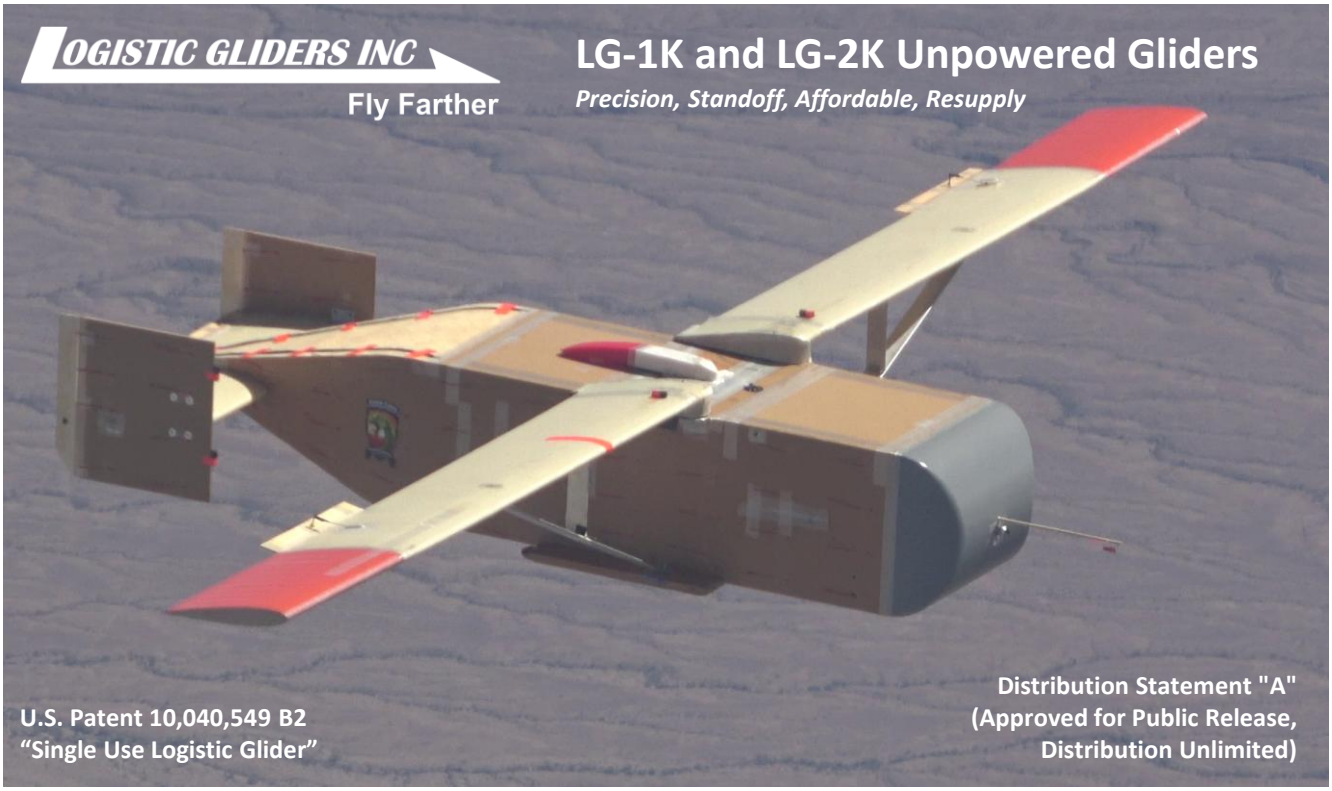
LOGISTIC GLIDERS INC

Fly Farther

LG-1K and LG-2K Unpowered Gliders

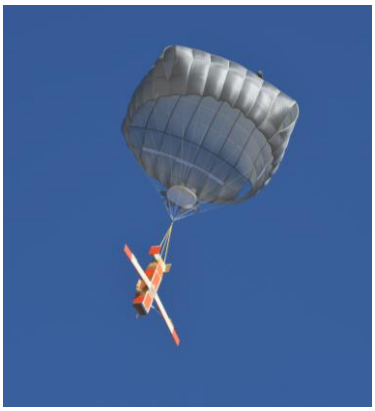
Precision, Standoff, Affordable, Resupply



U.S. Patent 10,040,549 B2
"Single Use Logistic Glider"

Distribution Statement "A"
(Approved for Public Release,
Distribution Unlimited)

The LG-1K and LG-2K gliders are low cost, long range, stealthy, disposable aircraft designed for autonomous agile cargo distribution in "contested logistics" and anti-access/area denial (A2/AD) environments. They are folding truss-braced wing (TBW) gliders sized to deliver up to 1,600-pound (725 kilogram) payloads and can be deployed from cargo aircraft or helicopters. They are constructed with low-cost materials and could land anywhere a parachute can. Potential missions include: Humanitarian resupply of besieged cities or military units, Delivery of rescue supplies to downed aircrew, Aerial resupply in contested logistics and A2/AD environments, Ship-to-shore cargo delivery, Resupply of remote inaccessible areas, Aerial decoy, Aerial target, Drone swarms, Reconnaissance, and Logistic support for firefighting.



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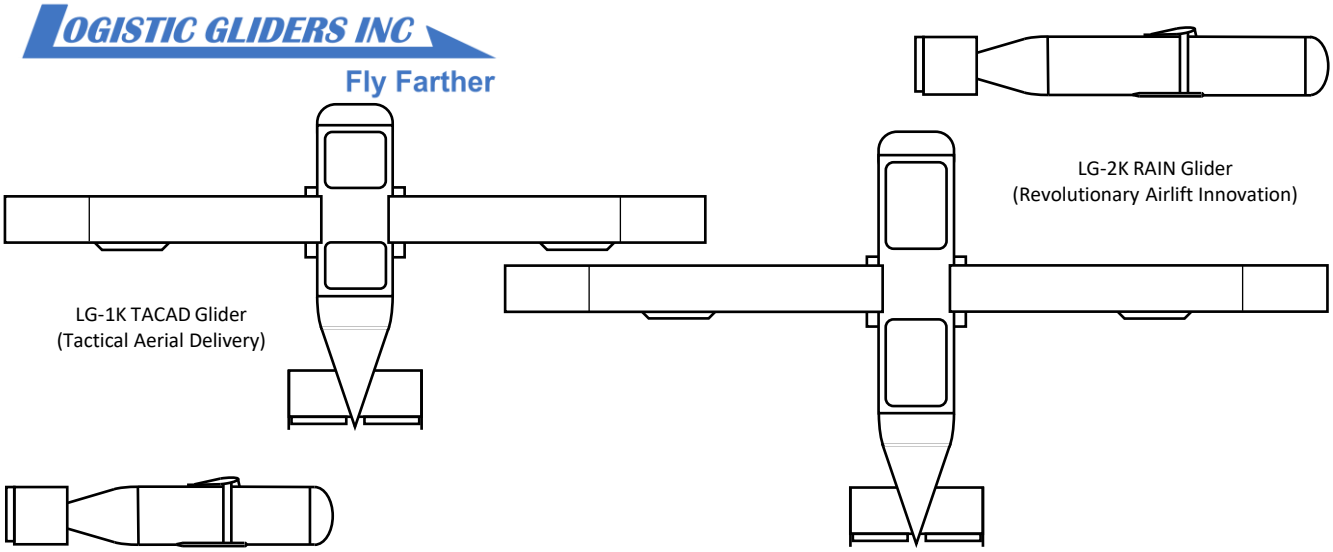


TECHNICAL SPECIFICATIONS

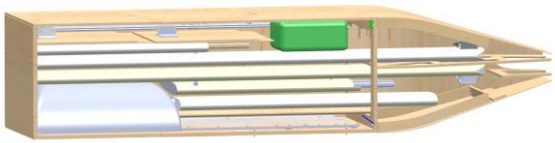
Specifications	LG-1K TACAD Glider	LG-2K RAIN Glider
Payload Capacity	Up to 700 lb (320 kg)	Up to 1,600 lb (725 kg)
Cargo Volume (does not include tail cone)	25 cu ft (0.7 cu m)	36.8 cu ft (1.0 cu m)
Cargo Compartment Dimensions	68.5L x 29W x 21.7H in 174L x 73.7W x 55H cm	101L x 29W x 21.7H in 256L x 73.7W x 55H cm
Empty Weight	405 lb (185 kg)	495 lb (225 kg)
Max Gross Weight	1,100 lb (500 kg)	2,100 lb (950 kg)
Wingspan	23.2 ft (7.1 m)	26.0 ft (7.9 m)
Length	11.0 ft (3.3 m)	13.7 ft (4.2 m)
Wing Aspect Ratio	15.5 to 1	17.3 to 1
Unpowered Glide Ratio	13.5 : 1 demonstrated in flight test	15.5 : 1 demonstrated in flight test
Glide Distance from 25,000 ft altitude	55 nm (101 km)	63 nm (116 km)
Best Glide Airspeed with Max Payload	103 KTAS at sea level 155 KTAS at 25,000 ft	135 KTAS at sea level 202 KTAS at 25,000 ft
Stall Airspeed	82 KTAS at sea level	103 KTAS at sea level
Parachute Landing	30 ft/sec GFE T-11	26 ft/sec COTS PG-12
Landing Accuracy	Similar to JPADS	
Flight Controller	COTS Pixhawk Cube with Here 3 GPS	
GCS Programming	Mission Planner or QGroundControl	
Sized for airdrop from these Cargo Aircraft	USAF C-130, C-17, & CV-22; & Marine MV-22	
Sized for Helicopter Sling Load	USAF UH-1, HH-60, & MH-139; Army CH-47 & UH-60; Navy MH-60; Marine CH-53, KC-130, & MV-22	
Stealth	Low acoustic, infrared, & RCS signature	

CEP = Circular error probable; cm = Centimeters; COTS = Commercial off-the-shelf; ft = feet; GCS = Ground control station; GFE = Government furnished equipment; GPS = Global positioning system; in = Inches; JPADS = Joint Precision Airdrop System; kg = Kilograms; km= Kilometers; KTAS = Knots true airspeed; lb = Pounds; m = Meters; nm = Nautical miles; sec = Seconds; RCS = Radar cross section.

KEY FEATURES

- **Gliders are for use in environments that are too dangerous for reusable manned or too costly for attritable unmanned aircraft**
- **Completed twenty-six (26) full scale glider flight tests**
  - Single use by design, hence each flight test requires a new glider
- **50% greater glide range as compared to competition**
- **Simplicity of design and construction allows mass production in large quantities in very short periods**
- **Gliders can land on their belly if terrain is flat**
- **Parachute allows landing into urban canyons, small clearings, forest or jungles, and rough, hilly or mountainous terrain**
  - Parachute deployment 400 ft (120 m) above ground ensures gliders land close to intended point and touch down on their crushable nose
  - Over 10,000 GFE T-11 parachutes are available yearly at no cost to U.S. Military users for cargo use at the end of the T-11's 12-year service life
- **Glider's fuselage can be used as shipping container**
  - All glider components fit inside fuselage – quick assembly & disassembly
  - 2 bolts & 1 clevis pin to install or remove a wing panel
  - Outer wing extensions plug into inner wing panels – flight tested 16 times
  - 2 bolts to install or remove the horizontal tail assembly
  - Nose is taped to fuselage with bi-directional filament tape

Photo of LG-1K TACAD glider with top loading hatches and nose removed to show component storage



LG-1K TACAD fuselage as a shipping container is 9 ft (2.74 m) long

- **48 TACAD or 36 RAIN gliders can fit into a 40-ft container**
  - 24 TACAN or 12 RAIN gliders can fit into a 20-ft shipping container