

FlightSafety[®]
international

GIV



OCT09

TeamGulfstream

Flash Cards - Making Learning Easy

MEMORY FLASH CARDS

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ACTIVE INDEX

INSERT LATEST REVISED CARDS, DESTROY SUPERSEDED CARDS
LIST OF EFFECTIVE CARDS

Dates of issue for original and changed pages are:

Original.....0 28 OCT 2009

TOTAL NUMBER OF CARDS IN THIS SET IS 69
CONSISTING OF THE FOLLOWING:

Card/ LINK	Page	MASTER WARNING.....	M1- M3
AC GENERAL.....	AG1 - AG3	LANDING GEAR/BRAKES. LG1- LG7	
LIMITATIONS.....	L1 - L11	PNEUMATICS/ECS.....	P1- P12
ELECTRICAL	E1 - E10	APU.....	AP1- AP4
HYDRAULICS	H1- H6	POWERPLANT.....	PP1- PP4
FLIGHT CONTROLS	F1- F6	ICE PROTECTION.....	I1- I3

*Zero in this column indicates an original card.

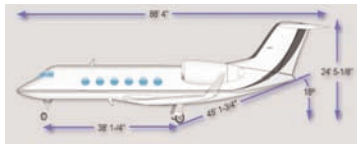
WHAT ARE THE LENGTH, HEIGHT AND WINGSPAN OF THE GIV?

Aircraft General

LENGTH = 88'4"

HEIGHT = 24' 5 1/8"

WINGSPAN = 77'10"



MENU RETURN

Gulfstream GIV
FOR TRAINING PURPOSES ONLY

AG-1A

WHAT ARE THE MAXIMUM WEIGHTS ASSOCIATED WITH THE GIVSP/NON-SP:

ZERO FUEL
RAMP
TAKEOFF
LANDING

Aircraft General

MAX ZERO FUEL = 49,000/46,500 LB

MAX RAMP = 75,000/73,600 LB

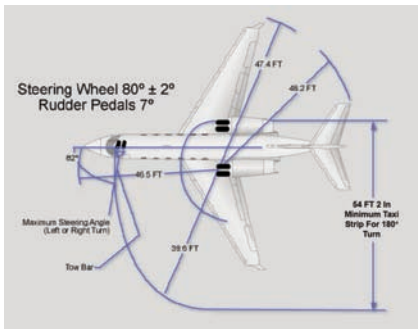
MAX TAKEOFF = 74,600/73,200 LB.

MAX LANDING = 66,000/58,500 LB.

**WHAT IS THE MINIMUM TAXI STRIP
WIDTH FOR A 180 DEGREE TURN
(BASED ON A MAXIMUM NOSE WHEEL
DEFLECTION OF 80 DEGREES $\pm 2\%$)?**

Aircraft General

54 FT 2 IN



MENU RETURN

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FOR TRAINING PURPOSES ONLY

AG-3A

RUNWAY SLOPE LIMITATIONS

What is the maximum runway slope approved for take-off and landing operations?

RUNWAY SLOPE LIMITATIONS

+2 % (uphill) and -2 % (downhill)

LIMITATIONS

When is use of the autothrottles prohibited?



MENU RETURN

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L-2

LIMITATIONS

Use of the autothrottle with wing anti-ice during Takeoff and Go-Around is prohibited.

MENU RETURN

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L-2A

SPEED LIMITATIONS

Turbulent Air Penetration Speed

SPEED LIMITATIONS

Turbulent Air Penetration Speed

270 KCAS/.75MT

MENU RETURN

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L-3A

GENERAL LIMITATIONS

Maximum tailwind component	?
Maximum airport altitude.....	?
Maximum runway slope.....	?
Maximum number of passengers.....	?
Maximum number of occupants	?

GENERAL LIMITATIONS

Maximum tailwind component	10 knots
Maximum airport altitude.....	15,000
Maximum runway slope	*/- 2%
Maximum number of passengers.....	19
Maximum number of occupants.....	22

MENU RETURN

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L-4A

SPEED LIMITATIONS

Maximum Landing Gear Altitude and Extension /
Retraction Speed— V_{LE}

SPEED LIMITATIONS

Maximum Landing Gear Altitude and Extension /
Retraction Speed— V_{LE}

20,000 ft & 225 KCAS / 0.70 MT

MENU RETURN

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L-5A

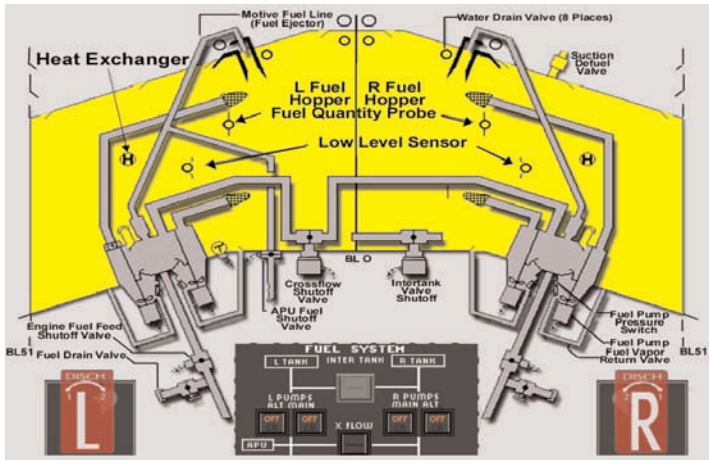
FUEL LIMITATIONS

SCHEMATIC

MENU RETURN

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L-6



MENU RETURN

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L-6A

WHAT IS THE USABLE FUEL CAPACITY?

GIV / G400 Fuel Capacity - 29,500 lbs. (4,370 gal)
G300 - Fuel Capacity - 26,900lbs

NOTE: It is possible to upload fuel in excess of 29,500 pounds. This is permitted as long as the maximum ramp weight and/or maximum takeoff weight is not exceeded.

WHAT IS THE MINIMUM ENGINE FUEL TEMPERATURE FOR STARTING?

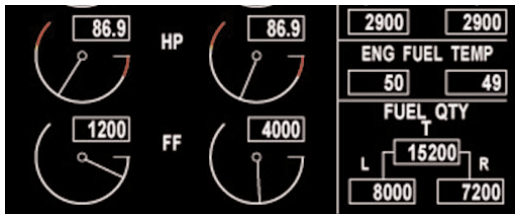
-40 degrees C for starting

MENU RETURN

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L-8A

WHAT IS THE MAXIMUM ENGINE FUEL TEMPERATURE?

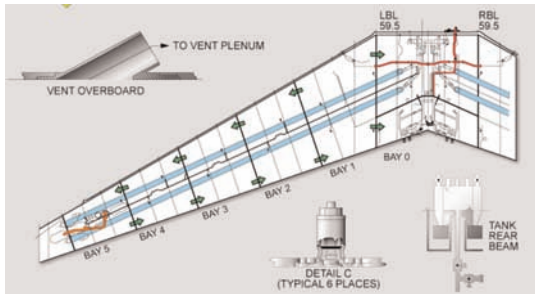


MENU RETURN

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L-9

+90 degrees C
(Fuel temperature up to 120 degrees C for a maximum of 15 minutes permissible)



MENU RETURN

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FOR TRAINING PURPOSES ONLY

L-9A

WHAT IS THE MINIMUM ENGINE OIL TEMPERATURE FOR THROTTLE MOVEMENT?

-30 degrees for throttle movement

MENU RETURN

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FOR TRAINING PURPOSES ONLY

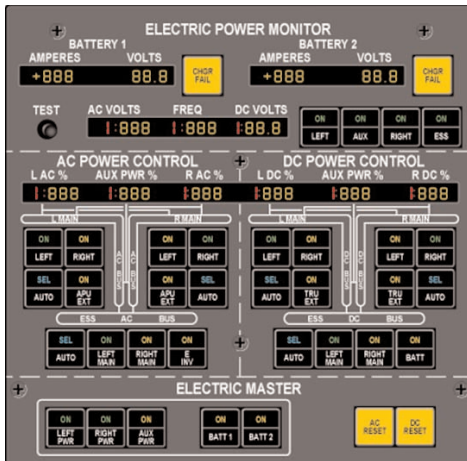
L-10A

WHAT IS THE MAXIMUM PERMISSIBLE FUEL IMBALANCE:

- BELOW 55,000 GW?
- ABOVE 60,500 GW

In Flight - 2000 lbs. below 55,000
In Flight - 400lbs. above 60,500
Note: Sliding scale from 55,000 to 60,500

DISPLAY OF THE ELECTRIC POWER MONITOR PANEL



MENU RETURN

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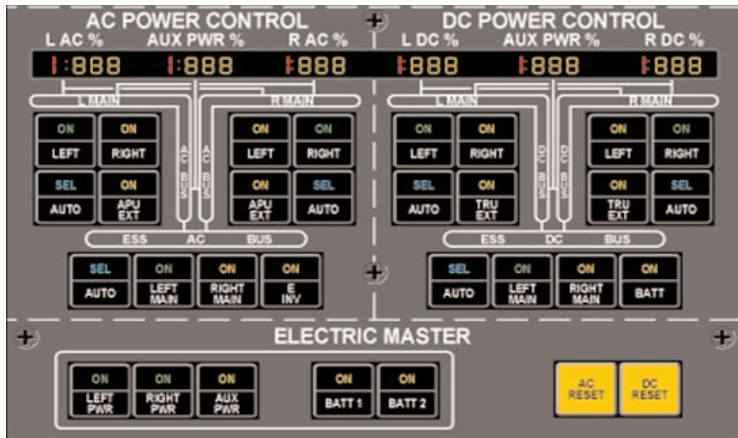
E-1A

DISPLAY OF THE AC & DC POWER CONTROL OVERHEAD PANEL

MENU RETURN

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E-2



MENU RETURN

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E-2A

WHAT ARE THE SPECIFICATIONS OF ALTERNATOR & CONVERTERS?



MENU RETURN

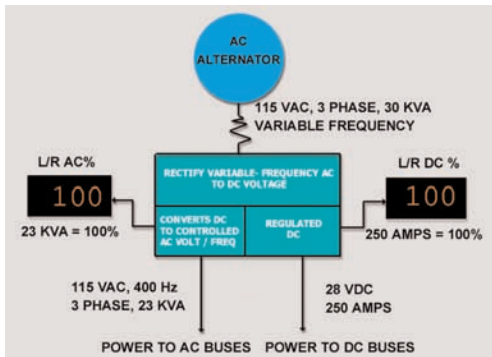
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E-3

AC Alternator -

115VAC, 3 Phase, 30
KVA

Converter - 115 VAC,
400 Hz, 3 Phase, 23
KVA & 28VDC 50Amps



BATTERIES

**THE MAIN AIRCRAFT BATTERIES ARE
RATED AT ____ V / ____ AMP/HOUR.**



Gulfstream GIV

MENU RETURN

FOR TRAINING PURPOSES ONLY

E-4

TWO 24 V 40 AMP/HOUR 20 CELL NICAD

MENU RETURN

Gulfstream ***GIV***
FOR TRAINING PURPOSES ONLY

E-4A

EXTERNAL AC POWER IS CAPABLE OF POWERING WHAT BUSES?

AC EXT POWER



MENU RETURN

Gulfstream **GIV**
FOR TRAINING PURPOSES ONLY

E-5

EXTERNAL AC POWERS

Selecting external AC power ON with the AUX PWR switch will power all buses of the aircraft electrical system. In addition, the main batteries will be charged using EXT AC.



MENU RETURN

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E-5A

WHAT BATTERY CONNECTS TO THE GROUND SERVICE BUS?



Battery #2 - With standard configuration, powers:
wheelwell lights, utility lights, and service lights

WHEN WILL YOU HAVE BATTERY ON BUS?



MENU RETURN

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E-7

-
- The main batteries are powering the ESS DC Buses, either automatically or manually selected
 - Starting the APU
 - AUX Hydraulic pump is operating

WHAT ARE THE FOUR SOURCES FOR THE REMOTE POWER SUPPLY?

2 From Aircraft Batteries
2 From Essential DC Bus

MENU RETURN

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E-8A

WHAT BUS IS POWERED BY THE E- INVERTER?

Essential AC Bus (Phase A only)

Note: E-Inverter supplies 0.8 KVA, 115 VAC, 400 Hz,
Phase A only

WHEN EMERGENCY POWER SYSTEM IS ARMED, WHEN WILL THE E BATTS ACTIVATE?

E BATT 1-2-3-4 DISCH
E BATT 1-2-3-4 FAIL

3 Ways of turning on E-Batts:
Manually Selected “ON”
Loss of power on the ESS DC bus
2.5 “G” or greater deceleration

HYDRAULIC PAGE

MENU RETURN

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H-1



MENU RETURN

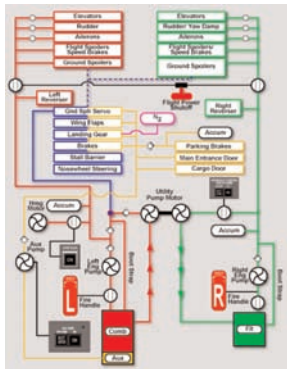
Gulfstream **GIV**
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H-1A

Hydraulics

WHAT CAPABILITIES ARE LOST IF YOU LOSE THE FLIGHT HYDRAULIC SYSTEM PRESSURE?



R Thrust Reverser
Yaw damper (without windmilling pressure)
Utility Pump
Autopilot - Due to the loss of yaw damp

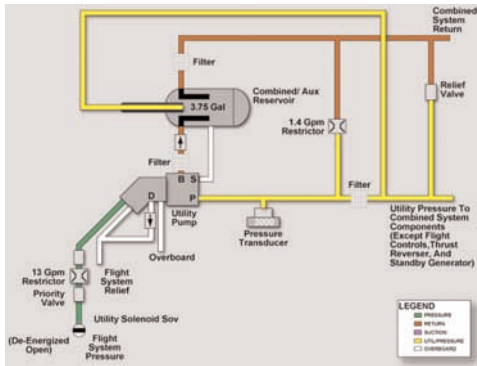
Hydraulics

**THE UTILITY PUMP UNIT IS
DRIVEN BY FLIGHT
HYDRAULIC SYSTEM PRES-
SURE AND USES COMBINED
HYDRAULIC SYSTEM FLUID.
WHEN ARMED, WHAT WILL
CAUSE IT TO TURN ON
AUTOMATICALLY ?**



“CMB HYD FAIL”

CAS Message indicating less than 800 lbs pressure in the combined system.



MENU RETURN

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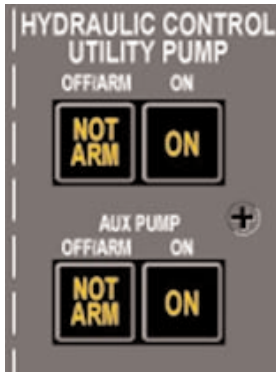
H-3A

WHAT CONDITIONS WILL PREVENT AUTOMATIC UTILITY OPERATION WHEN THE UTILITY IS ARMED?

“ **FLT HYD HOT** ” CAS Message

(Flight Hydraulic System fluid temperature indicating +220 degrees F or greater).

**WHEN ARMED,
WHAT WILL CAUSE
THE AUXILIARY
HYDRAULIC PUMP
TO TURN ON AUTO-
MATICALLY?**

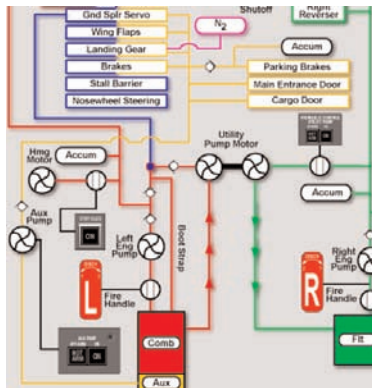


- Combined & Utility Hydraulic pressure < 1500 psi
and
- Toe pedals depressed > 10 percent
- NutCrackers in Ground Mode

Aux Hydraulic On

THE AUXILIARY HYDRAULIC PUMP IS CAPABLE OF POWERING WHICH COMPONENTS?

Main Entrance Door
Flaps
Brakes
Parking/Emergency
Brakes
Landing Gear/Doors
(Ground Only)



MENU RETURN

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H-6A

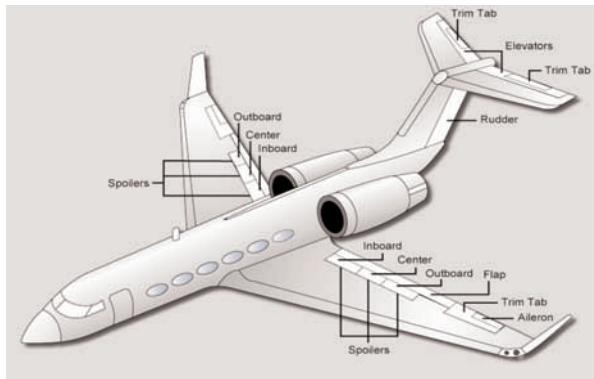
FLIGHT CONTROLS GIV



MENU RETURN

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F-1



MENU RETURN

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F-1A

GROUND SPOILERS DEPLOY AUTOMATICALLY WHEN?

Power on - Ess DC Bus and Left Main Bus

Ground spoiler switch – ARMED

Both power levers – IDLE

Nutcrackers - GROUND MODE or

Flaps > 22° with wheel spin up

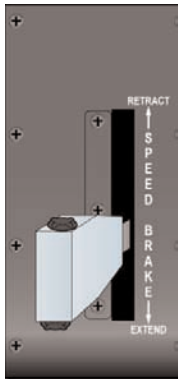
or GPWS O'Ride switch on

MENU RETURN

Gulfstream ***GIV***
FOR TRAINING PURPOSES ONLY

F-2A

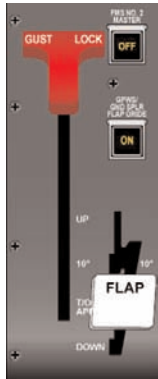
WHEN IS USE OF THE SPEED BRAKES PROHIBITED?



MENU RETURN

Use of speed brakes are not approved for use with flaps at 39 (DOWN) or with landing gear extended in flight.

Gulfstream **GIV**
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F-3A

WHAT ARE THE MAXIMUM SPEEDS FOR FLAP EXTENSION:

**10 DEGREES?
20 DEGREES?
39 DEGREES?**

Flaps 10 - 250 KCAS

Flaps 20 - 220 KCAS

Flaps 39 - 170 KCAS (Non-SP)
180 KCAS (SP)



MENU RETURN

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F-4A

WHAT IS THE MAXIMUM OPERATING ALTITUDE FOR EXTENDING FLAPS TO 10 OR 20 DEGREES?

45,000 FT MSL

MENU RETURN

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F-5A

WHAT IS THE MAXIMUM OPERATING ALTITUDE FOR EXTENDING LANDING FLAPS 39?

20,000 FT MSL

MENU RETURN

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F-6A

Master Warning

**ACTIVATION OF THE
MASTER WARNING INHIBIT
SWITCH WILL INHIBIT ALL
AURAL TONES ASSOCIAT-
ED WITH CAS MESSAGES
EXCEPT FOR: _____**



- RED CAS Messages
- Coupled Data Invalid (Lateral or Vertical)
- CAT II Invalid



MENU RETURN

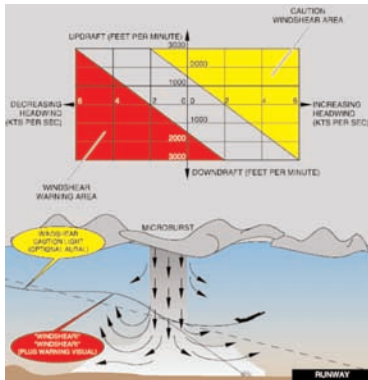
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M-1A

WHAT ARE THE TWO (2) TYPES OF WINDSHEAR WARNINGS?

- AMBER (Caution) =
Increasing Performance

- RED (Warning) =
Decreasing Performance



MENU RETURN

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M-2A

WHEN IS THE WINDSHEAR WARNING ACTIVE?

- From Rotation to 1500' AGL
- During Approach from 1500' to 10' AGL
- On Missed Approach up to 1500' AGL

WHAT IS EMERGENCY LANDING GEAR NITROGEN BLOWDOWN BOTTLE PRESSURE?



3000 PSI
@ 70 degrees F

MENU RETURN

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LG-1A

WHAT IS THE MAXIMUM SPEED FOR GEAR RETRACTION OR EXTENTION?

225 knots

MENU RETURN

Gulfstream ***GIV***
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LG-2A

**ANTI-SKID BRAKING IS AVAILABLE
FROM WHICH HYDRAULIC SYSTEM(S)?**

- Combined Hydraulic System
- UTILITY System
- Aux Hydraulic System

**WHAT IS THE MAXIMUM TIRE SPEED
GIV NON-SP (WITHOUT ASC 190)?**

182 GS

MENU RETURN

Gulfstream ***GIV***
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LG-4A

**WHAT IS THE MAXIMUM TIRE SPEED
GIV SP (SN 1214 & SUB OR NON-SP
WITH ASC 190)?**

195 GS

MENU RETURN

Gulfstream ***GIV***
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LG-5A

WHAT IS THE MAXIMUM SPEED FOR FLYING WITH THE LANDING GEAR EXTENDED?

$V_{le} = 250 \text{ KCAS}$

MENU RETURN

Gulfstream ***GIV***
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LG-6A

**WHAT IS THE MAXIMUM SPEED FOR
ALTERNATE EXTENSION OF THE LAND-
ING GEAR (OPERATION OF THE EMER-
GENCY GEAR HANDLE)?**

175 KCAS

MENU RETURN

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LG-7A

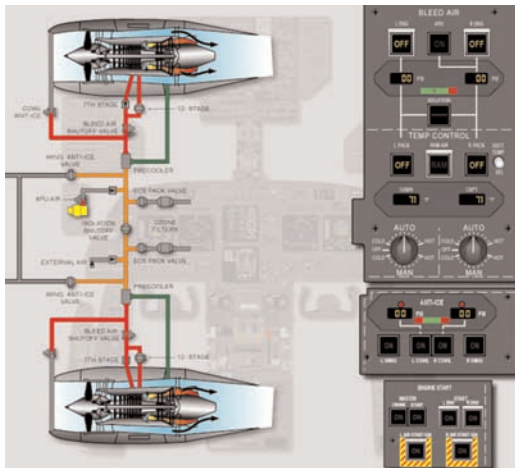
PNEUMATIC SCHEMATIC



MENU RETURN

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P-1



MENU RETURN

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P-1A

WHAT IS THE MAXIMUM PERMITTED CABIN PRESSURE DIFFERENTIAL IN FLIGHT?

9.8 psi

MENU RETURN

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P-2A

WHAT IS THE MAXIMUM PERMITTED CABIN PRESSURE DIFFERENTIAL FOR TAXI, TAKEOFF OR LANDING?

0.3 psi

MENU RETURN

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P-3A

WHAT IS THE TEMPERATURE RANGE SELECTION IN MANUAL?



MENU RETURN

Gulfstream **GIV**
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P-4

MANUAL = Full Cold (Valve is Closed)
Full Hot (Valve is Full Open)



MENU RETURN

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P-4A

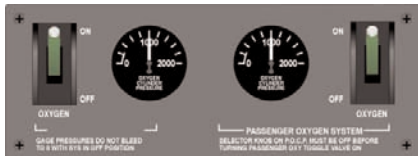
WHAT IS THE TRIP POINT FOR THE OXYGEN SYSTEM PRESSURE RELIEF VALVE?



A high pressure burst disc set for 2775 psi (temperature of $225^{\circ}\text{ F} \pm 5^{\circ}$). Relief flow is also vented overboard through an overboard discharge line equipped with a green rupture disc.

WHAT CABIN ALTITUDE WILL CAUSE THE PASSENGER OXYGEN MASKS TO DEPLOY?

13,000 FT (+/-500)
Cabin Altitude



MENU RETURN

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FOR TRAINING PURPOSES ONLY

P-6A

WHAT ARE THE POWER SOURCES IN AUTO? IN MANUAL?



MENU RETURN

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P-7

1 AC, 1 DC powered
ESS AC (Phase A) for Auto
ESS DC for Manual

WHAT FUNCTIONS DOES THE CABIN SAFETY RELIEF VALVE PROVIDE?

- Positive differential pressure relief at 9.7 ± 0.1 psi
- Negative differential pressure relief at -0.25 psi
 - Rate Limiting: 3000'/min

WHAT IS THE TEMPERATURE RANGE SELECTION IN AUTO?



AUTO = 60 - 80 degrees F

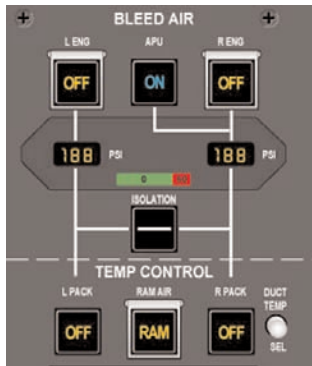


MENU RETURN

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P-9A

**WHAT ARE FOUR (4)
WAYS TO OPEN
THE BLEED AIR
ISOLATION VALVE?**

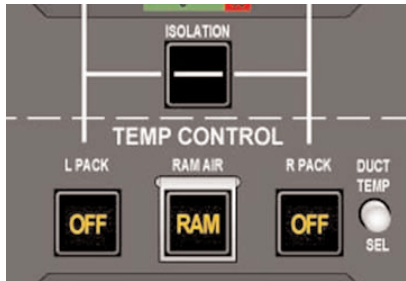


MENU RETURN

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P-10

- Isolation Valve manually selected ON
- APU Bleed Air switch selected ON
- Crank Master selected ON
- Start Master selected ON



MENU RETURN

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P-10A

WHAT ARE FOUR WAYS TO ENERGIZE THE PACK VALVE CLOSED?

Pack switch selected - OFF
COOL TURB HOT caution message (ground only)
Either engine start switch selected – ON
Ram air switch selected to RAM

**DO NOT OPERATE ABOVE WHAT
ALTITUDE WITHOUT BOTH ENGINE
BLEEDS ON?**

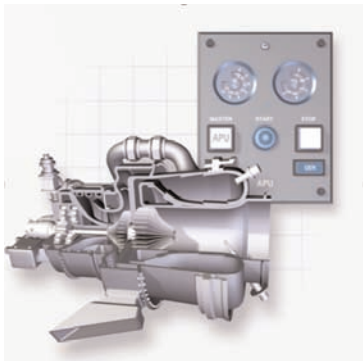
41,000

MENU RETURN

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P-12A

**THE APU IS GUAR-
ANTEED TO START
AT OR BELOW
WHAT ALTITUDE?**



MENU RETURN

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AP-1

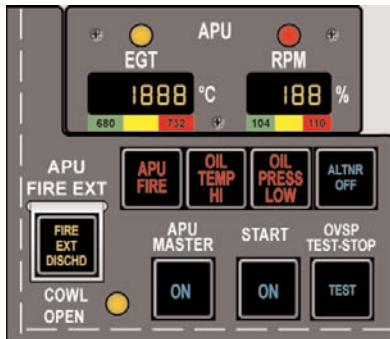
15,000 FT

MENU RETURN

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AP-1A

WILL THE APU SHUT DOWN AUTOMATI- CALLY UPON DETECTION OF A FIRE?



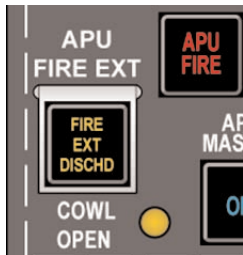
MENU RETURN

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AP-2

YES, THE APU WILL AUTOMATICALLY SHUT DOWN DURING GROUND OR FLIGHT OPERATION IF THE APU FIRE DETECTION CIRCUIT DETECTS A FIRE EXCEPT DURING USE OF THE APU FIRE TEST SWITCH.

NOTE: THE FIRE BOTTLE WILL NOT DISCHARGE UNTIL THE CREW PUSHES THE APU BOTTLE DISCHARGE SWITCH.

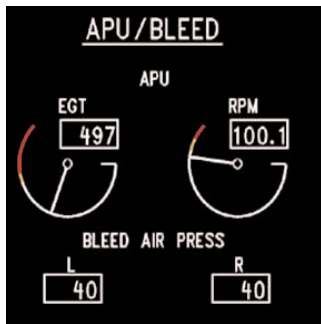


MENU RETURN

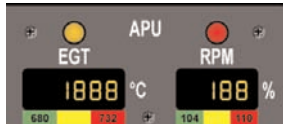
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AP-2A

**AFTER AN APU
START, WHEN WILL
THE APU LOAD
CONTROL VALVE
ALLOW APU AIR FOR
ENGINE START AND
PACK OPERATION?**



**APU AIR IS AVAILABLE AFTER THE APU
HAS REACHED AN OPERATING SPEED OF
95% RPM OR BETTER FOR 4 SECONDS.**



**WAIT FOR AT LEAST TWO MINUTES PRIOR
TO SELECTION.**

MENU RETURN

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AP-3A

FUEL IS SUPPLIED TO THE APU FROM WHERE?

FUEL IS SUPPLIED TO THE APU FROM THE LEFT WING FUEL HOPPER USING THE LEFT MAIN FUEL PUMP (THE RIGHT MAIN TANK AND PUMP MAY BE USED IF THE CROSSFLOW IS OPEN).

MENU RETURN

Gulfstream GIV
FOR TRAINING PURPOSES ONLY

AP-4A

**PULLING THE ENGINE FIRE HANDLE
WILL SHUT OFF WHAT ITEMS ON THE
ASSOCIATED SIDE?**



MENU RETURN

Gulfstream **GIV**
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PP-1

PULLED FIRE HANDLE SHUTS OFF

FUEL
HYDRAULICS
Reverser (on affected side)
ELECTRICS

WHAT IS THE ENGINE STARTER DUTY CYCLE?



Powerplant

CONTINUED USE OF THE STARTER IS LIMITED TO THREE (3) CRANK CYCLES, WITH A MAXIMUM OF 30 SECONDS PER CYCLE. DELAY 3 MINUTES BETWEEN START ATTEMPTS. AFTER 3 CYCLES, DELAY USE OF STARTER FOR AT LEAST 15 MINUTES.

WHAT IS THE RECOMMENDED AIRSTART ENVELOPE?

Powerplant

25,000 FT or below,
200 - 324 KCAS

WHAT IS THE TGT RANGE FOR TAKEOFF POWER?

Powerplant

716-800 Degrees C for 5 minutes or 10 minutes
single engine

**WITH WING ANTI-ICE OPERATING, THE
WING WARM CAPSULE LIGHT WILL
ILLUMINATE AT WHAT TEMPERATURE?**



MENU RETURN

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I-1

100 degrees F or warmer

**USE OF COWL ANTI-ICING IS
REQUIRED FOR TAXI AND TAKEOFF
WHEN STATIC AIR TEMPERATURE
(SAT) IS _____ OR BELOW AND VISIBLE
MOISTURE, PRECIPITATION, OR WET
RUNWAY ARE PRESENT.**

+10 degrees C

MENU RETURN

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I-2A

THE LOW PRESSURE WARNING CAS MESSAGE WILL OCCUR WHEN?

L-R COWL PRESS LOW

SN 1060 & Subs and SN 1000 – 1189

Pressure drops below 10+1 PSI.

SN 1190 & Subs and SN 1000 – 1189 with ASC 243

Pressure drops below 4+1 PSI and after a 15 second delay

NOTE: As long as the pressure is not lower than 4 psi, the aircraft will have enough bleed air to prevent ice formation.