CHAPTER 80
AIRCRAFT

Infrared Aircraft

Infrared Aircraft are National Interagency Resources.

Infrared Aircraft – Forest Service

Aircraft	Flight Rate Per Hour
N144Z – Cessna Citation	$ 1960
N149Z – King Air 200	$ 1000

Rates are subject to change. For further information, contact the FS Region 4 Aviation Operations Office.

PERFORMANCE

N144Z Cessna Citation

- -- Block speed – 370 kts.
- -- IR Scanner speed – 240 kts
- -- Fuel – Jet.
- -- Endurance for infrared missions (2 Pilots, 1 Technician) 3.0 Hours (with reserves
- -- Maximum take-off weight – 14,800 lbs
- -- Runway – Hard surface, minimum 4,000 feet @ sea level
- -- Passenger configuration – 6 passengers + baggage.

N149Z King Air 200 (Cargo Door)

- -- Block speed – 240 kts.
- -- IR Scanner speed – 220 kts
- -- Fuel – Jet
- -- Endurance for infrared missions (2 Pilots, 1 Technician) 4 Hours (with reserves
- -- Maximum take-off weight – 12,500 lbs.
- -- Runway – Hard surface, minimum 4,000 feet @ sea level
- -- Passenger configuration – 6-8 passengers + baggage
- -- Cargo configuration – 2,000 lbs. (2 Pilot), 2 + 30 hour endurance (with reserves).

Airborne Thermal Infrared (IR) Fire Mapping and Detection

- Capabilities and Limitations:
  - Infrared Scanners:
    - Infrared energy can penetrate smoke and haze, but is limited by clouds and fog. Infrared energy follows a line-of-sight path.
    - For best results, imagery should be taken between the hours of 1000-1400 and between one (1) hour after sunset and one (1) hour before sunrise. Imagery flights can be made at other times, but expect degradation in image quality. Fire detection is unaffected by time of day.

- Infrared Aircraft:
  - All USDA Forest Service infrared aircraft deliver imagery via FTP site transfer. The address for the site is: ftp://ftp.nifc.gov. Login username and passwords are provided by the National Infrared Coordinator.
  - Aircraft normally require a 5,000 foot, hard-surfaced, lighted runway. A 28-volt, 1,000 amp ground power unit (GPU) should be provided for aircraft starting.

Tactical Aircraft

Lead Planes/Aerial Supervision Aircraft – FS

For a complete list of all Lead Planes/Aerial Supervision Aircraft, refer to the following web site: http://www.nifc.gov/nicc/logistics/aviation/Lead_Planes.pdf

Air Tactical Avionics Typing

Required Equipment	Type 1	Type 2	Type 3	Type 4
Aeronautical VHF-AM radio transceivers	2 each	2 each	2 each	2 each
Aeronautical VHF-FM radio transceivers	2 each	1 each	1 each	N/A
Transponder & altitude encoder	Yes	Yes	Yes	Yes
Panel Mounted or Aviation Handheld GPS	1 each	1 each	1 each	1 each
TAS (BLM)	Yes	N/A	N/A	N/A
Separate audio control systems for pilot and ATGS	Yes	Yes	N/A	N/A
An audio control system	N/A	N/A	Yes	Yes
Audio/mic jacks with PTT capability in the rear seat connected to the co-pilot/ATGS's audio control system	Yes	Yes	N/A	N/A
An intercommunication System	Yes	Yes	Yes	Yes
AUX-FM provisions	Note 1	Note 1	N/A	N/A
AFF	Yes	Yes	Yes	Yes
2 - aeronautical VHF-FM antennas	N/A	N/A	N/A	Yes
An accessory power source	N/A	N/A	N/A	Yes
A portable Air Attack kit (Note 2)	N/A	N/A	N/A	Yes

Note 1: Type 1 and 2 aircraft must have either AUX-FM provisions or an additional aeronautical VHF-FM radio transceiver.

Note 2: Air Attack kits may be agency or contractor furnished.

Smokejumper Aircraft

For a complete list of all Smokejumper Aircraft, refer to the following web site: http://www.nifc.gov/nicc/logistics/references/Smokejumper_Aircraft.pdf

Federal Airtankers

The primary mission of federally contracted large fixed-wing airtankers is initial attack operations.

The NICC will prioritize and allocate federal airtankers by positioning them in areas of current or predicted high wildfire danger or activity.

For a complete list of all federal airtankers, refer to the following web site:
http://www.nifc.gov/nicc/logistics/aviation/Federal_Contract_Air_Tanker_List.pdf

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