

FlashCard - for the Eclipse 500

07/24/2014

Subject: Airframe

Question	Answer	Reference
What are the length, width and height of the aircraft?	<ul style="list-style-type: none">• Length: 33' 5"• Width: 37' 11"• Height: 11'	AFM 1-5
What is the minimum ground turning distance using differential power and braking?	<ul style="list-style-type: none">• 26' 6" outboard main gear diameter• 53' 6" outboard wingtip clearance diameter	AFM 1-6
What is the minimum ground turning distance using nosewheel steering?	<ul style="list-style-type: none">• 110' outboard main gear diameter• 136' outboard wingtip clearance diameter	AFM 1-7
What material is used for the primary structures of the aircraft?	Aluminum	Systems 1
What material is used for secondary structures of the airframe, such as fairings and floor panels?	Composites	Systems 1
What is the total aircraft seating capacity for the standard cabin configuration?	5 seat including flight crew	Systems 5
What is the total aircraft seating capacity in with the optional cabin configuration?	6 seats including the flight crew	Systems 5
What is the design lifespan of the airframe in hours and cycles?	20,000 hours 20,000 cycles	Systems 10
How many static wicks are on the aircraft, and what are their locations?	There are (6) static wicks on the aircraft: <ul style="list-style-type: none">• (2) on each elevator• (1) on each tip tank	Systems 41
How many flap actuators are on the aircraft?	There are (4) electromechanical flap actuators, (2) per flap.	Systems 42
Where is the emergency exit located?	The emergency exit is located on the right side of the fuselage.	Systems 15

Subject: Altitudes

Question	Answer	Reference
What is the aircraft operating altitude range?	-1000 feet to 41,000 feet	AFM 2-5
What is the aircraft takeoff and landing altitude range?	-1000 feet to 10,000 feet	AFM 2-5
What is the maximum altitude for flap operation?	20,000 feet	AFM 2-13 Systems 45
What is the maximum altitude for landing gear operation?	20,000 feet, except for emergency procedures	AFM 2-14
The "Approaching Minimums" voice aural sounds at what altitude?	100 feet above the selected minimums altitude	AFM 4-24
At 100 above the selected minimum altitude, what voice aural sound is heard?	"Approaching Minimums"	AFM 4-24
The "minimums" voice aural sounds at what altitude?	Selected minimum altitude	AFM 4-21
At what times and altitude does the "altitude alert c-chord" sound?	<ul style="list-style-type: none">• When the aircraft is approaching within 1000 feet of the selected altitude. "APPROACHING	AFM 4-24

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SEL ALTITUDE" appears in white below the

- When the selected altitude has been captured.
- When the aircraft has deviated more than 200 feet from the selected altitude. "ALTITUDE DEVIATION" appears in amber below the altitude

If TAWS is installed, when does the "500" voice aural sound?	If the optional TAWS system is installed, a "500" foot aural voice will sound if the aircraft is approximately 500 feet above the ground level of the nearest known runway within 5 nautical miles.	AFM 4-24
What is the maximum operating altitude with the ALL INTERRUPT switch failed ON?	20,000 feet	QRH 5-1-1
What is the maximum operating speed with an Autopilot Control Panel (ACP) failure?	200 knots	QRH 5-3-1

Subject: Autopilot

Question	Answer	Reference
What is the autopilot minimum use altitude for climb, enroute, and descent?	1000 feet AGL	AFM 2-11
What is the autopilot minimum use altitude for approaches?	400 feet AGL	AFM 2-11
At what times does the autopilot disconnect "Calvary Charge" tone sound?	<ul style="list-style-type: none"> • When the autopilot is manually disconnected by the pilot. • When the autopilot is automatically disconnected by the autopilot computer if a failure is detected. The tone will continue to sound until acknowledged by the pilot pressing the A/P DISC button on the side-stick. 	AFM 4-24
What is the maximum operational speed with a failed or off yaw damper?	200 knots	AFM 2-12
What is the maximum operating altitude with an Autopilot Control Panel (ACP) failure?	20,000 feet	QRH 5-3-1
What functions does the Autopilot Control Panel control?	<ul style="list-style-type: none"> • Autoflight mode and pre-select bug control • Barometer setting (BARO) • Map lights (left and right) • Caution/Warning lights (left and right) • Fire warning and suppression (left and right) 	Systems 28

Subject: Bold-Faced Items

Question	Answer	Reference
What is the ETT "bold-faced" procedure for an emergency descent?	<ul style="list-style-type: none"> • Oxygen crew masks -- On • Throttles -- Idle • Autopilot -- Disconnect • Descent airspeed -- Mmo / Vmo • Passenger masks -- Drop 	ETT A/C Only QRH 5.13-3
What is the ETT "bold-faced" procedure for a go-around with one engine inoperative?	<ul style="list-style-type: none"> • Throttles -- Maximum • Autopilot -- Disconnect • Pitch -- 8° nose up 	ETT A/C Only QRH 5.1-14

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- Flaps -- Takeoff position
- Airspeed -- Vref minimum (if at Vyse, maintain Vyse)

When positive rate of climb is established, or ground contact is not imminent...

- Landing gear -- Up

At 400 feet AGL and obstacle clearance...

- Airspeed -- Accelerate to Vref+20
- Flaps -- Up
- Airspeed -- Accelerate to Vyse

Yaw Damper -- Engage

Throttle -- MCT

What is the ETT "bold-faced" procedure for a rejected takeoff?

- Throttles - Idle
- Brakes -- As required

ETT A/C Only
QRH 5.1-22

If the aircraft cannot be stopped on the remaining runway...

- Aircraft departs prepared surface -- Execute procedure

Note: In the event of a rejected takeoff requiring heavy braking, inspect the aircraft prior to a second takeoff attempt paying particular attention to the wheels, tires, and brakes. Wait 30 minutes to ensure adequate brake cooling.

What is the ETT "bold-faced" procedure when an aircraft departs the prepared surface?

When it appears likely that the aircraft will depart the prepared surface...

ETT A/C Only
QRH 5.1-22

- Left and Right engine selectors -- Off
- Start and system battery switches -- Off

When the aircraft comes to a stop...

- Aircraft -- Evacuate

What is the ETT "bold-faced" procedure for a dual engine failure?

- Oxygen masks -- Don, 100% (if above 10,000 feet cabin altitude)
 - Throttles -- Idle
 - Air start envelope -- Verify within the air start envelope
 - Engine selector - Off, then On/Start
 - Engine instruments -- Monitor
- If the engines have failed, the batteries will supply power for 30 minutes after 1 engine start attempt.

ETT A/C Only
QRH 5.5-16

What is the ETT "bold-faced" procedure for a left, or right, engine failure?

- For an engine failure during takeoff below Vr...
 - Throttles -- Idle
 - Brakes -- As required

ETT A/C Only
QRH 5.5-7
QRH 5.5-8

For an engine failure during takeoff at or above Vr...

- Pitch attitude -- 10° nose up

When positive rate of climb is established...

- Landing gear -- Up
- Airspeed -- Climb to 400 feet AGL at V50

At 400 feet AGL minimum, and clear of of obstacles...

- Airspeed -- Accelerate to V50+20

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	<ul style="list-style-type: none"> • Flaps -- Up • Airspeed -- Accelerate to Vyse • Yaw damper -- On 	
What is the ETT "bold-faced" procedure for an uncommanded trim activation?	<ul style="list-style-type: none"> • All interrupt switch -- Push and hold • Trim (FLCS page) -- Alternate • All interrupt switch -- Release • Use alternate trim 	ETT A/C Only QRH 5.8-10
What is the ETT "bold-faced" procedure for an engine fire?	<p>If a L(R) FIRE DETECTED FAULT advisory message is displayed following illumination of the FIRE annunciator, the fire should be considered to still be burning.</p> <p>If on the ground...</p> <ul style="list-style-type: none"> • Throttles -- Idle <p>If the fire indication persists...</p> <ul style="list-style-type: none"> • FIRE/ARMED switch -- Push once <p>If the fire indication persists...</p> <ul style="list-style-type: none"> • FIRE/ARMED switch -- Push again <p>If in the air...</p> <ul style="list-style-type: none"> • Throttle -- Idle <p>If the engine fire light extinguishes...</p> <ul style="list-style-type: none"> • Leave the throttle at idle and operate at reduced thrust. Land as soon as practical. <p>If the engine fire light persists...</p> <ul style="list-style-type: none"> • FIRE/ARMED switch -- Push once <p>If the fire indication persists...</p> <ul style="list-style-type: none"> • FIRE/ARMED switch -- Push again 	ETT A/C Only
What is the ETT "bold-faced" procedure if the cabin environment has exceeded 10,000 feet?	<ul style="list-style-type: none"> • Oxygen crew masks -- Don, 100% • Throttles -- Idle • Autopilot -- Disconnect • Descent airspeed -- Mmo / Vmo 	ETT A/C Only
What is the ETT "bold-faced" procedure when the voice aural sounds "Mask On, Descend"?	<p>The voice aural sounds when the cabin pressure is exceeds 12,500 feet</p> <ul style="list-style-type: none"> • Oxygen crew masks -- Don, 100% • Throttles -- Idle • Autopilot -- Disconnect • Descent airspeed -- Mmo/Vmo Passenger masks -- Drop 	ETT A/C Only QRH 5.13-6
What is the ETT "bold-faced" procedure for cabin smoke or fumes?	<ul style="list-style-type: none"> • Oxygen crew masks -- Don, 100% • MASK/HEADSET switch -- Mask • DUMP switch -- Dump • PASSENGER MASK switch -- Drop 	ETT A/C Only QRH 5.1-18 QRH 5.7-4
What is the ETT "bold-faced" procedure for an uncommanded pitch motion (up or down)?	<p>Accomplish the following steps simultaneously...</p> <ul style="list-style-type: none"> • Sidestick -- Grasp firmly and maintain aircraft control • ALL INTERRUPT switch - Push and hold throughout recovery 	ETT A/C Only QRH 5.1-4
What is the non-ETT "bold-faced" procedure for a rejected takeoff?	<ul style="list-style-type: none"> • Throttles - Idle • Brakes -- As required 	Non-ETT A/C Only non-ETT QRH 1-8

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	<p>If the aircraft cannot be stopped on the remaining runway...</p> <ul style="list-style-type: none"> • Aircraft departs prepared surface -- Execute procedure <p>Note: In the event of a rejected takeoff requiring heavy braking, inspect the aircraft prior to a second takeoff attempt paying particular attention to the wheels, tires, and brakes. Wait 30 minutes</p>	
<p>What is the non-ETT "bold-faced" procedure when an aircraft departs the prepared surface?</p>	<p>When it appears likely that the aircraft will depart the prepared surface...</p> <ul style="list-style-type: none"> • Left and Right engine selectors -- Off • Start and system battery switches -- Off <p>When the aircraft comes to a stop...</p> <ul style="list-style-type: none"> • Aircraft -- Evacuate 	<p>Non-ETT A/C Only non-ETT QRH 1-8</p>
<p>What is the non-ETT "bold-faced" procedure for a dual engine failure?</p>	<ul style="list-style-type: none"> • Oxygen masks -- Don, 100% (if above 10,000 feet cabin altitude) • Throttles -- Idle • Air start envelope -- Verify within the air start envelope • Engine selector - Off, then On/Start 	<p>Non-ETT A/C Only non-ETT QRH 2-1 non-ETT QRH 2-2</p>
<p>What is the non-ETT "bold-faced" procedure for a left, or right, engine failure?</p>	<p>For an engine failure during takeoff below Vr...</p> <ul style="list-style-type: none"> • Rejected takeoff procedure -- Execute <p>-----</p> <p>For an engine failure during takeoff at or above Vr...</p> <ul style="list-style-type: none"> • Pitch attitude -- 10° nose up <p>When positive rate of climb is established...</p> <ul style="list-style-type: none"> • Landing gear -- Up • Airspeed -- Climb to 400 feet AGL at V50 <p>At 400 feet AGL minimum, and clear of obstacles...</p> <ul style="list-style-type: none"> • Airspeed -- Accelerate to Vyse • Flaps -- Up • Land as soon as possible 	<p>Non-ETT A/C Only non-ETT QRH 2-9</p>
<p>What is the non-ETT "bold-faced" procedure for an engine fire?</p>	<p>If on the ground...</p> <ul style="list-style-type: none"> • Throttles -- Idle <p>If the fire indication persists...</p> <ul style="list-style-type: none"> • FIRE/ARMED switch -- Push once <p>If the fire indication persists...</p> <ul style="list-style-type: none"> • FIRE/ARMED switch -- Push again <p>-----</p> <p>If in the air...</p> <ul style="list-style-type: none"> • Throttle -- Idle <p>If the engine fire light extinguishes...</p> <ul style="list-style-type: none"> • Leave the throttle at idle and operate at reduced thrust. Land as soon as practical. • Land as soon as practical <p>If the engine fire light persists...</p> <ul style="list-style-type: none"> • FIRE/ARMED switch -- Push once 	<p>Non-ETT A/C Only non-ETT QRH 2-11 non-ETT QRH 2-12 non-ETT QRH 3-4 non-ETT QRH 3-5</p>

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	If the fire indication persists... • FIRE/ARMED switch -- Push again	
What is the non-ETT "bold-faced" procedure for cabin smoke or fumes?	• Oxygen crew masks -- Don, 100% • DUMP switch -- Dump • MASK/HEADSET switch -- Mask • PASSENGER MASK switch -- Drop	Non-ETT A/C Only non-ETT QRH 3-1
What is the non-ETT "bold-faced" procedure for an emergency descent?	• Oxygen crew masks -- On • Throttles -- Idle • Autopilot -- Disconnect • Descent airspeed -- Mmo / Vmo	Non-ETT A/C Only non-ETT QRH 1-3
What is the non-ETT "bold-faced" procedure for a go-around with one engine inoperative?	• Throttles -- Maximum • Pitch -- 8° nose up • Flaps -- Takeoff position • Airspeed -- Vyse	Non-ETT A/C Only non-ETT QRH 1-5
	When positive rate of climb is established, or ground contact is not imminent... • Landing gear -- Up	
	At 400 feet AGL and obstacle clearance... • Flaps -- Up	
What is the non-ETT "bold-faced" procedure for an uncommanded trim activation?	• All interrupt switch -- Push and hold • Altitude -- Maintain level flight	Non-ETT A/C Only non-ETT QRH 9-3
What is the non-ETT "bold-faced" procedure for a cabin altitude warning (cabin altitude exceeds 10,000 feet) loss of pressurization?	• Oxygen crew masks -- Don, 100% • Throttles -- Idle • Autopilot -- Disconnect • Descent airspeed -- Mmo/Vmo	Non-ETT A/C Only non-ETT QRH 11-2
What is the non-ETT "bold-faced" procedure for an uncommanded pitch motion (up or down)?	Accomplish the following steps simultaneously... • Sidestick -- Grasp firmly and maintain aircraft control • ALL INTERRUPT switch - Push and hold throughout recovery	Non-ETT A/C Only non-ETT QRH 13-8

Subject: CAS Messages

Question	Answer	Reference
What is the meaning of the CAS caution message: "AP/FD Mode Change"?	An uncommanded autopilot or flight director mode change has occurred.	QRH 5.2-1
What is the meaning of the CAS caution message: "Autopilot Fail"?	The autopilot has failed. If the autopilot is engaged it will disconnect and the autopilot disconnect "Calvary" Charge will sound until the pilot presses the autopilot disconnect button on the side stick.	QRH 5.2-1
What is the meaning of the CAS caution message: "Stall Protection Fail"?	The stall warning and stick pusher have failed.	QRH 5.2-2
What is the meaning of the CAS caution message: "Stick Pusher Fail"?	The stick pusher has failed.	QRH 5.2-3
What is the meaning of the CAS caution message: "Yaw Damper Fail"?	The yaw damper has failed.	QRH 5.2-4
What is the meaning of the CAS advisory message: "ACP Fail"?	The Autopilot Control Panel (ACP) is not communicating with the PFDs.	QRH 5.3-1

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What is the meaning of the CAS advisory message: "ADC 1 Fail" or "ADC 2 Fail"?	he Air Data Computer (ADC) 1 or 2 has failed.	QRH 5.3-2
What is the meaning of the CAS advisory message: "ADC 3 Fail"?	The Air Data Computer (ADC) 3 for the MFD display has failed.	QRH 5.3-2
What is the meaning of the CAS caution message: "AHRS 1 Fail" or "AHRS 2 Fail"?	The Attitude Heading Reference System (AHRS) 1 or 2 has failed.	QRH 5.3-2
What is the meaning of the CAS caution message: "Airspeed Disagree"?	The airspeed disagrees between Air Data Computers 1 and 2.	QRH 5.3-3
What is the meaning of the CAS caution message: "Altitude Disagree"?	The altitude data disagrees between Air Data Computers 1 and 2.	QRH 5.3-3
What is the meaning of the CAS caution message: "Attitude Disagree"?	The attitude disagrees between Attitude Heading Reference System (AHRS) 1 and 2.	QRH 5.3-3
What is the meaning of the CAS advisory message: "ATT 3 Fail"?	If electronic ATT 3 is installed, the attitude displayed on the MFD provided by the Attitude Heading Reference System (AHRS) 3 has failed.	QRH 5.3-4
What is the meaning of the CAS advisory message: "Avionics Cooling Fail"?	The internal fan in the Nav/Com radios or the external fan providing air to both transponders has failed. The radio might have reduced transmission power output or the active transponder might fail.	QRH 5.3-4
What is the meaning of the CAS warning message: "Avionics Config"?	The systems has detected an avionics configuration mismatch. Displayed on the ground only.	QRH 5.3-4
What is the meaning of the CAS advisory message: "Avionics Databus Fail"?	One or more data busses have been lost. Displayed on the ground only.	QRH 5.3-5
What is the meaning of the CAS caution message: "Basic Mode"?	If the electronic ATT 3 is installed, the attitude display is in the basic mode and the attitude data will be degraded. "Basic Mode" is displayed on the MFD attitude display.	QRH 5.3-5
What is the meaning of the trim in motion "Trim Clacker" aural?	A trim in motion "Trim Clacker" aural tone sounds when the pitch trim has been in motion for longer than 2 seconds. It will sound with pilot manual trim activation or autopilot automatic trim. Autopilot trim may be a result of large speed or configuration changes. A trim system malfunction that results in a trim run will also cause the trim in motion aural.	QRH 5.2-4
What is the meaning of the "Check Altitude" voice aural?	If TAWS is installed, the "Check Altitude" voice aural sounds indicating there is an abnormal difference between GPS, geometric and/or pressure altitude information in the TAWS.	QRH 5.3-5
What is the meaning of the "Don't Sink" voice aural?	If TAWS is installed, the "Don't Sink" voice aural sounds indicating that the aircraft has an inadvertent descent or loss of altitude after take-off.	QRH 5.3-5
What is the meaning of the CAS caution message: "Dual Data Bus Fail"?	Both data busses from the Autopilot Control Panel (ACP), Center Switch Panel (CSP), or keyboard have failed.	QRH 5.3-6
What is the meaning of the CAS advisory message: "GPS 1 Fail" or "GPS 2 Fail"?	The GPS has failed. The respective GPS distance to station will be inoperative.	QRH 5.3-9

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What is the meaning of the CAS caution message: "Heading Disagree"?	The heading disagrees between the Attitude Heading Reference Systems (AHRS) 1 and 2.	QRH 5.3-9
What is the meaning of the CAS advisory message: "L Keyboard Fail" or "R Keyboard Fail"?	The left or right keyboard has failed. Selections are available through the MFD line select keys (LSKs).	QRH 5.3-9
What is the meaning of the CAS warning message: "Overspeed" on the PFD?	"Overspeed" is displayed in red on the PFD and a "Cricket" aural tone will sound indicating that the aircraft is over the maximum allowable airspeed for the current condition of flight.	QRH5.3-10
What is the meaning of the voice aural and warning message: "Pull Up" on the PFD?	If TAWS is installed, "Pull Up" is displayed on the PFD and the voice aural "Pull Up", "Terrain, Terrain, Pull Up", or "Obstacle, Obstacle, Pull Up" sounds indicating that terrain or an obstacle has been detected.	QRH 5.3-10
What is the meaning of the CAS caution message: "Radar Fail"?	The weather radar has failed. The message is displayed on the lower left of the PFD.	QRH 5.3-10
What is the meaning of the CAS advisory message: "Radar Cntl"?	Communications between the weather radar and the PFD has failed. The faulted display will go to standby (STBY) mode. The message is displayed on the lower left of the PFD. Weather radar may be available on the non-faulted side PFD.	QRH 5.3-11
What is the meaning of the CAS advisory message: "Radar no Data"?	The weather radar overlay is selected and the weather radar is in STANDBY mode. The message is displayed on the PFD.	QRH 5.3-11
What is the meaning of the CAS caution message: "RDR TGT"?	The weather radar has detected a red level return at a range between 80 and 240 nm, within 10° of the present heading and the selected range is 80 nm or less. The message is displayed on the lower left of the PFD.	QRH 5.3-11
What is the meaning of the CAS caution voice aural: "Sink Rate"?	If TAWS is installed, the voice aural "Sink Rate" sounds indicating that the aircraft has excessive sink rate.	QRH 5.3-11
What is the meaning of the CAS advisory message: "Stab Off"?	The weather radar stabilization has failed. The radar display may show excess ground returns during maneuvering flight. The message is displayed on the lower left of the PFD.	QRH 5.3-11
What is the meaning of the CAS warning message: "Stall"?	"Stall" is displayed in red on the PFD and the "Stall, Stall" voice aural will sound indicating the aircraft is approaching a stall condition.	QRH 5.3-12
What is the meaning of the CAS advisory message: "TAT Disagree"?	The left and right Total Air Temperatures disagree.	QRH 5.3-12
What is the meaning of the CAS caution message: "Terrain Alert Fail"?	If TAWS is installed, the TAWS terrain system has failed.	QRH 5.3-12
What is the meaning of the CAS caution message: "Terrain" on the PFD?	In TAWS is installed, "Terrain" is displayed on the PFD in amber and the voice aural "Caution, Terrain" sounds indicating that terrain has been detected. "Caution, Obstacle" voice aural indicates that an obstacle has been detected.	QRH 5.3-13
What is the meaning of the CAS advisory message: "TFC OFF" on the PFD?	If Traffic is installed, the Traffic System is OFF and the traffic overlay has been selected. The	QRH 5.3-13

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	message is displayed on the lower left of the PFD.	
What is the meaning of the CAS advisory message: "TFC STBY" on the PFD?	If Traffic is installed, the Traffic System is in standby mode and the traffic overlay has been selected. The message is displayed on the lower left of the PFD.	QRH 5.3-13
What is the meaning of the CAS voice aural message: "Too Low Terrain"?	If TAWS is installed, the "Too Low Terrain" voice aural sounds indicating insufficient terrain clearance for the current phase of flight.	QRH 5.3-13
What is the meaning of the CAS caution message: "Traffic Alert Fail"?	If Traffic is installed, the Traffic System has failed.	QRH 5.3-13
What is the meaning of the CAS caution message: "Traffic" on the PFD?	If Traffic is installed, "Traffic" is displayed on the lower part of the PFD and a "Traffic" voice aural sounds indicating that a traffic threat had been detected.	QRH 5.3-14
What is the meaning of the CAS advisory message: "XPDR 1 Fail" or "XPDR 2 Fail"?	Transponder 1 or 2 has failed. The diversity operation of the diversity transponder, if installed, is not operational. The transponder may still operate using the upper antenna only.	QRH 5.3-14
What is the meaning of the CAS advisory message: "Batt Bus Voltage Low"?	The battery bus voltage is low.	QRH 5.4-1
What is the meaning of the CAS advisory message: "Batt Heater Fail"?	Either the Start battery or the System battery heater or temperature sensor has failed.	QRH 5.4-1
What is the meaning of the CAS warning message: "Battery Power Only"?	The aircraft is operating on battery power only.	5.4-2
What is the meaning of the CAS caution message: "Bus Tie Fail"?	The Bus Tie contactor is stuck in the closed position.	QRH 5.4-4
What is the meaning of the CAS advisory message: "ECB Ctrl Fault"?	Control of one or more Electronic Circuit Breakers of bus contactors has been lost. This message is displayed on the ground only.	QRH 5.4-5
What is the meaning of the CAS caution message: "L Gen Offline" or "R Gen Offline"?	The engine is running and the generator switch is set to AUTO but no current is flowing, or the generator switch is set to OFF.	QRH 5.4-5
What is the meaning of the CAS caution message: "L Aft Bus Voltage Low"?	The left aft bus voltage is low.	QRH 5.4-6
What is the meaning of the CAS caution message: "L Fwd Bus Voltage Low"?	The left forward bus voltage is low.	QRH 5.4-8
What is the meaning of the CAS caution message: "Load Shed Sys Fault"?	The load shed capability of the air conditioning system is lost. This message is displayed on the ground only.	QRH 5.4-9
What is the meaning of the CAS caution message: "R Aft Bus Voltage Low"?	The right aft bus voltage is low.	QRH 5.4-9
What is the meaning of the CAS caution message: "R Fwd Bus Voltage Low"?	The right forward bus voltage is low.	QRH 5.4-12
What is the meaning of the CAS advisory message: "Start Batt Contact Trip"?	The Start battery contactor has tripped due to over current. The Start battery is isolated from the electrical power system.	QRH 5.4-13
What is the meaning of the CAS caution message: "Start Batt Discharge"?	The Start battery is discharging.	QRH 5.4-14

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What is the meaning of the CAS caution message: "Sys Batt Contact Trip"?	The battery bus contactor has tripped due to over current. The System battery is off and isolated from the battery bus.	QRH 5.4-16
What is the meaning of the CAS caution message: "Sys Batt Discharge"?	The System battery is discharging.	QRH 5.4-17
What is the meaning of the CAS advisory message: "L Eng Chip Detected" or "R Eng Chip Detected"?	Metal particles have been detected in the engine oil. This message is displayed on the ground only. If a chip is detected in flight, this message will not be displayed but the chip will be indicated on the ENG page.	QRH 5.5-1
What is the meaning of the CAS advisory message: "L Eng Chip Fault" or "R Eng Chip Fault"?	The engine chip detector has failed and will not be able to detect metal in the engine oil. This message is displayed on the ground only.	QRH 5.5-1
What is the meaning of the CAS advisory message: "L Eng Control" or "R Eng Control"?	A loss of redundancy in the engine control system has occurred, Engine operation is not affected. This message is displayed on the ground only.	QRH 5.5-1
What is the meaning of the CAS caution message: "L Eng Control Fail" or "R Eng Control Fail"?	A failure has occurred in the engine control system that may degrade engine control. The engine may fail to a fixed thrust setting.	QRH 5.5-2
What is the meaning of the CAS caution message: "L Eng Exceedance" or "R Eng Exceedance"?	The engine has exceeded N1, N2 or ITT limits, or 5 minutes of takeoff thrust or 10 minutes of APR thrust timer has elapsed.	QRH 5.5-3
What is the meaning of the CAS warning message: "L Eng Fail" or "R Eng Fail"?	The left or right engine has failed. There are different procedures in the QRH for the mode of flight - approach, flight, and takeoff.	QRH 5.5-5
What is the meaning of the CAS warning message: "L Eng Hot Fuel" or "R ENG Hot Fuel"?	The fuel temperature exceeds the limitations.	QRH 5.5-10
What is the meaning of the CAS advisory message: "L Eng Oil Bypass Fault" or "R Eng Bypass Fault"?	The engine oil filter impending bypass pressure switch has failed. This message is displayed on the ground only.	QRH 5.5-10
What is the meaning of the CAS advisory message: "L Eng Oil Filter" or "R Eng Oil Filter"?	The engine oil filter pressure switch has tripped. The oil filter may be bypassed.	QRH 5.5-11
What is the meaning of the CAS warning message: "L Eng Oil Press High" or "R Eng Oil Press High"?	The oil pressure exceeds allowable limits.	QRH 5.5-11
What is the meaning of the CAS warning message: "L Eng Oil Press Low" or "R Eng Oil Press Low"?	The oil pressure is below allowable limits.	QRH 5.5-12
What is the meaning of the CAS advisory message: "L Eng Oil Temp Fault" or "R Eng Oil Temp Fault"?	The engine oil temperature sensor has failed.	QRH 5.5-13
What is the meaning of the CAS warning message: "L Eng Oil Temp High" or "R Eng Oil Temp High"?	The oil temperature exceeds the allowable limits.	QRH 5.5-13
What is the meaning of the CAS caution message: "L Eng Oil Temp High" or "R Eng Oil Temp High"?	The oil temperature is between 136°C and 140°C.	QRH 5.5-14
What is the meaning of the CAS caution message: "L Eng Oil Temp Low" or "R Eng Oil	The engine oil temperature is below 20°C and the throttles are advanced to high power.	QRH 5.5-14

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Temp Low"?

What is the meaning of the CAS caution message: "Eng Start Abort"?	The FADEC has aborted the engine start sequence. This message is displayed on the ground only.	QRH 5.5-15
What is the meaning of the CAS advisory message: "Eng Start Fail"?	The aircraft systems did not automatically configure for the engine start sequence.	QRH 5.5-15
What is the meaning of the CAS warning message: "L Eng Fail" and "R Eng Fail" (Dual engine failure)?	Both engines have failed.	QRH 5.5-16
What is the meaning of the CAS advisory message: "Air Conditioning Fail"?	The air conditioning has failed.	QRH 5.6-1
What is the meaning of the CAS advisory message: "Air Source SW Fault"?	The "Cabin Air - Air Source" selector switch has failed.	QRH 5.6-1
What is the meaning of the CAS warning message: "L Bleed Air Overheat" or "R Bleed Air Overheat"?	The bleed air supply temperature limit has been exceeded.	QRH 5.6-2
What is the meaning of the CAS advisory message: "L Bleed Air Temp Fault" or "R Bleed Air Temp Fault"?	The bleed air temperature sensor has failed.	QRH 5.6-3
What is the meaning of the CAS advisory message: "L Bleed Air Temp High" or "R Bleed Air Temp High"?	The bleed air supply temperature is high. The normal bleed air temperature control has failed. The left or right engine bleed air temperature is being limited by the Bleed Air / Flow Control Valves automatically closing.	QRH 5.6-3
What is the meaning of the CAS advisory message: "L Beed Valve Fail" or "R Bleed Valve Fail"?	The bleed air valve is stuck in the low flow position, or the valve failed open when commanded to the closed position.	QRH 5.6-4
What is the meaning of the CAS advisory message: "Climate Ctrl Fail"?	This indicates a failure of the left or right variable outlet ram exhaust valve, or the left or right fan air control valve. Expect degraded air temperature regulation.	QRH 5.6-4
What is the meaning of the CAS warning message: "L Pylon Overheat" or "R Pylon Overheat"?	A left or right pylon overheat has been detected.	QRH 5.6-5
What is the meaning of the CAS warning message: "L Pylon Temp Fault" or "R Pylon Temp Fault"?	The pylon temperature sensor has failed.	QRH 5.6-6
What is the meaning of the CAS warning message: "Door"?	The door is not secure.	QRH 5.6-6
What is the meaning of the CAS warning message: "L Eng Fire" or "R Eng Fire"?	A fire has been detected in the engine compartment. A "Left Engine Fire " or "Right Engine Fire" voice aural will sound.	QRH 5.7-1
What is the meaning of the CAS advisory message: "L Extngr Dschg" or "R Extngr Dschg"?	The left or right fire extinguisher has discharged and is not available for use.	QRH 5.7-3
What is the meaning of the CAS advisory message: "L Fire Detector Fault" or "R Fire Detector Fault"?	The fire detection system has failed. The fire detection system is unavailable.	QRH 5.7-3
What is the meaning of the CAS caution message: "Flap Fail"?	The flaps have failed.	QRH 5.8-1

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What is the meaning of the CAS caution message: "Flap Position Hold Fail"?	The flap back drive clutch has failed. The flap actuator motor will actively try to keep the flaps in position.	QRH 5.8-3
What is the meaning of the CAS caution message: "Aileron Trim Fail"?	The aileron trim actuator is not responding normally to input commands, or has failed.	QRH 5.8-5
What is the meaning of the CAS advisory message: "L All Interrupt Fault" or "R All Interrupt Fault"?	The left or right all interrupt switch has failed. This message is displayed on the ground only.	QRH 5.8-5
What is the meaning of the CAS advisory message: "Elevator Trim Tab Split"?	The left and right elevator trim tabs differ in position.	QRH 5.8-5
What is the meaning of the CAS caution message: "Pitch Mistrim"?	The autopilot is holding an excessive pitch force on the elevator.	QRH 5.8-6
What is the meaning of the CAS caution message: "Pitch Trim Fail"?	One or both pitch trim actuators are not responding normally to inputs, or have failed. The trim authority may be limited.	QRH 5.8-7
What is the meaning of the CAS caution message: "Roll Mistrim"?	The autopilot is holding an excessive roll force on the ailerons.	QRH 5.8-8
What is the meaning of the CAS caution message: "Rudder Trim Fail"?	The rudder trim has failed.	QRH 5.8-8
What is the meaning of the CAS advisory message: "Rudder Trim Fault"?	The rudder trim switch has failed. This message is displayed on the ground only.	QRH 5.8-9
What is the meaning of the CAS advisory message: "L Sidestick Trim Fault" or "R Sidestick Trim Fault"?	The left or right trim switch has failed. This message is displayed on the ground only.	QRH 5.8-9
What is the meaning of the CAS advisory message: "Trim Position Fault"?	The trim position indicators have failed. The trim pointer will be removed.	QRH 5.8-9
What is the meaning of the CAS warning message: "Trim Uncommanded"?	An uncommanded trim movement was detected.	QRH 5.8-10
What is the meaning of the CAS caution message: "Auto Balance Fail"?	The auto-fuel balance function has been in continuous operation for more than 15 minutes.	QRH 5.9-1
What is the meaning of the CAS warning message: "Avgas Detected"?	Avgas has been detected in the fuel in concentrations of 80% or greater.	QRH 5.9-2
What is the meaning of the CAS advisory message: "Fuel Balancing Disabled"?	The fuel balance detection feature is inoperative. The auto balance function has been disabled.	QRH 5.9-2
What is the meaning of the CAS advisory message: "L Fuel Bypass Fault" or "R Fuel Bypass Fault"?	The fuel filter bypass switch has malfunctioned. This message is displayed on the ground only.	QRH 5.9-2
What is the meaning of the CAS advisory message: "L Fuel Filter" or "R Fuel Filter"?	An impending fuel filter bypass has been detected with the engine running.	QRH 5.9-3
What is the meaning of the CAS advisory message: "Fuel Gauging Fault"?	The fuel gauging system has failed, and the auto balance function has been disabled.	QRH 5.9-3
What is the meaning of the CAS advisory message: "Fuel Imbalance"?	The fuel imbalance is greater than 65 pounds.	QRH 5.9-4
What is the meaning of the CAS advisory message: "L Fuel Press Fault" or "R Fuel Press Fault"?	A fuel pressure sensor failure has been detected. This message is displayed on the ground only.	QRH 5.9-4

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What is the meaning of the CAS warning message: "L Fuel Press Low" or "R Fuel Press	A low fuel pressure indication has been detected in the feed line.	QRH 5.9-5
What is the meaning of the CAS caution message: "L Fuel Pump Fail" or "R Fuel Pump Fail"?	The left or right electric fuel pump has failed.	QRH 5.9-6
What is the meaning of the CAS warning message: "L Fuel Qty Low" or "R Fuel Qty Low"?	The fuel sump tank quantity is less than 105 pounds.	QRH 5.9-6
What is the meaning of the CAS caution message: "Fuel Qty Low"?	Either fuel sump tank quantity is less than 140 pounds.	QRH 5.9-7
What is the meaning of the CAS advisory message: "L Fuel SOV Fail" or "R Fuel SOV Fail"?	The engine fuel shutoff valve has failed in the last commanded position.	QRH 5.9-7
What is the meaning of the CAS caution message: "L Fuel Unusable" or "R Fuel Unusable"?	A failure of wing fuel transfer to the sump tank has been detected and/or fuel is trapped outboard in the wing.	QRH 5.9-9
What is the meaning of the CAS warning message: "Hot Fuel"?	The fuel temperature in either wing is greater than 76°C.	QRH 5.9-9
What is the meaning of the CAS caution message: "Hot Fuel"?	The fuel temperature in either wing is between 65°C and 76°C.	QRH 5.9-9
What is the meaning of the CAS advisory message: "XFeed Vlv Fail"?	The fuel crossfeed valve is not in the commanded position. Fuel crossfeed may not be available.	QRH 5.9-10
What is the meaning of the CAS caution message: "L Eng A/Ice Fail" or "R Eng A/Ice Fail"?	The left or right engine anti-ice protection has failed.	QRH 5.10-1
What is the meaning of the CAS advisory message: "L Eng A/Ice Vlv Fault" or "R Eng A/Ice Vlv Fault"?	The left or right engine anti-ice valve has failed in the open position.	QRH 5.10-1
What is the meaning of the CAS advisory message: "Eng Anti-Ice Mon Fault"?	The engine anti-ice protection sensor has failed. This message is displayed on the ground only.	QRH 5.10-1
What is the meaning of the CAS caution message: "L Pitot Heat Fail" or "R Pitot Heat Fail"?	The pitot / AOA heat has failed.	QRH 5.10.-2
What is the meaning of the CAS caution message: "L Static Heat Fail" or "R Static Heat Fail"?	The static port heaters are inoperative.	QRH 5.10-3
What is the meaning of the CAS advisory message: "L Static Heat Fail" or "R Static Heat Fail"?	The left or right static port heater is inoperative. This message is displayed on the ground only.	QRH 5.10-3
What is the meaning of the CAS advisory message: "Static Htr Mon Flt"?	The static heater monitor has failed. This does not imply that the static heat is not operating. This message is displayed on the ground only.	QRH 5.10-4
What is the meaning of the CAS caution message: "Stby Pitot Heat Fail"?	The standby pitot / static heat has failed.	QRH 5.10-4
What is the meaning of the CAS caution message: "Wing Deice Fail"?	The wing or tail deice boot system has failed.	QRH 5.10-5
What is the meaning of the CAS advisory message: "Wing Deice Mon Fault"?	The wing de-ice pressure sensor has failed. This message is displayed on the ground only.	QRH 5.10-6
What is the meaning of the CAS caution message: "L Wshld Heat Fail" or "R Wshld Heat Fail"?	This is a false indication. The windshield heat system is currently inactive. The left and right windshield heat ECBs should be collared.	QRH 5.10-6

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What is the meaning of the CAS advisory message: "L Wshld Heat Fault" or "R Wshld Heat Fault"?	This is a false indication. The windshield heat system is currently inactive. The left and right windshield heat ECBs should be collared.	QRH 5.10-6
What is the meaning of the CAS warning message: "L Wshld Ovht" or "R Wshld Ovht"?	This is a false indication. The windshield heat system is currently inactive. The left and right windshield heat ECBs should be collared.	QRH 5.10-7
What is the meaning of the CAS advisory message: "Brake Fluid Low"?	The brake fluid is low.	5.11-1
What is the meaning of the CAS advisory message: "Gear Config" on the PFD?	"Gear Config" is displayed in white on the PFD and a "Landing Gear" voice aural will sound indicating that the landing gear is not in the proper configuration for landing.	QRH 5.11-2
What is the meaning of the CAS caution message: "Emer Gear Handle"?	The emergency gear handle is not stowed.	QRH 5.11-2
What is the meaning of the CAS caution message: "Landing Gear Fail"?	The landing gear system has failed. The landing gear handle position does not agree with the gear position, or one or more of the landing gear circuit breakers is tripped.	QRH 5.11-3
What is the meaning of the CAS advisory message: "WOW Sensor Fault"?	The weight on wheels sensors disagree.	QRH 5.11-5
What is the meaning of the CAS advisory message: "Beacon Light Fail"?	A beacon light failure has been detected.	QRH 5.12-1
What is the meaning of the CAS advisory message: "Inspection Light Failure"?	A wing inspection light failure has been detected.	QRH 5.12-1
What is the meaning of the CAS advisory message: "Landing Light Fail"?	A landing light failure has been detected.	QRH 5.12-1
What is the meaning of the CAS advisory message: "Position Light Fail"?	A position light failure has been detected.	QRH 5.12-1
What is the meaning of the CAS advisory message: "Strobe Fail"?	A strobe light failure has been detected.	QRH 5.12-2
What is the meaning of the CAS advisory message: "Taxi Light Fail"?	A taxi light failure has been detected.	QRH 5.12-2
What is the meaning of the CAS warning message: "Oxygen Pressure"?	The oxygen pressure is low.	QRH 5.13-1
What is the meaning of the CAS advisory message: "Cabin Alt Hold Mode"?	The pressurization control is in a degraded mode and is attempting to hold cabin altitude constant.	QRH 5.13-2
What is the meaning of the CAS warning message: "Cabin Altitude"?	The cabin altitude environment has exceeded 10,000 feet.	QRH 5.13-3
What is the meaning of the CAS caution message: "Cabin Altitude"?	The cabin altitude environment has exceeded 8750 feet.	QRH 5.13-4
What is the meaning of the CAS warning message: "Cabin dP High"?	The differential pressure of the cabin has exceeded the limits.	QRH 5.13-5
What is the meaning of the CAS caution message: "Cabin Press on Ground"?	The cabin is pressurized on the ground.	QRH 5.13-5
What is the meaning of the CAS voice aural message: "Mask On, Descend"?	The "Mask On, Descend" voice aural sounds when the cabin has exceeded 12,750 feet. The Cabin Alt digits are displayed in red.	QRH 5.13-6

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What is the meaning of the CAS warning message: "Config Aileron Trim"?	The aileron trim is not within the takeoff limits and the throttles are advanced for takeoff.	QRH 5.14-1
What is the meaning of the CAS warning message: "Config Elev Trim"?	The elevator trim is not within the takeoff limits and the throttles are advanced for takeoff.	QRH 5.14-1
What is the meaning of the CAS warning message: "Config Eng Temp"?	The OAT has not been entered into the OPs page and the throttles are advanced for takeoff.	QRH 5.14-2
What is the meaning of the CAS warning message: "Config Flap"?	The flaps are extended beyond the takeoff position and the throttles are advanced for takeoff.	QRH 5.14-2
What is the meaning of the CAS warning message: "Config Parking Brake"?	The parking brake handle is set and the throttles are advanced for takeoff.	QRH 5.14-3
What is the meaning of the CAS warning message: "Config Rudder Trim"?	The rudder trim is not within the takeoff limits and the throttles are advanced for takeoff.	QRH 5.14-3
What is the meaning of the CAS status message: "Air Source Selector"?	The air source selector switch is manually selected to LEFT, RIGHT, or OFF.	QRH 5.14-4
What is the meaning of the CAS status message: "All Interrupt Active"?	The all interrupt command is active. The autopilot and yaw damper cannot be engaged. The stick pusher and all trims are inoperative.	QRH 5.14-4
What is the meaning of the CAS status message: "APR Disarmed"?	The Automatic Power Reserve (APR) has been manually disarmed.	QRH 5.14-4
What is the meaning of the CAS status message: "Cabin Alt Hold Mode"?	The cabin altitude hold mode has been manually selected.	QRH 5.14-4
What is the meaning of the CAS status message: "Door"?	The cabin door is open with the left engine shut down and the parking brake set.	QRH 5.14-5
What is the meaning of the CAS status message: "Eng A/Ice On"?	The engine anti-ice only is selected ON.	QRH 5.14-5
What is the meaning of the CAS status message: "Eng Dry Mtr"?	The engine is manually selected to motor without ignition or fuel. This message is displayed on the ground only.	QRH 5.14-5
What is the meaning of the CAS status message: "Eng / Wing Ice Prot On"?	Engine anti-ice and wing de-ice are selected ON.	QRH 5.14-5
What is the meaning of the CAS status message: "Fuel Auto XFeed L=>R" or "Fuel Auto XFeed R=>L"?	The fuel balance system has automatically begun to crossfeed from left to right, or right to left, to balance the wing fuel tank quantities.	QRH 5.14-6
What is the meaning of the CAS status message: "Fuel Man XFeed L=>R" or "Fuel Man XFeed R=>L"?	Manual fuel crossfeed has been selected from left to right, or right to left.	QRH 5.14-6
What is the meaning of the CAS status message: "L Fuel Pump On" or "R Fuel Pump On"?	The left or right electric fuel pump is commanded ON.	QRH 5.14-6
What is the meaning of the CAS status message: "Maintenance Mode"?	The aircraft systems have been placed in the maintenance mode.	QRH 5.14-6
What is the meaning of the CAS status message: "Parking Brake"?	The parking brake has been set.	QRH 5.14-7
What is the meaning of the CAS status message: "T/O Config OK"?	The aircraft has been properly configured for takeoff. • Aileron, elevator, and rudder trims have been set within the takeoff limits	QRH 5.14-7

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- Flaps are set to the UP or T/O position
- Parking brake has been release
- Door is closed and locked
- Both engines are running

What is the meaning of the CAS status message: "Wshld Heat Off"? The windshield heat system is inoperative and the ECBs should be collared. QRH 5.14-7

Subject: Electrical

Question	Answer	Reference
What is the minimum stored battery temperature for flight operation?	-15° C	AFM 2-12
What are the generator output limitation?	<ul style="list-style-type: none"> • 100 amps for ground operations • 185 amps for flight operations up to 35,000 feet • 150 amps for flight operations above 35,000 feet 	AFM 2-12
How many data busses interconnect all of the avionics components in Avio?	30 data busses	Systems 20
What are the maximum current and voltage outputs of the two engine driven generators?	Maximum current output of the two generators is 200 amps each, and a maximum voltage of 30 volts DC.	Systems 239
Electronic circuit protection is provided by how many Electroic Circuit Breakers (ECBs)?	Circuit protection is provided by 127 ECBs, in addition to 2 mechanical circuit breakers on the left switch panel. Avio NG adds 4 more mechanical circuit breakers (2 under each armrest).	Systems 239
What electrical devices are connected to the hot battery bus?	Entry, overhead, and baggage compartment lights are powered directly from the hot battery bus allowing them to be turned on without powering the avionics. These lights are on a timer to avoid depleting the batteries.	Systems 239
What type of batteries are used in the Eclipse 500?	There are two 22 amp, 24 volt DC, sealed, maintenance-free lead acid batteries located in the nose compartment of the aircraft.	Systems 239
On the electrical synoptic, how is a discharging battery represented?	A discharging battery has a yellow outline on the electrical synoptic.	Systems 240
What parameters are displayed on the elctrical synoptic?	<ul style="list-style-type: none"> • Position of all electrical contactors • Battery charge or discharge • Current flow • Voltage on certain busses • Generator current output 	Systems 247
Electrical bus bar segments on the electrical synoptic are represented in what colors, and when?	<ul style="list-style-type: none"> • Green at voltages above 20 volts • White at voltages less than 20 volts 	Systems 247
On the ECB synoptic page, how are the state of the ECBs displayed?	<ul style="list-style-type: none"> • The upper display allows the pilot to select the ECBs by state - Out, Tripped, Pulled, or Collared • The lower display allows the pilot to select the ECBs by system 	Systems 248
What are the ECB functional states?	<ul style="list-style-type: none"> • Auto/On - normal state, white outline with a green interior • Auto/Off - ECB turned off by the ACS, white outline with a gray interior 	Systems 249

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	<ul style="list-style-type: none"> • Tripped - ECB off due to a circuit fault, amber • Pulled - ECB opened by the pilot, gray • Collared - ECB locked out by maintenance technician, white outline with cyan interior 	
The Generator Control Units (GCUs) regulate the generator outputs to what voltage?	The GCUs regulate the 30 VDC generator outputs to 28.5 volts DC.	Systems 249
The Generator Control Units (GCUs) provide detection and protection for what electrical faults?	<ul style="list-style-type: none"> • Ground fault • Over-voltage and under-voltage from the starter / generators • Reverse current • Overspeed • Open ground 	Systems 249
The System battery is connected to which electrical busses during normal operation, and during engine starts?	<p>During normal operation, the system battery is connected to the left side of the electrical system through the battery bus and battery bus contactor.</p> <p>During engine start, the forward busses are automatically disconnected from the aft busses so tha the system battery powers the avionics and avoids exposing the battery to the voltage drop created by the high starting currents.</p>	Systems 250
The Start battery is connected to which electrical busses during normal operation, and during engine starts?	<p>During normal operation, the start battery is connected to the right side of the electrical system through the start battery contactor. The start battery is also connected to the hot battery bus, which supplies power for equipment that must be operated before either battery switch is turned on.</p> <p>The start battery also supplies power for engine starting either by itself or in parallel with external power, if it is connected. With one engine running, the start battery supplies power in parallel with the generator to start the second engine.</p>	Systems 250
At what temperature do the battery heating pads operate?	The ACS enables the battery heating pads when the OAT is below 10°C. The ACS turns the heating pad off when the temperature sensor rises above 80°C, and turns the heating pads on when the temperature sensor falls below 70°C.	Systems 250
The external power contactor closes when what conditions are met?	<ul style="list-style-type: none"> • Neither generator is online • External power is of the correct polarity • External voltage is between 24 VDC and 29 VDC • Both battery switches are on 	Systems 251
The external power contactor automatically opens when what conditions are detected?	<ul style="list-style-type: none"> • External voltage is greater than 29 VDC at any time • Aircraft current draw is greater than 400 amps • External power current draw from the aircraft is greater than 5 amps • External power voltage is less than 24 VDC for more than 45 seconds • External power voltage is less than 10 VDC at any time • When generator power is available (online) after engine start 	Systems 251
The green external power light on the left switch	<ul style="list-style-type: none"> • External power is plugged in 	Systems 251

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panel is illuminated under what conditions?

- External power is of the correct polarity
- External power is between 24 VDC and 29 VDC

Note: Illumination of the external power light does not indicate that external power is being used. Both battery switches must be in the ON position.

How many electrical equipment busses are there, and how are they powered?

There are four equipment busses, left and right forward and left and right aft, that supply power to the aircraft. During normal operation, the ACS divides the busses into a left / right configuration, with the left forward and left aft busses receiving power from the left generator, and the right forward and right aft busses receiving power from the right generator.

Systems 252

What is the purpose of the Bus Tie Contactor?

The Bus Tie Contactor (BTC) electrically ties together or isolates the left or right aft busses. The BTC is controlled by the Bus Tie switch on the left switch panel. During normal operation with the BTC is the Auto position, the ACS controls the position of the BTC; however, it can be manually opened by placing the Bus Tie switch in the Open position.

Systems 252

In normal operation with the Bus Tie switch in the Auto position the Bus Tie Contactor is in the open position, but will automatically close under what power conditions?

- Single generator operation
- Battery only power
- External power

Systems 252

Ten contactors connect various components of the electrical system. What are the ten contactors?

- System battery
- Left battery bus
- Right battery bus
- Start battery contactor
- Bus Tie contactor
- Left generator contactor
- Right generator contactor
- External power contactor
- Left forward circuit breaker / contactor
- Right forward circuit breaker / contactor

Systems 254

With one generator operative, what systems are automatically load shed?

The air conditioning system is the only system load shed.

Systems 255

Which battery is connected to the hot battery bus?

The Start battery is connected to the hot battery bus.

System 250

Subject: Fire Protection

Question

Answer

Reference

What type of fire extinguisher is installed in the aircraft, and what is its location?

A "BC" rated Halon fire extinguisher is located below the throttle quadrant

Systems 13

Subject: Fuel System

Question

Answer

Reference

What are the approved fuel grades?

- Jet A/A1
- JP-8

AFM 2-8

Note: All other types of fuel are prohibited.

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When are fuel system icing inhibitors (FSII) required?	FSII additives are required for all types of operations.	AFM 2-8
What is the ETT total fuel capacity?	1722 pounds (254 gallons)	ETT A/C Only AFM 2-13
What is the ETT total usable fuel capacity?	1698 pounds (251 gallons)	ETT A/C Only AFM 2-13
What is the ETT total unusable fuel quantity?	24 pounds (3.5 gallons)	ETT A/C Only AFM 2-13
What is the maximum fuel imbalance?	65 pounds (9.6 gallons) for all phases of flight	AFM 2-13
What is the maximum duration for uncoordinated flight maneuvers (slips / skids)?	45 seconds	AFM 2-13
What is the maximum fuel sump temperature for takeoff?	51° C	AFM 2-13
For non-ETT aircraft, what is the maximum total fuel capacity?	1540 pounds (227.5 gallons)	Non-ETT A/C Only ETT Diff's
For non-ETT aircraft, what is the total usable fuel capacity?	1516 pounds (224 gallons)	Non-ETT A/C Only ETT Diff's
For non-ETT aircraft, what is the total unusable fuel capacity?	24 pounds (3.5 gallons)	Non-ETT A/C Only ETT Diff's
The ACS is responsible for what fuel system functions?	<ul style="list-style-type: none"> • Calculating and monitoring fuel quantities • Monitoring and controlling fuel balancing though fuel crossfeed • Monitoring fuel temperature and pressure • Controlling fuel shutoff valves and electric fuel pumps 	Systems 128
Left-side fuel systems sensors and components are controlled and monitored by which ACS?	Sensors and components on the left side of the fuel system report directly to the left-side ACS, while sensors and components on the right side of the fuel system report directly to the right-side ACS.	Systems 128
The fuel system ECBs are located in which Electronic Circuit Breaker Units (ECBs)?	The ECBs for the fuel system are located in the Aft Power Distribution Center in ECBUs 4 and 5.	Systems 128
What are the approved fuel grades?	<ul style="list-style-type: none"> • Jet A/A1 • JP-8 	Systems 130
At what fuel level is the CAS warning message L(R) FUEL QTY LOW displayed?	L(R) FUEL QTY LOW warning message is displayed when a sump tank has 105 pounds, or less.	Systems 146
At what fuel level is the CAS caution message FUEL QTY LOW displayed?	The FUEL QTY LOW caution message is displayed when a sump tank has 140 pounds, or less.	Systems 131
What fuel quantities do the green, yellow and red bands on the fuel gauge represent?	<ul style="list-style-type: none"> • Green -- 280 pounds to full • Yellow -- 210-280 pounds • Red -- 0-210 pounds 	Systems 131
What information is displayed on the fuel system synoptic?	<ul style="list-style-type: none"> • Status of electric fuel pumps • Command position of the fuel crossfeed valve (XFEED) • Actual position of the fuel shutoff valves • Total fuel quantity 	Systems 132

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- Total wing fuel quantity
- Fuel quantity in the wing tanks and sump tanks
- Fuel temperature in each sump tank
- Fuel pressure in the left and right fuel supply lines
- Fuel flow for each engine
- Estimated fuel used and estimated fuel remaining
- Status of the fuel filter

How many fuel pumps are there?	There are 10 fuel pumps: <ul style="list-style-type: none"> • Two ejector boost fuel pumps (one per wing) • Two ejector transfer fuel pumps (one per wing) • Two electric boost fuel pumps (one per wing) • Four engine-driven fuel pumps (two per engine) 	Systems 135
What is the purpose of the ejector boost pumps, and how are they driven?	The ejector boost pumps provide pressurized fuel to supply the Fuel Metering Unit (FMU). The ejector boost pump is a venturi type pump and is driven by pressurized return fuel from the engine-driven pumps.	Systems 135
What is the purpose of the ejector transfer pumps, and how are they driven?	The ejector transfer pumps aid in the transfer of fuel from the main wing tanks to the fuel sump tanks. The ejector transfer pump is a venturi type pump and is driven by discharge from the ejector boost pumps.	Systems 135
At what times do the electric fuel boost pumps start automatically?	<ul style="list-style-type: none"> • Engine Start • Automatic fuel balancing • Low fuel pressure or ejector boost pump failure • Sump quantity is below 50 pounds 	Systems 136
Fuel flows through what components from the wing tank to the engine?	Fuel gravity flows from the wing tank to the sump tank aided by the ejector transfer pump. Fuel from the sump tank flow through the ejector boost pump, aided by the electric fuel pump, to the low pressure fuel pump of the Fuel Metering Units (FMUs) and then through the fuel/oil heat exchanger and the fuel filter. From the fuel filter, fuel flows to the high pressure fuel pump to the engine. Excess fuel not used by the engine is returned as motive fuel to the ejector transfer pump in the wing.	Systems 136
At what temperature is the HOT FUEL caution message displayed?	66° C (150° F)	Systems 138
At what temperature is the HOT FUEL warning message displayed?	77° C (170° F)	Systems 138
How many capacitance fuel probes are in each wing?	7 probes	Systems 138
What is the specified accuracy of the fuel gauging system?	The fuel gauging system is accurate to within +/- 2%. Therefore, the maximum degree of error would be at +/- 34 pounds, at full fuel.	Systems 139

Subject: Ice Protection

Question	Answer	Reference
When must engine anti-ice be turned on?	Engine anti-ice must be turned on for all ground	AFM 2-1

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	and flight operations when the outside temperature is 10° C or colder and visible	
What must be done when operating on the ground in icing conditions?	In addition to turning on the engine anti-ice, when operating on the ground in freezing fog and visible moisture, the engine speed must be increased once every five minutes to 65% N1 to avoid ice accumulation on the spinner.	AFM 2-1
What are the components of the ice protection systems?	<ul style="list-style-type: none"> • Pneumatic de-ice boots on the leading edges of the wings and horizontal stabilizer • Left and right heated windshields • Heated pitot/AOA probes • Heated pitot/static probe • Heated static ports • Engine anti-ice 	Systems 106
When must the engine anti-ice system be turned on?	At all times when the outside air temperature is 10°C, or below, and there is visible moisture present.	Systems 109
What must be done when operation on the ground at idle in freezing fog and visible moisture?	If operating at ground idle, the engine speed must be increased to 65% N1 every five minutes to avoid ice collecting on the spinner.	Systems 109
With the windshield heat turned on, the ACS maintains the windshield temperature in what range?	127°F and 140°F (53°C and 60°C)	Systems 112
What are the meanings of the following depictions for windshield heat: green outline, white outline, yellow outline, white temperature, red temperature?	<ul style="list-style-type: none"> • Green outline -- Windshield heat on • White outline -- Windshield heat off • Yellow outline -- Windshield overheat or failure • White temperature -- Normal temperature range • Red temperature -- Overheat (with red OCHT) 	Systems 111
What is the air source for the pneumatic de-ice boots?	The de-ice boots are inflated by bleed air from the Pressure Regulating Shut-off Valves (PRSOV) on each engine. These regulators reduce the pressure to the de-ice boots from 165 psi at the engine to 21 psi for use by the de-ice boots.	Systems 114
How is the engine inlet protected by the anti-ice system?	Bleed air comes from the P3 port on the engine to the Pressure Regulating Shut-off Valves (PRSOV), then directed into a perforated tube inside each engine cowl. The air is then exhausted overboard.	Systems 115
How is the engine anti-ice system activated?	Engine anti-ice is activated by selecting engine anti-ice only (ENG) or both engine anti-ice and wing de-ice (ENG/WING) on the center switch panel.	Systems 115
How is the heating system activated for the air data system probes (pitot/AOA, pitot/static, static)?	The air data system probes and ports are automatically heated for all ground and flight operations by self-regulating heaters. An LSK is provided with the selections of ON or AUTO. To test the probe heat on the ground, select ON. A selection of AUTO will activate the probe heat at any time the engines are running.	Systems 116
What electronic circuit breaker units (ECBUs) contain the ice protection system ECBs?	The ice protection circuit breakers are contained in the left-aft Power Distribution Center (ECBU 4), and in the right-aft Power Distribution Center (ECBU 5).	Systems 107

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Subject: Landing Gear

Question	Answer	Reference
What is the landing gear actuation cycle limitations?	3 cycles within 10 minutes	AFM 2-14
How long does it take to extend and retract the landing gear?	<ul style="list-style-type: none"> • Extension -- 10 seconds • Retraction -- 7 seconds 	Systems 61
What type of actuators are used for the landing gear extension and retraction?	Three electrically powered actuators	Systems 61
How is the landing gear held in the retracted position?	There are mechanical brakes on the landing gear actuator motors	Systems 61
How is the landing gear held in the down and locked position?	There are mechanical brakes that hold the landing gear in the extended position, with the aid of over-center braces.	Systems 61
How is an emergency landing gear extension accomplished?	Emergency extension of the landing gear is accomplished by pulling the emergency landing gear extension handle which mechanically releases the actuator brakes. The landing gear free falls with the aid of wind stream and gravity. When emergency extension handle is pulled, the ACS automatically pulls the three landing gear actuator ECBs and reports if the handle remain unsecured.	Systems 62
What is the tire inflation pressure for the main gear and nose gear?	<ul style="list-style-type: none"> • Main gear -- 103 +/- 2 psi • Nose gear -- 70 +/- 2 PSI 	Systems 64
What are the landing gear position indications on the MFD?	<ul style="list-style-type: none"> • Down and locked -- three green circles with a white border • In transit -- an amber-hatched square • Up and stowed -- hollow white square, after 10 seconds the squares and GEAR label disappear 	Systems 67
On the main landing gear, what positions do the proximity switches detect and report?	<ul style="list-style-type: none"> • Down and locked • Up and stowed • Weight on wheels (WOW) 	Systems 69
On the nose gear, what positions do the proximity switches detect and report?	<ul style="list-style-type: none"> • Down and locked • Up and stowed 	Systems 70
Under what conditions does the landing gear warning horn sound?	<p>The landing gear warning horn sounds when under 12,500 feet MSL if any gear is not down and locked under the following conditions:</p> <ul style="list-style-type: none"> • Flaps extended beyond the take-off (TO) position • Airspeed less than 120 knots with one or both throttle below mid-range (30° TLA) • Airspeed less than 140 knots with one or both throttle below mid-range (30° TLA) <p>Note: the warning horn cannot be silenced under condition 1 and 2</p>	Systems 71
How many degrees of steering do the rudder pedals provide?	Rudder pedals provide 15° of steering. Steering beyond 15° degrees disengages the centering cam and steering is accomplish with differential braking.	Systems 71

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What must the operator do in the event of a hard landing, as revealed by the hard landing indicators?	A maintenance inspection is required before the next flight.	Systems 64
What indicates that the brake pads are worn and in need of replacement?	Two brake pad indicators are located on the inside of each wheel assembly. With the brakes set, if the indicator pin is flush with the hex nut of the retainer housing, the brake pads need replacement.	Systems 72
What might you expect to see on the MFD landing gear indicator in high G maneuvers such as steep turns?	High G forces may partially extend the landing gear out of the wheel well causing an intermittent IN TRANSIT indication on the landing gear indicator. The actuators will automatically activate and retract the gear to an up and stowed position.	Systems 71

Subject: Lights

Question	Answer	Reference
The interior lighting is divided into two areas, what are they?	<ul style="list-style-type: none"> • Cockpit <ul style="list-style-type: none"> - Cockpit dome lighting - Cockpit footwell lighting - Map lights • Cabin <ul style="list-style-type: none"> - Upper cabin wash lighting - Lower cabin wash lighting (optional) - Cabin reading lights - Baggage compartment light 	Systems 271
A dedicated lighting controller is located in the Start Battery Contactor and Lighting Controller. This controller provides what functions?	<ul style="list-style-type: none"> • Switching • Current limiting • Lighting timer 	Systems 272
What is the purpose of the Cabin Ovrdr switch on the center switch panel?	The Cabin Ovrdr switch allows the pilot to override the passenger control of the cabin lighting. Selecting the OVRD position turns off all cabin lights. If the Cabin Ovrdr switch is returned to the off position, only the cabin reading light come back on.	Systems 283
The landing lights are provided by what type of lighting?	The landing light consists of two 50 watt high-intensity discharge (HID) landing lights, one located in each wing root fairing. During ground operations with the landing light off and the taxi lights activated, the landing lights will operate at a lower intensity to provide additional lighting for taxi. In flight, the landing lights will operate at full intensity.	Systems 294
Position / Anti-collision lights are provided by what type of lighting?	<p>Position indication is provided by red and green LEDs mounted within the forward bay in the tip tank. Position lights are turned on whenever the avionics system is powered on.</p> <p>Anti-collision indication is provided by LED strobes in the forward bay of tip tanks, and within the tail cone assembly.</p>	Systems 294
Wing ice inspection is provided by what type of lighting?	A single 50 watt halogen wing inspection light is located in the left wing root fairing.	Systems 294

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A flashing beacon is provided by what type of lighting?	A flashing beacon is composed of a single string on eight red LEDs and is located on the upper aft fuselage just forward of the dorsal fin.	Systems 295
Taxi / recognition illumination is provided by what type of lighting?	There are two 50 watt taxi lights located in each wing tip to provide for additional lighting when taxiing and during night operations. When the weight-on-wheels (WOW) sensors indicate an in-flight condition, these lights transition to pulsating operation for better recognition.	Systems 295

Subject: Oxygen

Question	Answer	Reference
What is the normal pressure range for the breathing oxygen system?	200 PSI to 1850 PSI	AFM 2-16
How many drop-down constant flow oxygen masks are installed in the aircraft?	There are 5 drop-down masks - 4 in the cabin and 1 in front of the copilot	Systems 16
What does an OXYGEN PRESSURE warning indicate?	Oxygen pressure from the regulator is below 46 +/-4 psi	Systems 82
What is the oxygen bottle capacity?	<ul style="list-style-type: none"> • Standard bottle -- 22 cubic feet • Optional bottle -- 40 cubic feet 	Systems 85
What is the normal full oxygen bottle pressure?	1850 psi	Systems 83
What is the minimum oxygen bottle pressure?	200 psi	Systems 83
What are the position settings for the oxygen mask selector on the essential/emergency panel?	<ul style="list-style-type: none"> • OFF • AUTO -- passenger masks automatically deploy at a cabin altitude of 14,000 +500/-000 feet • DROP -- passenger masks deploy immediately 	Systems 84
What indication ranges are shown on the cockpit oxygen gauge?	<ul style="list-style-type: none"> • 0-200 psi -- Red caution range • 200-1850 psi -- Green normal range • >1850 psi -- Yellow maximum limit range 	Systems 84
What indication ranges are shown on the oxygen service gauge on the nose of the aircraft?	<ul style="list-style-type: none"> • 0-300 psi -- Yellow caution range • 1550-1850 psi -- Green normal range • >1850 psi -- Red maximum limit range 	Systems 86
At what pressure is the oxygen system blowout disc supposed to fail?	2700 psi	Systems 88
How do you confirm that oxygen is flowing to the mask?	The in-line flow indicator in the hose turn green. With no oxygen flowing to the mask, the indicator will be red.	Systems 90
What two methods deploy the passenger oxygen masks?	<ul style="list-style-type: none"> • Electrically when the cabin pressure exceeds 14,000 feet and the selector switch is set to AUTO • Mechanically when the selector switch is set to DROP 	Systems 90
What are the three setting on the front of the pilot's oxygen mask?	<ul style="list-style-type: none"> • Normal -- The regulator supplies a mixture of oxygen and cabin air, oxygen flow is on-demand. • 100% -- The regulator supplies 100% oxygen with no ambient air, oxygen flow is on-demand • Emergency -- 100% oxygen is supplied under pressure. This mode is automatically active above a cabin pressure of 34,00 feet regardless of the mask setting. Mask pressure is proportional 	Systems 92

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	up to 45,000 feet.	
When does the aural alert sound MASK ON, DESCEND?	At a cabin pressure above 12,750 feet the alert will sound every 30 seconds until the cabin pressure is below 12,000 feet or if the cabin pressure is descending at 1,800 fpm or greater.	Systems 96
Federal aviation regulations require that one pilot wear an oxygen mask and use oxygen above what altitude?	35,000 feet	Systems 97
FAR Part 91 requires that a supply of oxygen be available for all passengers for what duration?	10 minutes	Systems 97
FAR Part 135 regulations require that oxygen be available for crew and all passengers for what duration?	14 CFR 135 requires a two hour supply of oxygen for each crew member, and a ten minute supply of oxygen for all passengers.	Systems 97
What is the purpose of the oxygen system blowout disk?	Failure of the blowout disk indicates that the oxygen system has been over-pressurized, and that the oxygen bottle is in need of service. The blowout disk is designed to fail at about 2700 psi.	Systems 88

Subject: Powerplants

Question	Answer	Reference
What is the engine manufacturer and model?	Pratt & Whitney model PW610F-A	AFM 2-7
What is the maximum indicated turbine temperature (ITT) during engine start?	850° C	AFM 2-7
What is the takeoff power time limit, and the maximum indicated turbine temperature (ITT)?	The takeoff power time limit is 5 minutes, and commences when the throttle is first advanced to the takeoff position. The maximum takeoff power ITT is 795° C.	AFM 2-7
What is the automatic power reserve (APR) time limit, and maximum indicated turbine temperature (ITT)?	The APR time limit is 10 minutes, and commences when the throttle is first advanced to the takeoff position. The maximum takeoff power ITT is 795° C.	AFM 2-7
What is the maximum indicated turbine temperature (ITT) and time limit for a power transient.	The maximum transient ITT is 850° C, for a maximum of 20 seconds over 795° C.	AFM 2-7
What is the minimum and maximum fuel temperature range for engine start?	-40° C to 121° C	AFM 2-8
What is the time limit, and fuel temperature range for ground idle operation?	<ul style="list-style-type: none"> • Continuous, no time limit. • Fuel temperature range from -40° C to 121° C. 	AFM 2-8
What is the time limit, and fuel temperature range for flight idle operation?	<ul style="list-style-type: none"> • Continuous, no time limit. • Fuel temperature range from 18° C to 121° C. 	AFM 2-8
What is the time limit, and fuel temperature range for takeoff power operation?	<ul style="list-style-type: none"> • 5 minute time limit. • Fuel temperature range from 18° C to 121° C. 	AFM 2-8
What is the time limit, and fuel temperature range for automatic power reserve (APR) operation?	<ul style="list-style-type: none"> • 10 minute time limit. • Fuel temperature range from 18° C to 121° C. 	AFM 2-8
What is the time limit, and fuel temperature range for maximum continuous thrust (MCT) operation?	<ul style="list-style-type: none"> • Continuous, no time limit. • Fuel temperature range from 18° C to 121° C. 	AFM 2-8
What is the allowable oil temperature range for	Oil temperature range from -20° C to 135° C.	AFM 2-9

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engine start?		AFM 2-10
What is the allowable oil temperature range for ground idle operation?	Oil temperature range from -20° C to 135° C	AFM 2-9 AFM 2-10
What is the allowable oil temperature range for flight idle operation?	Oil temperature range from 20° C to 135° C	AFM 2-9
What is the allowable oil temperature range for takeoff operation?	Oil temperature range from 20° C to 135° C	AFM 2-9
What is the allowable oil temperature range for flight operation?	Oil temperature range from 20° C to 135° C	AFM 2-9
What is the normal oil indicated pressure range?	2 to 8	AFM 2-9
What are the oil pressure and G load limitations?	<ul style="list-style-type: none"> • Negative G's are limited to 5 seconds. • Zero oil pressure may occur for a maximum of 15 seconds during negative G maneuvers. 	AFM 2-9
What is the total oil capacity of each engine?	6 quarts	AFM 2-10
What is the oil tank (fill) capacity for each engine?	3.6 quarts	AFM 2-10
What are the engine start limitations?	<ul style="list-style-type: none"> • Engine starts are not permitted at an oil temperature below -20° C. • Engine starts between -20° C and 5° C must be accomplished with a GPU supplying electrical power. • Minimum battery voltage is 23 volts. 	AFM 2-10
What are the starter cycle time limitations?	<ul style="list-style-type: none"> • 30 second start, 60 second spool-down and cool-down period. • 30 second start, 60 second spool-down and cool-down period. • 30 second start, then 30 minute spool-down and cool-down period. • Repeat cycle as required. 	AFM 2-10
What are the engine ground operation wind limitations?	<ul style="list-style-type: none"> • 30 knot maximum crosswind limit • 25 knot maximum tailwind limit • 15 knot maximum tailwind limit for N1 > 75% 	AFM 2-10
The engine thrust control is divided into three elements. What are they?	<ul style="list-style-type: none"> • Throttles • Full Authority Digital Engine Control units (FADEC) • Fuel Metering Units (FMU) 	Systems 11

Subject: Pressurization

Question	Answer	Reference
What is the maximum cabin pressure differential?	8.7 PSI	AFM 2-12
What is the maximum negative cabin pressure differential?	-0.5 PSI	AFM 2-12
What is the cabin operating pressure at maximum altitude, 8000 foot cabin at 41,000 feet?	8.33 psi	Systems 9
What is the maximum allowable cabin pressure differential?	8.7 psi	Systems 9

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Subject: Procedures & Operation

Question	Answer	Reference
What are the flaps up maneuvering load limits?	-1.45 G's to 3.62 G's	AFM 2-6
What are the flaps down maneuvering load limits?	0 G's to 2 G's	AFM 2-6
What is the runway surface type limitation?	Paved surfaces only	AFM 2-6
When must the yaw damper be turned off?	The yaw damper must be turned off for takeoff and landing.	AFM 2-11
When must the yaw damper be turned on?	<ul style="list-style-type: none"> The yaw damper must be turned on for indicated airspeeds greater than 200 knots. The yaw damper must be turned on for altitudes greater than 20,000 feet 	AFM 2-12
What is the Standard Performance Procedure for a two-engine takeoff?	<ul style="list-style-type: none"> Hold brakes, set throttles to MAX and allow engines to reach takeoff thrust, then release brakes. Rotate at approximately 5° per second at Vr to the target takeoff pitch attitude of approximately 10°, while accelerating to achieve V50 at a height of 50 feet above the runway. Maintain V50 once achieved. Retract the landing gear when positive rate is established. 	AFM 5-3
What is the Standard Performance Procedure for a takeoff with an engine failure and go?	<ul style="list-style-type: none"> Hold brakes Set throttles to MAX and allow to reach takeoff thrust Release the brakes. <p>The pilot recognizes the engine failure at Vr...</p> <ul style="list-style-type: none"> Rotate at approximately 5° per second at Vr to the takeoff pitch attitude of approximately 10° while accelerating to achieve V50 at a height of 50 feet above the runway. Maintain V50 once achieved. Pitch as required to maintain V50. Retract landing gear when a positive rate of climb is established. 	AFM 5-3
What is the Standard Performance Procedure for a takeoff with an engine failure and stop?	<ul style="list-style-type: none"> Hold brakes Set throttles to MAX and allow engines to reach takeoff thrust Release brakes. <p>The pilot recognizes the engine failure before Vr...</p> <ul style="list-style-type: none"> Immediately reduce throttles to IDLE and initiate moderate braking. Apply increased brake pressure until the airplane comes to a complete stop. 	AFM 5-3
What is the Standard Performance Procedure for landing?	<ul style="list-style-type: none"> Conduct a stabilized approach at Vref with landing gear down and landing flaps and using thrust to maintain a 3° glide path. Reduce the throttles to IDLE at 50 feet above the touchdown altitude. 	AFM 5-4

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	<ul style="list-style-type: none"> • Flare to touchdown at Vtd without excessive float. • At touchdown, immediately lower the nose and apply light to moderate braking, applying increased braking until the aircraft comes to a complete stop. 	
The Eclipse 500 is certified to what standard?	The Eclipse 500 is certified to 14 CFR Part 23 in the normal category.	AFM 2-1
For what types of operation is the Eclipse certified?	<p>The Eclipse is approved for the following types of operation when the appropriate instruments and equipment required by airworthiness and operating requirements are installed and operational:</p> <ul style="list-style-type: none"> • VFR Day • VFR Night • IFR • Reduced Vertical Separation Minimum (RVSM) 	AFM 2-1
What are the equipment requirements for RVSM operation?	<p>The equipment requirements for RVSM operation are:</p> <ul style="list-style-type: none"> • Autopilot -- Must be operational • Altitude Alerting System -- Must be operational • Altitude Reporting -- Transponder 1 (XPDR1) must be operational • Air Data Systems -- ADC1 and ADC2 must be operational 	AFM 2-1
What items are required if the flight crew consists of a single pilot?	<p>The flight crew may consist of a single pilot provided:</p> <ul style="list-style-type: none"> • The pilot occupies the left seat. • The autopilot is operational. • One headset mounted microphone is used. • One transponder IDENT button is on the sidestick control. • Quick Reference Handbook (QRH) latest revision is available to the pilot. 	AFM 2-2
What is the maximum demonstrated crosswind?	16 knots	AFM 4-23

Subject: Speeds

Question	Answer	Reference
What is the ETT maximum operating airspeed (Vmo)?	285 knots	ETT A/C Only AFM 2-5 Systems 63
What is the maximum operating Mach (Mmo)?	0.64 Mach	AFM 2-5
What is the minimum control speed (Vmca)?	The minimum control speed is lower than stall speed in all configurations.	AFM 2-5
What is the operating maneuvering speed (Vo)?	180 knots	AFM 2-5
Define operation maneuvering speed (Vo).	Operating maneuvering speed (Vo) is the highest speed at which full roll and yaw control can be	AFM 2-5

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	applied without overstressing the aircraft.	
What is the maximum indicated airspeed allowed for ADC3 following the loss of ADC1 and ADC2?	160 knots	AFM 2-11
What are the maximum flap extension speeds (Vfe)?	<ul style="list-style-type: none"> • 200 knots for takeoff position • 120 knots for landing position 	AFM 2-13 Systems 45
What is the maximum landing gear operation airspeed (Vlo)	200 knots	AFM 2-14 Systems 63
What is the ETT maximum landing gear extended airspeed (Vle)?	285 knots	ETT A/C Only AFM 2-14
What is the maximum tire speed limitation?	139 knot groundspeed	AFM 2-14
What are the Vsse training speeds for Vmc demonstrations at all flap settings?	<ul style="list-style-type: none"> • 110 knots with flaps up • 96 knots with flaps in the takeoff position • 83 knots with flaps in the landing position 	AFM 4-23
What is the RVSM flight speed envelope?	The RVSM flight envelope is limited to Mach .40 to .64 in level flight.	AFM 2-1
For non-ETT aircraft, what is the maximum speed Vmo?	275 knots	Non-ETT A/C Only ETT Diff's
For non-ETT aircraft, what is the maximum landing gear extended speed Vle?	275 knots	Non-ETT A/C Only ETT Diff's
What is the maximum turbulent air penetration speed?	180 knots	AFM 4-23
What is the maximum operating speed with the ALL INTERRUPT switch failed ON?	200 knots	QRH 5-1-1
What is the stall speed in the clean configuration (Vs)?	90 knots	Systems 9
What is the stall speed in the landing configuration (Vso)?	70 knots	Systems 9

Subject: Systems, general

Question	Answer	Reference
The Eclipse 500 is divided into four functional areas. What are they?	<ul style="list-style-type: none"> • Avio integration (ACS and PFD) • Thrust control (throttles and engine control systems) • Emergency controls (left switch panel hard switches) • Flight controls (mechanical flight control systems) 	Systems 1
The emergency/essential systems are designed to operate autonomously, and do not require Avio. What are they?	<ul style="list-style-type: none"> • Battery power and electrical contactor control • Electrical circuit protection • Oxygen and passenger masks • Emergency landing gear extension • Cabin pressurization dump • Emergency locator beacon (ELT) 	Systems 11
What is the only hydraulic system installed in the aircraft?	Brakes	Systems 17
What are the five functional areas of the Avio avionics suite?	<ul style="list-style-type: none"> • Aircraft Computer Systems (ACS) • Pilot displays 	Systems 20

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	<ul style="list-style-type: none"> • Pilot controls / interfaces • Primary sensors • Aircraft subsystems (electrical power generation / distribution) 	
The Avio Processing Center (APC) is a Line Replaceable Unit (LRU) that consists of what components?	There are two APCs in the aircraft. Each APC consists of one ACS and one FADEC.	Systems 22
What is the location of the two Aircraft Computer Systems (APCs) in the aircraft?	The left APC is located on the left aft fuselage wall. The right APC is located underneath the baggage compartment floor.	Systems 22
What are the three primary functions of the Aircraft Computer Systems (ACSs)?	<ul style="list-style-type: none"> • Automatic command and control of the systems • Perform pilot commands • Systems monitoring and fault reporting 	Systems 22
How are pilot commands from the MFD routed to the ACS?	All information to and pilot commands from the MFD are routed through both PFDs to the ACS.	Systems 25
What direct pilot controls are on the center switch panel?	<ul style="list-style-type: none"> • Landing light • Taxi / recognition lights • Landing gear • Strobe / beacon lights • Ice protection (engine anti-ice and wing de-ice) • Ice inspection light • Cabin lights • Dome light • Footwell lights (optional) • Cockpit dimming • Night / Day switch 	Systems 27
What switch / control sub-panel commands are routed through the center switch panel to the ACSs?	<ul style="list-style-type: none"> • Autopilot control panel • Engine start switch panel • Left and right sidesticks • Center pedestal (rudder trim switch and flap selector inputs) 	Systems 27
What are the three switch positions of the engine start switch panel?	<ul style="list-style-type: none"> • OFF -- commands the engine to off • ON/START -- Initiates the start sequence, position for normal operations • CONT IGN -- Manually activates igniters 	Systems 28
What are the three positions of the engine start switch panel?	<ul style="list-style-type: none"> • OFF -- Commands the engine off • ON/START -- Initiates the start sequence, position for normal operation • CONT IGN -- Manually activates the igniters 	Systems 28
What sidestick switch controls are not routed through the center switch panel to the ACS?	The push-to-talk switch on the left sidestick is routed directly to the left PFD, and the push-to-talk switch on the right sidestick is routed directly to the right PFD.	Systems 29
What sidestick switch controls are routed through the center switch panel to the ACSs?	<ul style="list-style-type: none"> • ALL INTERPT switch • Autopilot disconnect • Transponder IDENT • Pitch and roll trim • Landing gear warning mute 	Systems 29
What functions on the left switch panel (essential switch panel) require ACS functionality to operate?	The Cabin Air Source switch is the only function on the left switch panel that requires ACS functionality to operate.	Systems 30
What functions on the left switch panel (essential switch panel) do not require ACS functionality to	<ul style="list-style-type: none"> • Communication selection (headset/mask, left or right PFD) 	Systems 30

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operate?	<ul style="list-style-type: none"> • Mechanical circuit breakers (left PFD, left ACS) • Emergency Locator Transmitter (ELT) switch and annunciation • Five electrical contactor switches (generators x2, batteries x2, bus tie) • Oxygen control and pressure display 	
What is provided beneath the pilot's left armrest?	<ul style="list-style-type: none"> • Oxygen line connection (quick don mask) • Oxygen mask microphone jack (quick don mask) • Pilot headset jacks (headphone and microphone) • USB port 	Systems 32
What is the purpose of the USB port under the copilot's right armrest?	The USB port under the copilot's right armrest is for maintenance purposes only?	Systems 32
What is the purpose on the USB port under the pilot's left armrest?	The USB port under the pilot's left armrest allows for uploading of important software and database updates (example: GPS nav data).	Systems 32
How are throttle control inputs sent to the engines?	The throttle have no direct connection to the ACS. Information sensed by two position sensors for each throttle is sent directly to the FADEC units.	Systems 34
How many line select keys (LSKs) are on each of the displays?	10	Systems 34
What is the function of the left and right rocker keys on the displays?	The rocker keys allow the pilot to select different pages in the lower left and right tiles of the displays.	Non-ETT A/C Only Systems 35
What are the five primary function keys at the bottom of the MFD, and what is the function of each?	<ul style="list-style-type: none"> • MAP -- The lower left tile is set to the MAP page, and the lower right tile is set to the page that was previously on the lower left tile. • FMS -- The lower left tile is set to the FMS main page, and the lower right tile is set to the MAP page. • CKLST -- The lower left tile is set to the electronic checklist page, and the lower right tile is set to the associated synoptic. • SYS -- The lower left tile is set to the last used systems synoptic page, or if unknown, to the first page of the tabbed list (ENG). • AUDIO -- <ul style="list-style-type: none"> • Single press -- The lower left tile is set to the PILOT AUDIO page, and the lower right tile is set to the page previous shown on the lower left tile. • Double press -- The lower left tile is set to the PILOT AUDIO page, and the lower right tile is set to the COPILOT AUDIO page. 	Systems 36
On Avio Avidyne aircraft, what is the purpose of the single rotary knob on the PFD and MFD?	<ul style="list-style-type: none"> • On the PFD -- The single rotary knob provides control of the pilot and copilot volume and squelch, on their respective sides. • On the MFD -- The single rotary knob provides selection and acknowledgement of CAS messages. 	Non-ETT A/C Only Systems 38
Air data, attitude, and navigation information is	• Three Air Data Computers (ADCs)	Systems 39

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provided to ACS by two Integrated Sensor Suites	<ul style="list-style-type: none"> • Two Attitude Heading and Reference Systems (AHRSS), including two Magnetometers (MAGs) • Two Global Positioning Systems (GPSs) <p>Information from all three of these systems is set to the ACS for comparison and failure monitoring.</p>	
Most aircraft systems have MFD synoptics that provide direct pilot control. Which systems cannot be controlled through the MFD?	<ul style="list-style-type: none"> • Oxygen -- controlled on the left switch panel • Landing Gear -- controlled through the center switch panel • Autoflight -- controlled through the autopilot control panel 	Systems 39
How are the flap actuators commanded?	The left flap actuators receive their commands and report their status to the right ACS, and the right flap actuators receive their commands and report their status to the left ACS. All actuators communicate with each other to assure flap position agreement.	Systems 43
How many trim control motors are on the aircraft, and what are their functions?	<p>There are (4) trim motors on the aircraft:</p> <ul style="list-style-type: none"> • (2) Pitch trim • (1) Roll trim • (1) Yaw trim 	Systems 43
Which trim controls are monitored and commanded by which ACSs?	<ul style="list-style-type: none"> • The left ACS commands and monitors the left pitch and roll trims. • The right ACS commands and monitors the right pitch and yaw trims. 	Systems 44
What are the side-stick button functions?	<ul style="list-style-type: none"> • A/P DISC • ALL INTERRUPT • MIC • GEAR MUTE • IDENT • TRIM SWITCH 	Systems 46
What functions are disconnected when you press the ALL INTERRUPT button on the side-stick?	<ul style="list-style-type: none"> • Autopilot • Autothrottle • Flight director • Yaw damper • Overspeed / underspeed protection • Stick pusher (while the button is depressed) • All trim motors (while the button is depressed) <p>Pressing and holding the ALL INTERRUPT button for two seconds prompts the FLCs synoptic page to be displayed on the MFD.</p>	Systems 46
How many flap positions are on the flap selector?	<ul style="list-style-type: none"> • Up (0°) • Takeoff (TO - 17°) • Landing (LDG - 34°) 	Systems 47
What display indications occur when the flaps are in transit to a commanded position?	When the selector is moved, a white box is displayed around the selected position. The flap position tick mark turns magenta until the flap position agrees with the flap switch selection, at which point tick mark turns white and the white box disappears.	Systems 50
What indications are displayed in the event of a flap failure in transit?	If a flap failure occurs due to actuator failure or asymmetry sensed by any flap actuator, all flap movement stops, the pointer remains displayed at	Systems 51

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	the last known flap position, and a FLAP FAIL	
Besides adjusting trim from side-stick button controls, how can the trim be set?	Alternate trim can be set from the FLCS synoptic page. A shortcut to display the FLCS page is by pressing and holding the ALL INTERRUPT button for two seconds.	Systems 57
When does the FLAP FAIL caution message get displayed?	If a flap actuator position is mismatched by more than 2°.	Systems 54
What is the purpose of the primary function keys located at the bottom of the MFD?	They allow the pilot to quickly access frequently used MFD functions.	Systems 36
What is an alternate method of adjusting the trim besides adjusting it from the hat switch on the sidestick?	The trim can also be adjusted from the flight controls synoptic (FLCS) page. The flight controls synoptic page can be accessed by pressing the ALL INTERRUPT button for two seconds, or more.	Systems 46
Which ACS has primary control over the landing gear actuators?	Both ACSs control the landing gear actuators. The landing gear actuators are controlled by the on-side ACS (left actuators by the left ACS, right actuators by the right ACS).	Systems 39

Subject: Weights

Question	Answer	Reference
What is the ETT maximum ramp weight?	6029 pounds	ETT A/C Only AFM 2-3
What is the ETT maximum certified takeoff weight?	5995 pounds	ETT A/C Only AFM 2-3
What is the ETT maximum certified landing weight?	5600 pounds	ETT A/C Only AFM 2-3
What is the ETT maximum zero fuel weight?	4922 pounds	ETT A/C Only AFM 2-3
What is the maximum allowable weight in the baggage area?	260 pounds	AFM 2-3
What is the maximum floor loading for the cabin area?	80 pounds per square foot	AFM 2-3
What is the maximum floor loading in the baggage compartment area?	100 pounds per square foot	AFM 2-3
For non-ETT aircraft, what is the maximum ramp weight?	5800 pounds	Non-ETT A/C Only ETT Diff's
For non-ETT aircraft, what is the maximum takeoff weight?	5760 pounds	Non-ETT A/C Only ETT Diff's
For non-ETT aircraft, what is the maximum landing weight?	5415 pounds	Non-ETT A/C Only ETT Diff's
For non-ETT aircraft, what is the maximum zero fuel weight?	4860 pounds	Non-ETT A/C Only ETT Diff's