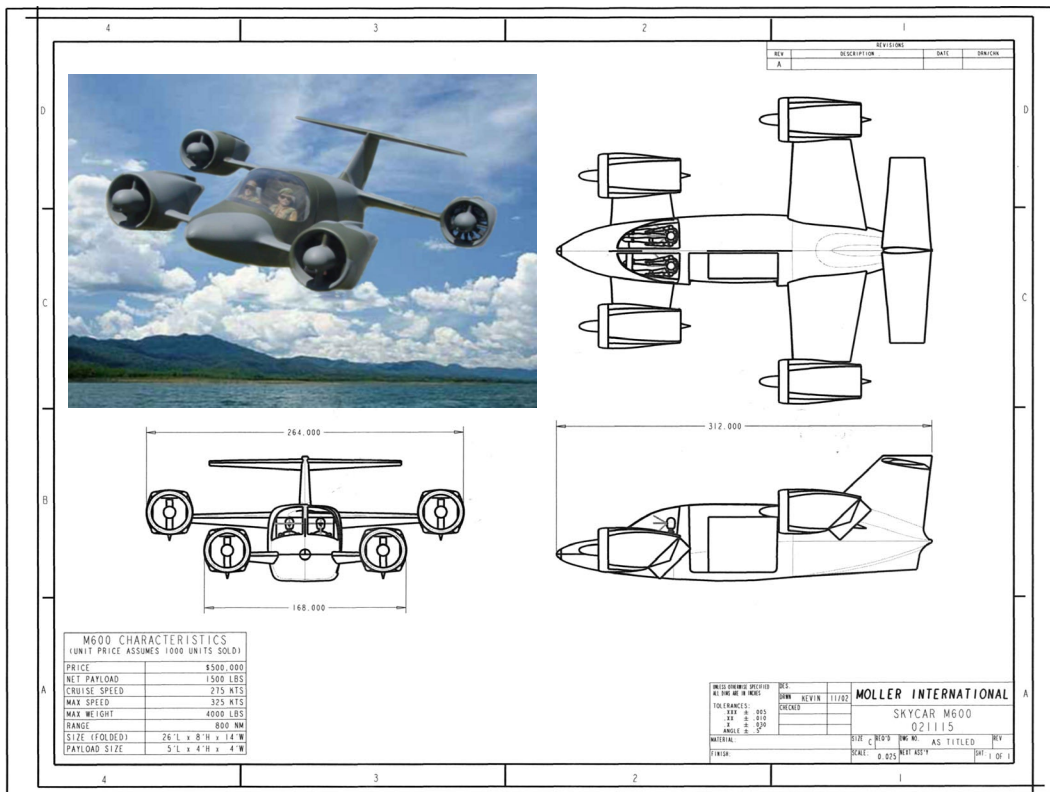




The Moller M600 Skycar

High-speed VTOL Special Operations
Light Transport Aircraft-



High-speed, Low-Cost VTOL Transport

With the vertical take-off capabilities of a helicopter and the maximum speed of a high performance aircraft without the limitations of either, the M600 can shave critical minutes from a variety of missions where flexibility and speed are imperative. The VTOL payload of 1,250 lbs allows for up to six passengers or a combination of crew and cargo. Suggested configuration for SAR/Medivac is a pilot and medic, with space for two injured. STOL (200' rollout) provides for net payloads of over 2,000 lbs.

Cost Effective Performance

From its inception the M600 has been designed to minimize both direct and indirect costs. The M600 uses an engine that can run on diesel fuel so that the aircraft has the potential to satisfy the operational requirements of a "single-fuel" battlespace. Based on the Wankel principle, the Rotapower engines are capable of producing exceptional power to weight while maintaining reliability and a high MTBO. Each nacelle contains two modular 2-rotor engines for a total of eight Rotapower engines. Each engine independently drives a fan, which provides thrust for both VTOL and high-speed forward flight. During VTOL the aircraft's four nacelles rotate 45 degrees, which, along with deflection vanes in the rear of each nacelle

M600 Skycar Volantor Performance Specifications	
Maximum Speed @ 25,000 ft.	385 mph
Maximum Speed @ S.L	350 mph
Cruise Speed @25,000 ft.	315 mph
Maximum mileage (gasoline equivalent)	~12 mpg
Maximum net VTOL payload	1250 lbs.
Maximum net STOL payload	2000 lbs.
Gross weight (VTOL)	3800 lbs.
Nominal power (continuous)	1360 hp
Boost power available	2180 hp
Disc loading (uses exit area)	205 lbs./ft. ²
Maximum lift to drag ratio	12

redirect the thrust. In both hover and forward flight the on-board flight control computers provide control and stability. Input is via two hand-controls: a joystick for direction and speed and an altitude/rate of climb selection lever, making the M600 exceptionally simple to fly.

Time Critical Applications

The M600's combined VTOL and airspeed capabilities provide extremely rapid response. Search and rescue (SAR), emergency medical evacuation, drug interdiction, critical logistic supply deliveries, surveillance or special personnel transport are examples where minutes saved can literally mean the difference between success and failure, life and death, or thousands of dollars. Helicopters have traditionally offered the flexibility necessary in these applications allowing for ingress and egress into a limited space where fixed wing aircraft do not have access. The performance penalties for using helicopters as compared to fixed wing aircraft have been low speed, limited range and restricted operational ceiling. The M600 operational characteristics are predicted to provide a maximum dash speed of 395 mph, a range of 750 miles, and operational altitude of over 25,000 ft. The vehicle will be able to climb at more than a mile per minute.

Designed for Safety

The M600 can take-off and land vertically with one engine out and can maintain flight with several engines out. It has no catastrophic failure component such as a helicopter's main rotor or a light airplane's single engine. The design calls for engines, computers, communications and navigation systems all to have multiple backups, so failure of any one part will not be flight critical. In the highly unlikely event that several engines fail, two ballistic parachutes will allow a safe vehicle descent.

The agility of the M600 allows for significant changes in velocity and direction in a fraction of a second. This provides the maneuverability required for operation in close quarters and turbulent conditions. A computerized vehicle condition management system constantly monitors the engines and other elements

	$\frac{\text{NET PAYLOAD}^1}{\text{ACQUISITION COST}}$ (Tons / Million (\$))	$\frac{\text{NET PAYLOAD} \times \text{SPEED}^2}{\text{ACQUISITION COST}}$ (Tons x MPH / Million (\$))	$\frac{\text{NET PAYLOAD} \times \text{RANGE}^3}{\text{FUEL CONSUMPTION}}$ (Tons x Miles / Gallons)
M400 Skycar* (\$500,000 cost)	.75	172	5.7
M600 Skycar* (\$750,000 cost)	.83	208	5.4
V-22 Osprey Tiltrotor	.075	21	1.16
Sikorsky H60D Heavy helicopter	.14	21	2.9
MD 520N Medium helicopter	.825	127	2.9
Robinson R44 Light Helicopter	1.15	145	2.75
BA 609 Tiltrotor	.15	47	4

FOR COMPARISON WITH FIXED WING AIRCRAFT

Cirrus SR20	1.5	230	5.25
EADS TBM 700	.8	280	5.2
Mooney Bravo M20M	.8	182	5.23
Lancair Columbia 400	1.15	203	6.51
Cessna T182T	1.07	136	3.91
Adam A500	.84	203	5.04

¹Net payload is useful payload minus fuel. ²Uses 45%-55% power for speed and range. ³Assumes all aircraft operate with sufficient fuel for 750 mile range

of the vehicle and warns of maintenance needed or impending component failure. The M600 is much less dangerous for ground personnel than a helicopter or light airplane. The fans are contained in Kevlar-lined housings with intake screens to provide complete protection.

The M600 is one of two new aircraft being developed by Moller International to meet guidelines suggested by representatives of the US military. It could also meet the requirements of commercial high-value cargo delivery, air-taxi and emerging VTOL transportation service providers. The M400 is a smaller, 4-passenger aircraft developed for the civilian market.