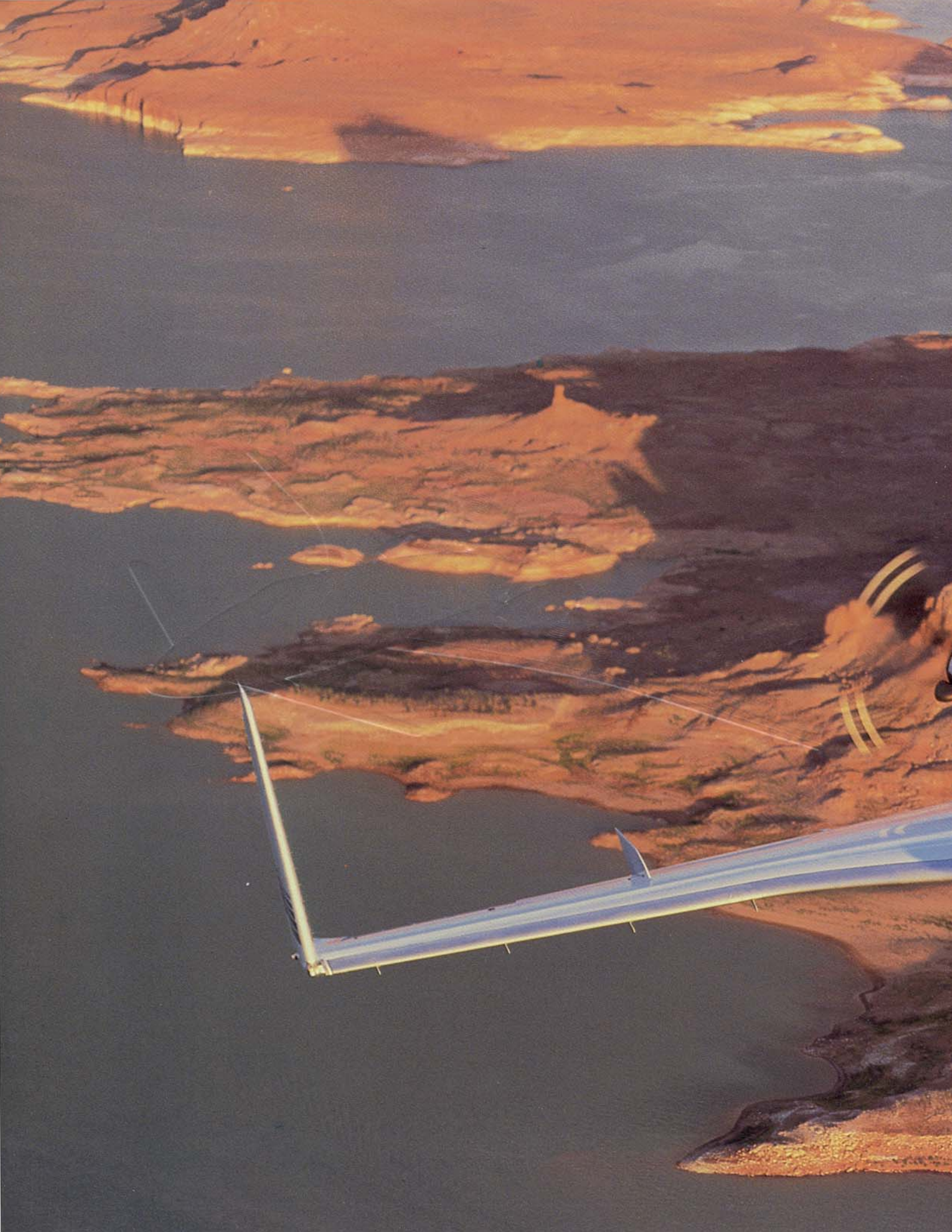


*Beechcraft* **STARSHIP**  
**2000A**



**Beechcraft**  
A **Raytheon** Company







## The Starship: A Vision Of Balance

It started with a vision: A sleek, technologically-advanced business aircraft that would redefine the state of the art of aeronautics, as it set new standards in passenger comfort and operating efficiency.

Its trend-setting airframe would be constructed of space-age polymers resistant to fatigue and impervious to corrosion. Its oversized cabin would rival that of a medium jet in cabin performance. Its handling characteristics would compare with even those of the legendary King Air. Its all-digital avionics systems would be models



of efficiency, utility and pilot-friendliness.

In short, it would strive to strike a near-ideal balance between comfort, performance and efficiency. Inside, passengers would relax in a quiet, spacious environment reminiscent of an executive conference room. Up front, workload reductions derived from the all-electronic flight deck would combine with the new aircraft's superior handling to enhance safety and extend the pilot's capabilities. On the ground, financial controllers would appreciate the cost savings that accrue only with turboprop operation.

For years, now, some of the best and brightest minds at Beech have labored to give form to this vision. While it is only a representation of their effort, what you see in these pages will give you some idea of the substance of their achievement.

For, with Starship, the vision has been realized. Defying traditional categories, the Starship offers an unprecedented range of capabilities. It embodies all the practical virtues that have been the hallmark of Beechcraft airplanes for more than fifty years. It is an airplane that has already

established its own mystique.

Wherever it goes, it quickens the pulse and stirs the imagination of pilot and passenger alike. It is what aviation is about, and what aviation has always been about.

Welcome to the era of the Starship.



## Starship Efficiency: The Synergy Of Design

Much of the Starship's mystique stems from its revolutionary design. To some, it looks futuristic. To others, it is exotic.

But to understand why the Starship looks the way it does, all you need to think about is designing a more efficient airplane.

Our intent, from the earliest conceptual stages, was to create a high-performance business aircraft combining the operating economies of a turboprop with all the interior room and comfort of a medium jet costing twice as much.

This meant our production team had to develop a way to trade off non-productive

weight for increased cabin volume. To accomplish this feat, they turned to advanced composites.

Overall, the Starship's airframe weighs some 20% less than if it had been manufactured out of aluminum. The entire fuselage shell itself only weighs approximately 500 lbs., and at its widest point it's only an inch thick—about half the thickness required of a comparable conventional structure.

Consequently, we were able to make the Starship wider and roomier on the inside without making it larger and less aerodynamically efficient on the outside.



And because composites can be molded and shaped into far more fluid forms than sheet metal, this aerodynamic efficiency was carried over to an improved airfoil design. Instead of relying on the traditional compromise of a single main airfoil cross-section (scaled proportionally smaller out-board), the Starship uses five different airfoils at different points on the main wing.

This allows each section of the wing to be tailored for the air loads it will carry and the flow fields it will operate in. This, in turn, leads to better efficiency. More lift. Less drag. Increased stall resistance. And,

once again, greater strength with less weight.

Similarly, each of the other structural components of a traditional airplane—the fuselage, vertical stabilizer, rudder—was reviewed, measured, evaluated and, when necessary, redefined through computer-aided flight simulations, “viscous-flow” aerodynamic modeling, scale-model demonstration analysis and actual flight testing. The result is the most thoroughly tested—and inspected—aircraft design in the history of business aviation.

Certainly, it’s the most advanced.



*The Starship's extraordinary strong composite structure is essentially a sandwich constructed from sheets of graphite/epoxy on top and bottom over structural adhesive, bonded to a lightweight aramid fiber honeycomb core. In areas where extra strength is needed, additional plies of graphite are layered on.*

## *Advanced Composites: The Light Fantastic*

*Composite technology isn't exactly a new idea.*

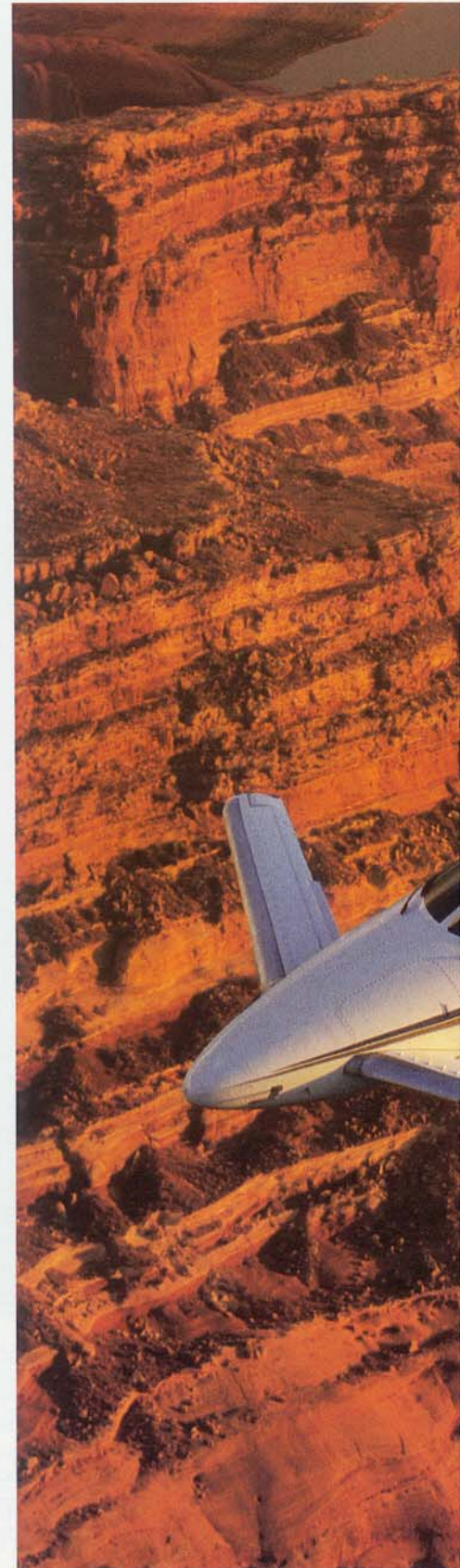
*In fact, the principle of combining two or more different materials to enhance the structural and functional properties of the finished piece is literally older than history itself. But recent advances in composite technology have given engineers a whole new way to think about design.*

*Traditionally, products were designed around the limitations of the materials at hand—wood, steel, aluminum—with the engineering challenge being to find a way to make those materials stand up to the product's application.*

*But today, using such materials as advanced polymers, the process works in reverse: We can actually design the composite material to meet the requirements of the finished application. In other words, composite engineers can now design materials from the molecules up, so to speak, to yield the desired properties.*

*The Starship is the first business aircraft entirely designed, built and certified using these principles, and the benefits are obvious.*

*Pound for pound, the graphite/epoxy laminate used in constructing the Starship's primary airframe is four to six times stronger and stiffer than aluminum. This translates to a significant weight savings, allowing the Starship to carry a standard load some 75% greater than the weight of its composite structure—a ratio unmatched by any aircraft manufactured from metal.*







*The Starship's patented variable-geometry forward wing sweeps forward as the main wing flaps are extended. This offsets any movement aft in the main wing's center of lift. In climb, as the flaps are retracted, the forward wing automatically sweeps aft, maintaining trim and reducing aerodynamic drag.*



## The Starship's Performance: Swept Away

Powered by twin 1,200 shp Pratt & Whitney PT6A-67A turboprops, proven in hundreds of thousands of hours of regional airline operation, the Starship's engine performance is straightforward, familiar and easy to manage. The close set rear-mounted configuration of its propellers, combined with standard yaw-damped Auto Trim and Auto Feather modes, make single-engine procedures almost center-line simple. The landing gear cycles fast—it tucks in just six seconds—enabling you to transition quickly to climb.

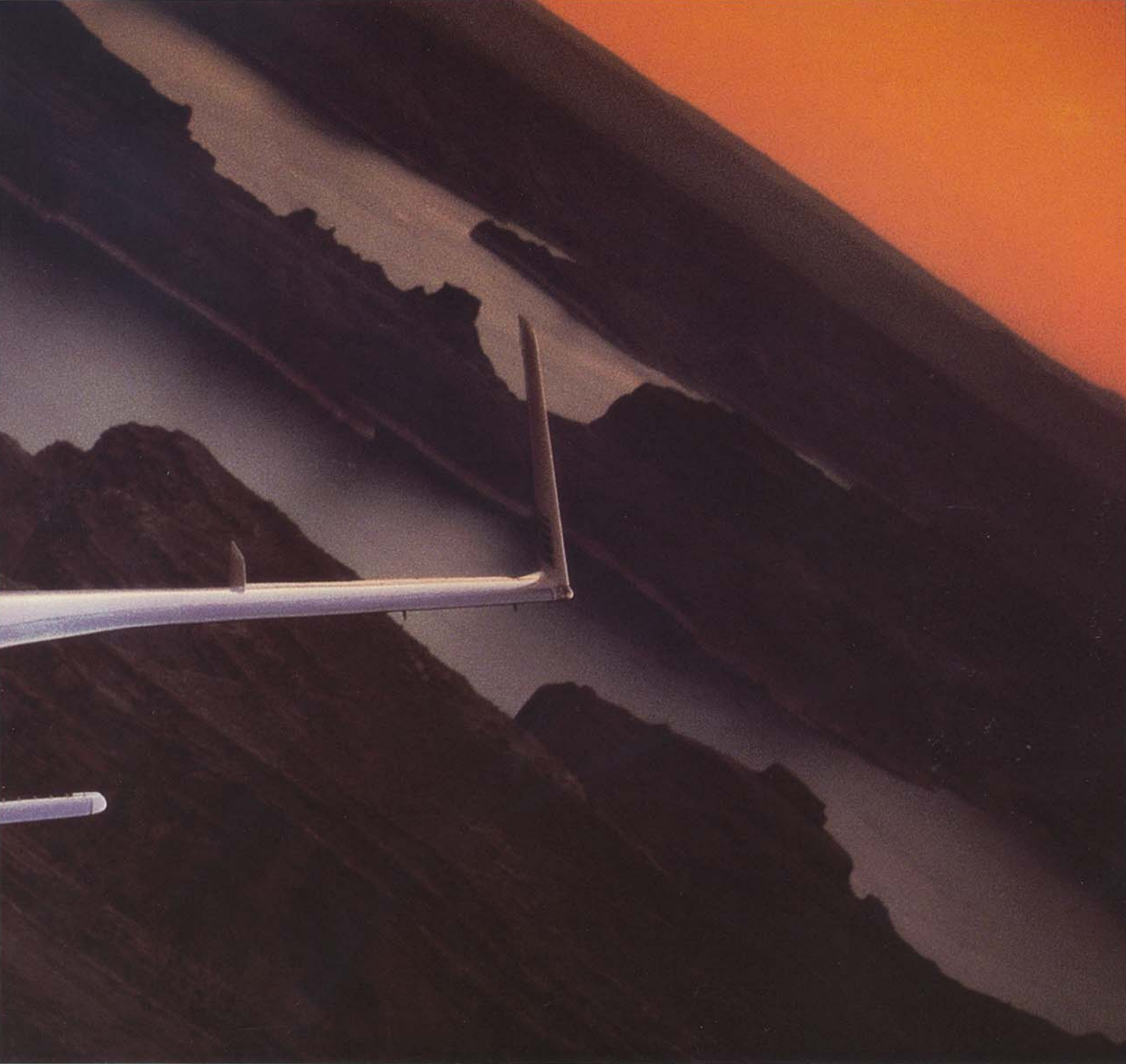
And once in flight, the Starship's looks

are not deceiving. Its sleek design and advanced technology result in major performance gains.

A 3,100 fpm rate of climb, 335 kt. (385 mph) maximum cruise speed, 41,000-ft. certified ceiling and 1,670 nm (1,920 sm) range all combine to put the Starship squarely into light jet territory. Yet it burns a third less fuel than a light jet, and operates with ease from shorter-than-jetport runways.

Obviously, the Starship's performance is in a class by itself.

From the flight deck, the Starship's controls give no clue that it's anything but a



conventional corporate aircraft. The control wheel, rudder pedals, and flap, gear and power plant controls all look, feel and operate precisely in the manner to which pilots have long since become accustomed. There's even an electric trim control in all three axes, as found on most corporate jets.

In fact, from the beginning, the Starship's manners were keyed to one simple standard: That any experienced corporate pilot, proficient at flying a conventional aircraft of this class, should feel at home in the Starship.

And to make your transition even

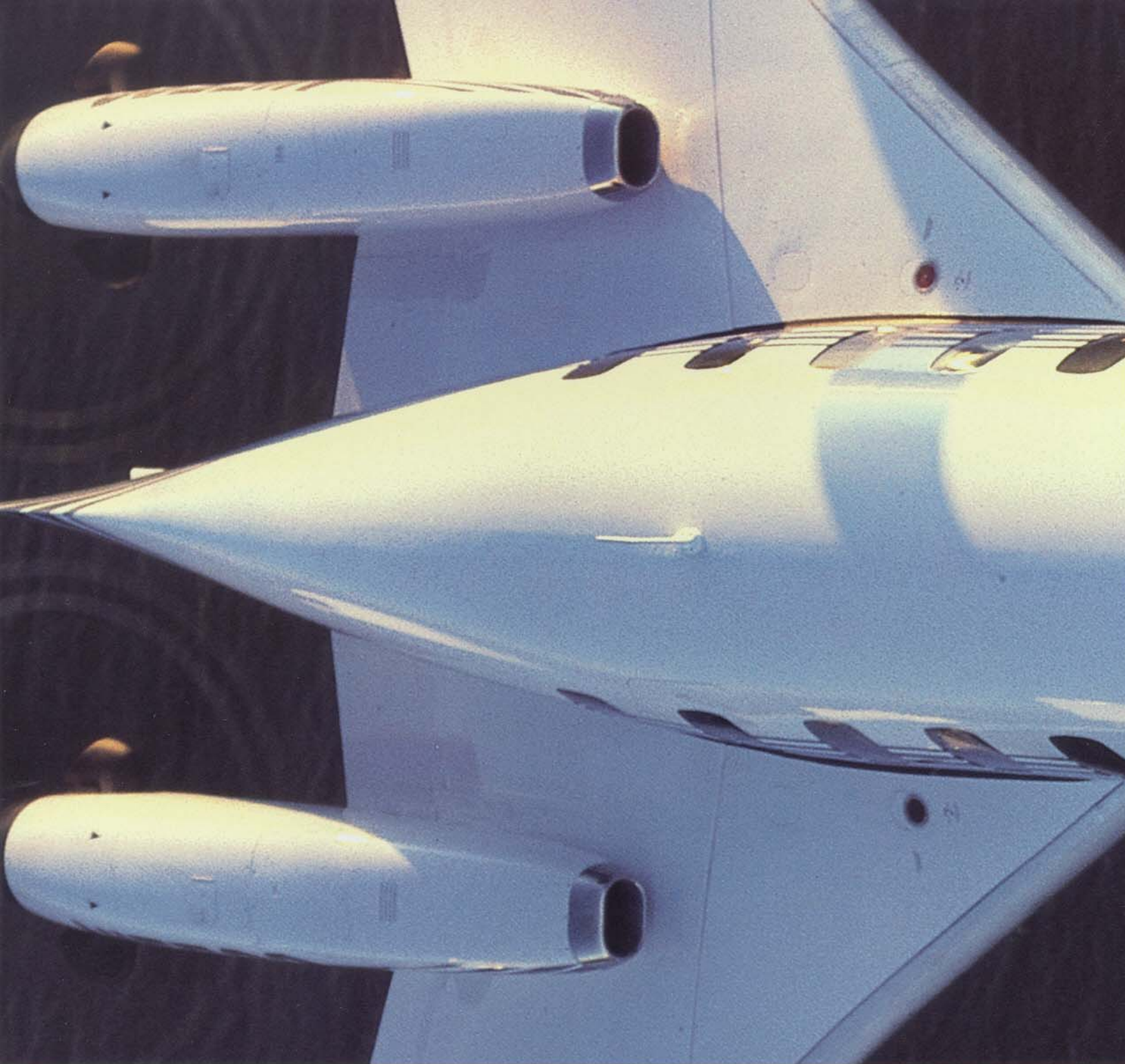
smoother, each Starship comes with a complete Flight Safety International training program, conducted at the Beechcraft Learning Center in Wichita.

To summarize, if you're at all accustomed to the classic handling qualities of a traditional Beech aircraft, you'll notice two things right away: (1) The look may be new and different, but (2) the feel is unmistakably Beechcraft.

Much as the revolutionary Model 17 Staggerwing, the innovative V-tail Bonanza, and the classic Model 90 King Air were in their day.



*Rows of wedge-shaped vortilons keep the wings and tipsails keep flow attached to the airfoil surfaces during extreme speed/high angle of attack, further improving altitude handling and stability.*



## The Starship's Handling: A Thoroughbred Response

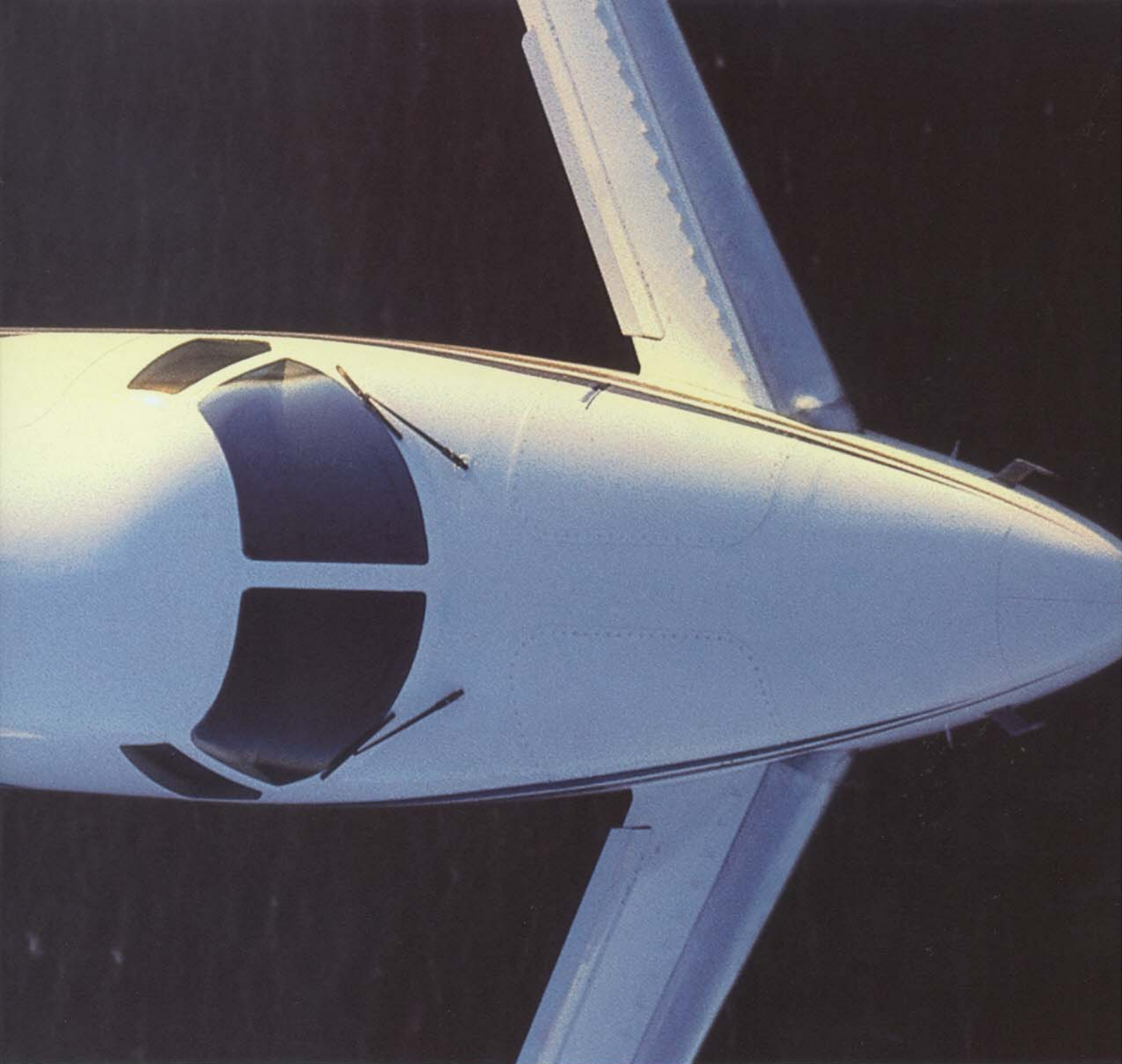
To address the Starship's handling, we return to its design. As with the aircraft's other structural features, its tandem-wing platform once again shows how form follows function.

Unlike the tail on a conventional aircraft which, of necessity, counteracts the wing's lifting force, the Starship's forward wing acts as a supplementary lifting surface—working with the main wing, rather than against it. Thus the tandem wing arrangement is required to produce less total lift because it produces less total induced drag. Which, in turn, means the engines don't

need to produce as much power. It's simply a more efficient design.

What's more, despite its ultra-sleek appearance, the Starship is a very stable, very docile aircraft. Control forces are light but not overly sensitive. In fact, with the inherently stall-resistant nature of the tandem wing configuration, combined with an automatic stall warning system, the Starship may be the most forgiving multi-engine aircraft you've ever flown.

The Fowler-type flaps extend rearward as well as down from the aft wing. This serves to increase effective wing area by



17%, adding lift as well as speed-reducing drag. This translates into lower deck angles on approach, steeper descents without overspeeding, better low-speed maneuverability and shorter landing roll requirements.

The flap and forward wing-sweep mechanisms are electronically interconnected via computer. By coordinating these surfaces, the Starship's center of lift remains virtually at the same point throughout the extension/retraction cycle. Thus, the pilot feels essentially no change in required control inputs, and no need to retrim.

Yaw control is provided by two rudders

attached to the vertical "tipsails" at the end of each main wing. These tipsails, an outgrowth of winglet technology, not only provide superb directional control but also serve to increase the aerodynamic efficiency and effective span of the wings. As a further tribute to the Starship's stability, the yaw damper is not required at any altitude up to its certified ceiling of 41,000 ft.

Elevons, surfaces on the outboard trailing edge of the aft wing which resemble conventional ailerons, respond to both elevator and aileron control inputs from the cockpit. While serving as primary roll control sur-

faces, they also supplement the pitch control function of the elevators on the forward wing. By interconnecting the fore and aft pitch controls, Beech engineers have given the Starship the superb smoothness, control harmony and responsive handling long associated with the Beechcraft name.

The Starship's Interior:  
Space Capsule





2000A

## The Starship's Interior: Space Capsule

Picture the ideal working environment. It is quiet, comfortable and handsomely furnished, the kind of place where people can interact without getting in each other's way.

Such a refuge exists in the world of business aviation. Inside the Beech Starship.

It's supremely quiet. Intelligently configured. And, from its boardroom-sized chairs to its hand-crafted cabinetry, the impression created by the Starship's cabin is one of deep-seated quality, functionality and style.

As you enter the cabin, you'll notice such thoughtful touches as the 19.5-cubic-foot forward baggage closet, which provides ample room for jackets, briefcases and other carry-on items. If you'd like a cup of coffee or a quick snack, the Starship's hot/cold refreshment center holds plenty of everything, and standard interior appointments include fold-out worktables of finely-crafted hardwood.

Like the medium jets it was scaled to match, the Starship can accommodate up to six passengers and crew in its generous 475-cubic-foot cabin. And, like those larger and more expensive jets, it features true club seating, with a full five feet between facing seat pairs.

All of which adds up to a cabin that's more than half a foot taller, 12 inches wider and 30% larger by volume than the industry's best-selling business jet.

Richly upholstered chairs recline by as much as 35 degrees at the press of a lever.

The seats themselves feature deep layered-foam construction and special lumbar supports to keep you comfortable even on the longest flights. Each seat tracks laterally as well as fore and aft on ball bearing glides, giving you the ultimate in elbow room, and the seat-base compartments open to provide extra storage space for personal items.

In addition, the Starship's ultra efficient, rear-mounted main wing and aft-positioned "pusher" engine configuration keep the wing spar structure from intruding on aisle space and minimize interior sound levels and vibration. And cabin comfort extends to a pressurization system that maintains the feeling of sea level all the way up to 21,400 feet, with a feeling equivalent to 8,000 feet at the certified maximum altitude of 41,000 feet.

A typical seating arrangement for the Starship features four chairs in a club configuration and two individual forward facing chairs all the way aft in the cabin. This very business like seating plan allows passengers in the club section to work and to confer in flight, while providing a private place to rest, read or think for occupants of the two aft chairs. There is easy access to the 35 cubic foot rear baggage compartment. All in all, the Starship cabin is equipped to carry as much as 685 pounds of luggage.

Styling options are virtually unlimited. With help from the experts at the Beechcraft Styling Center, you can choose from among the world's most impressive collection of designer fabrics, hand-loomed wools, premium leathers, deep-pile carpeting and other interior amenities, creating an airborne environment that perfectly reflects the character of your company.









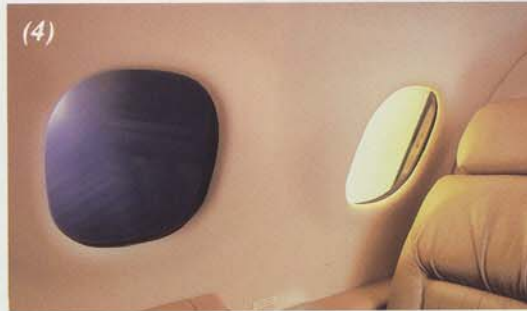


(1) With room to work, relax and move about comfortably, the Starship's cabin compares favorably with that of a medium jet.

(2) Two pyramid cabinets, located amidships, offer ample general storage for ice bins, stereo system and headphones, and other amenities.

(3) The Starship's forward-mounted refreshment center holds almost everything you might need: hot and cold drink dispensers, soft-lit decanters, running water, ice and food compartments, and storage for cups, utensils and disposables.

(4) The Starship's unique window treatments feature lenses which can be individually adjusted to control ambient cabin light.



(5) A softly lighted mirror conveniently located on the aft partition door is a thoughtful and very much appreciated cabin accoutrement.

(6) As you step down the self-contained airstair, arriving rested and refreshed, you experience a renewed appreciation for the standard of comfort unique to the Starship.



# Starship Systems: A Display Of Brilliance



EICAS REV RTU 2 RAD RMT HXR BCM ATC RADIO CALL NISS66  
 END DATA TUN DSBL HI  
 NORH X-SIDE NORH LO 2  
 1 COMM 2 NAV HXR BCM DME ADF  
 VOLUME

TAS 300 80 100 120 140 160 180 200  
 300 250 200 150 117  
 100M 100M

DAI 617  
 20 10 0 10 20  
 100M 100M

30.06 1300 2500

35 20 AIRS 18 12 6 0  
 20 10 0 10 20  
 400 300 200

12680 COM1  
 12060 PRE  
 11380 VOR1  
 13300 RBF1

11950 COM2  
 12515 PRE  
 11290 VOR2  
 1200 STBY

FLIGHT PLAN  
 KREC/KBEC  
 TO KAHUT BTW/DIS  
 KKEW 084/28  
 KKEC 167/22  
 ADV WPT  
 H50

301° KHUT  
 FMS LIN  
 30.1 NM  
 AUTOLO  
 306° 100  
 360° VOR2 101  
 100M

100 20 10 0 10 20  
 100M

REVERSIONARY  
 CMPST UP  
 CMPST DN  
 FAST SLAVE  
 NORH LDU X-SIDE  
 NORH RDU X-SIDE  
 BARO MB  
 INCHES  
 AHS FL180  
 REINIT DISABLE  
 ALERT

PRESSURIZATION  
 NORM  
 CABIN ALT 15000  
 ALT 15000  
 CABIN CONTROLLER  
 RATE-INCR  
 MANUAL CABIN ALT CONTROL  
 WARNING-  
 DE-PRESS CABIN  
 BEFORE LANDING

NAV SOURCE EOM CONTROL SEC  
 COM ALT PLAN ABC DEF GHI  
 1 2 3  
 NAV SYS CTRL IJKL MNO PQR  
 4 5 6  
 ADF WX V NW 7 YWB 8  
 ATC DE HSG CLR 9 10

STARSHIP  
 STARSHIP 1  
 Beechcraft

HCG V2 BANK VS IAS PROF ALT  
 AFPL NAV DECRND IAS

30 20 10 0 10 20

2 CABIN CLIMB  
 4 6 8  
 2 4

VOLTS-DC R LOAD-%  
 GEN RESIST TRIP FUEL BATT  
 ON OFF

BLEED AIR VALVES BOTH  
 L ENG R ENG  
 OFF HIGH FLOW  
 EMER

CKPT/CABIN BLOWERS  
 HIGH  
 OFF

MAN TEMP INCR  
 DECR

CKPT/CABIN AUTO TEMP  
 DECR

TEMP MODE OFF AUTO  
 PULL ON

VOLTS GEN RESIST TRIP FUEL BATT  
 ON OFF  
 R GEN STBY INO WRO/ALT VIB  
 OFF-RESET GEN COMH  
 OPEN AVIONICS BLE ER  
 PUSH OFF

FUEL MANAGEMENT  
 TPAHF FLOW  
 720  
 TANK TV STBY PUMP  
 RIGHT ENGINE  
 OFF

0201-10N  
 100 20 10 0 10 20



You're looking at a significant advancement in avionics technology. As you might expect, the Starship is the first business aircraft whose avionics systems, cockpit instrumentation and flight displays were designed simultaneously and specifically to operate as a whole, the first true "integrated cockpit."

The result is a high-technology, low-complexity operations center which provides a continuously updated flow of computer-enhanced information to help pilots fly smarter — without working harder.

It is the future of business flying as we know it. Clear. Bright. Crisp. And unmistakably Starship.

The Starship's standard panel is nothing less than a dazzling tribute to the power of the silicon chip. As he—or she—powers up and the systems come to life, the first-

time pilot may be forgiven for pausing for a moment in awe at the high-tech newness of it all.

But, once settled in behind the control yoke and power levers, he quickly becomes comfortable as he recognizes the similarity between the Starship and every other turboprop he has flown.

For, despite the digital wizardry, the basics remain the same: The standard "T" layout of the primary instruments; the option of using a user-friendly keyboard or the more familiar tuning knobs for radio frequency selection; display formats that retain the conventional look and function of mechanical flight indicators, HSIs, altimeters, RMIs and so on.

Nothing you've learned in the past is lost in transitioning to the Starship. So, while there's a wealth of new capabilities to be discovered inside those CRT displays,

they'll wait until you're comfortable with the airplane and its systems operation.

In keeping with our overall objectives for the Starship, we challenged a forward-thinking team of engineers and designers from the Collins General Aviation Division of Rockwell International to develop a fully-integrated suite of remote systems — systems that would take up less room and weight in the avionics bay, but would also be tailored specifically to bring out the full potential of the Starship's futuristic capabilities.

They succeeded beyond expectations, producing a package of systems that takes only half the space and weighing nearly a third less than comparable units. Better yet, the Starship installation requires only 192 wires, versus 884 needed for a typical system, enhancing reliability while reducing complexity.



Drawing on its experience with the Boeing 757/767 digital avionics program, the Collins Starship team also developed an all-new system format for the cockpit, replacing all electromechanical displays with high-resolution cathode-ray tubes (CRTs).

The display package includes a five-tube Electronic Flight Instrument System (EFIS) with business aviation's first full-function Engine Instrument Crew Alerting System (EICAS), along with a keyboard-controlled Flight Management System (FMS) for automatic worldwide data-based navigation. Smaller CRT displays replace the mechanical altimeter, vertical speed indicator, airspeed indicator and RMI.

Moreover, each part of the display system is designed with at least one CRT back-up; in critical areas, quadruple layers of redundancy are built in. In the unlikely

event that an outage shuts down the regular electrical buses, the electronic SDU is driven by battery power, with automatic load shedding giving you sufficient reserves to operate nav, comm and essential lighting functions for up to an hour—just like a transport-category aircraft. Electromechanical backups include a battery-powered standby gyro, airspeed and altitude instruments.

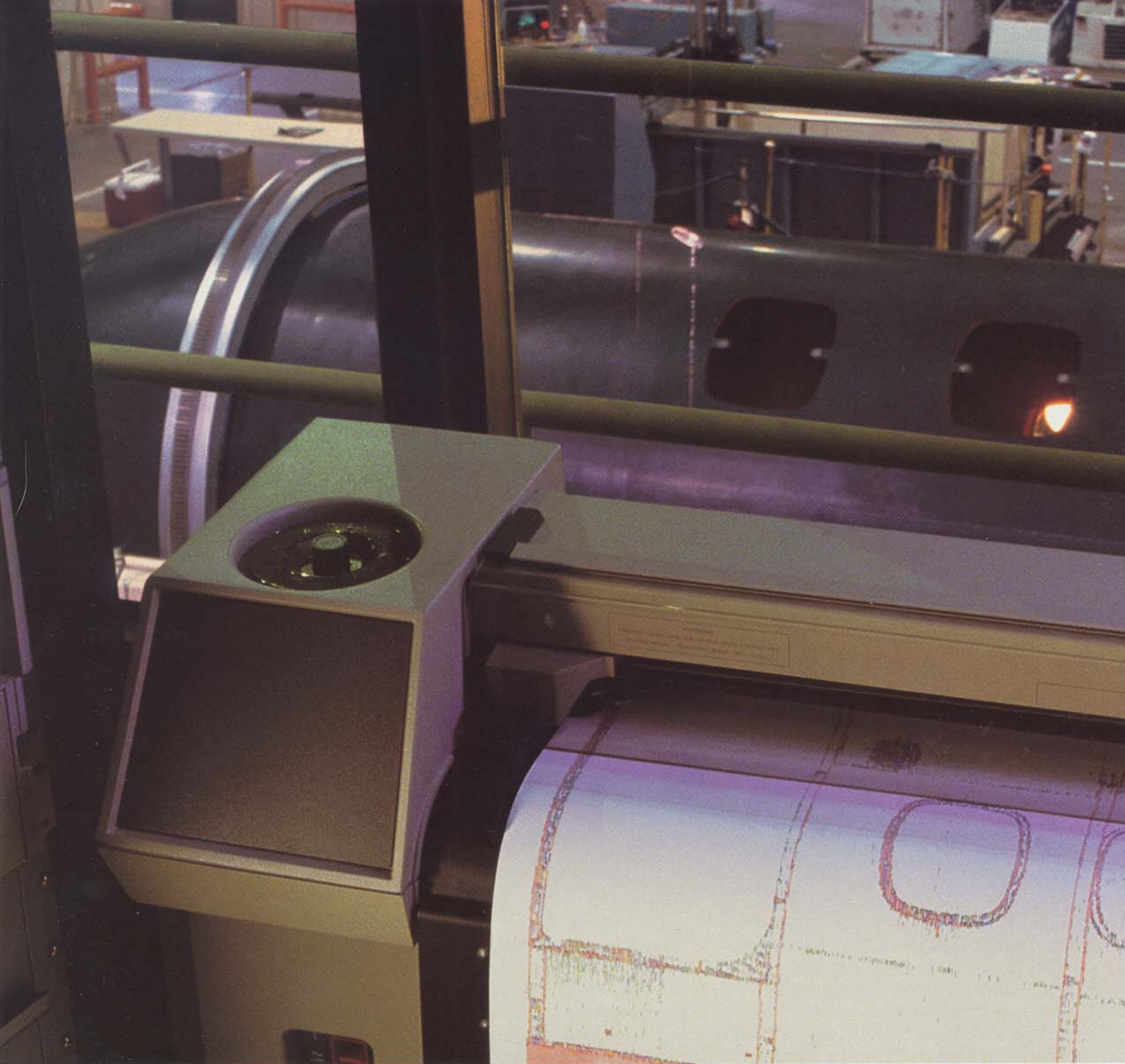
There's comfort, too, in knowing that the Starship's precedent-setting EICAS is working full-time to detect and prevent engine problems before they occur. Eighty-eight caution and advisory messages are provided, with assigned priorities, to let you know where you need to look to identify any potential problem source.

Similarly, a number of other fault tolerance and onboard diagnostic aids are built into the Starship's systems to help enhance

reliability and reduce maintenance troubleshooting time. There's even a series of innovative trend monitoring features, to help you anticipate rates of airspeed acceleration or deceleration.

An additional safety feature includes the Collins 4-color Doppler weather radar, helping you avoid both severe weather and storm-related turbulence, and the Starship's multi-sensor FMS provides automatic point-to-point navigation. You can navigate conventionally, using VOR/DME, VLF/Omega (or both), or you can simply enter your destination identifier and let the FMS figure out the best nav aids and sensors to fly you there direct.

Either way, you'll be light-years ahead of any conventional turbine aircraft.

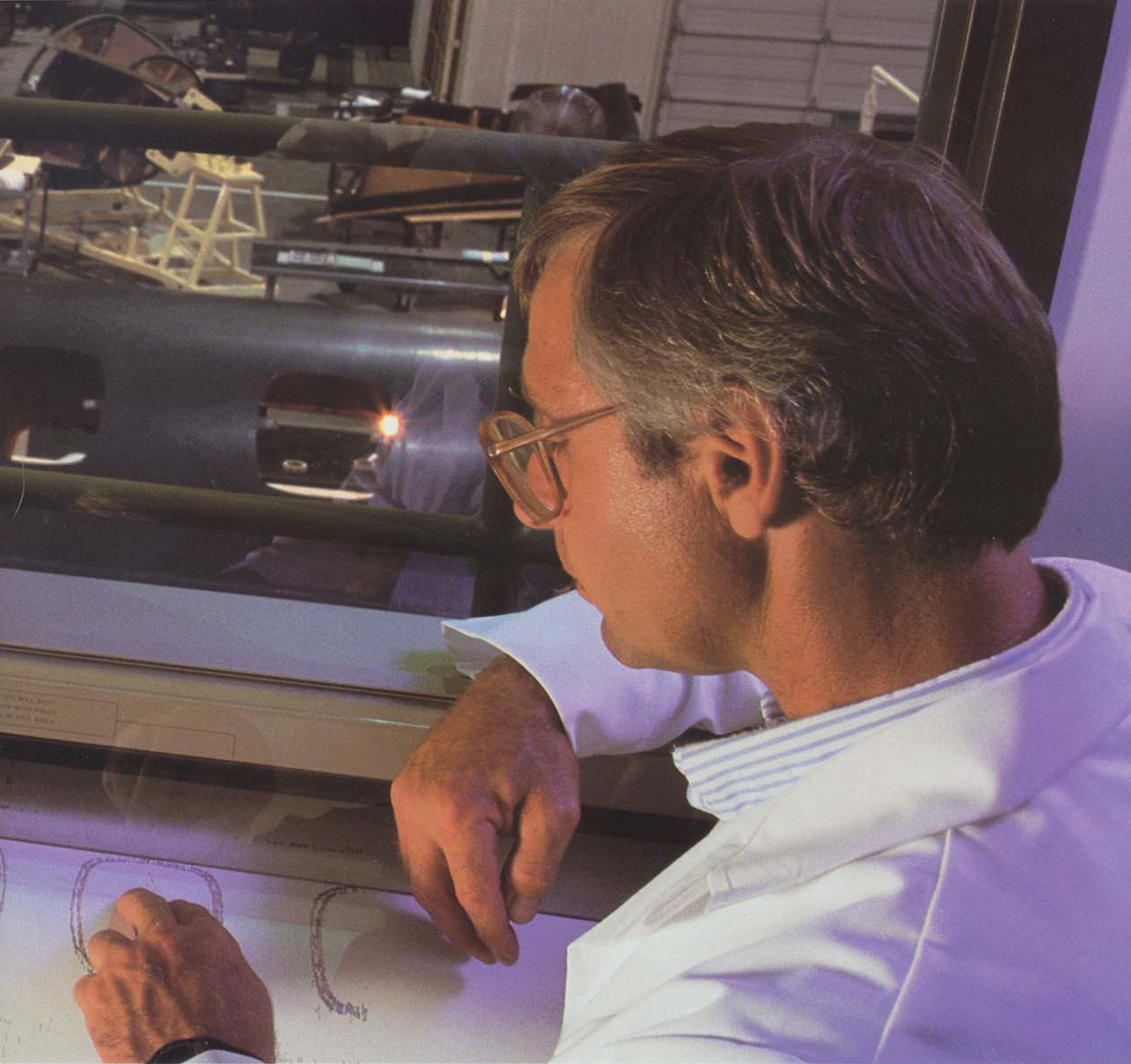


## Starship Quality: The Beechcraft Tradition

Amid all the Starship's advanced technology, there's something that remains very traditional about this extraordinary aircraft:

First and foremost, it is a Beechcraft product, designed and built by some of the most talented people in the world. The Starship's assembly team is an elite workforce of dedicated, highly-skilled Beech employees. Many bring 10, 15, 20 or even more years of Beechcraft-building experience to the program, and each one of them has undergone intensive training to become specialists in Starship manufacturing.





They understand the Beech tradition of craftsmanship that demands product improvements in every new aircraft we offer, but that allows no compromise in quality or comfort. They are the ones who first had to be convinced that the Starship's design was based upon sound, proven principles of flight, and that the airplane they were going to build was functional, durable and safe beyond question.

That tradition of Beechcraft quality is clearly represented in the Starship. It shows in an airframe that knows virtually

no life limits. It shows in a fuselage virtually unmarked by rivets or seams. It shows in a fully-automatic deicing system that starts working as soon as the pilot starts the engines. It shows in a high-efficiency fuel system, and in an avionics package so complete that it includes 88 cockpit annunciators and offers no add-on options.

It shows in the details that most passengers would probably never notice, like anti-skid carbon brakes and dual wheels, and in the ones they definitely will, like heated windows.

These incredibly high standards of quality, design and craftsmanship may not be fully revealed for many years, but you can rest assured that the Starship indeed carries on the Beech tradition of excellence.

The people of Beechcraft wouldn't have it any other way.



Starship Support:  
A World Of Confidence



With its advanced design and construction, the Starship's structure is measurably stronger and more enduring than that of the typical business aircraft.

The same is true of Starship support.

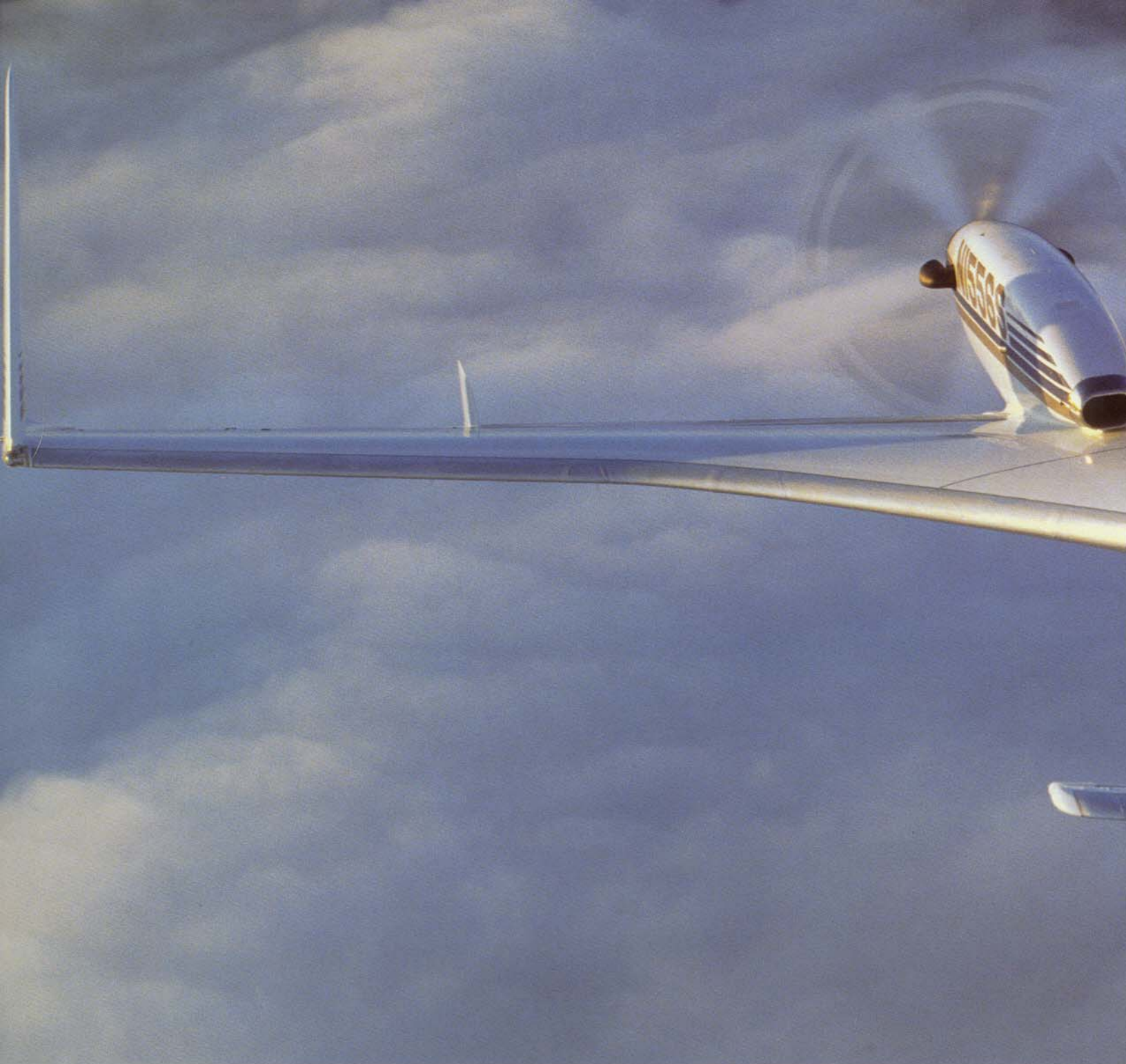
In fact, it's so comprehensive, you can take it for granted. Because for one year or 1,000 hours (whichever comes first), every non-consumable part of your new Starship is fully covered under the manufacturer's limited warranty. On the engines and standard avionics package, it's two years or 1,000 hours. And on the airframe itself, you're covered for *five full years*.

One warranty card and one phone call are all you need to assure complete and immediate support, from any of our 80 authorized service centers around the world. And with the option of our Gold Card Customer Protection Plan, you can extend the overall warranty terms on your Starship for up to 36 months or 3,000 hours of coverage.

You can also enroll your Starship in the Beechcraft Guaranteed Cost of Maintenance Program, which gives you the option of covering all your basic maintenance expenses under one flat-rated monthly fee.

When it comes to support, you just can't find a company that's more committed to keeping your aircraft in the air, on the job and operating at peak efficiency.

So, while the Starship may be at the vanguard of new technology and design, its support system is as solid, time-proven and reliable as the Beechcraft name itself.



When a person is flying, they are not just a passenger. They are a part of the team that keeps the world moving. The pilot, the crew, and the passengers all have a role to play in making sure that the plane gets to its destination safely and on time. It's a job that requires a lot of skill and a lot of teamwork.

The pilot is the one who is responsible for the safe operation of the aircraft. They have to be able to handle any situation that may arise, from a sudden change in weather to a technical problem. They also have to be able to communicate with the crew and the passengers, and to make decisions quickly and accurately. It's a job that is both challenging and rewarding.

The crew is also an important part of the team. They are responsible for the comfort and safety of the passengers. They have to be able to handle any situation that may arise, from a sick passenger to a lost item. They also have to be able to communicate with the pilot and the passengers, and to make decisions quickly and accurately. It's a job that is both challenging and rewarding.



## Starship Encounter: A Personal Invitation

Following a tradition of legendary airplanes nearly six decades long, the Starship is launched.

As with a number of its predecessors—from the Model 17 Staggerwing in 1932, all the way up to the current Bonanza and King Air—it represents not just a new design, but a whole new *era* of design possibilities.

Its composite structure is lighter, stronger, roomier and more durable than comparable aluminum aircraft.

Its tandem-wing aerodynamics are a major step forward in safety and performance.

Its avionics and flight systems literally redefine the state of the art.

And its discerning owners will take no small pleasure from the fact that they share not only an exciting new airplane, but a place in the history of flight.


If these values reflect your own vision of flight and the future, we invite you to consider a Starship demonstration flight.

To begin, simply contact your nearest Beechcraft Corporate Aviation Center. Or call toll-free 1-800-835-7767, Ext. 571. We look forward to hearing from you.

**Beechcraft**  
A **Raytheon** Company

**An Invitation:**

*If you'd like more information on any aspect of Starship acquisition, operation or performance, contact your nearest Beechcraft Corporate Aviation Center. Or call toll-free 1-800-835-7767, Ext. 571.*

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