

Avionics Requirements Matrix for Light Fixed Wing Aircraft*

January 18, 2012

Equipment	Reconnaissance								Air Tactical								
	Resource				Fire (FS Only)				Type 1		Type 2		Type 3		Type 4 (FS Only)		
	Recon I (DO)	Recon II (DO)	Any column is acceptable (FS)				Any column is acceptable				Either column is acceptable		Either column is acceptable				
Accessory Power Source Connector				1						1							1
ELT ^A				1						1			1		1		1
720 Channel VHF AM Transceiver	1											0 - Typical					
	1 - Some existing Forest Service contracts still allow 720 channel radios as the #2 COMM. The 720 channel radio specification will be phased out as these contracts expire.																
760 Channel VHF AM Transceiver			1				1				2 - Typical						
	1 - Only those Forest Service contracts still allowing a 720 channel #2 COMM																
P25 Digital VHF-FM Transceiver									1	2	3	1	2	1			
	1 - Typical 1 - See Note B (FHP)																
Analog VHF-FM Transceiver																	
1 - See Note B (FHP)																	
AUX-FM Provisions				1					2	1,C		1,C					
VHF-FM Antenna	1		1	1					2	1						2	
Space for Portable Radio Kit				1						1						1	
Automated Flight Following				1						1		1		1		1	
GPS (Panel Mount)	1		1		1					1		1		1		1	
GPS (Portable)																	
Static System										1		1		1		1	
Transponder										1		1		1		1	
TAS										1 - See Note D (TAS)							
Audio Control System				1	1	1			1	1	1	1		1		1	
#3 Audio Control System										1 - See Note E		1 - See Note E					
ICS System										1		1		1			

This matrix shows the minimum required contracted avionics items on typical contracts. Contracts are often modified to meet local needs. The contract language an aircraft is contracted under is the final determining factor on applicability and requirements.

* Helicopters performing Air Tactical missions shall meet these specifications.

Notes

A	ELT	Many DOI Bureaus require C-126 (406 MHz) ELTs for Exclusive Use contracts. New DOI Exclusive Use contracts require C-126 (406 MHz) ELTs on all fixed wing aircraft.
B	FHP Analog VHF-FM Transceiver	Only Forest Service Forest Health Protection (FHP) non-fire reconnaissance aircraft may utilize specific analog VHF-FM radios for specific missions in lieu of P25 Digital VHF-FM Transceivers.
C	ATGS #3 VHF-FM	Many BLM Exclusive Use contracts require a #3 VHF-FM in lieu of AUX-FM provisions.
D	TAS	TAS is required on all DOI Type 1 Air Tactical aircraft while the Forest Service does not. Therefore, DOI considers all Forest Service non-TAS equipped Type 1 aircraft to be a Type 2 aircraft.
E	ATGS #3 Audio Control System	Air Tactical Type 1 and 2 aircraft must have either a #3 Audio Control System or audio jacks with a radio PTT for the ATGS Instructors position.

Avionics Requirements Matrix for Helicopters

January 5, 2012

Equipment	Fire Helicopter ^A					
	Heavy		Medium		Light	
	Either column is acceptable		Either column is acceptable		Either column is acceptable	
Accessory Power Source Connector			1 - Standard Category Medium helicopters only		1	
9 Pin Remote Cargo Hook Connector			1		1	
ELT ^B	1		1		1	
760 Channel VHF-AM Transceiver	1 - Typical		1 - Typical		1 - Typical	
	2 - Any helicopter carded for Air Tactical must have a 2nd VHF-AM transceiver					
	2 - All Forest Service Exclusive Use helicopter contracts require a 2nd VHF-AM radio					
P25 Digital VHF-FM Transceiver	1 - Typical	1 - KMAX & Cobra	1 - Typical	2 - Not common (1 required + 1 not contractually required)	1 - Typical	2 - Not common (1 required + 1 not contractually required)
	2 - Most Forest Service Exclusive Use contracts require a 2nd VHF-FM radio	2 - Not common (1 required + 1 not contractually required)	2 - Most Forest Service Exclusive Use contracts require a 2nd VHF-FM radio		2 - Most Forest Service Exclusive Use contracts require a 2nd VHF-FM radio	
AUX-FM Provisions	1 - Typical	0 - Not required on KMAX or Cobra helicopters	1 - Typical	0 - When a 2nd P25 Digital VHF-FM Transceiver is provided and not contractually required.	1 - Typical	0 - When a 2nd P25 Digital VHF-FM Transceiver is provided and not contractually required
	1 - An AUX-FM is required on all Forest Service Exclusive Use contracts because a 2nd P25 Digital VHF-FM transceiver is also required	0 - When a 2nd P25 Digital VHF-FM Transceiver is provided and not contractually required	1 - An AUX-FM is required on all Forest Service Exclusive Use contracts because a 2nd P25 Digital VHF-FM transceiver is also required		1 - An AUX-FM is required on all Forest Service Exclusive Use contracts because a 2nd P25 Digital VHF-FM transceiver is also required	
Automated Flight Following	1		1		1	
Public Address System	0 - Typical		0 - Typical			
	1 - Some Forest Service Exclusive Use Heavy helicopters require an internal PA		1 - Some Forest Service Exclusive Use Medium helicopters require an external PA with siren			
GPS	1		1		1	
Static System	1		1		1	
Transponder	1		1		1	
TAS			0 - Typical			
			1 - Some Forest Service Exclusive Use contracts in Region 5 require TAS			

Equipment	Fire Helicopter ^A			
	Heavy	Medium		Light
	Either column is acceptable	Either column is acceptable		Either column is acceptable
CVR	0 - Typical			
	1 - A CVR is required on Heavy standard category helicopters used to transport personnel			
#1 & #2 Audio Control Systems	2 - Typical	2		2
	1 - KMAX & Cobra			
#3 Audio Control System		0 - Typical		0 - Typical
		1 - Required in Medium Rappel helicopters		Light Rappel helicopters may utilize the #2 system for the spotter if it can be accomplished safely. AMD Short Haul Light helicopters require the use of the #2 Audio Control System.
ICS System	1	1		1

This matrix shows the minimum required contracted avionics items on typical contracts. Contracts are often modified to meet host base needs. The contract language a helicopter is contracted under is the final determining factor on applicability and requirements.

Notes

A	Fire Helicopter Restricted Requirements	Requirements for restricted helicopters are somewhat different than those for standard category helicopters. For example, restricted aircraft do not need passenger drop cords.
B	ELT	Many DOI Bureaus require C-126 (406 MHz) ELTs for Exclusive Use contracts

Avionics Requirements Matrix for Large Aircraft

January 5, 2012

Equipment	Airtanker	SEAT	Smokejumper
ELT ^A	1	1	1
760 Channel VHF-AM Transceiver	2	Non-BLM contracts require 1 VHF-AM transceiver. BLM SEAT contracts require 2 VHF-AM transceivers.	2
P25 Digital VHF-FM Transceiver	1	1	2
Automated Flight Following	1	1	1
Public Address System			1
GPS	1	1	1
Static System	1	1	1
Transponder	1	1	1
VOR System	2		2
ILS System	1		2
Marker Beacon	1		1
DME or IFR GPS	1		1
ADF or IFR GPS			1
Weather Detection System			1
Radar Altimeter	1		
TAS	1		1
CVR	1		1
FDR			Per 14 CFR 135 (+20 PAX seats a FDR is required)
Audio Control System	At least 2. The pilot inspector's position must have a #3 Audio Control System or provisions to monitor the SICs radio RX along with ICS capability.	1	At least 3. A 4th and 5th Audio Control System is required in CASA 212, DC3-TP, and Shorts C23A/SD3-30 aircraft.
ICS System	1		1

This matrix shows the minimum required contracted avionics items on typical contracts. Contracts are often modified to meet host base needs. The contract language an aircraft is contracted under is the final determining factor on applicability and requirements.

Notes

A	ELT	Many DOI Bureaus require C-126 (406 MHz) ELTs for Exclusive Use contracts. New DOI Exclusive Use contracts require C-126 (406 MHz) ELTs on all fixed wing aircraft.
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