Tahoe Fire Helicopter

Type 1 Helicopter Technical Specifications

This document outlines the general technical specifications for a Type 1 helicopter as defined by the National Interagency Fire Center and the National Wildfire Coordinating Group. Specifications may vary slightly by manufacturer, but the standards below represent common operational and performance parameters for heavy lift, multi mission aircraft used in aerial firefighting and emergency response.

General Classification

• Designation: Type 1 heavy lift multi mission helicopter

• Primary Mission: Aerial firefighting, rescue, transport, and multi agency emergency operations

• Crew Configuration: Two pilots with optional flight engineer or crew chief, plus helitack or rescue crew up to twelve personnel depending on mission

Performance Overview

Maximum Gross Weight	16,000 to 50,000 lbs
Useful Payload	5,000 to 25,000 lbs
Cruise Speed	120 to 160 knots
Operational Range	250 to 350 nautical miles
Endurance	Up to four hours per fuel cycle
Service Ceiling	10,000 to 14,000 feet MSL
Hover Ceiling	7,000 to 10,000 feet MSL

Firefighting Capability

• Water or retardant capacity minimum seven hundred gallons, typically eight hundred fifty to three thousand gallons depending on model

• Delivery systems include Bambi Bucket or belly mounted fixed tank with hover fill capability

• Hover fill rate of three hundred fifty to seven hundred gallons per minute

• GPS aided precision drop control

• Compatible with Class A foam and gel retardants

Rescue and Support Capabilities

• Rescue hoist with six hundred to one thousand pound capacity variable speed winch

• External long line cargo capability up to ten thousand to twenty thousand pounds depending on model

• Passenger transport for up to fifteen crew or evacuees depending on configuration

• Medical configuration supporting Advanced Life Support with stretcher and onboard medical equipment

Avionics and Safety Systems

• IFR and VFR capable glass cockpit avionics

• Night Vision Goggle compatible lighting and systems

• FLIR and thermal imaging for night operations

• Redundant hydraulic and electrical systems

• Enhanced Ground Proximity Warning System

• Satellite tracking and real time telemetry

Maintenance and Operational Requirements

- Two pilots, one flight engineer, and ground support team
- Typical refill or refuel turnaround time of five to ten minutes
- Annual flight hours range from four hundred to eight hundred
- Maintenance cycles at twenty five, fifty, one hundred, and three hundred hour intervals per FAA standards

Multi Mission Applications

- Wildfire suppression and extended operations
- Search and rescue
- Medical evacuation
- Law enforcement support and surveillance
- Vegetation management and controlled burn operations
- Avalanche control, lift evacuation, and infrastructure support