

CHAPTER 80 AIRCRAFT

Infrared Aircraft

Infrared Aircraft are National Interagency Resources.

Infrared Aircraft – Forest Service

<u>Aircraft</u>	<u>Flight Rate Per Hour</u>
N144Z – Cessna Citation	\$ 1340
N149Z – King Air 200	\$ 920

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 fire detection.

- 1 ○ Infrared Aircraft:
- 2 ➤ All infrared aircraft can air drop imagery. The final decision for a drop will be
- 3 left to the Pilot-in-Command and only when positive air-to-ground
- 4 communications has been established.
- 5 ➤ Aircraft normally require a 5,000 foot, hard-surfaced, lighted runway. A 28-volt,
- 6 1,000 amp ground power unit (GPU) should be provided for aircraft starting.

8 **Tactical Aircraft**

9 **Lead Planes/Aerial Supervision Aircraft – FS**

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

13 **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	-
Transponder & altitude encoder	X	X	X	X
Panel Mounted GPS	1 each	1 each	Note 1	Note 1
Handheld GPS	-	-	Note 1	Note 1
Separate audio control systems for pilot and ATGS	X	X	-	-
An audio control system	-	-	X	X
Audio/mic jacks with PTT capability in the rear seat connected to the co-pilot/ATGS's audio control system	X	X	-	-
An intercommunication System	X	X	X	X
AUX-FM provisions	Note 2	Note 2		
AFF	Note 3	Note 3	-	-
2 - aeronautical VHF-FM antennas	-	-	-	X
An accessory power source	-	-	-	X
A portable Air Attack kit				X

15 Note 1: Type 3 and 4 aircraft must have either a panel mounted GPS or a handheld GPS (subject
 16 to local contract requirements).

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

19 Note 3: AFF is required on Type 1 and 2 exclusive use aircraft.

20 Note 4: Air Attack kits may be agency or contractor furnished.

22 **Smokejumper Aircraft**

23 For a complete list of all Smokejumper Aircraft, refer to the following web site:

24 http://www.nifc.gov/nicc/logistics/references/Smokejumper_Aircraft.pdf

28 **Federal Airtankers**

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

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

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7 For a complete list of all federal airtankers, refer to the following web site:

8 http://www.nifc.gov/nicc/logistics/references/Air_Tankers.pdf

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