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AIRBORNE ENERGY SOLUTIONS

MI-26T Super Heavy Lift Helicopter Demonstration: Whitecourt Alberta

December 1, 2006

Highlights and Photos

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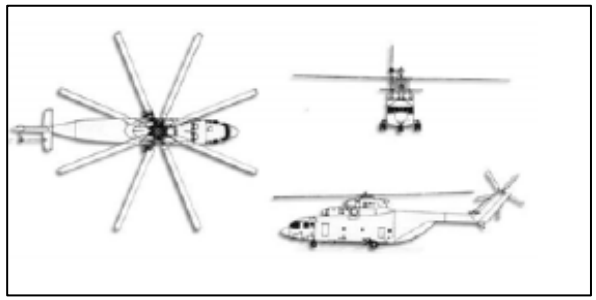
MI-26T Super Heavy Lift Helicopter



Internal dimensions & lifting capacities = C-130 Hercules: 20 tonne, 44,000 lbs.

2 x capacity of a Chinook or Sky Crane.

Whitecourt, Alberta, December 1, 2006

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MI-26T Operating Data

MI-26T	**Heavy Lift Helicopter**
Country of Origin	**Russia, MIL Helicopter Plant, introduced in 1983**
Rotors	**Main: 8 blades, 32 m (105 ft) Tail: 5 blades, 7.6 m (25 ft)**
Fuselage	**33.5 m (110 ft) long x 3.7 m (12.2 ft) wide x 8.1 m (25 ft) high**
Length	**40 m (131 ft), rotors turning**
Cargo Compartment	**12 m (39.4 ft) long x 3.3 m (10.8 ft) wide x 3.2 to 2.9 m (10.5 to 9.5 ft) high** **Internal Hoist Capacity: 5,600 kg (12,400 lb)** **Rear Clamshell Doors and loading ramp**
Weights (maximum)	**Payload: 20,000 kg (44,000 lb) Takeoff: 56,000 kg (124,000 lb)**
Engines	**2 x Lotarev D-136 Turboshart, 745 kw (11,400 shp)**
Airspeed	**Max: 295 km/hr (184 mph) Cruising: 255 km/hr (145 mph)** **With External Load: 145 to 225 km / hr (90 to 140 mph)**
Fuel	**Fuel Consumption: 3000 l/hr Internal Tanks: 12,770 l Ferry Tanks: 15,2000 l**
Service Ceiling	**6,500 m (21,000 ft)**
Range (maximum)	**1,800 km (1,120 miles) with Ferry Tanks**
Crew	**2 Pilots, 1 Navigator, 1 Flight Engineer, 1 or 2 Loadmaster**
IFR Capability	**Full avionics and navigation package, Doppler weather radar, integrated autopilot, de-icing capability; provides for operations in all-weather conditions.**

MI-26T Demonstration: Whitecourt Alberta, December 1, 2006

Weather: Temperature -15 to -12°C. Wind: WNW 20k m/hr, gusting to 30 km/hr. Light cloud, visibility 24 km.

Flight Observation Station: 60m NW of the load pick-up area.

Demonstration Events / Highlights

1. <u>Interior Inspection: Cockpit & Cargo Bay (Photos 1, 2, 3)</u>

- The cockpit is pressurized for low temperature operations.
- The large cargo bay with an integrated crane system for easy loading.
- The rear cargo door and loading ramps can be quickly opened and deployed.

1. Cockpit & Cargo Bay

Demonstration Events / Highlights

2. Internal Load (Photos 4, 5)

- **A Ford LT 9000 Truck Tractor Unit was driven in and out of the cargo bay.**

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2. Internal Load

Demonstration Events / Highlights

3. External Load (Photos 6, 7)

- **the Truck Tractor Unit was driven onto the Universal Basket UB and was chained down:**

Total Cargo Load (excluding fuel):		
Truck Tractor Unit	**8,500 kg**	**18,700 lb**
Universal Basket with vehicle deck:	**3,500 kg**	**7,700 lb**
TOTAL	**12,000 kg**	**26,400 lb**

3. External Load

Demonstration Events / Highlights

4. Station Keeping Demo (Photos 8, 9, 10, 11)

- **The MI-26 started up, lifted off, and hovered at +/- 50m.**
- **The MI-26 was reasonably quiet relative to other helicopters.**
- **Under the direction of the Airborne Project Manager on the ground (hand-held radio), the MI-26 moved back and forth, sideways, and changed orientation.**
- **The MI-26 was extremely stable with no slewing or yawing.**

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4. Station Keeping

MI-26T Demo: Dec 1, 2006

Demonstration Events / Highlights

5. Load Hook-up (Photos 12, 13, 14, 15)

- **The MI-26 hovered over the Universal Basket UB and slowly descended.**
- **The 2 Heli-riggers hooked the 2 MI-26 lines onto the UB sling D rings.**
- **The whole operation was very controlled with minimal hook swing; the Heli-riggers had no problem handling the lines.**

5. Load Hook-up

5. Load Hook-up

Demonstration Events / Highlights

6. Load Lift (Photos 16, 17)

- **MI-26 lifted the load, hovered, then flew the load around the airport.**
- **The lift looked effortless; there was little increase in noise and a very smooth lift off the ground with no sideway motion.**
- **There was an increase in downwash, but the observers standing 60 m away felt only slight buffeting.**
- **With reasonable care, most typical work activities could have been simultaneously conducted beyond a 50 - 60m setback.**

6. Lift Load

Demonstration Events / Highlights

7. Load Un-hook (Photos 18, 19, 20, 21)

- **After flying the load around the airport, the MI-26 positioned the load at the same spot where load was picked up.**
- **Positioning was very smooth with no sideways movement of the load.**
- **The MI-26 was able to lay the lines beside the load for easy access by the Heli-riggers; the Heli-riggers easily unhooked the D links.**
- **Downwash was similar to the pick-up.**

7. Un-hook Load

7. Un-hook Load

Demonstration Events / Highlights

8. Land (Photos 22, 23)

- **After un-hooking, the MI-26 lifted slightly, positioned away from the load, and landed keeping precise control of its load lines.**

8. Land

MI-26T Demonstration Highlights:

The MI-26 demonstrated that it has the size and power to lift heavy loads with control and precision.

Noise is lower than one would expect.

Downwash is manageable +/- 50 m (150 ft) from the load pick-up / drop-off area.