

**TOP SECRET**

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**TOP SECRET**

Classification changed to **UNCLASSIFIED** by authority of  
**MILITARY HANDBOOK 140C** of **1 MAY 1971**  
(cite document or other specific authority) (date)  
by **Sullivan, D.C.E.** **3/30/74**  
(signature of person regrading)

**Grumman**  
**DESIGN**  
**134E**

**VTOL MOHAWK**  
**BASED ON THE AO-1 MISSION**

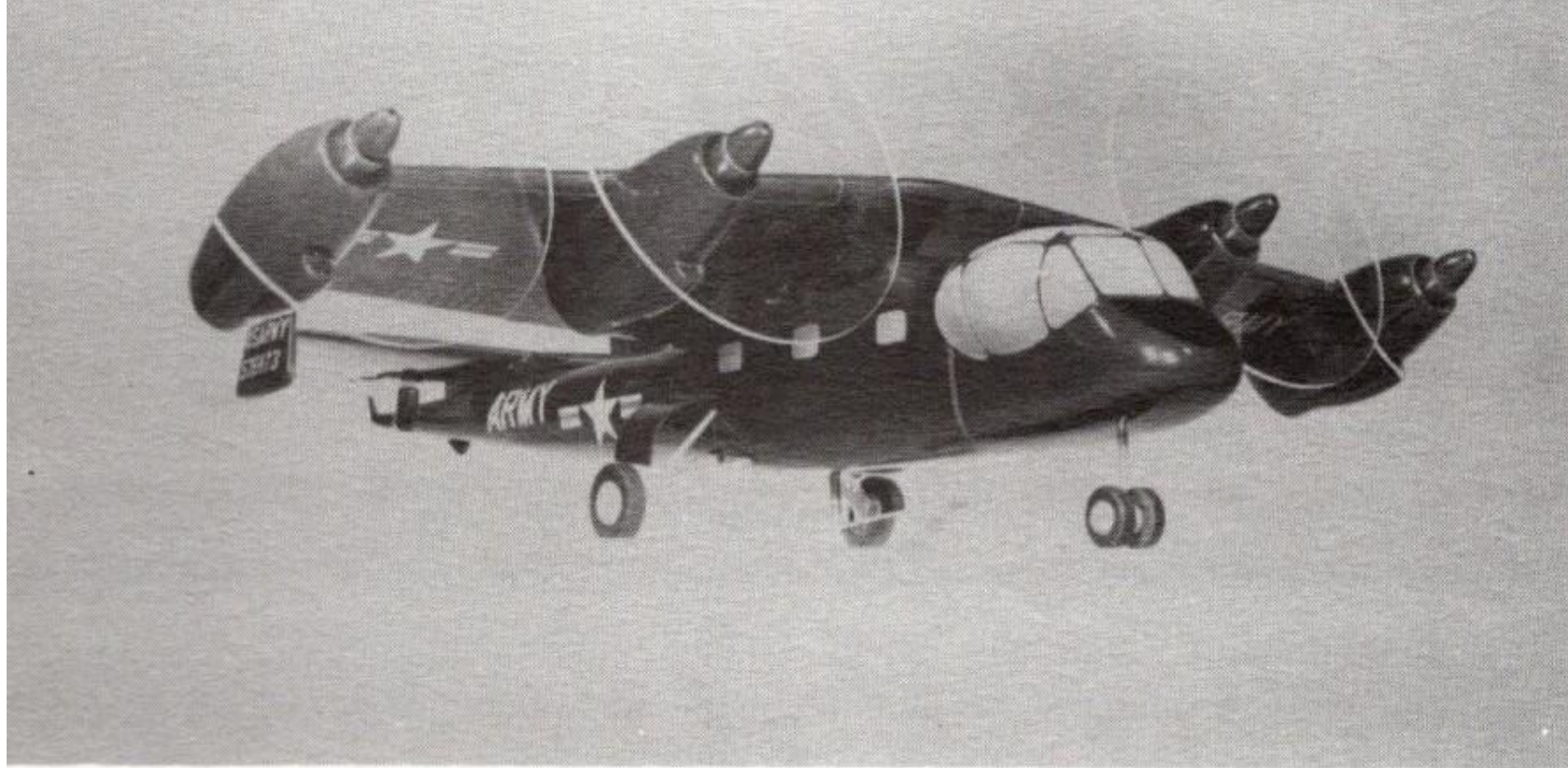
## **DESIGN SUMMARY**

**JANUARY, 1959**  
**PROPOSAL FOR THE**  
**U. S. ARMY**

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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.

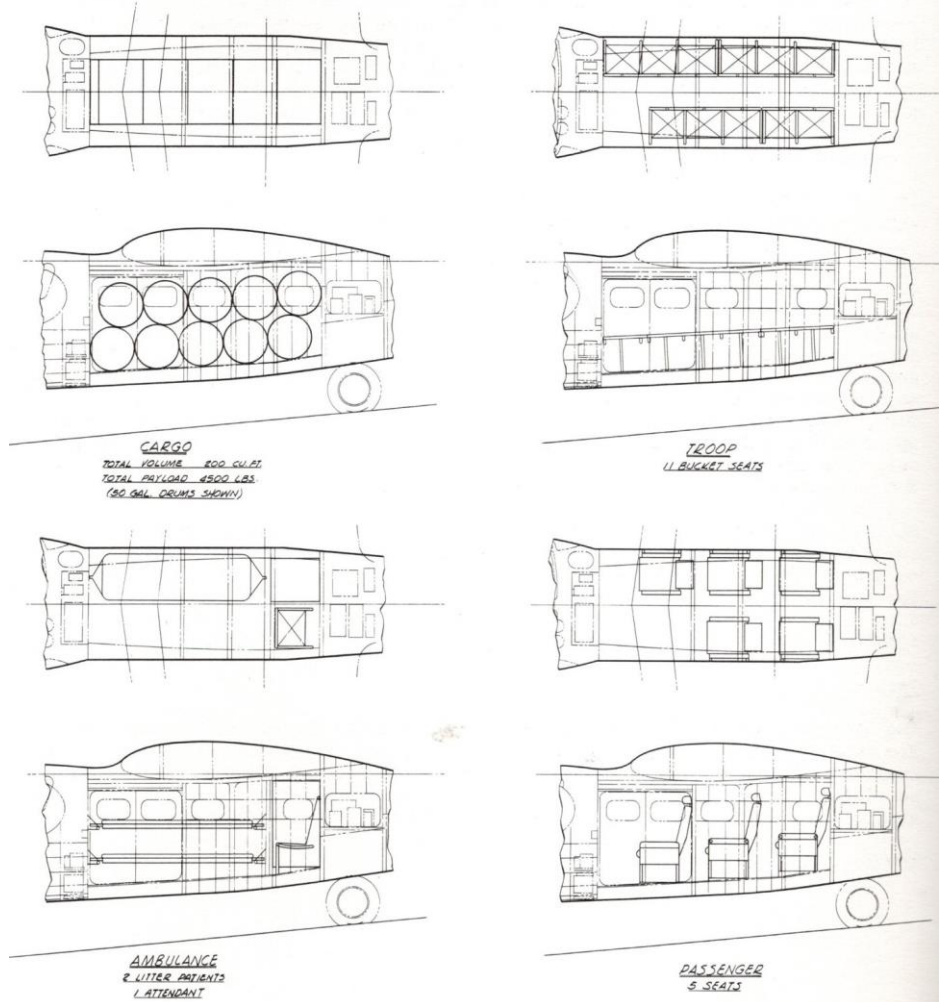
Vertical flight is best described using brute power rather than more sophisticated and complicated systems with the E model.

No flaps

Slats and speed brakes

# Loading Configurations

## LOADING ARRANGEMENTS



# Cargo

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11 Pax (one infantry platoon)

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"Staff car" 5 VIP seats

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Air ambulance with two litters and attendant

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

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6000# of internal cargo

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- 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

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Comparison E model v. A model

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Max speed @ 5000' 350 kts v. 275 kts.

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Ceiling 41,000' v. 33,000'

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Wing area identical 330 sq. ft.

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Rate of climb 7500 ft./min v. 3100 ft./min

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Overall size nearly identical

# NASA Wind Tunnel Langley, VA

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- 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.





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Association**

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