

Canadian Air-Crane



*innovation
through
experience*

Canadian Air-Crane is Canada's largest most diversified and innovative heavy-lift operator.

Our specialty work includes:

- helicopter logging
- wildland and urban interface fire suppression
- heavy lifts for construction projects



Canadian Air-Crane is the largest helicopter logger in Canada. Established in 1991, we provide the best suited heavy-lift helicopters in the industry. Canadian Air-Crane operates Erickson S-64E and S-64F Aircranes.

Why Canadian Air-Crane?

- constantly developing innovative heli-logging solutions
- the best suited heavy-lifting helicopters in the industry
- the most cost effective firefighting aircraft available

Cost Effective & Environmentally Sound

Choosing Canadian Air-Crane as your heli-logging partner maximizes your harvesting options. Today's loggers are not bound by the limitations of conventional logging practices.

Heli-logging with the S-64 Aircrane is a cost-effective and environmentally sound method of harvesting wood. Timber is picked up and flown out from where it is felled, rather than being skidded across the forest floor.

Canadian Air-Crane can handle all logging prescriptions, including: shelter wood, patch cut, selective and clear-cut methods. Our S-64 Aircranes can dead-lift larger timber pieces and can fly uphill as well as they do downhill. This allows us to use landings or road systems that may exist above a cut block.

Working with Canadian Air-Crane allows you to capitalize on prime logging opportunities while preserving the natural beauty of the forest.

Conventional Helicopter Harvesting

Strengths:

- Focus on the stand value and the individual log value to determine the most efficient log lengths to be removed.
- Versatility over the entire landscape.
- Minimize new road construction and associated future liability.
- Extend the conventional limits of harvesting over the landscape.

Focus:

- Incorporate helicopter over the landscape to balance the yarding efficiency of the various phases.

Environment:

- Provide a light footprint approach.
- Introduce selective, variable retention aspects to the landscape.
- Capture volume and value where roads will not go.
- Provide a natural disturbance type pattern on the landscape.

Values:

- Longer lengths at the landings.
- Maximize the capital employed at the landing.
- Incorporate one or more of the bunching or standing stem tools into the surrounding conventional helicopter setting.



***No Access? – No Problem!
Canadian Air-Crane can put the
unreachable within reach.***

The feller buncher can be located into sites previously considered inaccessible and reassembled on the hillside.

Bundled for maximum efficiency

The feller buncher neatly arranges and bundles the logs to attain an efficient target weight for the Aircrane.

Mechanical success has been achieved on slopes over 50% through a combination of approaches.

Feller Buncher Harvesting

Strengths:

- Opportunity to bundle smaller timber types and maximize Aircrane productivity.
- Wood is bunched and processed on the hillside eliminating debris at the landing or roadside.
- Maximizes landing efficiencies reducing overall loading and handling costs.
- Species sorts can be bunched on the hill for separation at the landing, i.e. cedar poles.
- Ability to carry out any required site preparation before the machines leave the hill.
- Increased productivity over hand-falling.
- Works best in conjunction with hand-falling to maximize the block logging chance.

Environment:

- Slopes up to approximately 50%.
- Ability to deck a large amount of volume in confined areas due to bunching that utilizes existing road systems.

Values:

- Lower cost alternative for customer.
- Reduced phase costs and capital employed at the landings and sorts.

Focus:

- All bench areas with slopes up to 50% are candidates with or without road access.
- Have the ability to fly a range of machines on the hillside where no road access exists.

Canadian Air-Crane is your innovative partner in today's forest industry.

A leader in heli-logging innovation, Canadian Air-Crane has developed 'standing stem harvesting', a revolutionary method of retention harvesting that involves pulling standing tree stems up and out of the forest with no damage to the tree or surrounding area.

'Standing stem harvesting' involves the S-64 Aircrane using a hydraulic grapple with two shackles welded to the frame allowing the grapple to be suspended horizontally.

The horizontal grapple grabs the stem where it stands as the Aircrane snaps and pulls the tree off at the precut points. Unlike other helicopters, the Aircrane has the power and capacity to dead lift the tree above the canopy and not drag it through the forest.

'Standing stem harvesting' opportunities have been identified in the U.S. Pacific Northwest and have been used extensively on conventional helicopter timber harvesting operations across British Columbia.

Standing Stem Harvesting

Strengths:

- Maximizes the individual stem value.
- Can be incorporated in and around conventional logging settings to maximize stand value.
- Using the standing stem technique in a conventional helicopter logging setting allows stems to be placed, creating a hillside of 'bunk' logs to hold the wood on the hill.

Environment:

- Areas previously thought to be out of reach for conventional logging.
- Locations where slope stability concerns will not allow conventional logging. Allows a percentage removal of the stand value.
- Gullies, riparian areas.
- Conventional settings.
- Within helicopter settings where bluffs and steep ground do not facilitate saving out the stem value.

Values:

- Less shattering means increased recovery at the mill.
- Higher market value.
- Offers variable retention approach or "light footprint harvesting".
- Future rotations available based on stem size.

Focus:

- Value, Value, Value.
- Get the stem from the bush to the mill in the same form for maximum value.
- Taking it a step beyond with banding of high value oversize cedar falling direction, improvements, and lengths.
- Reducing internal shatter associated with seams in the wood.

Power Lift

Canadian Air-Crane performs many heavy-lift operations. Our success in construction operations includes:

- installation of large rooftop units
- mine construction and mobilization
- power line transmission tower installation
- ski lift installation
- pipeline construction
- concrete pouring
- general construction and material transport
- aerial hydro seeding

The S-64 Aircranes take advantage of a unique aft facing pilot station. The aft seated pilot has a full set of flight controls and an unlimited view of the load being carried. To assist in the placement of large loads, our patented cargo handling system keeps the loads from rotating. This gives the aft facing pilot positive control for the precise placement of the load.

Petroleum Support

Canadian Air-Crane has provided lift services for the movement of drill rigs, platforms and pipeline equipment.



Your 911 in the Sky

Canadian Air-Crane operates the S-64 Aircrane Helitanker which is the world-wide recognized system for high volume precision delivery of water, Class 'A' foam, and retardant from the air.

From tall-timbered wildland fires, to fast burning scrub brush fires, to crowded urban interface fires, the Helitanker has a multiple-drop coverage level adjustment to fit each fire scenario. Eight different coverage levels are available from an on-board microprocessor that accounts for wind speed to open the tank doors and dump 3.8 litres per 10 sq. metres (1 gallon per 100 sq. feet) to 30.4 litres per 10 sq. metres (8 gallons per 100 sq. feet).

The fixed tank fire suppression system includes a ram scoop hydrofoil for 30 second refill in sea water or fresh water sources. The flexible hose 'Hover Snorkel' fills in any water source as shallow as 45 centimetres (18 in.) in as fast as 45 seconds. Strait stream horizontal delivery is accomplished by the optional 'Water /Foam Cannon' mounted on the front of the Helitanker. The 'Water/Foam Cannon' shoots a stream of water or foam mix at 1,140 litres (300 gallons) per minute up to 48 metres (160 feet).

Canadian Air-Crane - we're equipped, we're experienced and we're always where you need us.



Fire Suppression Capacities

Fixed Tank Volumes*

S-64E	7,570 litres	1,665 gal
S-64F	9,462 litres	2,082 gal
Bambi and Griffith Buckets	7,570 litres	1,665 gal

Portable Dip Tank**	16,654 litres	3,670 gal
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* Tank volumes vary according to temperature, fuel load and elevation
 **Available with both fixed tanks and the Bambi bucket for retardant mixing and remote fill-ups.



S-64 Aircrane Specifications

Lift Capacity	S-64F	11,250 kg	25,000 lbs	(approx. 12.5 m ³ of timber)
	S-64E	9,000 kg	20,000 lbs	(approx. 10 m ³ of timber)
Air Speed		115 knots (maximum)		
Endurance	standard tank	2.5 hours		
	auxiliary tank	4.5 hours		
Dimensions	main rotor diameter	22.0 m	72 feet	
	tail rotor diameter	4.9 m	16 feet	
Aircraft Length	rotors turning	27.0 m	88.5 feet	
Aircraft Height		7.75 m	25.4 feet	
Rate of Climb		up to 1,800 metre/minute or 6,000 feet/minute		

Aircrane Load Volumes

		length	diameter	weight	volume
1 Douglas Fir log	S-64E	12.5 m (41 feet)	105 cm (41 inches)	9,072 kg (20,000 lbs)	10.8 m ³
1 Hemlock log	S-64E	12.5 m (41 feet)	96 cm (38 inches)	9,072 kg (20,000 lbs)	9.1 m ³
1 Red Cedar log	S-64E	12.5 m (41 feet)	117 cm (46 inches)	9,072 kg (20,000 lbs)	13.3 m ³

(weights and volumes are approximate values)