376, Wappingers Falls, New York 12590; telephone 914/462-5009.—*TBH*

PIAGGIO


Piaggio Avanti P180

One of the most unusual aircraft scheduled to be certified in 1990 is the Avanti P180 under development by Rinaldo Piaggio S.p.A of Italy. The Avanti is a twin-turboprop pusher aircraft that uses three flight surfaces—a small forward wing, a high-aspect-ratio main wing, and a small T-tail. Joint U.S.-Italian certification was to be completed in late January, and complete certification is due to be finished by June, when the first customer delivery is scheduled, according to Robert Westlake, vice president of AMR-Avanti Sales, N.A. Despite its exotic looks, the Avanti is mostly aluminum. The manufacturer plans to deliver six aircraft this year. The Avanti cabin seats seven to nine passengers. Two Pratt & Whitney PT6A engines at 850 shp each power the aircraft at speeds up to 400 knots. Price is set at $3.98 million. AMR-Avanti Sales is a sister corporation of American Airlines and is the North American sales agent.

AMR-Avanti Sales, N.A., 2120 Airport Road, Mid-Continent Airport, Wichita, Kansas 67209; 316/946-4050. —*TBH*

PILATUS


Pilatus PC-7

Pilatus Aircraft, Limited, surprised the industry last October when it announced the development of a new single-engine turboprop designed for executive transport and cargo hauling. By early 1990, 25 options for the new PC–12 were in hand, including three from U.S. Beech King Air operators, according to Larry Bardon, director of PC–12 product management in Switzerland. Pilatus is seeking a partner to assist in the program. The company is in discussions with as many as 15 potential partners, Bardon said. The PC–12, with a Pratt & Whitney PT6A engine flat-rated to 1,200 shp, is scheduled for first flight in December and certification in mid-1992. Price is set at $1.627 million. Meanwhile, Pilatus is still offering the PC–9, PC–7, and PC–6 through a U.S. marketing agency. The PC–9 is primarily sold as a military trainer. The PC–7 is under consideration as an *ab initio* or airline trainer. The PC–6 is popular as a cargo hauler.

For information on the PC–12, contact Bardon at Pilatus Aircraft, Limited, CH-6370 Stans, Switzerland; telephone 41 41 636 456. For the other aircraft, contact Pilatus Aircraft, Limited, IPAC, Incorporated, 450 Fifth Street, N.W., Washington, D.C. 20001; telephone 202/626-1300. —*TBH*

PIPER

Piper Aircraft delivered 621 aircraft in 1989—more than any other manufacturer by far—valued at $90,547,000. Last December, the company delivered its 1,000th Cheyenne turboprop since deliveries started in 1974; it went to Whelen Engineering, a manufacturer of aircraft and airport lighting equipment, among other products. Deliveries of Super Cub kits began in February 1989; the kits are available with or without engine and propeller. This was also the first year of production of the Malibu Mirage, 89 of which were shipped. Deliveries of 275 Cadets marked that model as the best-selling fixed-wing aircraft of 1989.

Piper Cadet

Piper's parent company—Romeo Charlie, Incorporated—announced the formation of a new subsidiary—Piper North, Incorporated—which plans to resume production of aircraft at Piper's historic Lock Haven, Pennsylvania, facility (707/748-6711). Piper North anticipated having a work force of 100 by the end of 1990 and 600 in five years. Production was scheduled to begin in the second half of 1990; the company plans to build two Navajo Chieftains this year. Future production rates are slated to be 18 in 1991, 30 in 1992, 40 in 1993, and 50 in 1994. At press time, the future of Piper North was unclear, pending resolution of Piper Aircraft's financial difficulties.

Lock Haven could also be the site of production of the LoPresti Piper SwiftFury, a more powerful, much-improved descendent of the Globe Swift. LoPresti Piper Engineering Company, Incorporated, is expected to certify the SwiftFury as a new airplane instead of amending the original type certificate. Pricing had not been established at press time, but initial deliveries of the SwiftFury are scheduled for early 1992.

Back in Florida, Piper Aircraft, suffering from cash-flow problems, still plans to build a full line of piston- and turbine-engine airplanes this year, albeit on a stretched-out delivery schedule. Models and basic equipped prices are: Super Cub (factory assembled), $49,995; Cadet (VFR equipped), $59,995; Cadet (IFR equipped), $69,995; Warrior II, $88,900; Archer II, $91,900; Dakota, $116,900; Arrow, $126,900; Turbo Arrow, $136,900; Saratoga, $178,900; Saratoga SP, $198,900; Seneca III, $283,900; Seminole, $225,900; and Malibu Mirage, $407,900. Prices for the Cheyenne IIIA and 400 turboprops were not available at press time.

Piper Aircraft Corporation, 2926 Piper Drive, Vero Beach, Florida 32960; telephone 800/72-PIPER. —*SBG*

TAYLORCRAFT

A team of investors breathed new life into Lock Haven, Pennsylvania's Taylorcraft production line in late 1989. Taylorcraft was forced into Chapter 11 bankruptcy in December 1986 and then into Chapter 7 in mid-1989. Aircraft Acquisition Corporation was the successful buyer, and now Taylorcraft Aircraft Corporation is restarting production, according to Darus Zehrbach, president of AAC. The first new airplane, which had been partially completed during the bankruptcy proceedings, flew in late December. The company plans to deliver 120 aircraft this year and is taking orders for the Classic 118, a 118-hp taildragger offered at a price of $39,000. Also available is a 150-hp tricycle-gear VFR trainer for $49,000, a 180-hp STOL aircraft with fixed-pitch propeller for $48,750, and an IFR trainer (no price yet available). Taylorcraft can arrange financing for new aircraft through Maryland National Bank, and Zehrbach is attempting to establish a training program where, for about $500 over the cost of a trainer, a person with no flying experience can get an airplane and earn a private certificate. Other higher performance aircraft are in the works, said Zehrbach.

Taylorcraft Aircraft Corporation, Post Office Drawer 3350, 165 Scott Avenue, Morgantown, West Virginia 26505; telephone 304/291-2376. —*TBH*

Taylorcraft F21B

TBM

TBM International received basic and IFR certification of its TBM 700 on January 31 from the French civil aviation authority. U.S. certification and other certification, including icing, is expected to be completed by early spring. The number-three prototype aircraft was scheduled to begin a demonstration tour of the United States in March. The TBM 700, a six- to seven-seat airplane powered by a single 700-shp Pratt & Whitney turboprop engine, is a joint venture between France's Aerospatiale-Socata and the United States' Mooney Aircraft. The first six airplanes will be built in France. By late 1990, some manufacturing and assembly of aircraft for North America may begin at Kerrville, Texas, according to Brant Dahlfors, a spokesman at TBM North America, Incorporated, the U.S. arm of TBM International. The first production airplane is scheduled for delivery by the end of July. Price is set at $1.095 million for an IFR-equipped airplane with complete deicing equipment. The TBM 700 cruises at near 300 knots at an altitude of 30,000 feet.

TBM 700

TBM North America, Incorporated, 8901 Wetmore Road, San Antonio, Texas 78216; telephone 512/824-8383. —*TBH*

ROTARY WING BY SETH B. GOLBEY

AEROSPATIALE

Aerospatiale Dauphin

Aerospatiale Helicopter Company, the Texas-based subsidiary of the French aerospace conglomerate, distributes a range of light, medium, and heavy single- and twin-turbine-engine helicopters in North America. The company delivered 42 units worth about $66 million here last year, accounting for more than a quarter of the turbine helicopter market, according to AHC figures. Deliveries included six Dauphins for the Maryland State Police (three more are on order) and four AStars for the Los Angeles Police Department (two more are on order). Seventy percent of 1990 production was sold out by early February. AHC plans to compete for the Army's basic helicopter trainer contract with a derivative of the AStar.

Base prices for 1990: AS–350B AStar, $695,000; AS–350B2 SuperStar, $805,000; AS–355F2 TwinStar, $1.2 million; AS–355F2R TwinStar, $1.295 million; AS–365N2 Dauphin II, $3.495 million; and AS–332L1 Super Puma, $7.4 million.

Aerospatiale Helicopter Corporation, 2701 Forum Drive, Grand Prairie, Texas 75053-4005; telephone 214/641-0000.

AGUSTA

Agusta Aerospace Corporation is based in Philadelphia and represents Italy's giant Gruppo Agusta consortium in North America. While its A109 helicopter sold well last year in many parts of the world—149 units—just six ships were sold and only one delivered in North America, and that one went to a buyer in Mexico. A new, more powerful C model and a large-cabin, emergency medical service "Max" model were certified here in 1989. Deliveries for 1990 are expected to be in the "high teens," according to marketing vice president Louis P. Bartolotta, who says the company also would like to open eight to 10 service centers this year. Base prices for 1990: A109C, $2.25 million; A109 Max, $2.3 million.

Agusta Aerospace Corporation, 3050 Red Lion Road, Philadelphia, Pennsylvania 19114; telephone 215/281-1400.

BELL

Last October, Bell announced the development of the successor to its Model 222; the Bell 230 will be powered by a pair of 650-shp Allison 250-C30G2 turboshaft engines. A variant with Textron Lycoming LTS101s may be offered in the future. Production will begin this year; certification and first deliveries are scheduled to occur by January 1992. The ship will have a new transmission and suspension system and will be certified for single-pilot IFR operations without stability augmentation. Bell is discussing joint development with Mitsui and Company, Limited, of Japan. An initial run of 50 units is planned.

In 1983, Bell was selected to help Canada develop an indigenous helicopter industry. The company's plant opened in Mirabel, Quebec, 19 miles north of Montreal, in 1985. JetRanger and LongRanger production was transferred there in 1987, Model 212 production in 1988, and Model 412SP production in 1989. Last year, Bell delivered the 250th helicopter built in Mirabel, a JetRanger, and the company will reportedly build from 175 to 200 units there this year. Product support for the 206 series is also based in Mirabel. Most of Bell's commercial helicopter production is performed at this plant.

Bell JetRanger

Base prices for 1990 are: 206B–III JetRanger, $475,000; 206L–III LongRanger, $725,000; 212 (VFR), $2.9 million; 212 (IFR), $3.175 million; 412SP (VFR), $3.1 million; 412SP (IFR), $3.35 million; 230, $2.78 million.

Bell Helicopter Textron, Incorporated, Box 482, Fort Worth, Texas 76101; telephone 817/280-2011.

ENSTROM

Enstrom delivered 25 helicopters in 1989, its best performance since 1981, according to Aerospace Industries Association figures. Production plans call for delivery of 36 units in 1990, including an order for 10 by the company's British dealer. The 225-hp 280FX Shark and F28F Falcon are the only turbocharged piston-engine helicopters manufactured in the United States today. A police model, the F28F-P, is also available.

Currently, Enstrom's biggest project is development of a three-/four-seat turbine-engine model. The second prototype made its first flight early last October. The three-place configuration—the TH–28—will compete for the U.S. Army's basic trainer requirement and will also be marketed for foreign military, patrol, and law enforcement applications. The four-seat model—the Model 480—will be marketed for personal and police use. The aircraft will be powered by a 420-shp Allison 250-C20W turboshaft flat-rated to 285 shp for takeoff and 250 shp for maximum continuous power, which will leave ample margins for hot-day/high-altitude operations, according to Enstrom. Certification is scheduled for the fourth quarter of 1990, with first deliveries to follow soon thereafter.

Enstrom's model year begins in April, and base prices for the new year had not been established at press time; base prices through March are $196,900 for the 280FX and $181,500 for the F28F.

Enstrom Helicopter Corporation, Post Office Box 277, Twin County Airport, Menominee, Michigan 49858; telephone 906/863-9971.

Enstrom TH–28

MBB

Contrary to most companies' experience in both the fixed- and rotary-wing markets last year, MBB Helicopter Corporation (a subsidiary of West Germany's Messerschmitt-Bolkow-Blohm GmbH) delivered 15 percent fewer ships (34) than in the year before (39), but the average value of those units was substantially higher (up 25 percent). Unit deliveries this year will be higher; the company held a backlog of 27 units in early February. MBB has introduced a corporate transport model and a single-pilot IFR version of its BK–117 twin-turbine helicopter. The U.S. Customs Service took delivery of four BK–117s last year and holds options for as many as 33 more over the next four years. The Drug Enforcement Administration is also a BK–117 user. Public service is an especially strong market for MBB.


MBB BK–117

Base prices for 1990 are: BO–105CBS, $1.3 million; BO–105LS, $1.55 million; BK–117, $2.14 million.

MBB Helicopter Corporation, 900 Airport Road, Post Office Box 2349, West Chester, Pennsylvania 19380; telephone 215/431-4150.

MCDONNELL DOUGLAS

The first production helicopter using McDonnell Douglas Helicopter Company's revolutionary no-tail-rotor (Notar) antitorque system made its first flight on December 29. The MD 530N is powered by an Allison 250-C30 turboshaft engine. A second production prototype, an MD 520N—powered by an Allison 250-C20R-2—was expected to make its first flight in January. The 530N and 520N are Notar follow-ons to MDHC's conventional model 530F and 500E helicopters, respectively. Notar technology will be used in the company's newest design, the MDX, an eight-place, twin-turbine helicopter expected to make its first flight in mid-1992. Notar will also be incorporated in the MDHC/Bell Helicopter Textron design competing in the U.S. Army's LHX light helicopter system competition. The Notar system had been flown for more than 400 hours on a modified Army OH-6 concept demonstration helicopter.

MDHC MD 530N

Production of the conventional Model 500 line continues. Base prices for 1990 are: MD500E, $470,000 and MD530F, $650,000. The MDX is expected to cost about $2.05 million for 1997 delivery.

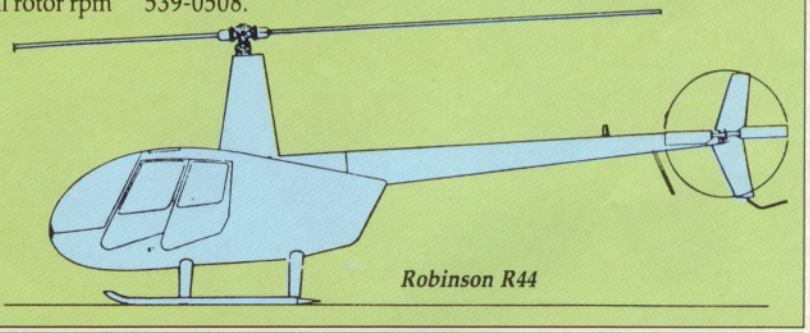
McDonnell Douglas Helicopter Company, 5000 East McDowell Road, Mesa, Arizona 85205-9790; telephone 602/891-3000.

ROBINSON

Robinson Helicopter Company maintained its preeminent position in 1989 by delivering 310 new R22 helicopters, the largest number of any model of light aircraft in the United States. (The company delivered 204 R22s in 1988 and 127 in 1987.) Robinson overhauled or remanufactured an additional 59 units in 1989. The company entered 1990 with an order backlog of 70 units. RHC has introduced an optional rotor rpm governor for 1990 that controls rpm within ± two percent; the system weighs three pounds and costs $3,750. Base prices for 1990 are $98,850 for the R22 Beta, $107,850 for the Mariner, and $116,850 for the IFR trainer version. For police use, a loudspeaker and searchlight are available as optional equipment.

Development of the four-place R44 continues; it will be powered by a 260-hp Lycoming O-540. "The target gross weight is 2,350 pounds, and its performance will be very similar to the R22, except it should be a little faster," according to Barbara K. Robinson, vice president-marketing. "We plan for the R44 to sell for less than half the price of a single-turbine-engine helicopter." First flight was scheduled for February, and certification and initial production are expected in "three to four years."

Robinson Helicopter Company, Incorporated, 24747 Crenshaw Boulevard, Torrance, California 90505; telephone 213/539-0508.


Robinson R44

SCHWEIZER

The Schweizer Aircraft Corporation delivered 80 Model 300C piston-engine helicopters in 1989; current plans call for production of 90 this year. Schweizer will soon deliver the 300th 300 it has built since acquiring a production license from Hughes Helicopters in 1983. (The company bought out Hughes' remaining interest in 1986.) Production is sold out for 1990 and half of 1991.

Development continued last year on the company's new single-turbine-engine model, the 330; certification and first deliveries of the initial production run of 20 units are expected to take place late this year.


Schweizer 330

The base price for a 1990 Model 300C is $167,900. The 1991 base price of the 330 is expected to be "slightly below $400,000," according to company President Paul Schweizer.

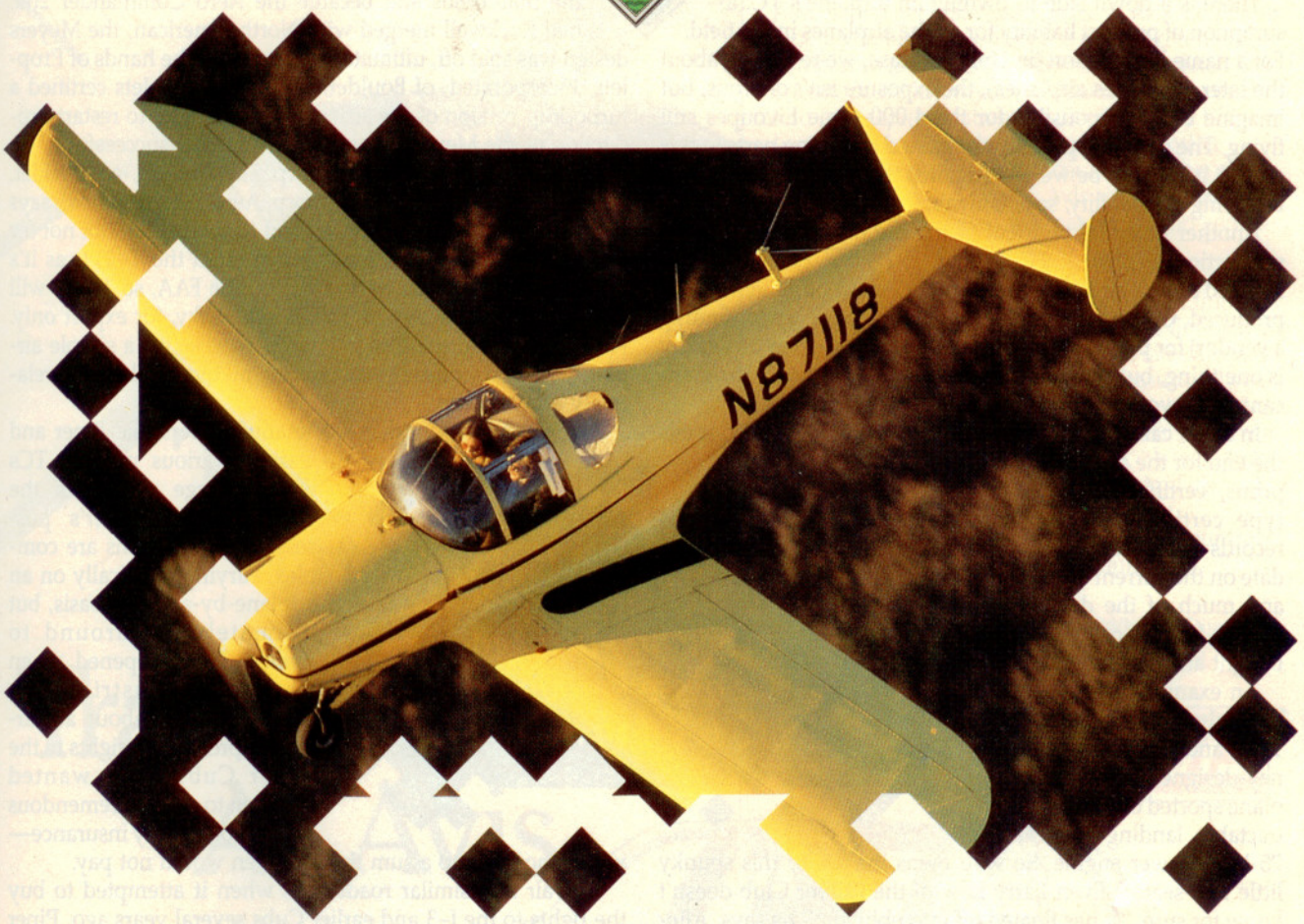
Schweizer Aircraft Corporation, Post Office Box 147, Elmira, New York 14902; telephone 607/739-3821.

SIKORSKY

Sikorsky Aircraft delivered 17 new S-76s in 1989—14 S-76Bs and three S-76A+s—up from nine units in the previous year. The B is powered by Pratt & Whitney Canada turboshafts, the A+ by Turbomeca Arriel 1Ss. The company plans to deliver 21 units this year. Sikorsky is also introducing a new C model featuring Turbomeca Arriel 1S1 engines mated to the basic B airframe. The S-76C is expected to make its first flight this month and be certified in early 1991; the first two units will be delivered in mid-1991 to the Royal Hong Kong Auxiliary Air Force as part of an eight-ship order.

An S-76B or C will cost you from about $5 million to about $5.5 million, depending on whether it is configured for offshore support missions or is fully outfitted for executive transportation.

Sikorsky Aircraft, 6900 Main Street, Stratford, Connecticut 06601-1381; telephone 203/386-4000. □



WHERE ARE THEY NOW?

Looking for the lost, but not necessarily forgotten

BY MARC E. COOK

While the overall prognosis for the aircraft manufacturing industry isn't exactly rosy, one gains some solace from the fact that a few older aircraft designs are slated to go back into production in the near future. The single- and multiengine Commander lines come to mind, as does the revival of Taylorcraft, and the Grumman/Gulfstream, now American General, Tiger. As the demand for light aircraft continues, it seems more and more older airplanes are coming out of the woodwork, primed and ready for a second (or third or fourth) shot at the market.

But what of airplanes not so lucky, those that have fallen from production and into relative obscurity? Does anyone care enough to buy the manufacturing rights, type certificates (TCs), and blueprints to these once shining, now nearly forgotten, airplanes? The answer is a qualified yes.

One name that frequently comes up in conversations like this is Univair Aircraft Corporation. The parts house currently holds the type certificates and manufacturing rights to two airplane marques: Ercoupe and Stinson. What's more, Univair has bought and sold TCs in the past, having once owned Swift and Aeronca rights as well. But Univair has no intention of making new airplanes, so why buy the TCs? Simple. The manufacturer of an airplane (the holder of the type and production certificates) can construct spare parts easily, as long as the Federal Aviation Administration inspects the production facilities and product. Also, as the airplane manufacturer, a

PHOTOGRAPHY BY THOMAS A. HORNE

company like Univair can go to outside suppliers for parts, and it can make improvements to parts.

There is a down side to owning an airplane's TC: assumption of product liability for all the airplanes in the field. For a name like Stinson (in Univair's case, we're talking about the later 108-series airplanes), the exposure isn't onerous, but imagine being responsible for the 4,000-some Ercoupes still flying. The potential profits to be gained by selling parts to this aircraft base must be weighed against the potential hazards of acquiring the liability, says Univair.

Another potential problem facing the holder of an out-of-production airplane's TC is that, if certain parts are constructed for the aircraft, owners might expect other items to be produced. Going through the trouble of tooling up (or finding a vendor) for pieces that are needed to keep the fleet airworthy is one thing, but setting up to make small, relatively insignificant parts would not be economically feasible.

In many cases, the demise of an aircraft company also spells the end for the airplane's blueprints, certification data, and type certificate. The FAA's records aren't always up to date on the current TC owners, and much of the documentation is lost as companies are bought and sold.

An example of the above is the Culver Cadet. Produced in 1940 and 1941, the Al Mooney-designed, two-place airplane sported conventional, retractable landing gear and a 75-horsepower engine. So who owns the TC to this spunky little two-seater? Even Larry Low of the Culver Club doesn't know for sure. "It has floated off into oblivion," he says. After Culver produced about 360 of the airplanes, it stopped providing the civilian market when the government required it to build PQ–8 target drones for the U.S. Army instead; by late 1942, Culver was essentially out of the civilian market. In the PQ–8, the Cadet was given tricycle landing gear and progressively larger engines; about 400 were built. Despite requests from the postwar market, Culver never built another Cadet, electing instead to develop a new design, the Culver V. According to Low, Myron H. Spinks owned the rights to the Cadet for a while but never produced any aircraft. From there, the trail runs dry, Low admits.

Some airplanes' rights go through few changes of ownership, but some are passed around like baseball cards. The Navion is an interesting example of the latter. Designed and originally built by North American Aviation in the late 1940s, the Navion's rights passed quickly to Ryan Aeronautical Corporation. Ryan built Navions through 1955, when Tubular Steel Corporation bought the rights, tooling, and many spares from Ryan. Then came the American Navion Society purchase in 1965; it built about 50 units through 1970. One other attempt to build Navions took hold in 1972, but only a handful of airplanes were produced. Today, the TC and production rights belong to a Redondo Beach, California, company; it produces only parts for the Navion Society.

A contemporary of the Navion, the Meyers/Aero Commander 200, has left a similarly convoluted paper trail. Originally built one by one by Meyers Aircraft Company in Tecumseh, Michigan, the design went to Rockwell in the mid-1960s and became the Aero Commander 200. When Rockwell merged with North American, the Meyers design was sold off, ultimately to end up in the hands of Prop-Jets, Incorporated, of Boulder, Colorado. Prop-Jets certified a turboprop version of the airframe and planned to restart production of the Meyers but so far has been unsuccessful.

Some airplanes, like the Thorp Sky Scooter, are luckier. Clifford Rock, president of Thorp Aero, Incorporated, says that the airplane is now on the road to production but not for U.S. consumption. Original plans to build the T–211, as it's now called, in Mexico were nixed by the FAA, so Thorp will produce the two-seater in Sturgis, Kentucky, for export only. Rock resurrected the design largely because it's a simple airplane, and its unusual construction methods allow for relatively easy tool-up.

As for airplanes from major manufacturers like Piper and Cessna, various models' TCs by and large remain in the original manufacturer's possession. The reasons are complex, varying practically on an airplane-by-airplane basis, but ultimately get around to money. This happened when Christen Industries approached Piper about acquiring the production rights to the Super Cub. Piper wanted Christen to carry a tremendous amount of liability insurance—what amounted to a sum that Christen would not pay.

Some airplanes' rights go through few changes of ownership, but some are passed around like baseball cards.

Univair met similar roadblocks when it attempted to buy the rights to the J–3 and earlier Cubs several years ago. Piper almost went through with the deal, says Univair, but got cold feet at the prospect of its still being liable for parts produced by Univair. Even so, Univair says that its relationship with Piper is today excellent.

Typically, anyone wishing to build an existing design must find and purchase the TC and production rights. The exception to that rule is Waco. In a plot as twisted as anything Agatha Christie wrote, Classic Aircraft spent many years chasing down the rights for the biplane it now produces. Records of transfer of title had been lost through the years, although it was later learned that the rights had been transferred to the Civil Aeronautics Authority, the forerunner of the FAA. Eventually, the FAA allowed Classic to build the airplane; the agency still holds the TC, though.

How about engines? They carry type and production certificates, too, so where are they? According to FAA records, the vast majority of engine TCs still belong to the companies that originally designed and built the motors. The Franklin engine is one exception; its rights belongs to Pezetel (PZL) in Poland.

Many of the people we contacted for this story hinted that someone, somewhere, has been thinking about putting (pick your airplane) back into production. Perhaps it's the influence of those few taking the plunge and trying to bring an old favorite back to life. Or maybe it's just the desires of a few people for whom a perfectly good type certificate is a terrible thing to waste. □