TOP SECRET

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TOP SECRET

Grumman

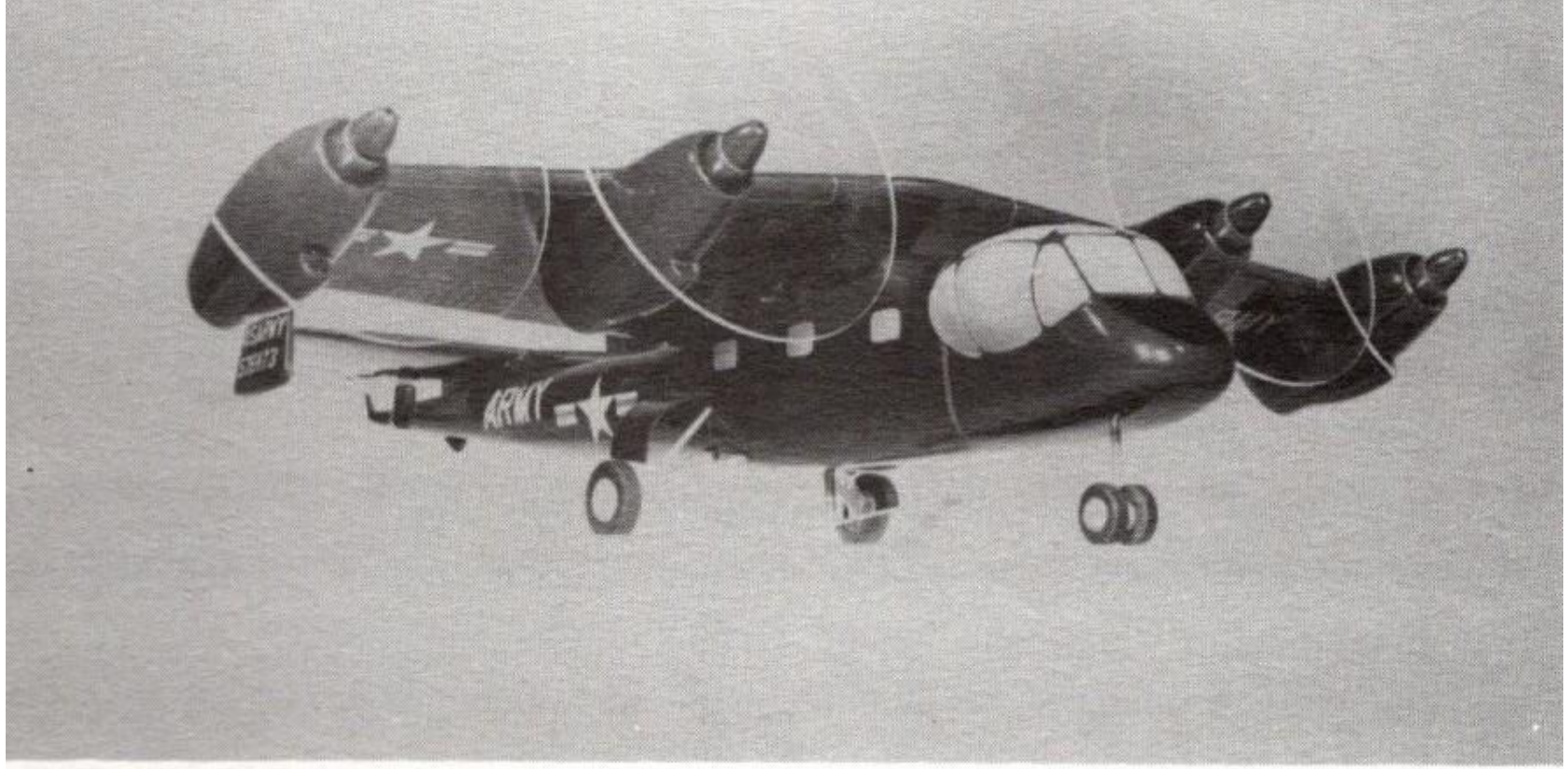
DESIGN 134E

VTOL MOHAWK
BASED ON THE AO-1 MISSION

DESIGN SUMMARY

JANUARY, 1959
PROPOSAL FOR THE
U. S. ARMY


U.S. AR



Design 134E is capable of hovering under standard loading and atmospheric conditions with only three of its four interconnected power plants operating. At overload gross weights up to 20,000 pounds, this "Super-Mohawk" requires only 240 feet to clear a 50 foot obstacle. Wing tilt angle is varied with loading for optimum short field performance.

Delivery schedule and notes

Initial contract of $100 million would deliver 120 E models.

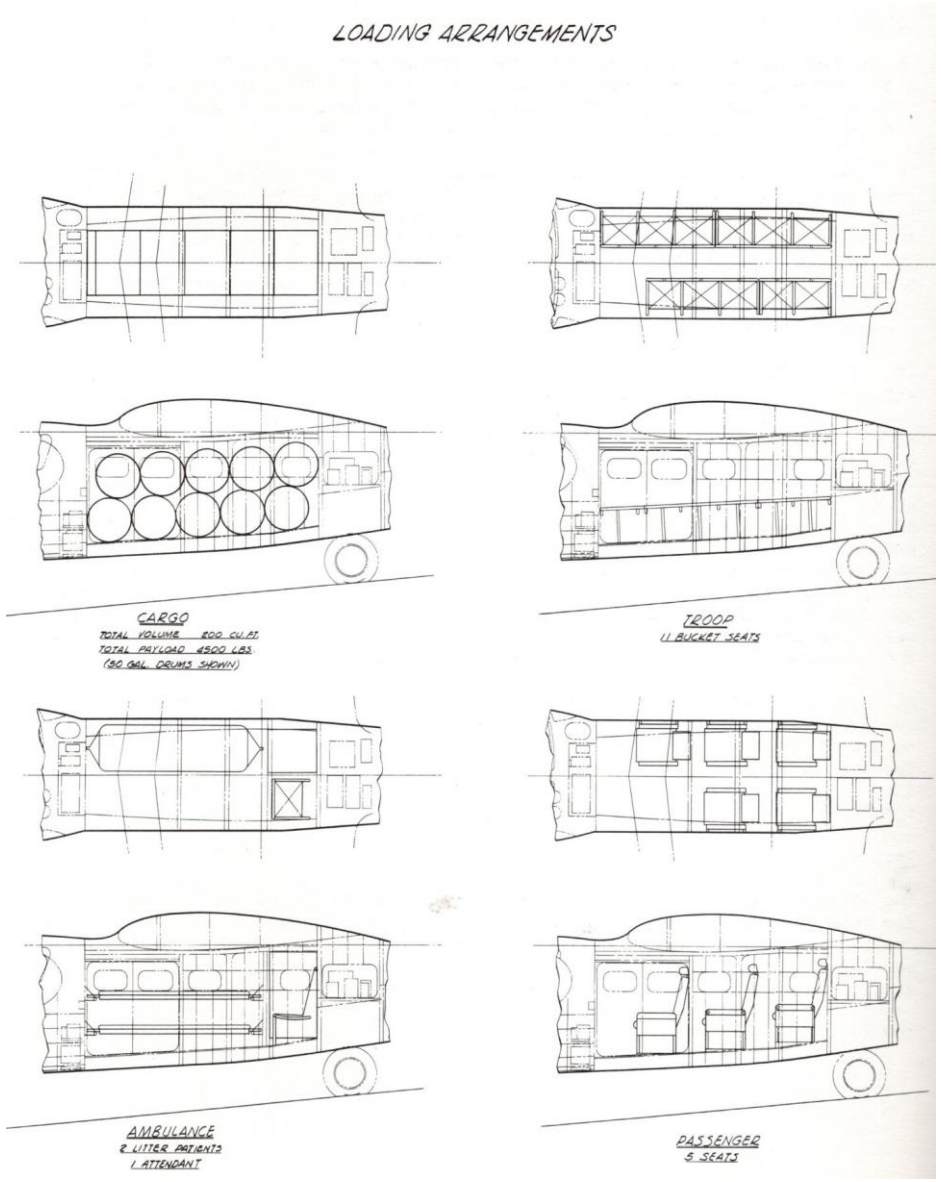
Initial development April 1959 with deliveries summer 1963.

First flight scheduled October **1959**

Additional info

- At a max gross weight of 20,000# (6000# cargo) can takeoff in 240 feet.
- Full fuel TOGW of 16,700# allows a vertical takeoff and 620 nm range.
- Vertical flight is best described using brute power rather than more sophisticated and complicated systems with the E model.
- No flaps
- Slats and speed brakes

Loading Configurations



Cargo

11 Pax (one infantry platoon)

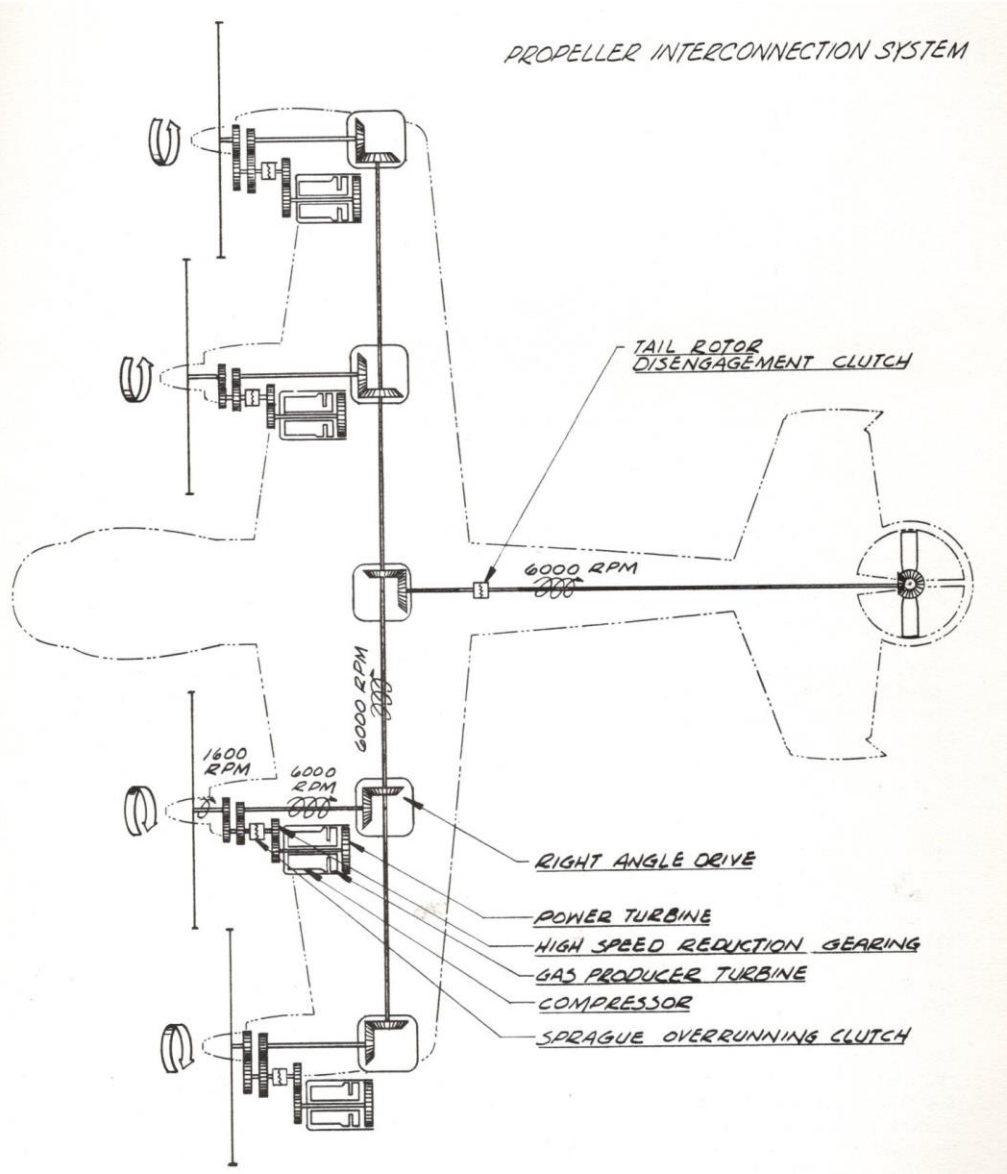
"Staff car" 5 VIP seats

Air ambulance with two litters and attendant

High priority cargo. (Ammo, com equipment, fuel, food)

6000# of internal cargo

Prop interconnect system



- Horizontal tail rotor for controlling pitch during VTOL.
- Center vertical stabilizer goes away to allow for the rotor.
- No provisions for external stores.

Comparisons between E and A models

Comparison E model v. A model
Max speed @ 5000' 350 kts v. 275 kts.
Ceiling 41,000' v. 33,000'
Wing area identical 330 sq. ft.
Rate of climb 7500 ft./min v. 3100 ft./min
Overall size nearly identical

NASA Wind Tunnel Langly, VA

- Thrust to gross weight varies by engine from 1.05-1.35 allowing the VTOL function.
- These numbers are based on the T53-1 engines available at the time.

Conclusion

No full-scale mockup was ever produced.

Grumman states "this is the development of the first VTOL aircraft."

Secret Confidential designation was dropped on March 30, 1976.

OV-1 Mohawk Association

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