G-111

The Proven G-111

The G-111 makes no secret of its heritage. It looks and functions like its distinguished parent, the Grumman HU-16 Albatross — except better. The reputation of the former air-sea rescue craft for ruggedness and performance stands unsurpassed. Current modifications, designed by Flying Boat, Inc. of Resorts International and incorporated by Grumman, have made the G-111 more versatile, enhanced reliability, added new dimensions of comfort, safety and operating efficiency, increased ease of maintenance, and given the airframe a new lease on service life.

With modernization, the proven amphibian has gained a new identity as a commercial aircraft. FAA certification as a 28-passenger amphibian transport uniquely qualifies the G-111 as a commuter airliner; no other airplane in its class holds the same status. In addition, the size and flexibility of the G-111 make it equally suitable for use as an executive transport, cargo carrier, exploration and surveillance vehicle, aerial ambulance, or water bomber — wherever water takeoffs or landings offer an advantage.

An amphibian without peer, the G-111 adds an important resource to the transportation options of the 1980s.


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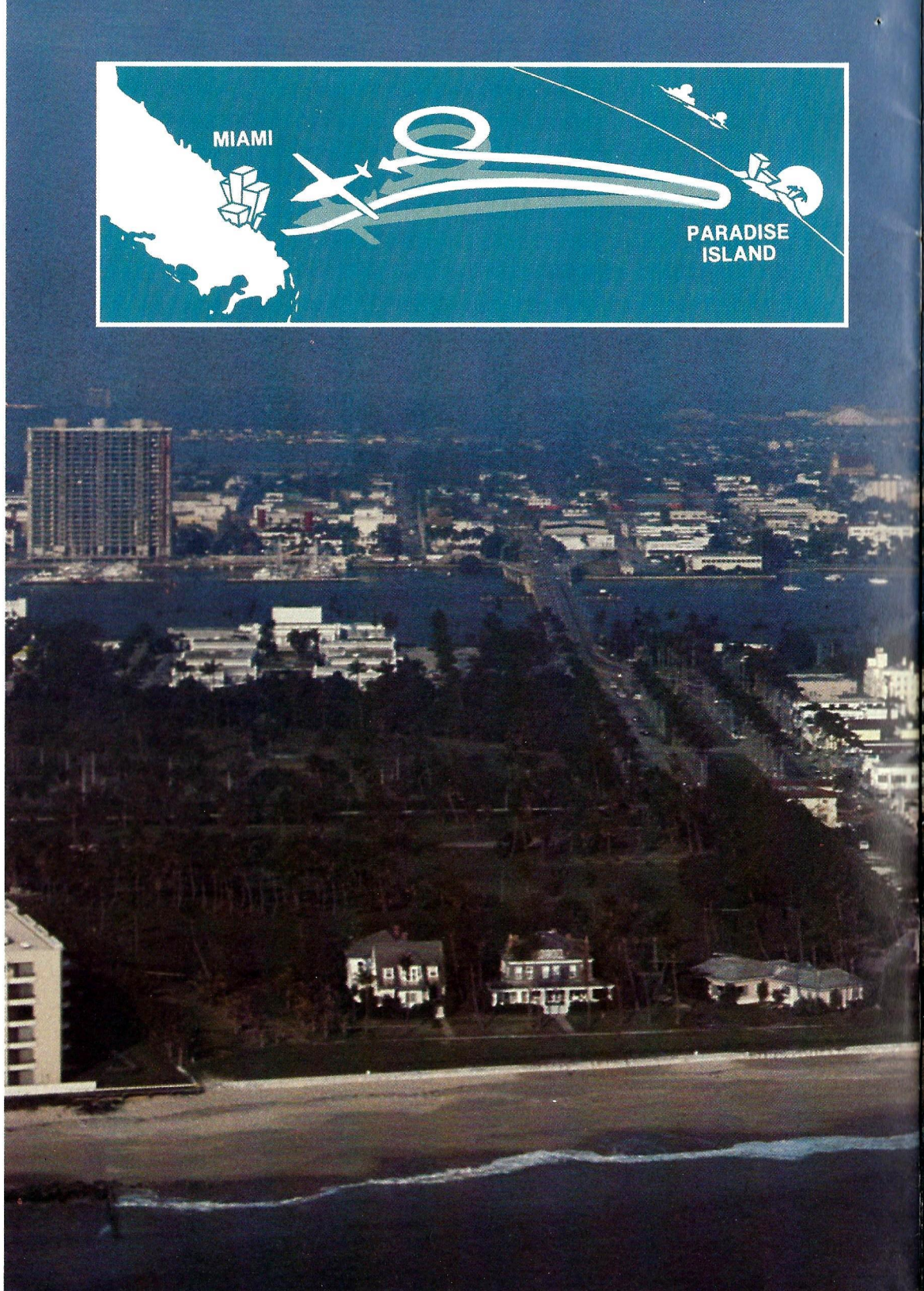
Commuter Option

The G-111 re-emphasizes the utility of the conventionally powered amphibian as an airliner. Its amphibious nature creates a special role, most effective on short-to-medium-range flights between island ports or to resort areas accessible by water but prohibitive to land-based aircraft. On a door-to-door basis, an amphibious flight often takes less time than a jet trip. Access to and from amphibian terminals can be more convenient than to and from metropolitan airports — and a good deal less expensive. And the special attractiveness of seaplane flight can generate demand in itself.

Range-payload productivity, always a key consideration, is one of the outstanding performance characteristics of the G-111. This can be appreciated from a sample commuter round-trip route profile.

The diagram at right uses a Miami-to-Paradise Island, Nassau, flight as an example. Note that the G-111 can take off from Miami with a full 28-passenger complement and crew of three, land in the Paradise Island harbor 160 nautical miles distant, discharge its passengers, pick up 28 new passengers, and return to Miami — without refueling and with 45 minutes of reserve.

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The Inside Story

Commuter seating layout aboard the G-111 optimizes passenger capacity over 145 square feet of cabin space without crowding. A 6-foot 2-inch ceiling and 32-inch pitch between seats provide generous amounts of head and leg room, while a 7-foot 5-inch width allows easy passage through the 26-foot cabin interior.

Appointments are functional and pleasant. A standard cabin seating arrangement consists of twelve bench-type and five individual seats. All seats are comfortably upholstered and provide underseat stowage space plus overhead controls for individual ventilation and lighting. Durable carpeting, fabric covered walls, and window shades or curtains are also standard. Utility space behind the pilot's seat can accommodate a coat rack or service cabinet as an alternative to baggage. A fully equipped lavatory is located at the rear of the cabin, adjacent to the main baggage compartment. Forward of the lavatory and behind the flight attendant's station is the rear utility cabinet, which can be used for storing refreshments. Additional amenities, such as inflight galley, water fountain, waste receptacle, and magazine rack, may be installed optionally in easily accessible areas. Lightweight Nomex honeycomb flooring constructed with access panels gives rugged support (200 lb/sq ft) and substantially aids maintenance.

Standard safety features include four cabin exits, two forward and two aft. An automatically inflatable 12-foot escape slide is stored at the right rear exit. In addition to the underseat space reserved for individual life preservers, space is available for two 25-person, automatically inflatable life rafts, installable as optional equipment.

Executive-class interiors stress spaciousness and elegance. The choice of appointments includes contoured, reclining-swiveling seats, table and desk units, divans, inflight galley, built-in bar, clothing compartment, magazine rack, additional cabinetry, and telephone. Matched curtains and luxurious carpeting complete the decor.

Executive interiors are designed to your requirements. Expert collaboration is offered at no additional charge on a wide selection of design options.

Improved Flight Deck

Modifications in the flight deck have brought major improvements in comfort, avionics, the electrical system, and aircraft safety.

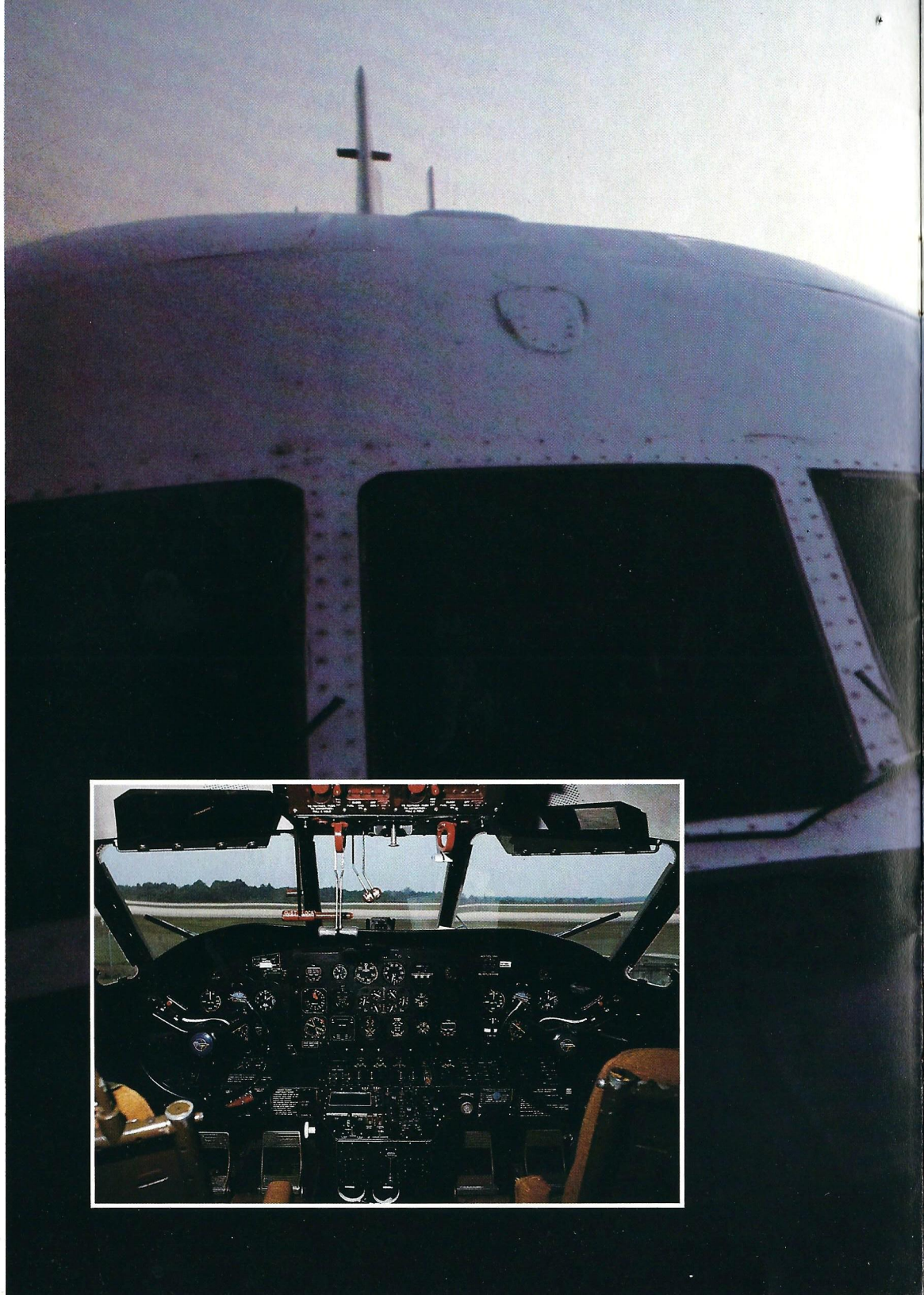
More Comfort—The cockpit is carpeted and soundproofed. Low noise and vibration levels will astound pilots who have flown the HU-16. The cockpit is so quiet that pilot and co-pilot can converse with each other or carry on radio conferences with other parties in normal tones without headphones. Dual overhead speakers facilitate both radio contact with the outside and internal communication between the cockpit and the flight attendant's station in the rear of the cabin.

Air temperature in the flight deck and cabin is controlled from the cockpit. Original heating equipment is available. An alternate environmental control system can be installed to provide thermostatically regulated temperatures within the cabin.

Advanced Avionics — Removal of a ton of vintage electronic components and wiring makes room for new, flight-proven, modular, solid-state avionics equipment that totally meets applicable FAA technical standards. The main elements of the COM/NAV system are contained in a Collins Pro-Line avionics package. Among the major components are dual audio systems, dual VHF-20 communications systems, and dual VIR-30 navigation systems. RCA Weatherscout II provides the weather radar. Also newly installed are a Collins ALT-50 radar altimeter and TDR-90 transponder system. For long-range oceanic flight, a Collins HF-220 radio and other long-range navigation equipment can be incorporated.

New Electrical System—The electrical system is all new and solid-state. Components include Leland electrosystems, inverters, and voltage regulators. The long-life, low-maintenance features of the system enhance dependability.

Stepped-up Safety — Safety control has been markedly improved by addition of an autofeather system. A new 12-mode caution-warning annunciator will now report potentially hazardous conditions such as fire, smoke and short circuits by digital display and sound signals through a single panel. Additional fire control capabilities for the engine compartments and improved navigational lighting, including outside strobe lights, are also among the new safety features.



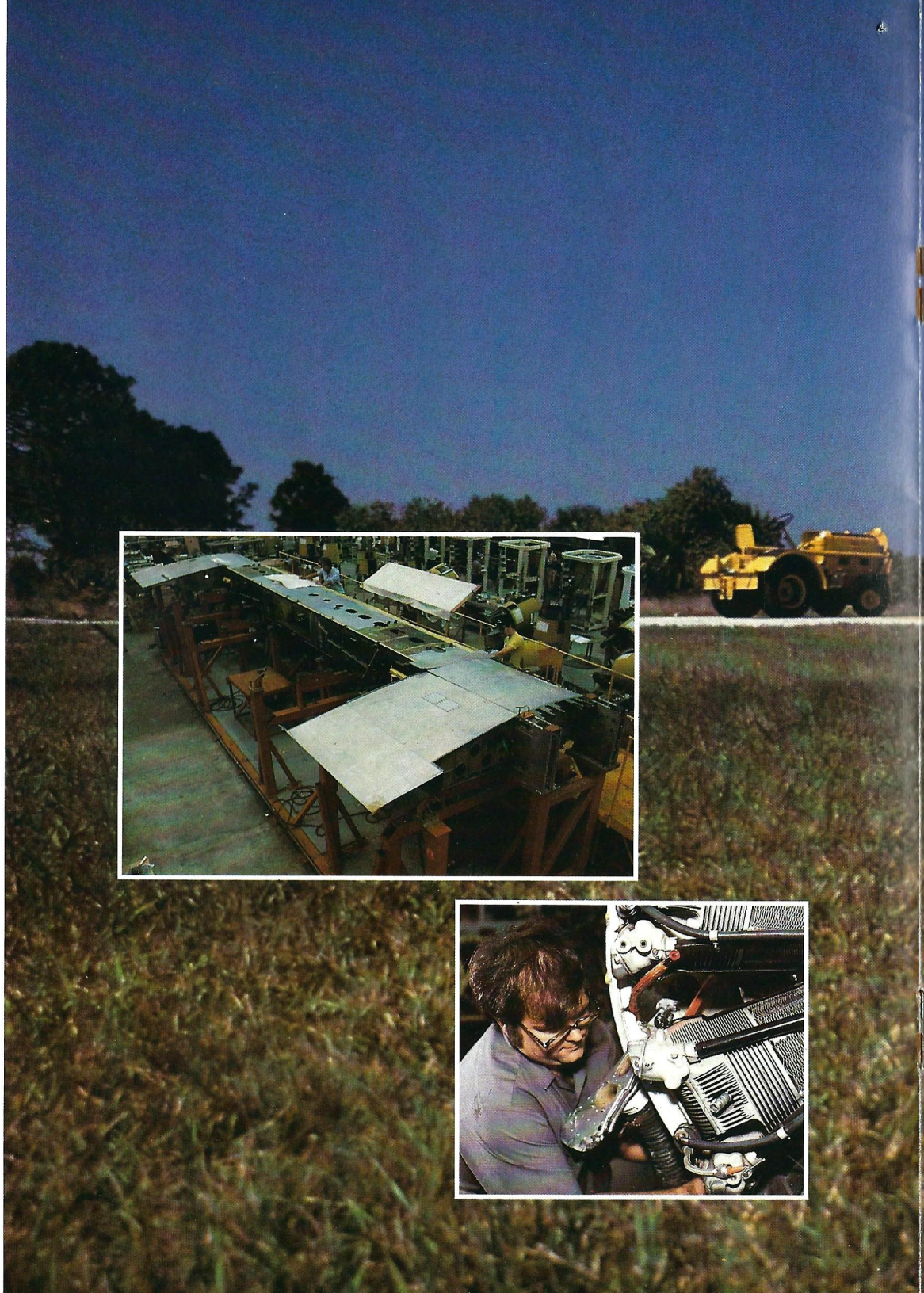
Focus on Remanufacture

Certification under FAR Part 4B has entailed comprehensive remanufacture and modification of the HU-16. Airframe and engines are disassembled and thoroughly examined. Design changes are put into effect, new equipment is installed and, as required, parts are repaired, rebuilt or replaced.

Summarizing the major improvements:

- ☐ Aluminum cap strips on wing center section box beams are replaced with titanium cap strips. Airframe is exhaustively inspected for signs of corrosion and wear; defective parts reconditioned or replaced.
- ☐ Powerplants are entirely rebuilt and certified under FAA commercial standards. All engines are certified to zero time and protected by a two-shot fire control system; new stainless steel oil tanks included.
- ☐ Complete self-start capability is achieved, aided by nickel-cadmium battery.
- ☐ Autofeather system put in; reverse pitch controls upgraded.
- ☐ All control surfaces recovered with Ceconite coating.
- ☐ Flight deck soundproofed; seating comfort improved.
- ☐ State-of-the-art avionics installed together with new solid-state electrical system.
- ☐ Commuter interior fitted with seats for 28 passengers and flight attendant; carpeting, individual light and ventilation controls, plus 280 cu ft of baggage space included.
- ☐ Modern lavatory installed.
- ☐ Two new emergency exit doors added; automatically inflatable escape slide provided.
- ☐ Thermostatically controlled air conditioning system available as an option.

Many more improvements can be listed. The results, all told, spell the beginning of a new service life.

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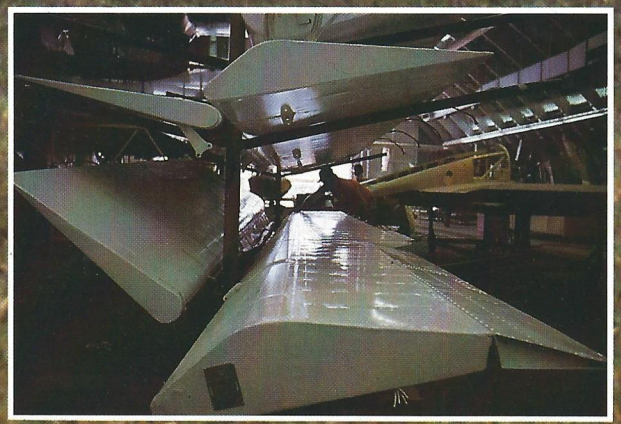

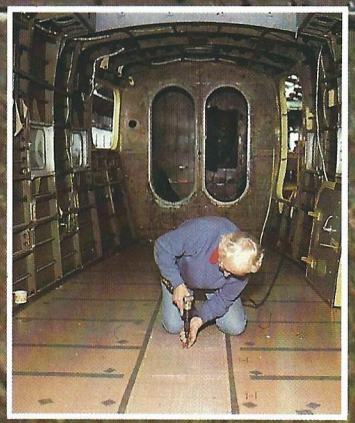


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New Basics

To put it plainly, the G-111 is an amphibious workhorse. When the need calls for an amphibian—for a landing at the doorstep of a port town or waterside resort or remote point not served by an airfield — nothing in the world matches the G-111 for utility or dependability. It's one of a kind.

Performance characteristics of the G-111 do not vary essentially from those of the parent HU-16. But you must remember that original performance capabilities had to meet the rigorous requirements of the United States Navy, Coast Guard, and Air Force. And that they did superbly.

The term "new basics" identifies the performance characteristics — in particular, the range-payload specifications — applicable to the FAA certified 28-passenger version equipped with Wright Aeronautical R982C9HE3 engines. Data are shown in comprehensive graphic form at right.

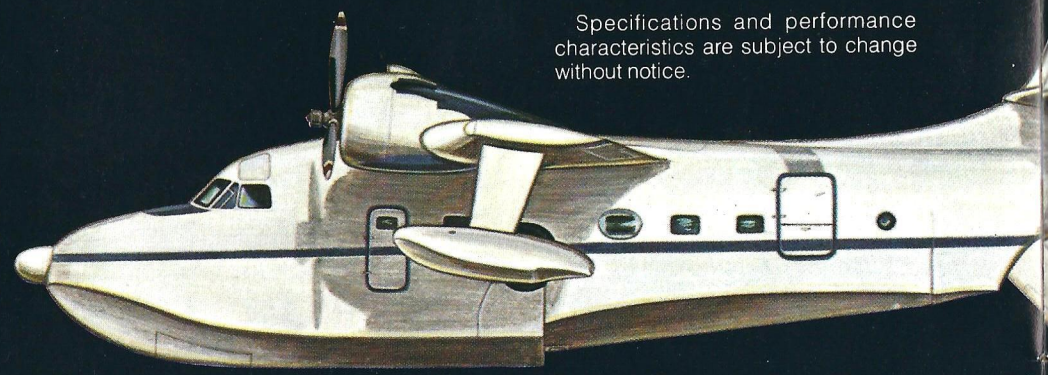
As an example, at landplane takeoff gross weight of 30,605 pounds with a payload of 15 passengers and baggage (or a cargo load of 4,500 lb), and flying at 5,000 feet at best cruise, the G-111 can fly nearly 1,200 nautical miles on 4,000 pounds of fuel. The seaplane—TOGW 31,365 lb—on 4,000 pounds of fuel, cruising at the same altitude and speed, can carry 18 passengers and baggage (or 5,100 pounds of cargo) the same distance.

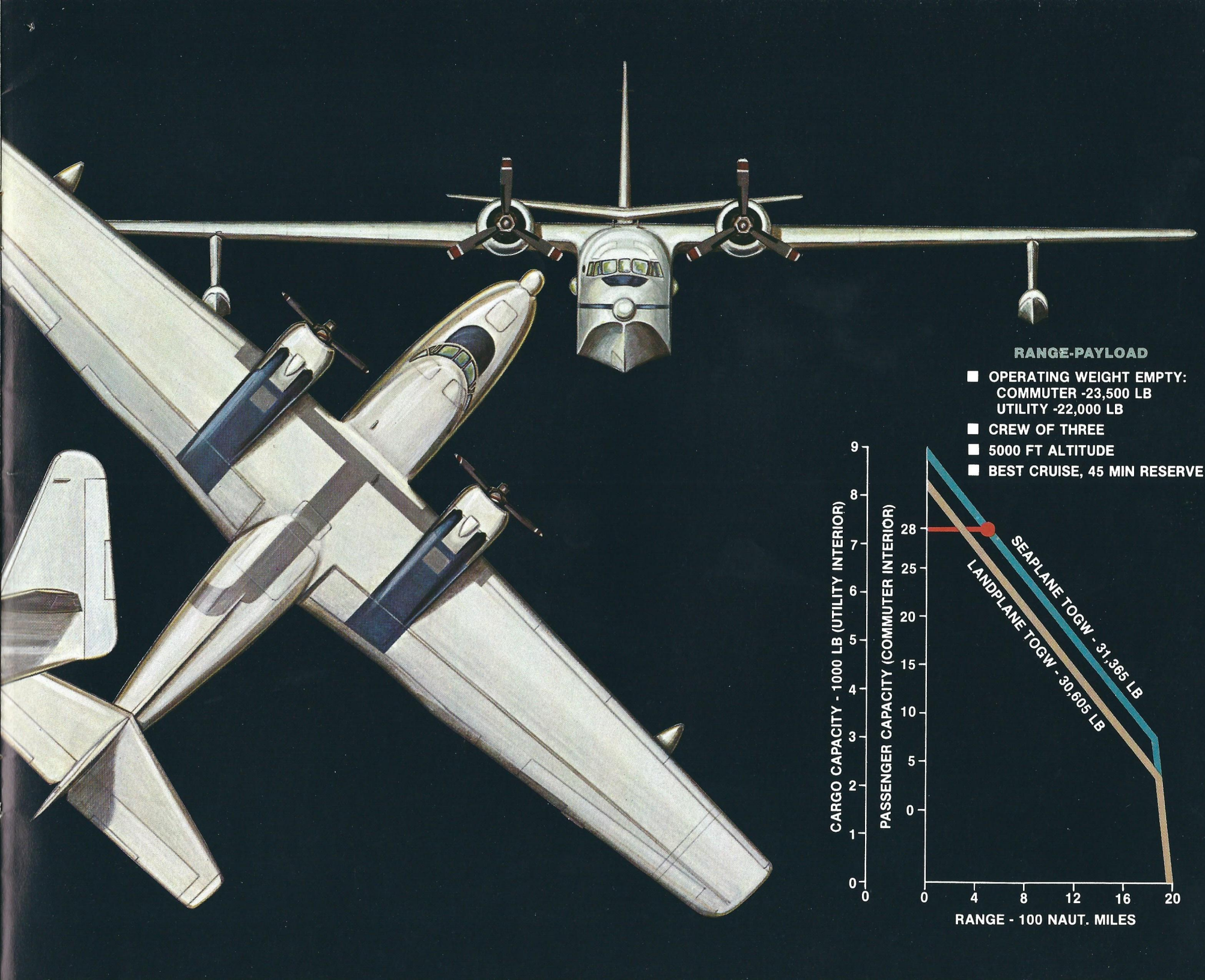
DIMENSIONS		
Span	96 ft	8 in.
Length	61 ft	3 in.
Height	25 ft	10 in.

WEIGHTS & LOADING (LB)	Seaplane	Landplane
Takeoff Maximum Gross	31,365	30,605
Landing Maximum Gross	31,365	29,160
Empty Weight less interior	22,000	22,000
Empty Weight w/28-passenger interior	23,500	23,500
Useful Load w/28-passenger interior	7,965	7,205

PERFORMANCE	Seaplane	Landplane
Cruise Speed at 5,000 ft	162 kt	162 kt
Range		
5,000 ft Maximum Fuel Range		
3 crew + 28 passengers + 45-minute reserve	500 n mi	300 n mi
5,000 ft Maximum Fuel Range		
No payload	1,940 n mi	1,940 n mi

Specifications and performance characteristics are subject to change without notice.





RANGE-PAYLOAD

- OPERATING WEIGHT EMPTY:
  COMMUTER -23,500 LB
  UTILITY -22,000 LB
- CREW OF THREE
- 5000 FT ALTITUDE
- BEST CRUISE, 45 MIN RESERVE

Payload Flexibility

A maximum payload capacity of 7,965 pounds underscores the utility of the G-111. The cabin, containing approximately 1,200 cubic feet, carries the principal load. An additional 280 cubic feet of storage space is available for baggage and other cargo in several locations fore and aft.

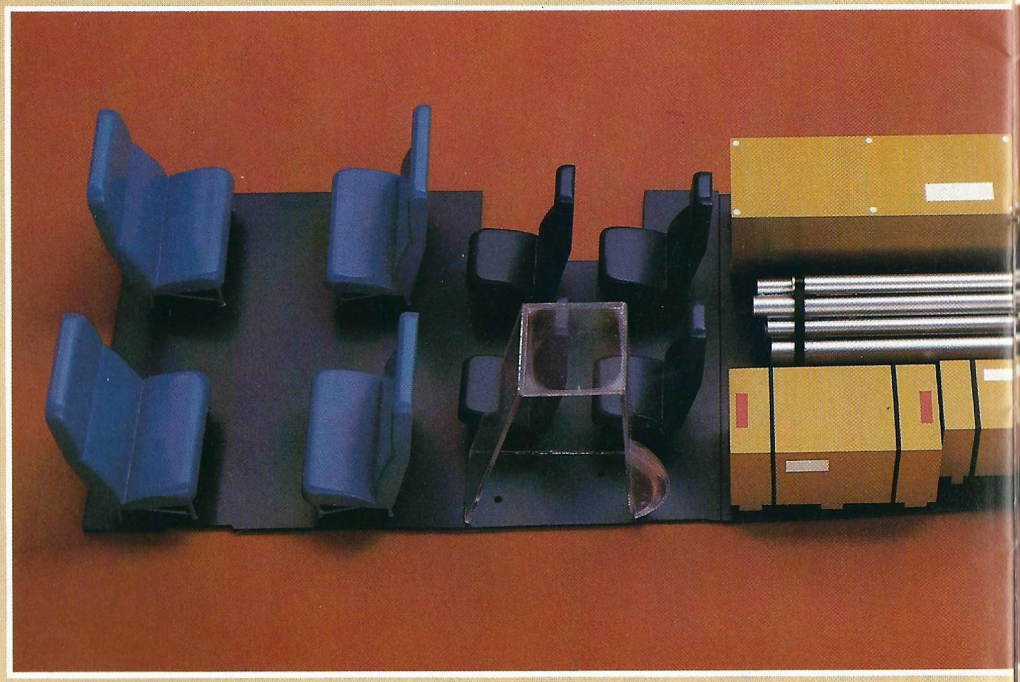
Flexibility is highlighted in the use of space. For commercial operators, the interior can be arranged alternately in four modes: *commuter, executive, utility,* and *commuter/utility.*

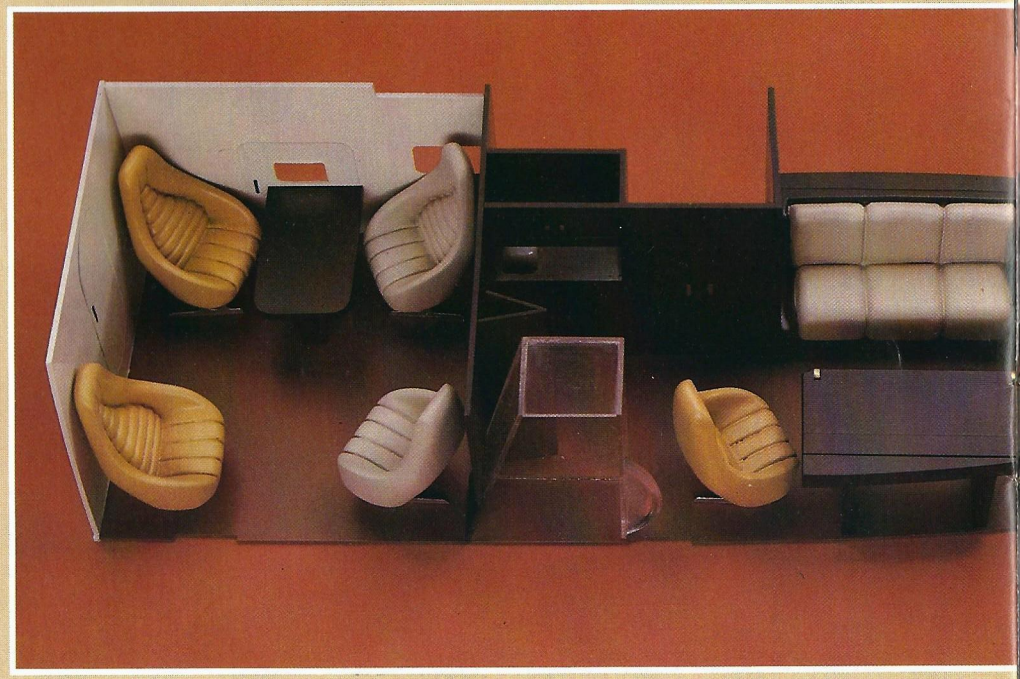
Commuter format offers full seating (28 passengers) with standard appointments. The executive interior allows variable seating arrangements, with custom appointments suited to your requirements. The utility mode furnishes maximum cargo space with no passenger provisions. The fourth option combines the commuter and utility modes in a part-passenger/part-cargo configuration.

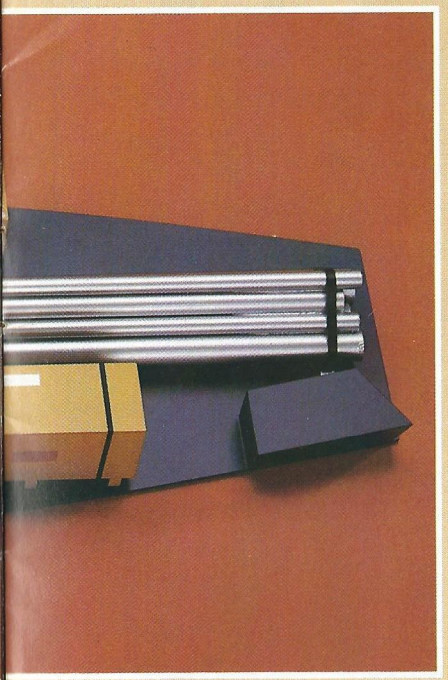
In addition to payload capacity, the size and accessibility of its cargo space give the G-111 excellent qualifications as a freighter. Cargo may be loaded through any of the four cabin entries. The main entrance (2-ft 9-in x 4 ft) is large enough to admit pipe links up to 25 feet in length and 10 inches in diameter. Cargo too large for doorway entry may be loaded through the overhead cargo hatch located on top of the cabin. With dimensions of 5-ft 3-in x 4-ft 10-in, the overhead hatch can accommodate a wide range of outsized cargo.

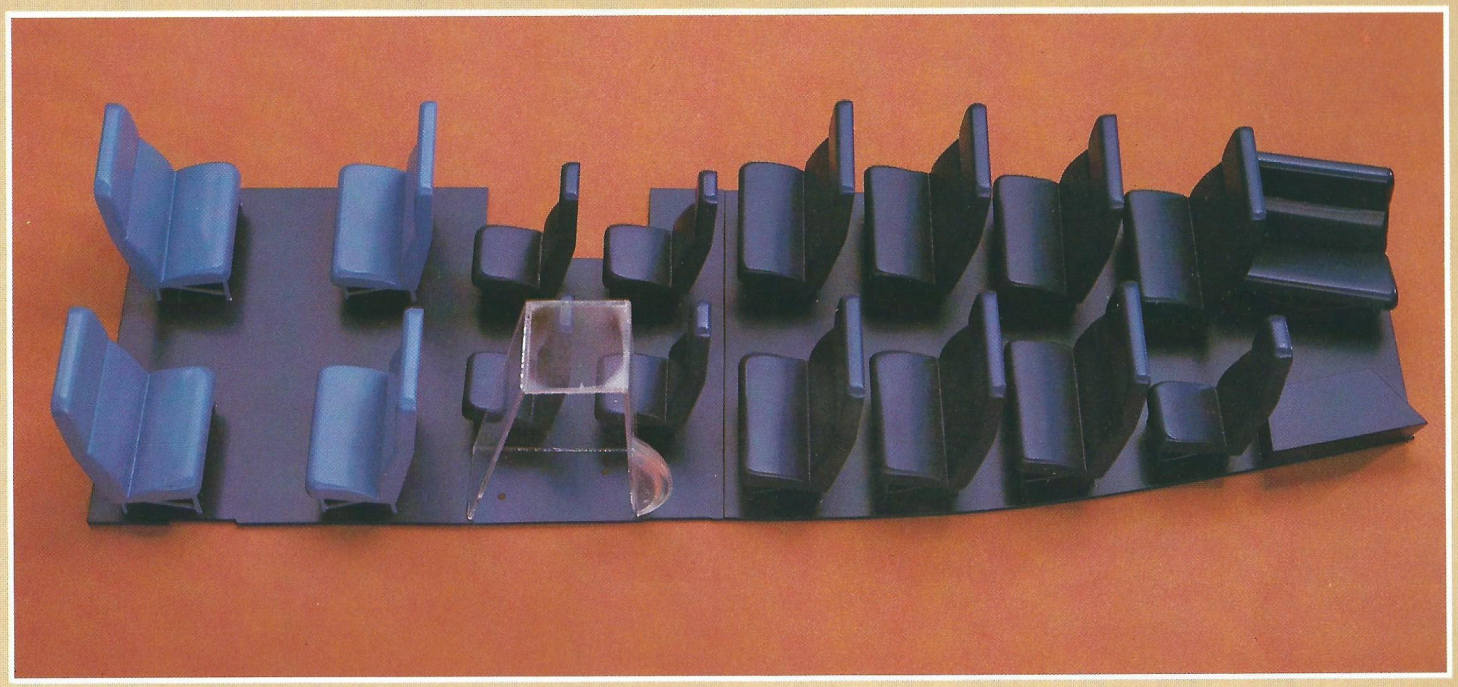
To accommodate small-bulk payloads, conversion from a commuter to a cargo mode can be accomplished on the spot in most instances in less than two hours. The seats are easily removed from their tie-down fittings together with the cabin carpeting, leaving bare the sturdy, scuff-resistant Nomex floor. Tie-down rings, stanchions, netting, and additional restraining equipment are readily installed. For large-bulk loading operations, conversion can be made to your specifications in the factory.

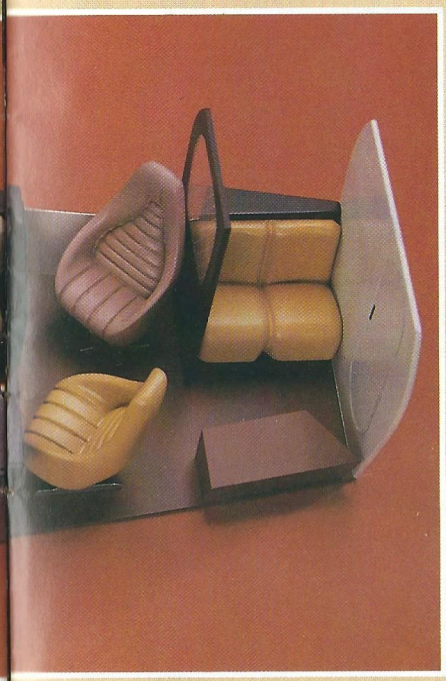
As a utility aircraft, the G-111 loses none of its flying characteristics. And whether used for passenger transport or freight, the G-111 may be not only the best way, but the only way, to fly.

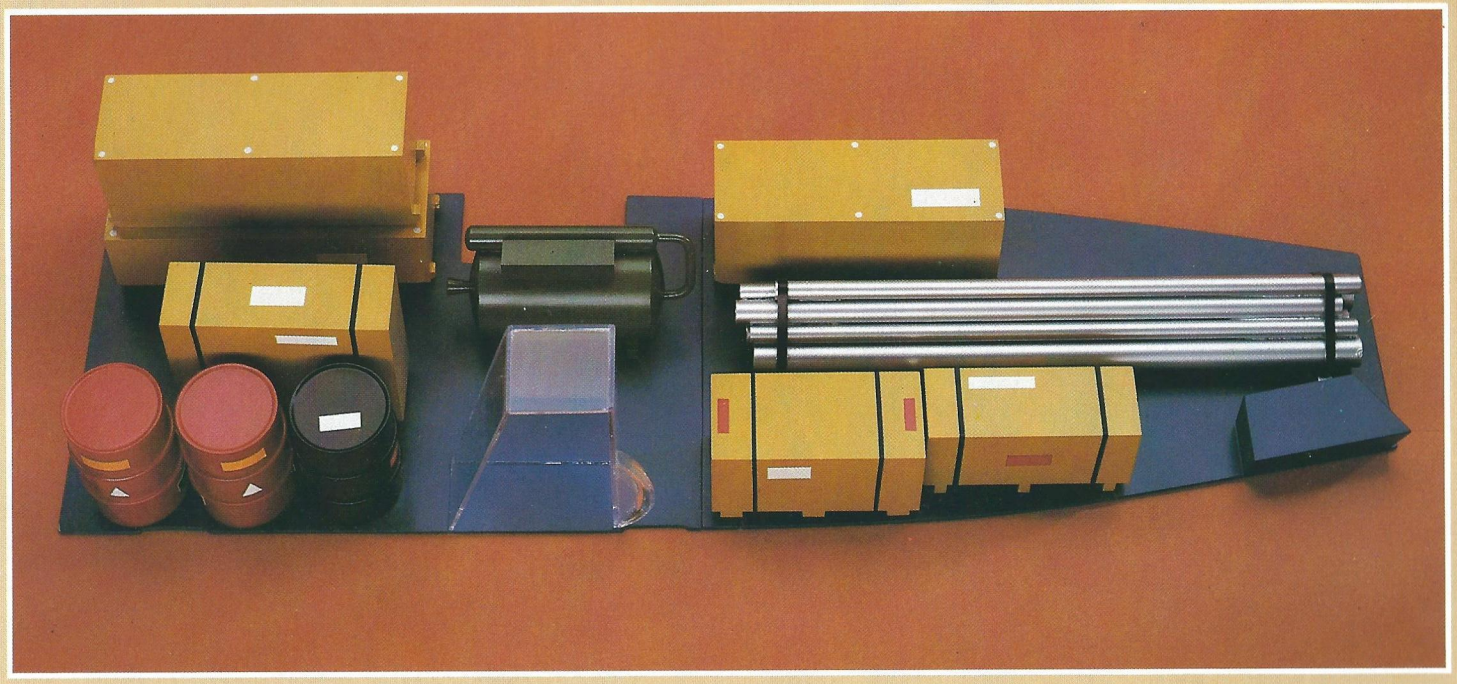












Future Developments

Basic structural soundness and performance capabilities make the G-111 adaptable to many uses and modifications. The two prospective developments presented on this page are but a sample.

Water Bomber

The advantages of amphibious aircraft in the role of water bomber are widely recognized. Given a relatively close water source permitting takeoff and landing, an amphibian will fly its sorties and finish loading in much less than the time required by a land-based airplane operating from a remote airfield. That means the amphibian will get to the target more often than the landplane in the same time span. The payoff: more sorties, more drops on target, more effective results...all with more economy.

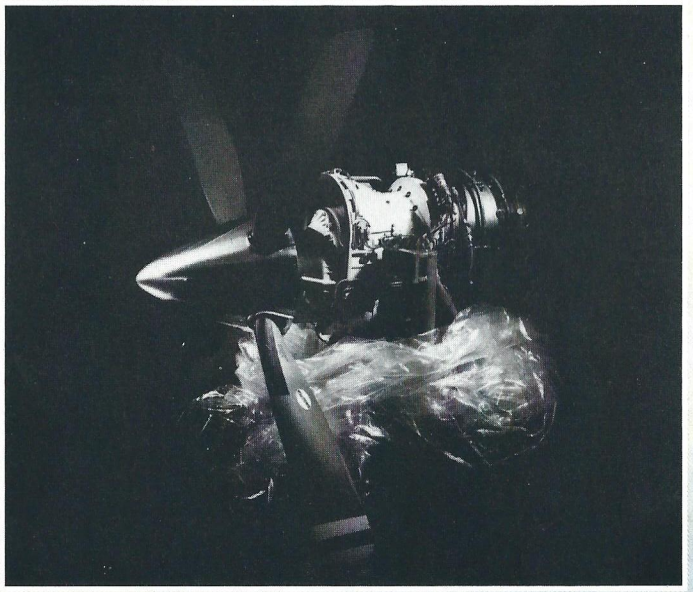
Development of the G-111 as a water bomber is being considered. Preliminary engineering studies indicate that the conversion is feasible. As planned, the G-111 will carry a maximum payload of 10,000 pounds of water in twin tanks installed in the hull. The water pickup may be completed in less than ten seconds, the water entering through retractable scoops as the aircraft skims the surface. Adjustment of water capacity according to fuel weight ensures maximum payloads within gross weight limitations for each mission. During the run over target, the water is released *en masse* either from each tank separately or both simultaneously. The run completed, the aircraft will return to the water source to replenish its tanks and continue operations.

Turbine Power

Piston engines have served the HU-16 well. They have proved to be consistently reliable and continue to perform effectively on the G-111. But there is no denying the advantages realizable from the installation of a new generation turboprop engine.

Conversion of the G-111 to turboprop power is on the drawing boards. Based on continuing assessments of its performance characteristics, the new Garrett TPE331-15UAR, 1,645 shp ISO "marine-ized" turboprop engine indicates compatibility. When installed, it will result in an increase of close to 2,000 pounds of useful load. Additional benefits will be seen in greater reliability, enhanced takeoff and climb performance, better single engine performance, longer time intervals between overhauls (TBOs), more efficient maintenance, and reduced noise and smoke emissions.

FAA certification for the TPE331-15UAR is anticipated for 1983.



Service/Support

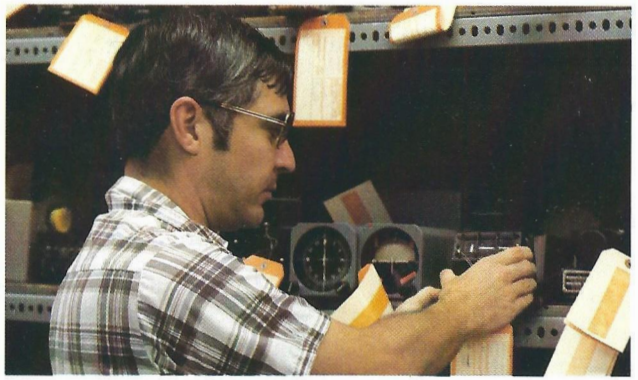
Service for the G-111 is available at the Grumman overhaul and modification facility in St. Augustine, Florida. Complete maintenance and aircraft modification services are provided around the clock. A full inventory of spare parts is kept in stock. Non-standard parts are ordered from a reliable list of vendors or custom-made by Grumman to assure product quality and minimum delivery time. Work is performed and supervised by certified specialists current on the latest developments in airframe, powerplant, and avionics technology. You won't find higher standards of service for your G-111 anywhere.

Worldwide Field Support — As an alternative, you may request Grumman's service at your operating location. Factory teams from Grumman are prepared to travel to your facilities with tools and parts to do the job. Arrangements may also be made to assign Grumman support personnel to your facilities on an extended-term basis. Or you may choose the more economical retainer arrangement by which Grumman will supply services as needed at a fixed annual fee.

Spare Parts — For self-maintenance, you can order spare parts as needed from Grumman's 5S (Swift Service Spares Stockage System) Catalog. Under normal conditions, parts are dispatched anywhere in the world on a 36-hour turnaround. For extra assurance and economy, Grumman offers a "Long Term Spares" arrangement which guarantees your supply of select parts at initial contract prices. Whichever maintenance option you choose, you are assured that Grumman will furnish the necessary support for your G-111 for 10 years after production ceases.

Warranties — Grumman provides warranties on the G-111 remanufacture and all spare parts listed in the 5S Catalog.

Remanufacture: a 6-month warranty for Grumman-performed rework on the aircraft, a 1,000-hour or one-year warranty on the wing center section, and 90 days or 100 hours on the engines — in each instance, whichever is first. (All warranties provided by participating vendors are passed through.)



Spare Parts: Coverage applies to all items listed in 5S Catalog, whether offered as "factory new," "new surplus," or "overhauled." In each case, warranty is for six months after delivery.

Further details regarding warranties are available on request.

Training Services — Grumman will train qualified air crews and maintenance personnel in your employ to prepare them for G-111 operations. Pilots and supporting air crews are eligible for 10 hours of flight training. Maintenance personnel receive two weeks of training. Training is conducted at Grumman's St. Augustine facility.

A Final Word — The G-111 is the most airworthy amphibian in the world today. Behind it stand the expertise and resources of the Grumman Aerospace Corporation. There is no more reliable assurance of quality in the aviation industry.