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CHAPTER 7

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GENERAL

The airplane electrical power generation and distribution system (EPGDS) consist of four 40 KVA, engine-driven variable frequency generators (VFG) and one constant frequency 40/45 KVA APU generator. Control and protection of the generators are provided by five identical generator control units (GCU). Distribution systems furnish power to the following busses through the AC power center (ACPC) and the cockpit circuit breaker panel (CCBP).

- AC bus 1, 2, 3 and 4
- AC essential bus (normally powered by AC bus 4)

A ram air turbine (RAT) deployable during flight, supplies 115−volt, 400−Hz, 3−phase AC power 9 KVA for emergency use (when all other AC sources have been lost) to supply AC power to the AC essential bus. Mounted on the RAT is a hydraulic pump which powers hydraulic system #3.

For other load devices requiring DC power, 115–volt AC power is converted to 28–volt DC power by four 150 Amp transformer-rectifier units (TRU). 28–volt DC power is distributed through the DC power center (DCPC) and the secondary power distribution assemblies (SPDA) on the following busses:

- DC bus 1 and 2
- DC essential bus
- Battery bus
- DC Emergency bus

The 25–ampere hour, 24–volt DC avionics battery provides power to the following:

- Stored energy to selected electronic equipment during normal ground operations.
- During flight in an emergency (loss of all generators) to the flight essential DC loads.

The 42 ampere hour, 25.2 volt DC APU battery provides power to the following:

- Stored energy for starting the APU during both ground and flight operations.
- During flight in an emergency (loss of all generators) to the flight essential DC loads.

The following busses are connected directly to the battery terminals:

- Avionics battery direct bus
- APU battery direct bus

Battery chargers and battery heaters, powered by the main AC buses, maintain the main and APU batteries in a charged and warm condition.

An Electrical Control Panel, located in the cockpit, provides control of all generators, external AC and DC power and battery master.

An Electrical Management System (EMS), located in the cockpit, controls and displays the status of circuit breaker, on the two control display units (CDU).

External AC power, supplied through the AC receptacle, situated at the aft left side of the airplane (on the fairing at the root of the wing trailing edge) provides power to:

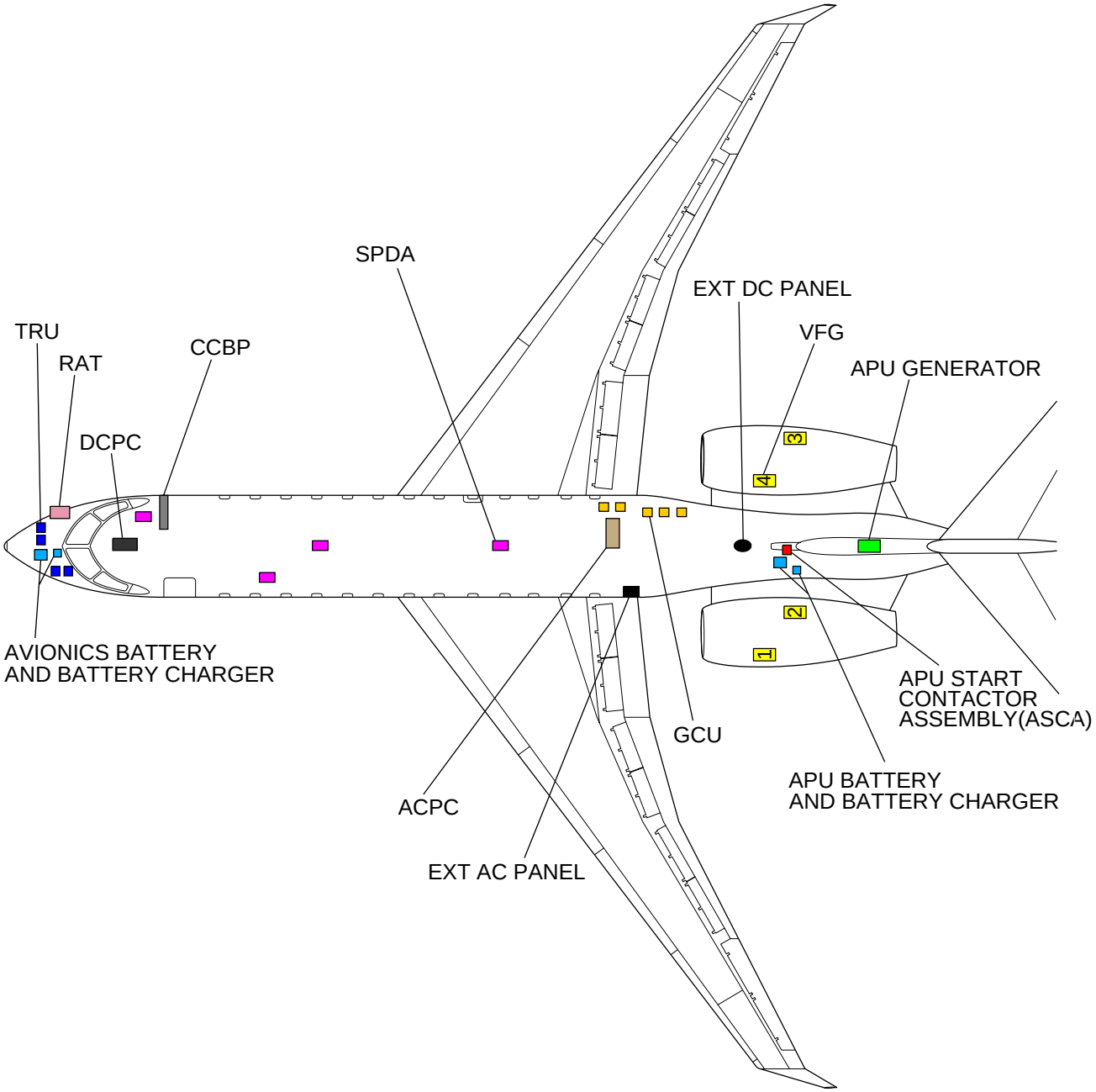
- AC bus 1, 2, 3 and 4
- AC essential bus

External DC power, supplied through the DC receptacle, situated at the aft of the airplane (adjacent the aft service panel), provides power to the APU battery direct bus.

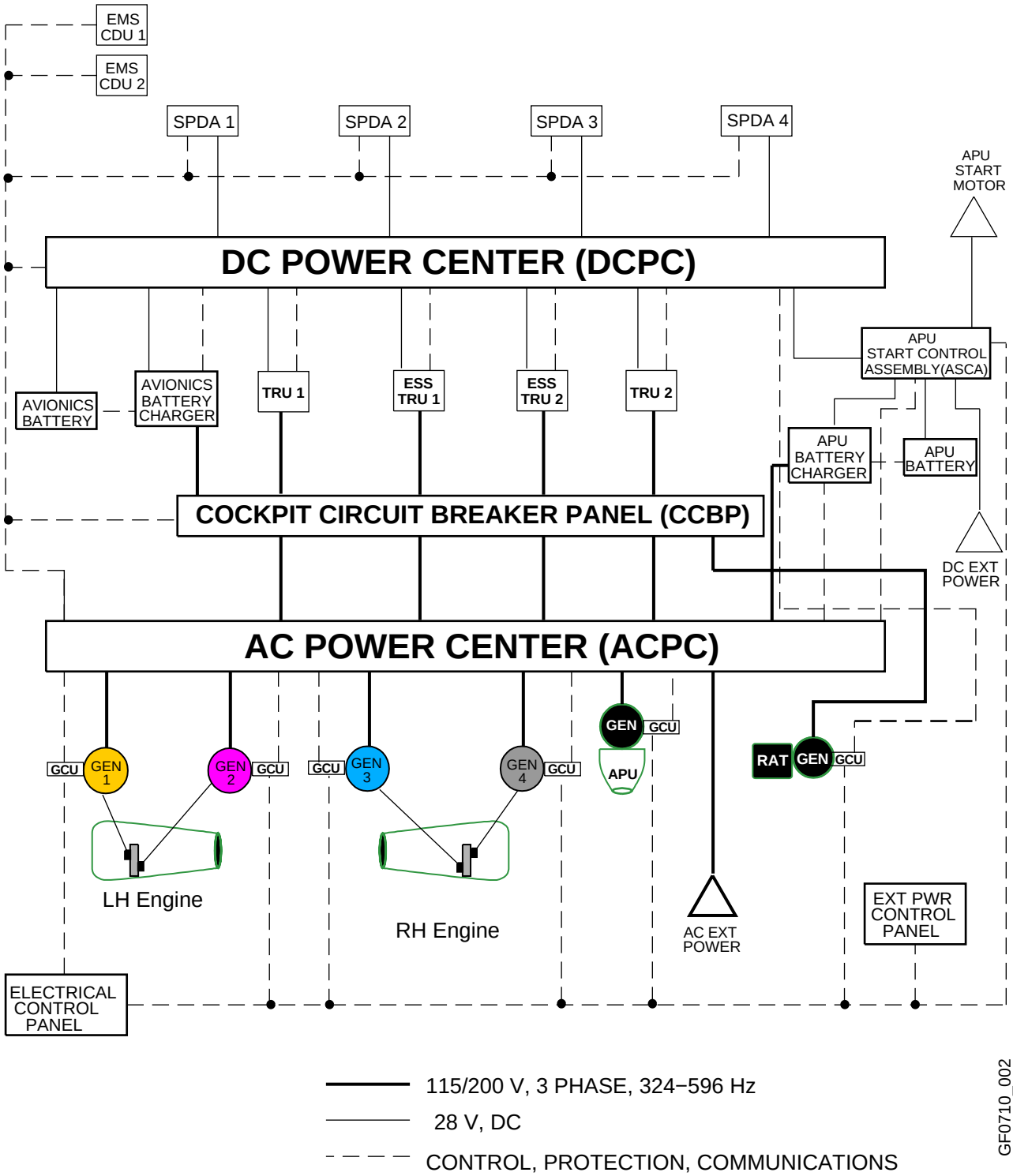
The APU can be started using external DC power.

The airplane batteries cannot be charged through external DC power.

EPGDS COMPONENTS



EPGDS ARCHITECTURE



AC SYSTEM

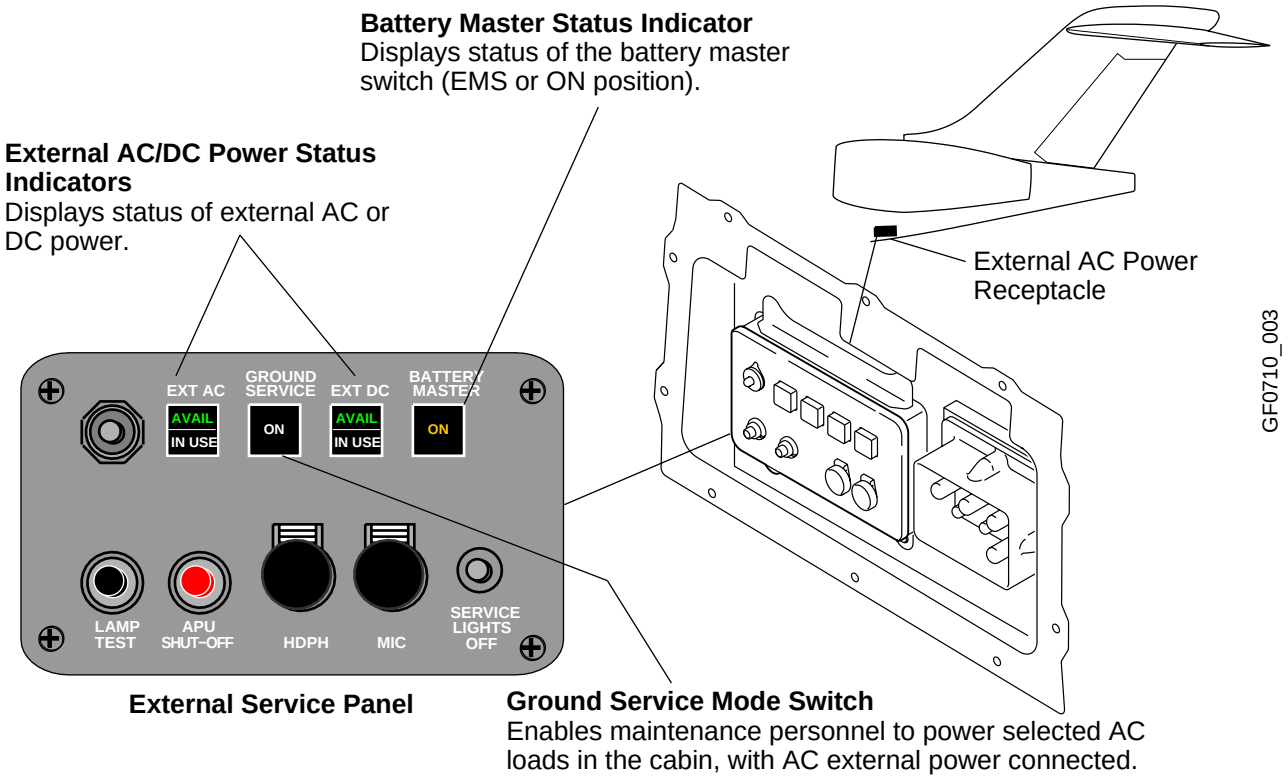
AC power is normally supplied by four variable frequency generators (VFG), two on each engine, rated at 115 volt, 40 KVA, 3 phase, 324−596 Hz output.

The generators are brushless, oil cooled and are a three stage machine type generator. The first stage is a permanent magnet generator (PMG), generator excitation function, which provides output power. The second stage is the main exciter which receives its field excitation through the generator control unit (GCU).The GCU will remove the generator from its bus and de-energize the generator, in the event of malfunction. The third stage, is the main alternator, which incorporates current transformers that are used for feeder fault and overcurrent protection.

All VFG output is routed through the AC power center (ACPC), which protects, controls and distributes primary AC power to the main airplane busses. VFG output is then routed through the CCBP to bus feeders 1, 2 and 3 and the AC ESS BUS for power distribution to the 4 transformer rectifier units (TRU) and forward AC loads. Aft AC loads are fed directly from the ACPC. Each generator normally powers its own bus, through a generator line contactor (GLC). Generator #4 also powers AC ESS BUS. In the event of a generator malfunction, the generator transfer contactors (GTC) will automatically switch to an alternate generator, to supply the affected bus. AC bus 2 and 3 are automatically shed during single generator operations.

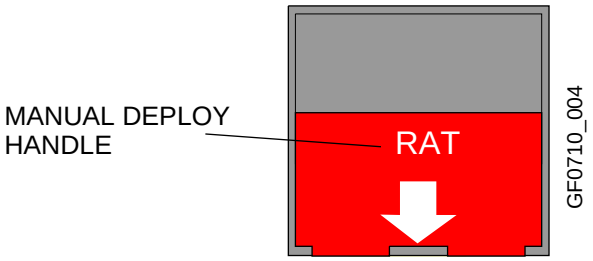
AC power can also be supplied by the auxiliary power unit (APU) generator. The APU constant frequency generator is rated at 115 volt, 40 KVA, 3 phase, 400 Hz output. The APU generator has a ground power rating of 45 KVA continuous.

External AC power, 115 volt, 3 phase, can also be used to supply power to the AC system.



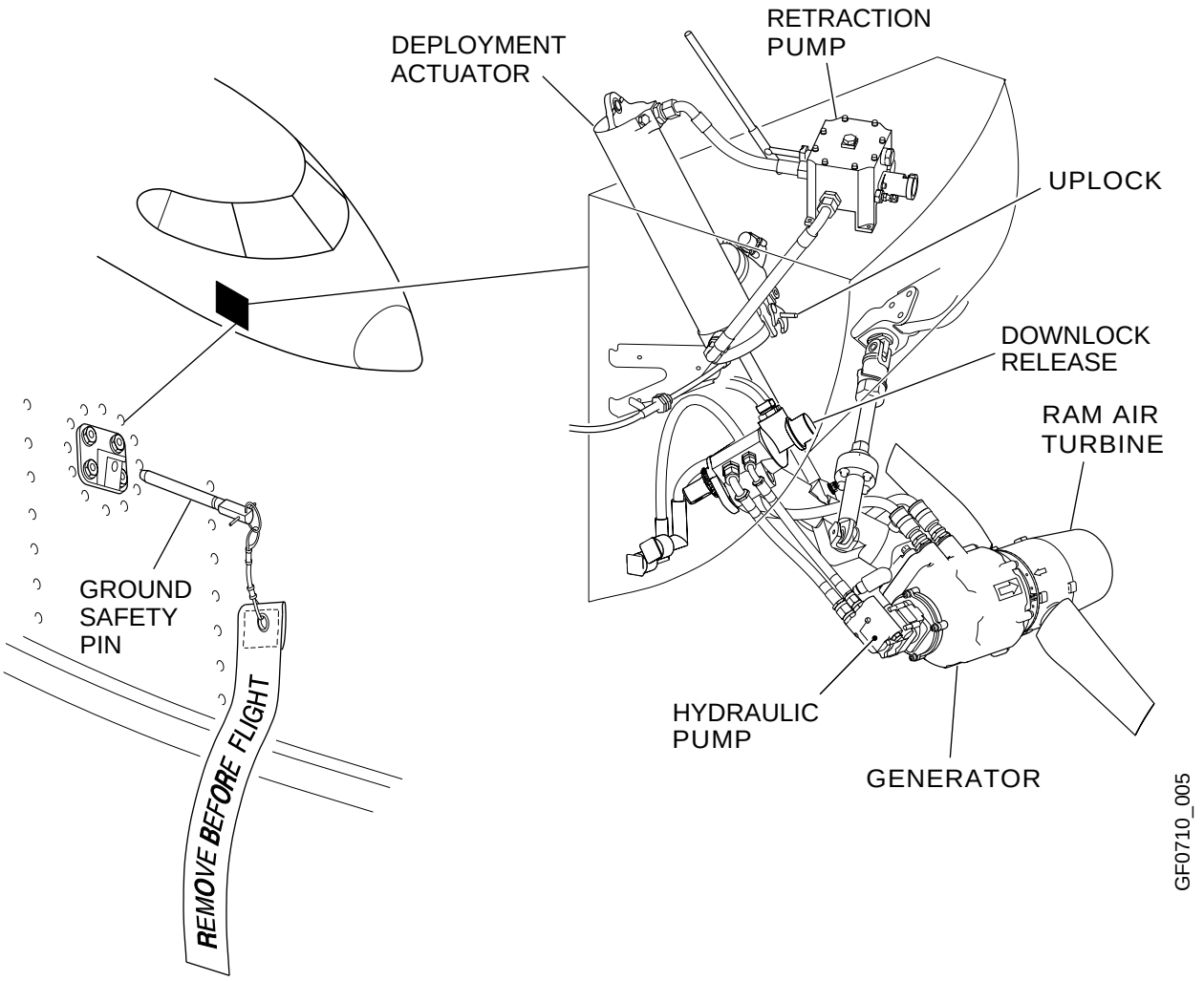
AC SYSTEM (CONT'D)

Emergency AC power is supplied by the ram air turbine (RAT) in flight, rated at 115/200 volts, 9 KVA, 3 phase, 340−440 Hz. The RAT will automatically deploy when a loss of all AC power is sensed, or when both engine are not operating in weight-off-wheel configuration. The RAT can also be manually deployed by pulling RAT manual deploy handle, located on the centre pedestal.

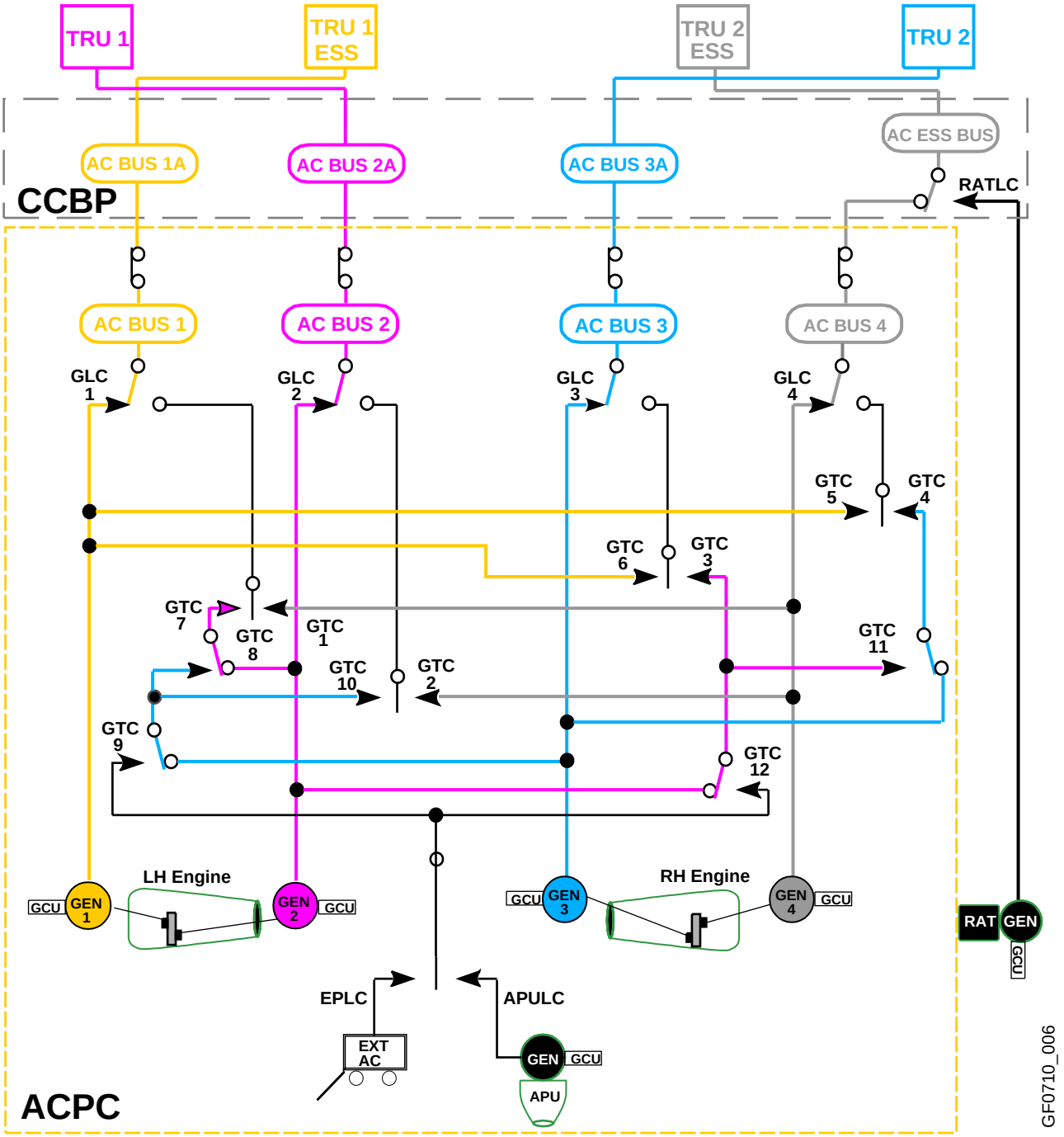


The RAT also incorporates a hydraulic pump, which powers hydraulic system #3. At approximately 145 KIAS and below, the RAT sheds its electrical output, giving priority to hydraulics.

A ground safety pin is installed in the nose wheel well area to secure the RAT in position while on ground.



AC SYSTEM DISTRIBUTION

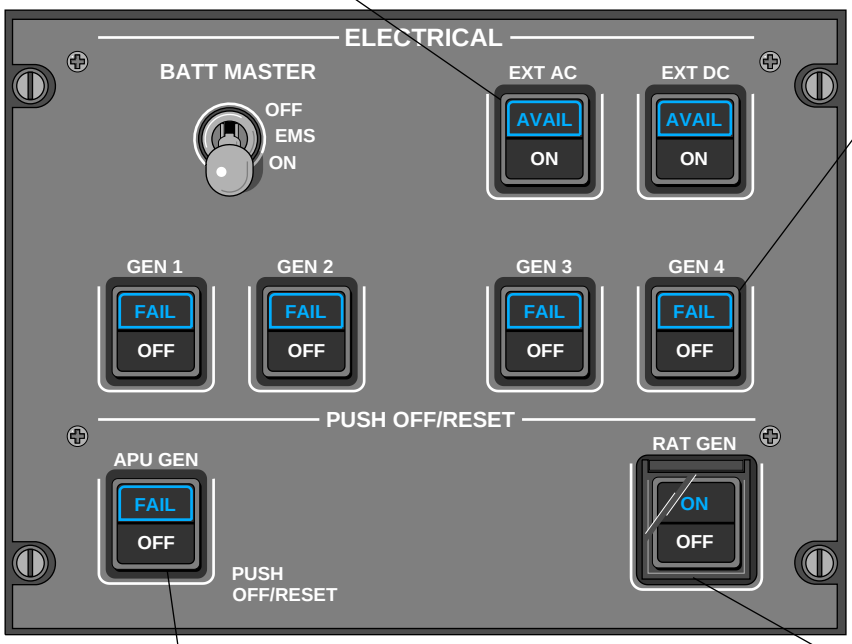


ELECTRICAL PANEL

The generators and external power can be controlled manually by selecting the appropriate switch on the electrical panel, located on the overhead panel. GEN 1, 2, 3 , 4 and APU GEN switches are normally ON.

External AC Switch
Displays status of AC external power:

- **AVAIL Light** − Comes on to indicate that external AC power is connected and is the correct phase, voltage and frequency.
- **ON Light** − Indicates that external power is being used or can be used by the airplane power distribution system to maintain power to the AC busses.



GEN 1, 2, 3, 4 Switches
Used to reset or to turn applicable generator off.

- **FAIL Light** − Indicates a failed generating channel (GEN, GCU, GLC). FAIL light illuminates when fire discharge handle is pulled
- **OFF Light** − Indicates generator operation inhibited.

GF0710_007

APU GEN Switch
Used to reset or to turn APU generator off.

- **FAIL Light** − Indicates a failed generating channel.
- **OFF Light** − Indicates generator operation inhibited.

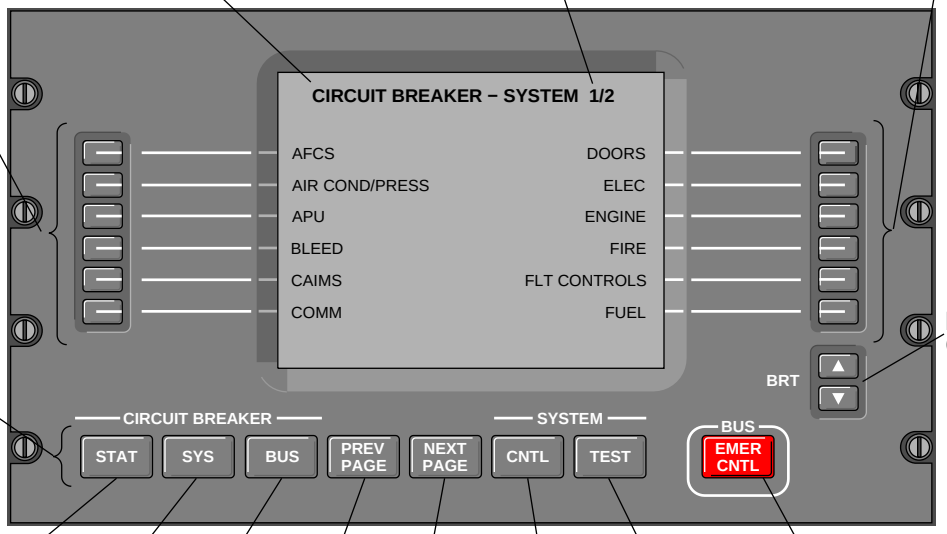
RAT GEN Switch
Used to reset a fault or to turn RAT generator off.

- **ON Light** − Indicates that RAT generator is on line.
- **OFF Light** − Indicates that RAT generator operation is inhibited.

NOTE
If RAT GEN is powering AC ESS BUS, and a main generator is available, stow the RAT deploy handle and select RAT GEN to OFF, to transfer AC ESS BUS to the main generator. The RAT GEN will remain armed to ensure RAT GEN priority in the event of loss all main generators.

ELECTRICAL MANAGEMENT SYSTEM

Load control consists of smart contactors, Solid State Power Controllers (SSPC) and control logic. Smart contactors and SSPC are functionally similar to a control switch in series with a circuit breaker. The status of all circuit breakers is monitored (trips are automatically displayed) and can be acknowledged and reset via the Electrical Management System (EMS). EMS Control Display Units (CDU) are installed on the pilot's and copilot's side panel.



Page Title
Displayed when a selection has been made using page select key.

Page Number
Displays which page is selected and how many pages are available.

Activation Keys
Used to switch current status.

Line Select Keys
Used to select displayed items.

Brightness Control

Page Select Keys

STAT Key
Displays the status of tripped, out and locked circuit breakers.

System Key
Displays circuit breaker status by aircraft system.

BUS Key
Displays circuit breaker status by electrical busses.

PREV PAGE Key
Scrolls list to previous page.

NEXT PAGE Key
Scrolls list to next page.

CNTL Key
Displays system's control options.

TEST Key
Displays system's test options.

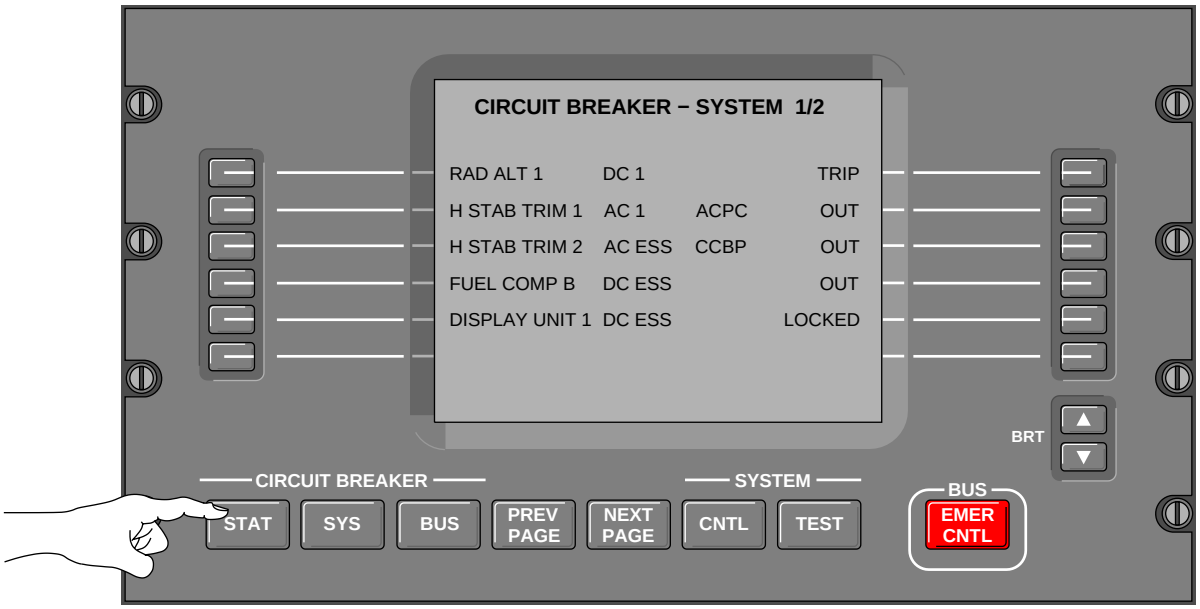
EMER CNTL Key
Displays Bus isolation status

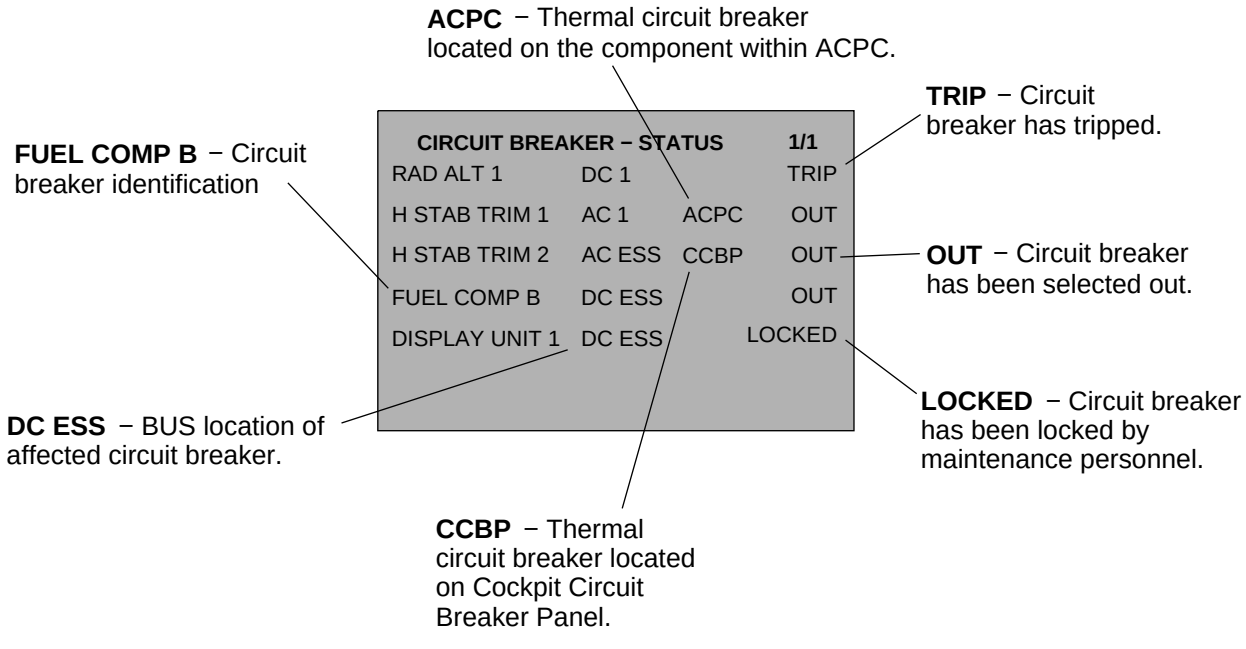
NOTE
If no action is taken within 2 minutes of page activation or selection, the display will automatically turn off and become dark.

GF0710_008

ELECTRICAL MANAGEMENT SYSTEM (CONT'D)

The circuit breaker STATUS page will automatically appear anytime a circuit breaker trips (**CB TRIP** message appears on EICAS). The STATUS page can be selected using STATUS page select key. The circuit breakers will be displayed in the following sequence: TRIP, OUT then LOCKED.





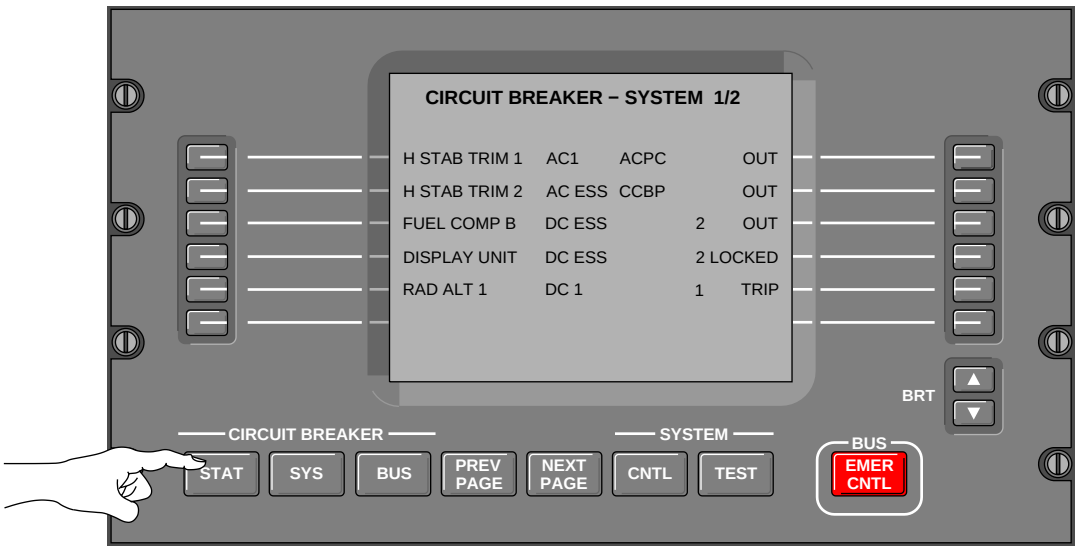
GF0710_009

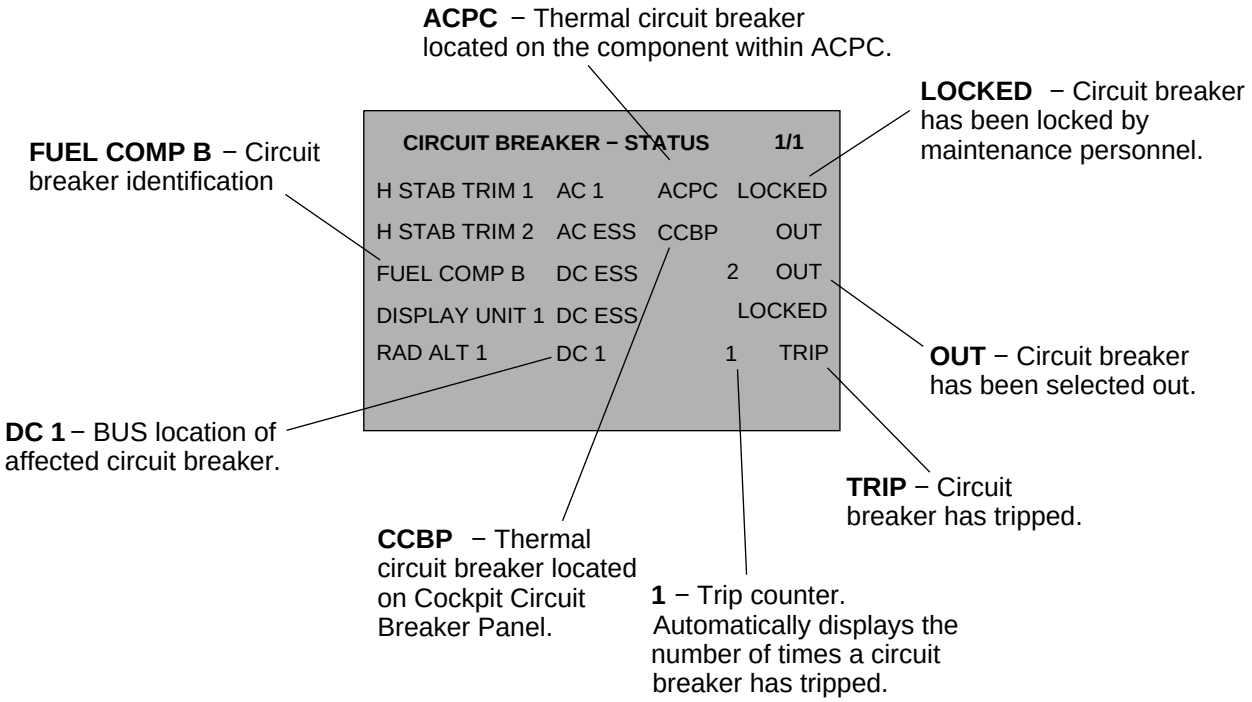
ELECTRICAL MANAGEMENT SYSTEM (CONT'D)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

The circuit breaker STATUS page will automatically appear anytime a circuit breaker trips (**CB TRIP** message appears on EICAS). The STATUS page can be selected using STATUS page select key.





ELECTRICAL MANAGEMENT SYSTEM (CONT'D)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

The linking function is not available.

The EMS CDUs are designed to be linked. When linked, a CDU (secondary) is operating exactly as the controlling CDU (primary). A primary CDU controls itself and, when linked, the other CDU. The following table identifies the possible relationships:

Link State	EMS CDU	
	Pilot	Copilot
Initial Power Up	Secondary	Secondary
Pilot CDU Linked	Secondary	Primary
Copilot CDU Linked	Primary	Secondary
Both unlinked	Primary	Primary

A CDU is considered secondary in the following conditions:

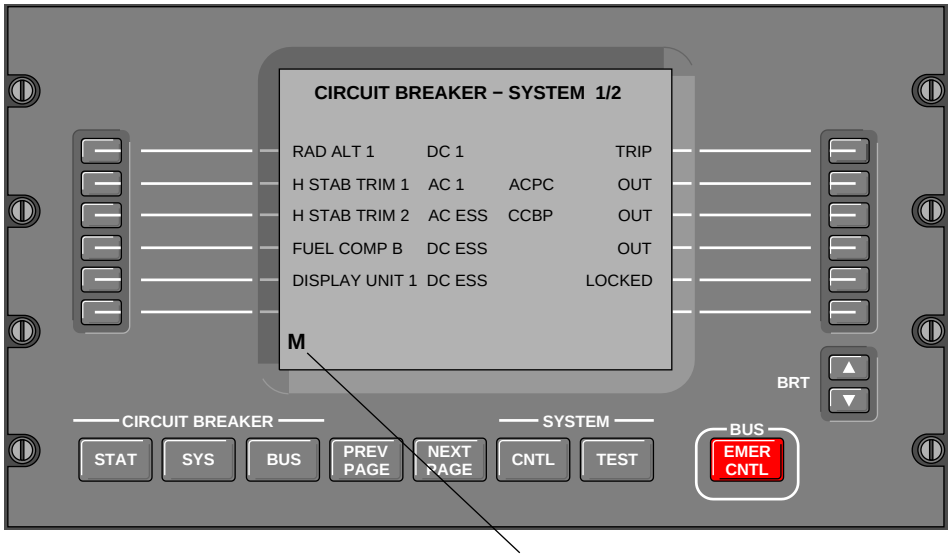
- At initial power up,
- A CDU display is turned on by pressing a function control key on the other CDU (except PREV page key).

A CDU is considered primary in the following conditions:

- When any key of a secondary CDU is pressed,
- When in the TEST page, a selection is made on the other CDU,
- When the STAT page is selected.

ELECTRICAL MANAGEMENT SYSTEM (CONT'D)

An “S“ character is displayed in the lower left corner of the screen of a secondary CDU and an “M” character in the lower left corner of the screen of a primary CDU.



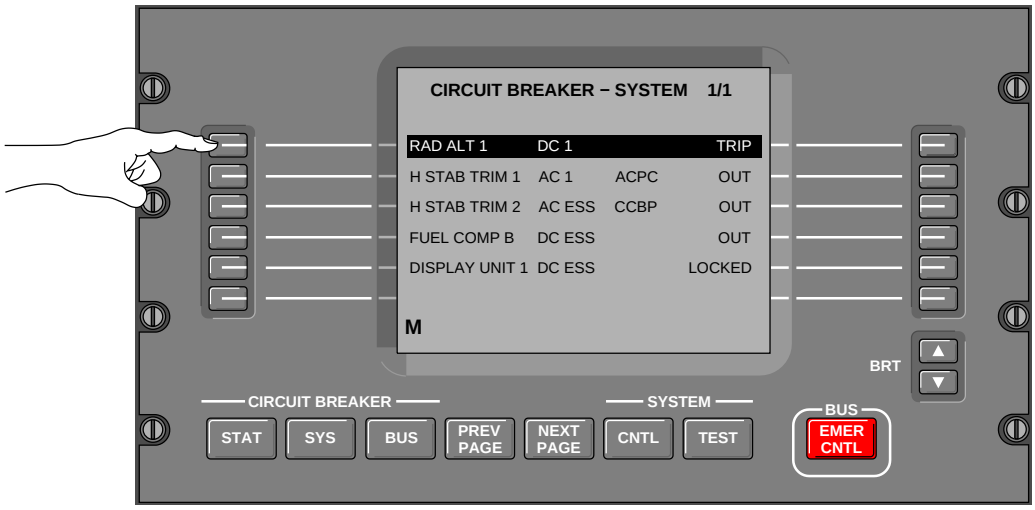
GF0710_012

M − Linked CDU indication

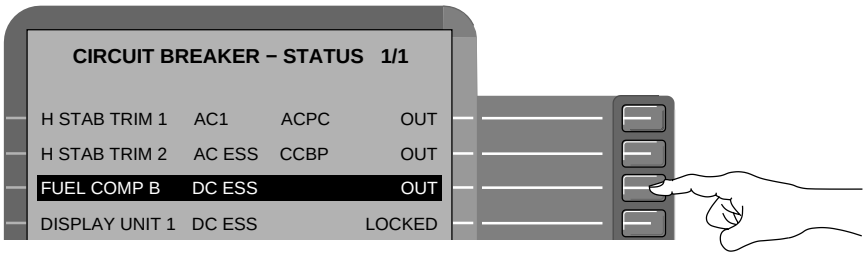
ELECTRICAL MANAGEMENT SYSTEM (CONT'D)

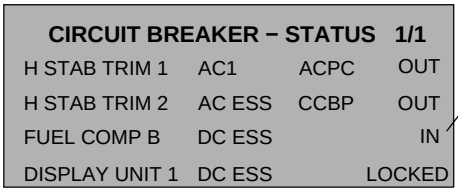
Circuit breakers can be acknowledged or acknowledged and reset, using the line select keys.

1. Most recent tripped circuit breaker will automatically highlight. To select another circuit breaker, use the line select key, this acknowledges and highlights the displayed breaker. Once acknowleged or reset, the **CB TRIP** message goes out.

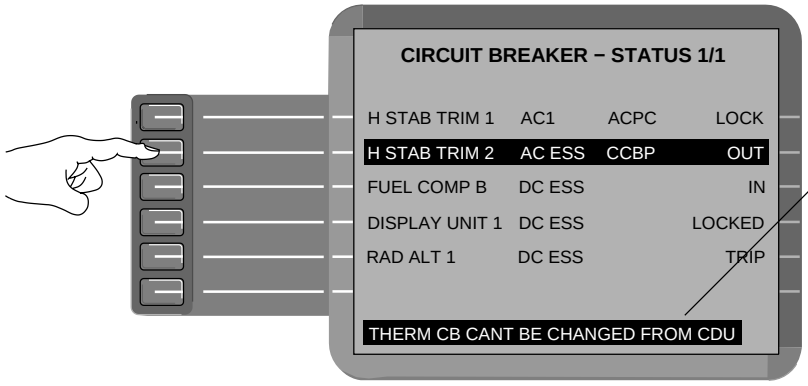


2. Select activation key adjacent highlighted circuit breaker.





NOTE OUT IN
Affected circuit breaker font size is reduced when reset. The reset circuit breaker will automatically be removed from STATUS page list, after successful reset and a new status list is selected. **CB TRIP** message goes out.

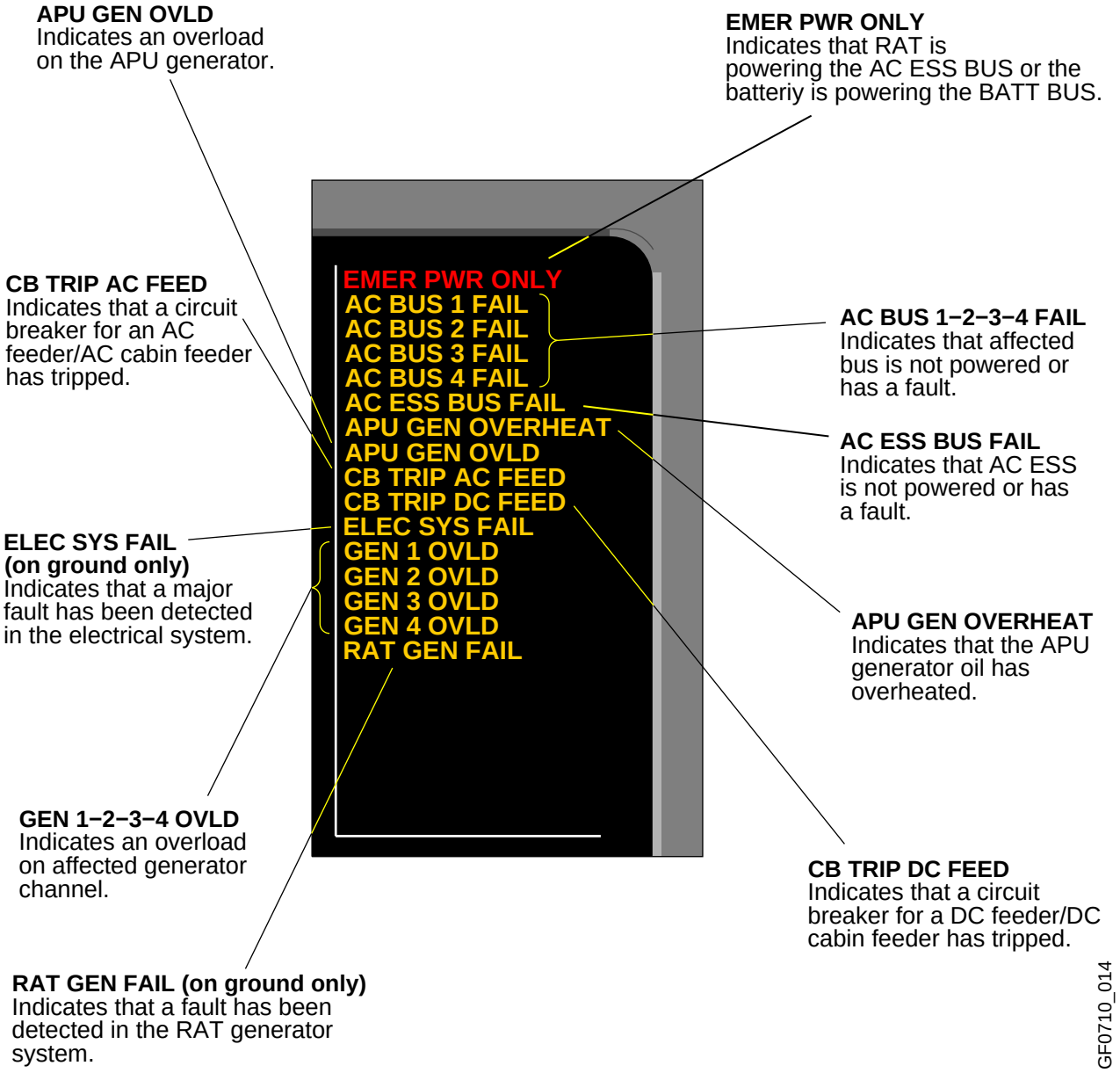


THERM CB CAN'T BE CHANGED FROM CDU.

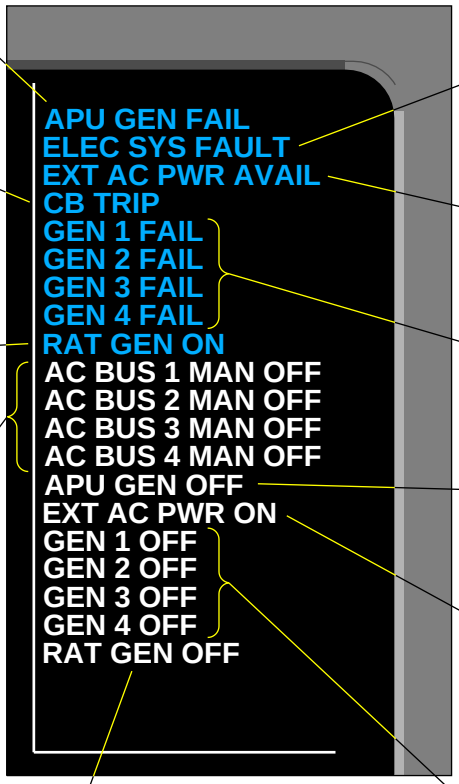
NOTE
Will appear if an attempt to reset is carried out on a thermal circuit breaker. A thermal breaker cannot be reset using EMS CDU. The affected circuit breaker can only be manually reset at its location.

GF0710_013

AC SYSTEM EICAS MESSAGES



AC SYSTEM EICAS MESSAGES (CONT'D)



APU GEN FAIL
Indicates that APU GEN has failed.

CB TRIP
Indicates that a circuit breaker has tripped.

RAT GEN ON
Indicates that the RAT generator is powering the AC ESS BUS.

AC BUS 1 (2, 3, 4) MAN OFF
Indicates that the affected bus has been manually isolated. All 4 busses cannot be manually isolated concurrently.

RAT GEN OFF
Indicate that the RAT is deployed and the RAT generator is not powering the AC ESS BUS.

ELEC SYS FAULT (on ground only)
Indicates that a minor fault has been detected in the electrical system.

EXT AC PWR AVAIL
Indicates that external power is available.

GEN 1−2−3−4 FAIL
Indicates a GCU fault in the applicable generator

APU GEN OFF
Indicates that APU GEN is selected off.

EXT AC PWR ON
Indicates that external AC power has been selected on.

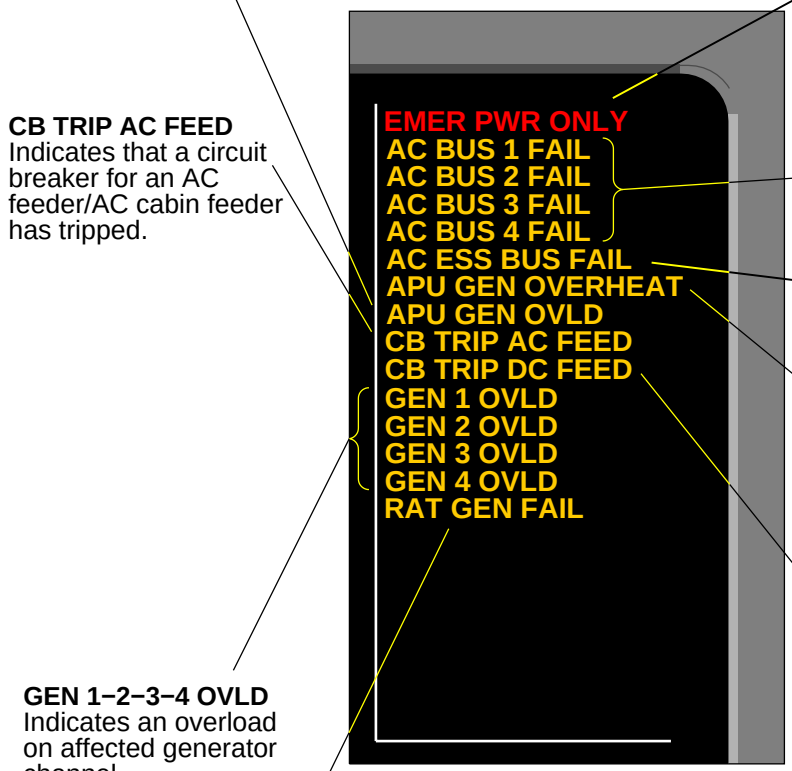
GEN 1−2−3−4 OFF
Indicates that affected generator is selected off.

GF0710_015

AC SYSTEM EICAS MESSAGES (CONT'D)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



APU GEN OVLD
Indicates an overload on the APU generator.

EMER PWR ONLY
Indicates that RAT is powering the AC ESS BUS or the batteriy is powering the BATT BUS.

CB TRIP AC FEED
Indicates that a circuit breaker for an AC feeder/AC cabin feeder has tripped.

AC BUS 1−2−3−4 FAIL
Indicates that affected bus is not powered or has a fault.

AC ESS BUS FAIL
Indicates that AC ESS is not powered or has a fault.

APU GEN OVERHEAT
Indicates that the APU generator oil has overheated.

GEN 1−2−3−4 OVLD
Indicates an overload on affected generator channel.

CB TRIP DC FEED
Indicates that a circuit breaker for a DC feeder/DC cabin feeder has tripped.

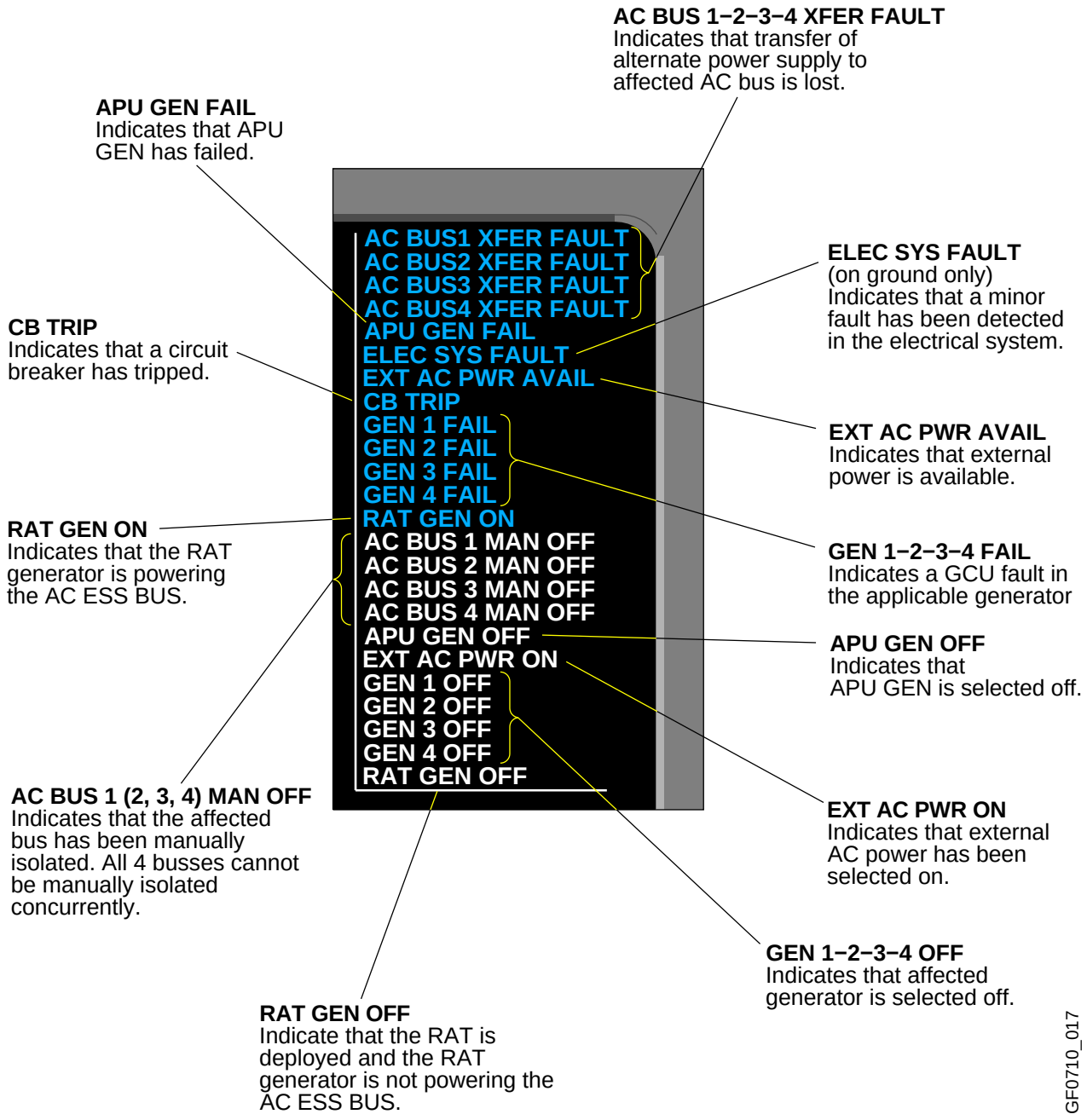
RAT GEN FAIL (on ground only)
Indicates that a fault has been detected in the RAT generator system.

GF0710_016

AC SYSTEM EICAS MESSAGES (CONT'D)

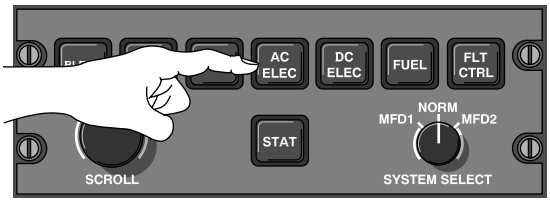
Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

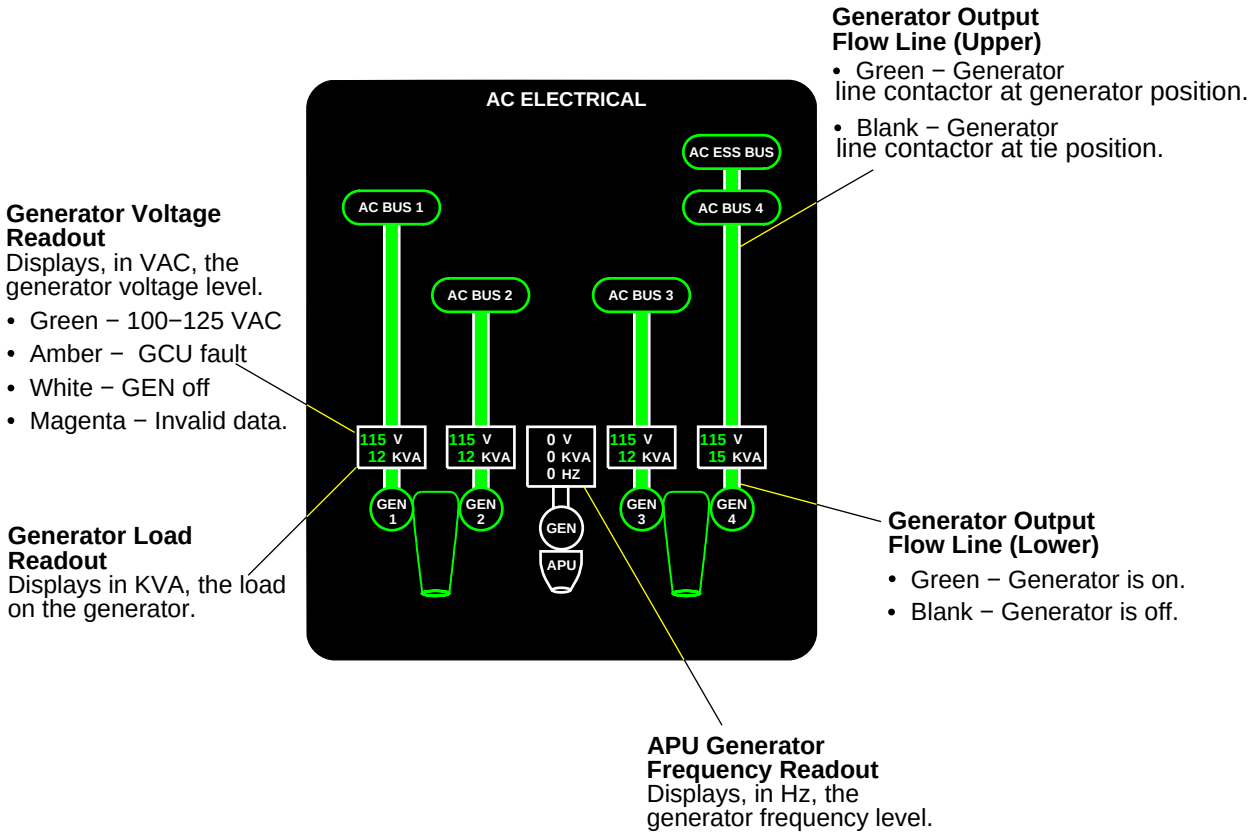


AC SYSTEM SYNOPTIC

Electrical system warnings, cautions advisories and status messages are presented on the EICAS primary display. General views of airplane electrical systems (either AC or DC) are presented through synoptic diagrams on the EICAS secondary display (after selecting the appropriate key on the EICAS control panel).



EICAS Control Panel



Generator Output Flow Line (Upper)
- Green − Generator line contactor at generator position.
- Blank − Generator line contactor at tie position.

Generator Voltage Readout
Displays, in VAC, the generator voltage level.
- Green − 100−125 VAC
- Amber − GCU fault
- White − GEN off
- Magenta − Invalid data.

Generator Load Readout
Displays in KVA, the load on the generator.

Generator Output Flow Line (Lower)
- Green − Generator is on.
- Blank − Generator is off.

APU Generator Frequency Readout
Displays, in Hz, the generator frequency level.

GF0710_018

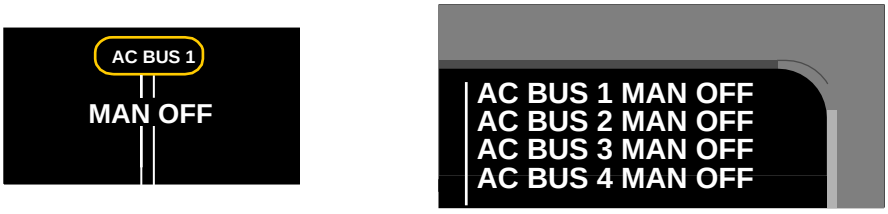
The AC electrical page contains digital readouts of generator output voltage, frequency (APU only), load in KVA, input/output flow on the busses, general status indications via color logic and the following messages:

- SHED message − Corresponding AC bus has been shed.

GF0710_019

AC SYSTEM SYNOPTIC (CONT'D)

- AC BUS 1, 2, 3, 4 MAN OFF icon − Corresponding AC bus is isolated.
- AC BUS 1, 2, 3, 4 MAN OFF status message displayed on EICAS.



GF0710_020

NOTE
A maximum of 3 buses only can be manually isolated concurrently.

AC BUS FEED SYSTEM

Each AC bus is normally powered by its own generator through generator line contactors. In the event of a generator malfunction, the priority system will automatically provide an alternate generator (feed), to power that bus (APU must be started to be available to the feed system), through generator transfer contactors.

The AC busses are normally powered by their own generator , but can be powered by alternate generators in the following descending order:

- AC BUS 1 − GEN 1, GEN 4, GEN 3, APU GEN, GEN 2.
- AC BUS 2 − GEN 2, GEN 3, GEN 4, APU GEN.
- AC BUS 3 − GEN 3, GEN 2, GEN 1, APU GEN.
- AC BUS 4 − GEN 4, GEN 1, GEN 2, GEN 3, APU GEN.
- AC ESS BUS − RAT GEN (if deployed), GEN 4, GEN 1, GEN 2, GEN 3, APU GEN. Normal power for AC ESS BUS is generator 4. When the RAT is deployed and RAT GEN is **ON** the AC ESS Bus is fed directly from the RAT GEN.

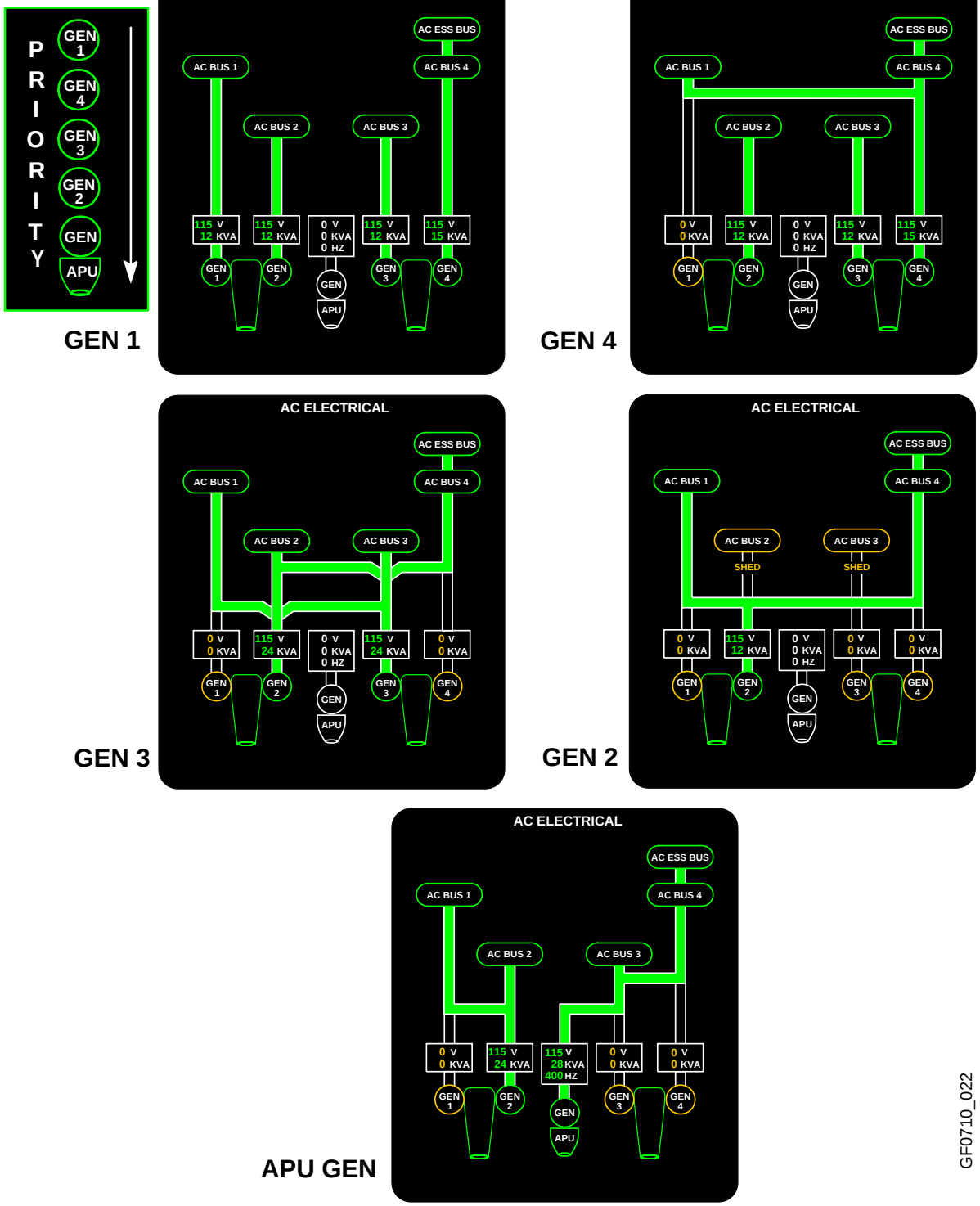
AC busses 2 and 3 are automatically load shed when a single generator is powering the busses.

External AC power will power all AC busses when selected ON and no other generator is powering the AC busses.

The AC bus feed is displayed on the AC ELECTRICAL synoptic page as follows:

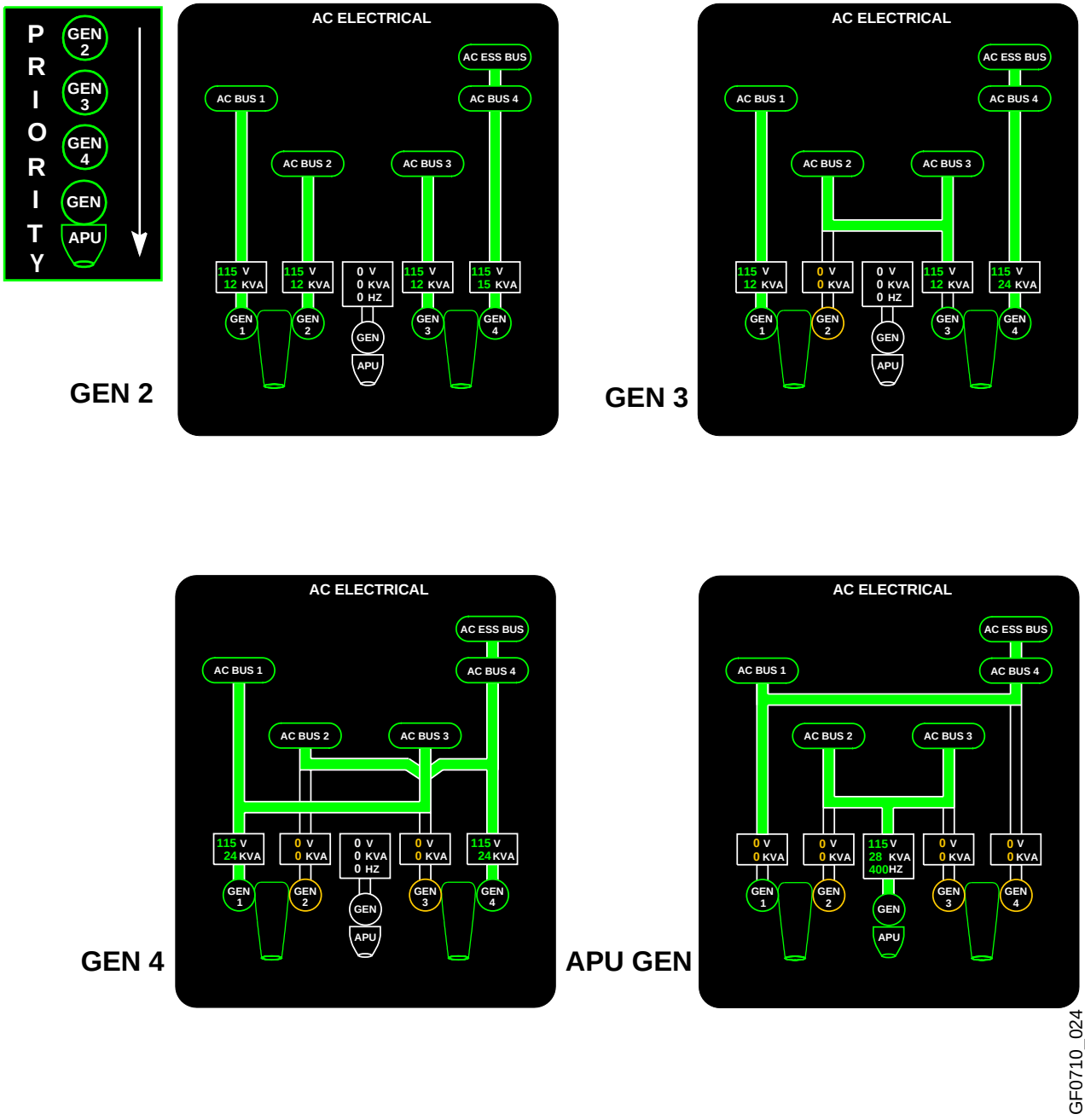
AC BUS FEED SYSTEM (CONT'D)

AC BUS 1 − Normally powered by GEN 1, alternately powered by the following, in descending priority:



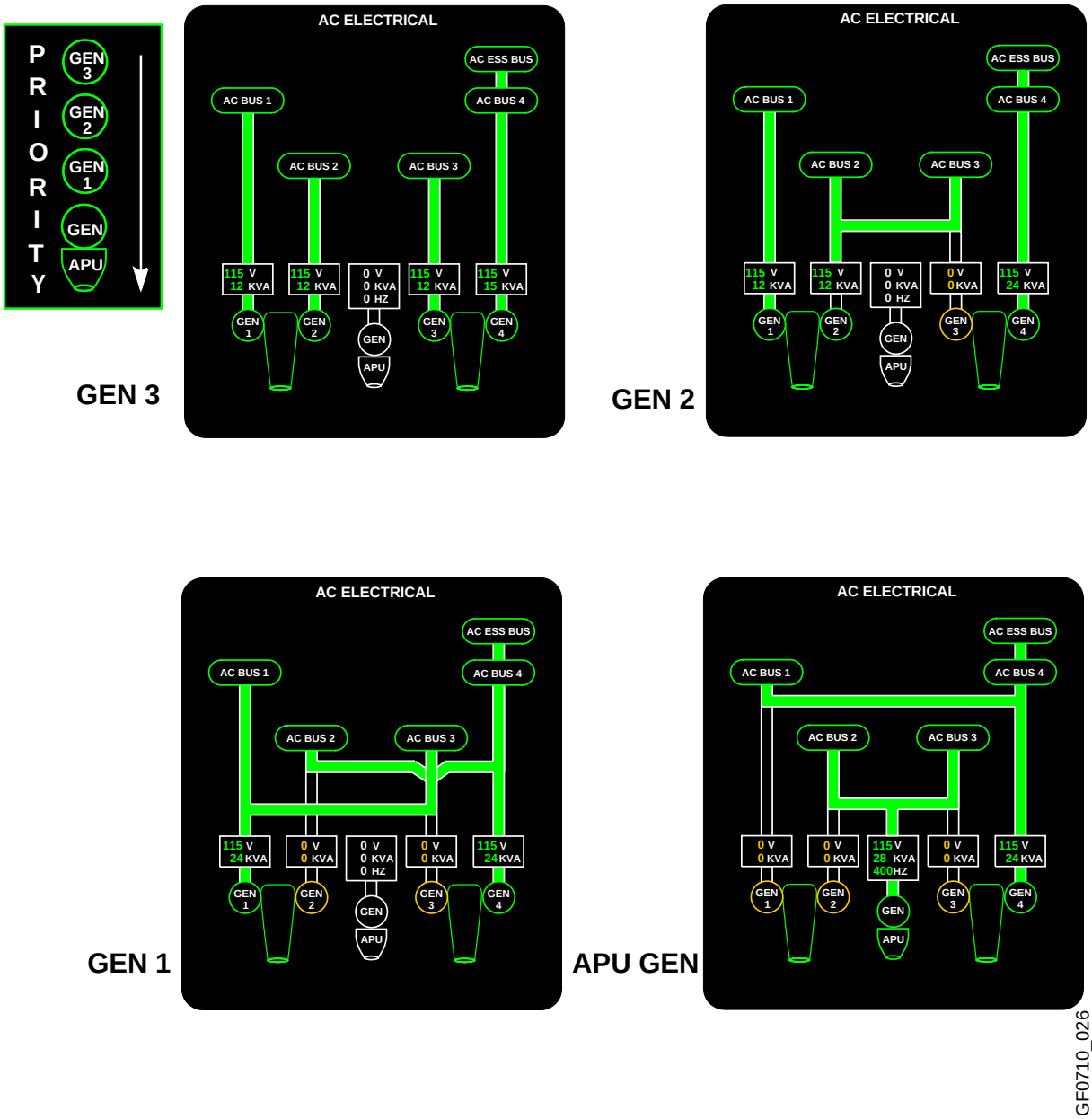
AC BUS FEED SYSTEM (CONT'D)

AC BUS 2 − Normally powered by GEN 2, alternately powered by the following, in descending priority:



AC BUS FEED SYSTEM (CONT'D)

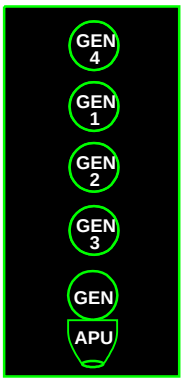
AC BUS 3 − Normally powered by GEN 3, alternately powered by the following, in descending priority:

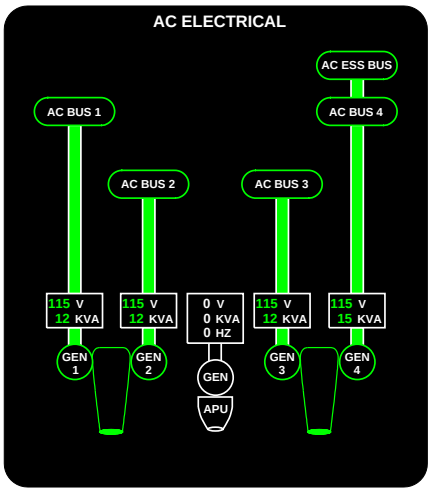


GF0710_026

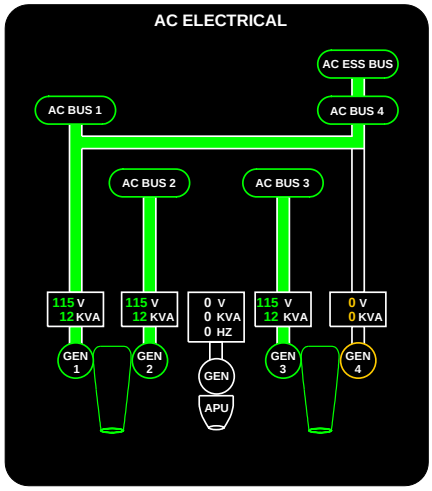
AC BUS FEED SYSTEM (CONT'D)

AC BUS 4 − Normally powered by GEN 4, alternately powered by the following, in descending priority:

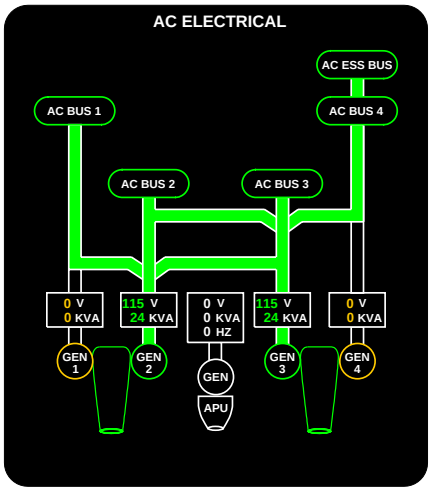




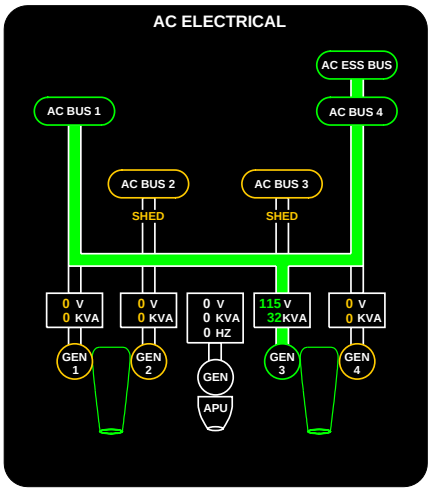
GEN 4



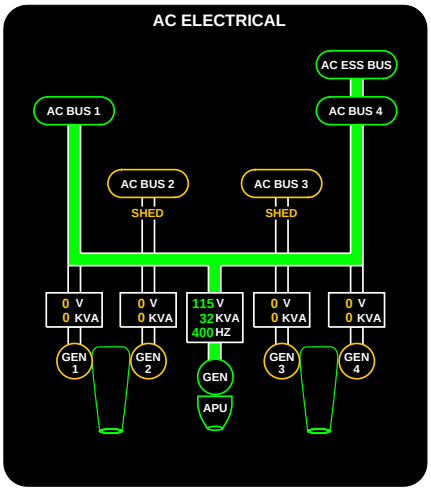
GEN 1



GEN 2



GEN 3



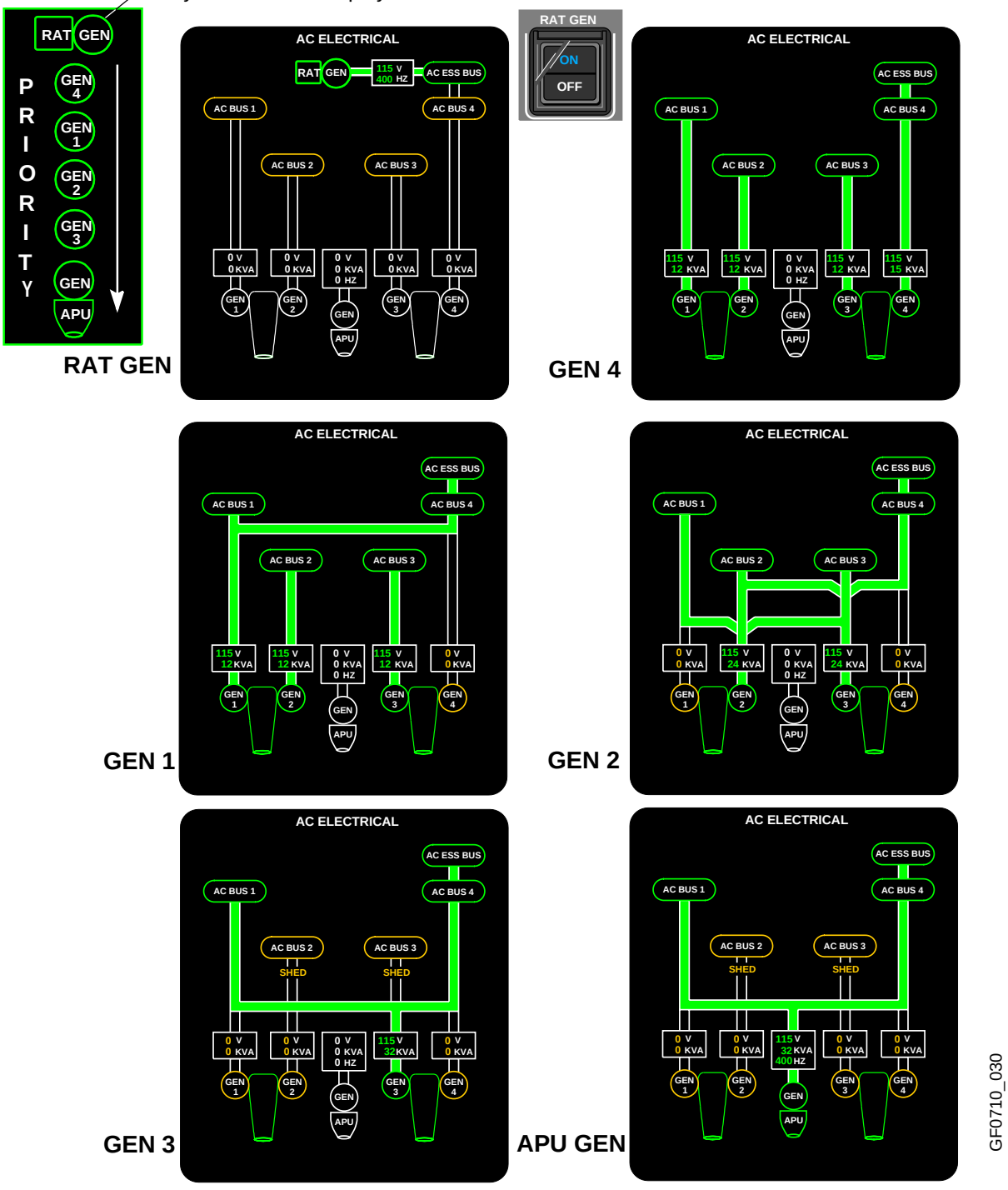
APU GEN

GF0710_028

AC BUS FEED SYSTEM (CONT'D)

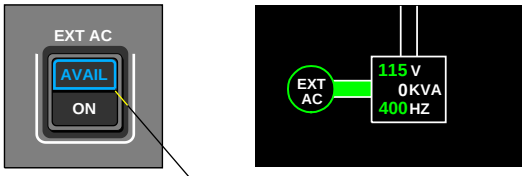
AC ESS BUS − Normally powered by GEN 4, alternately powered by the following, in descending priority:

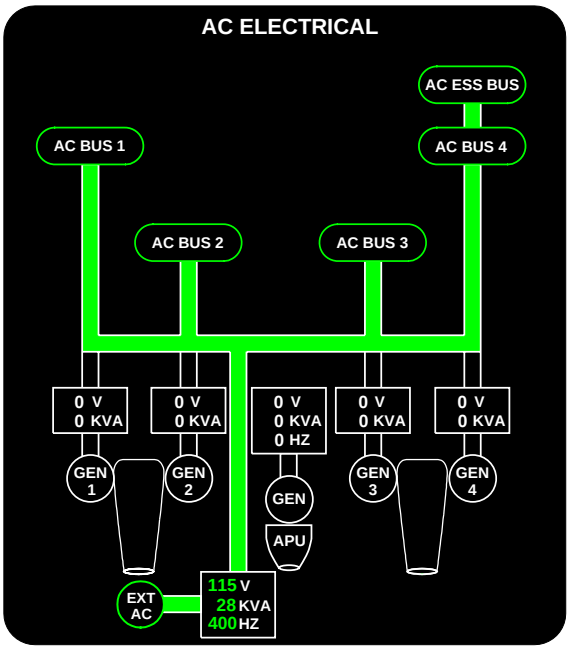
NOTE
The RAT GEN has priority, only if it has been deployed and RAT GEN **ON** .



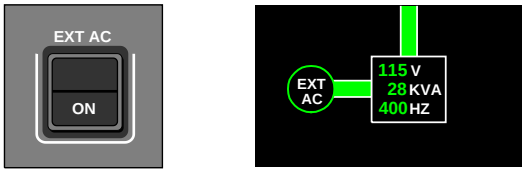
AC BUS FEED SYSTEM (CONT'D)

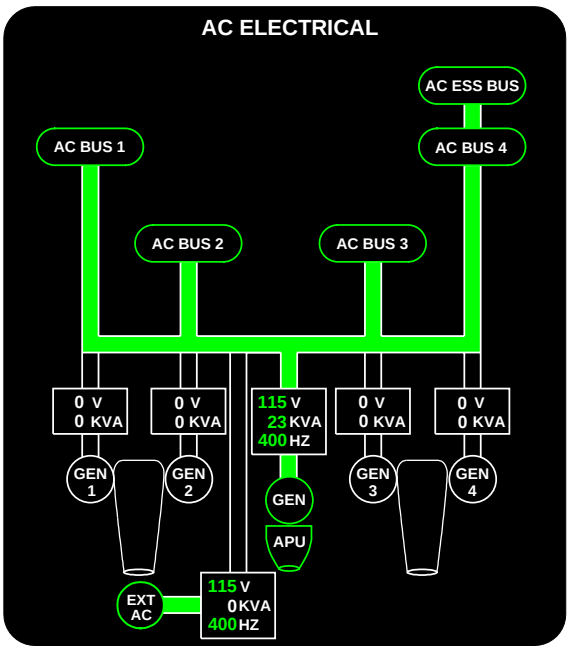
EXT AC Power

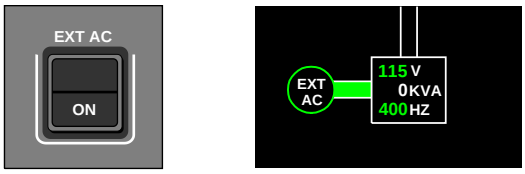




- **AVAIL Light** − Comes on to indicate that external AC power is available and is the correct phase, voltage and frequency.
- **ON Light** − Indicates that external power is being used or can be used by the airplane power distribution system to maintain power to the AC busses.







NOTE
The ON light will remain illuminated, even when other source(s) is powering AC busses, to indicate that the priority system can call upon EXT AC if needed.

GF0710_031

DC SYSTEM

There are six primary DC power sources: four identical transformer rectifier units (TRU), an Avionics battery and an APU battery. All sources are routed through the DC power center (DCPC).

The six primary sources are monitored, switched, distributed and controlled by the DCPC. The DCPC reconfigures the busses automatically in the event of a TRU failure.

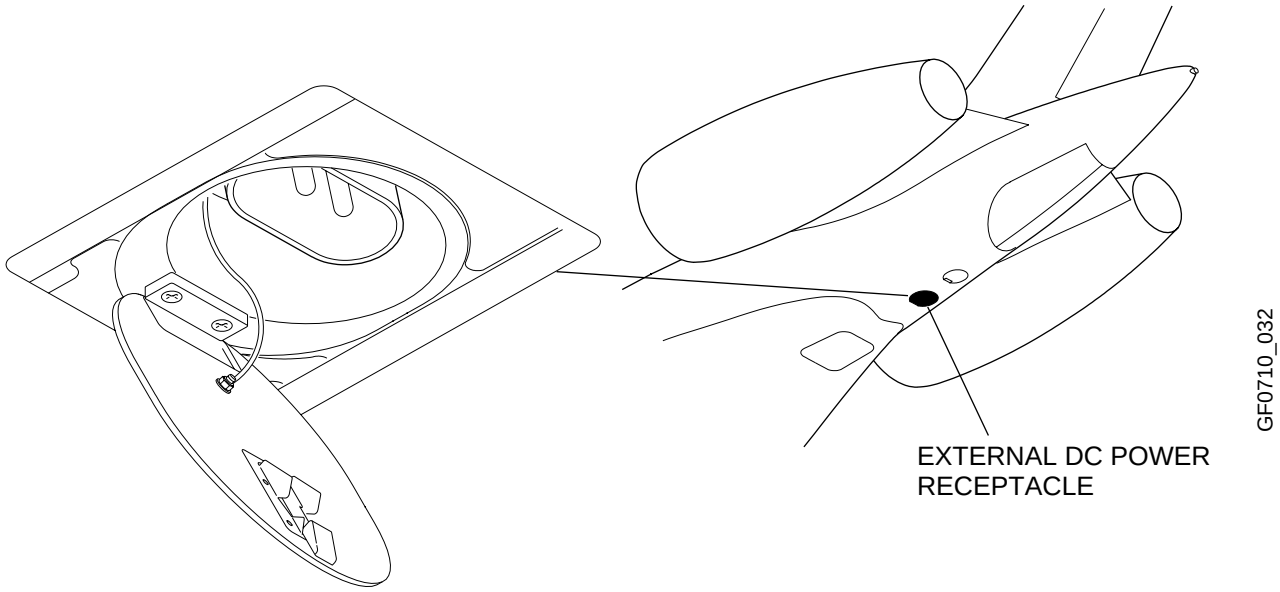
Four main DC busses provide DC power to the DC loads. Each TRU normally powers a bus, through a TRU line contactor (TLC). In the event of a TRU malfunction, the TRU transfer contactors (TTC), will automatically switch to an alternate TRU, to supply the affected bus. DC busses 1 and 2 are automatically shed during single TRU operations.

The avionics battery direct bus, APU battery direct bus and DC emergency bus power is distributed to their secondary loads through circuit breakers.

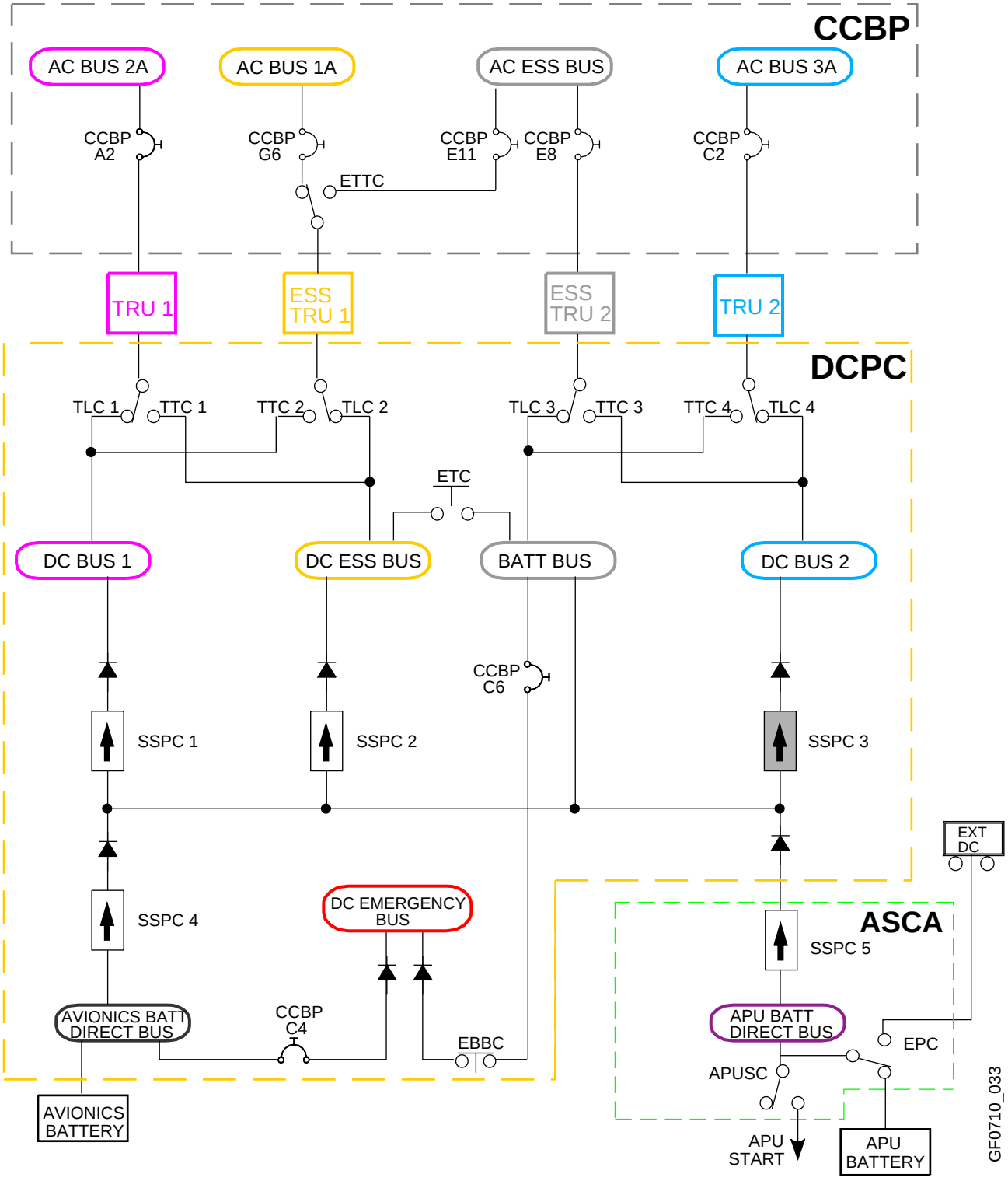
Two nickel cadmium batteries are installed in the airplane. Both batteries are used together in an emergency to provide DC power for a minimum of 15 minutes.

Each battery has a separate dedicated battery charger, to maintain that battery in a fully charged condition. The battery charger provides protection against battery overtemperature, defective or unbalanced cell, open/short battery temperature sense thermistor, open/short battery voltage sense lines and charger overtemperature. The charger will shut itself off, if required and annunciate when it senses a battery fault or charger fault.

External DC power is supplied to the airplane via the DC external power receptacle. The APU start contactor assembly (ASCA) checks the power being delivered from the power unit before connecting it to the airplane busses.



DC SYSTEM DISTRIBUTION



ELECTRICAL PANEL

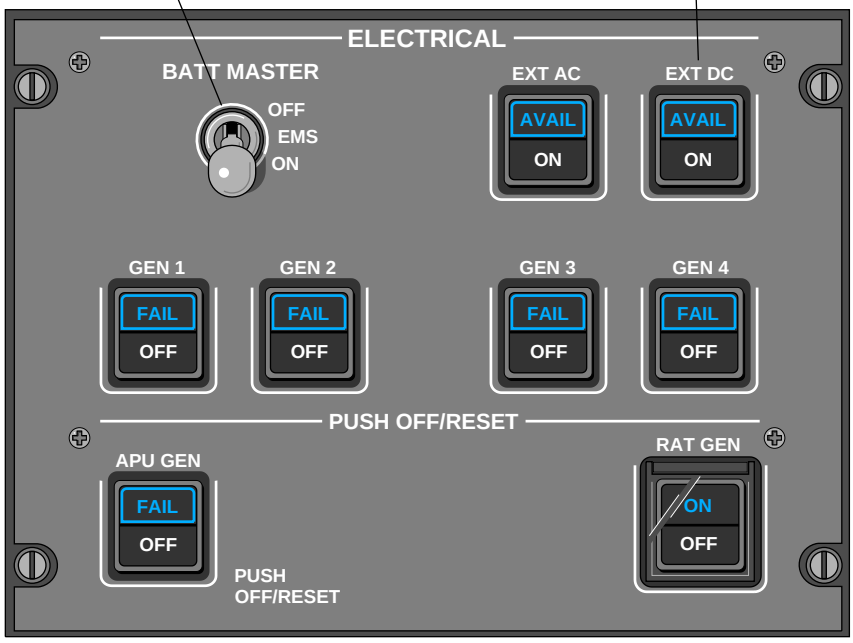
External DC power is controlled manually. Battery master must be selected ON for all phases of flight.

BATT MASTER Switch
Used to control battery power.

- **OFF** − Isolates the battery bus from the batteries.
- **EMS** − Electrical Management System is in maintenance mode.
- **ON** − Battery bus is powered by battery or external DC power if selected on (only if no AC power on the airplane).

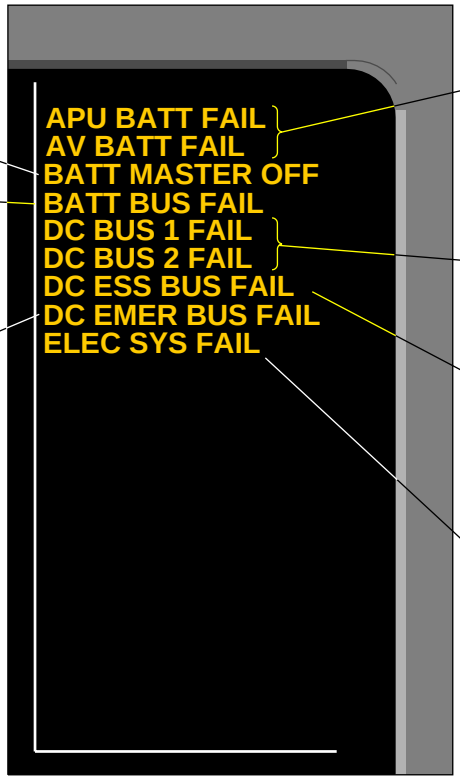
External DC Switch
Displays status of DC external power:

- **AVAIL Light** − Comes on to indicate that external DC power is connected and is operating within limits.
- **ON Light** − Indicates external DC power is powering the APU battery direct bus.



GF0710_034

DC SYSTEM EICAS MESSAGES



BATT MASTER OFF
Indicates that the battery switch is not on.

BATT BUS FAIL
Indicates that battery bus is not powered due to a fault.

DC EMER BUS FAIL
Indicates that DC EMER BUS is not powered due to a fault.

APU (AV) BATT FAIL
Indicates that APU (AV) battery has failed, voltage or temperature is out of range.

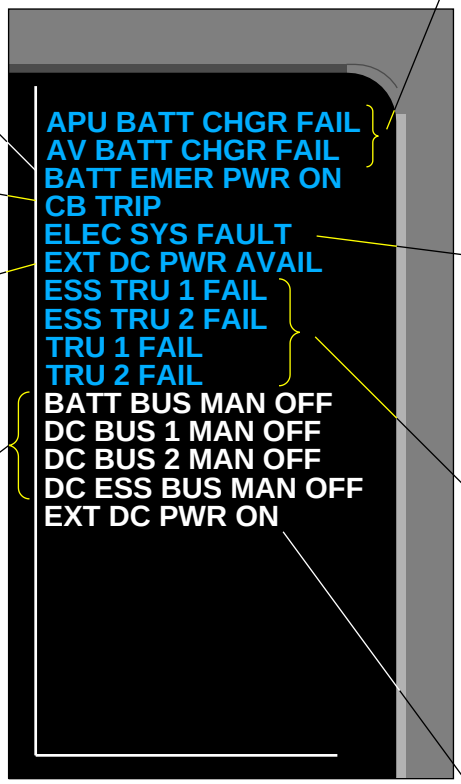
DC BUS 1 (2) FAIL
Indicates that affected DC bus is not powered due to a fault or is shed.

DC ESS BUS FAIL
Indicates that DC ESS BUS is not powered due to a fault.

ELEC SYS FAIL
(on ground only)
Indicates that a major fault has been detected in the electrical system.

GF0710_035

DC SYSTEM EICAS MESSAGES (CONT'D)



APU (AV) BATT CHGR FAIL
Indicates that affected battery charger has detected a fault and has shut down.

BATT EMER PWR ON
Indicates that the batteries are feeding the DC ESS BUS and BATT busses in an emergency condition.

CB TRIP
Indicates that a circuit breaker has tripped.

EXT DC PWR AVAIL
Indicates that external DC power is available.

BATT BUS MAN OFF
DC BUS 1 (2) MAN OFF
DC ESS BUS MAN OFF
Indicates that affected DC bus has been manually isolated. DC essential cannot be manually isolated if battery has been isolated and vice versa.

ELEC SYS FAULT
(on ground only)
Indicates that a minor fault has been detected in the electrical system.

TRU 1−2 FAIL
ESS TRU 1−2 FAIL
Indicates that affected TRU has failed.

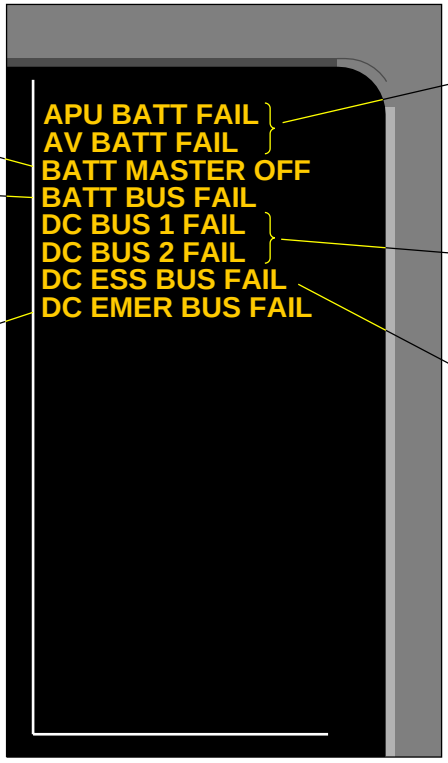
EXT DC PWR ON
Indicates that external DC power has been selected on.

GF0710_036

DC SYSTEM EICAS MESSAGES (CONT'D)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



BATT MASTER OFF
Indicates that the battery switch is not on.

BATT BUS FAIL
Indicates that battery bus is not powered due to a fault.

DC EMER BUS FAIL
Indicates that DC EMER BUS is not powered due to a fault.

APU (AV) BATT FAIL
Indicates that APU (AV) battery has failed, voltage or temperature is out of range.

DC BUS 1 (2) FAIL
Indicates that affected DC bus is not powered due to a fault or is shed.

DC ESS BUS FAIL
Indicates that DC ESS BUS is not powered due to a fault.

GF0710_037

DC SYSTEM EICAS MESSAGES (CONT'D)

Effectivity:

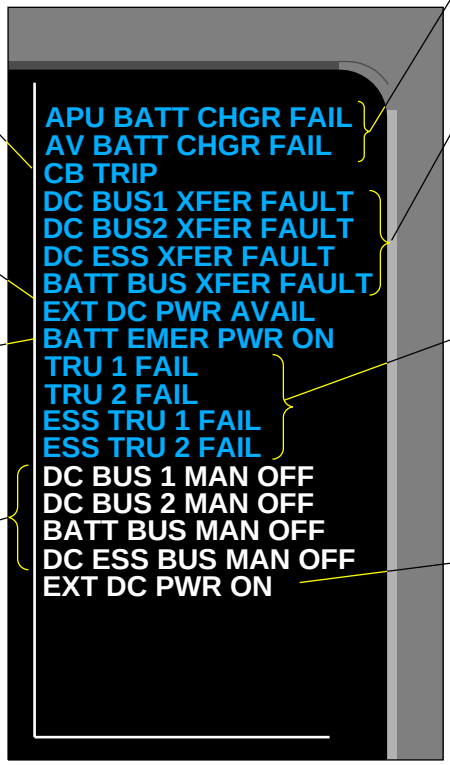
- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

APU (AV) BATT CHGR FAIL
Indicates that affected battery charger has detected a fault and has shut down.

CB TRIP
Indicates that a circuit breaker has tripped.

DC BUS1−2 XFER FAULT
DC ESS BUS XFER FAULT
BATT BUS XFER FAULT
Indicates that transfer of alternate power supply to affected bus is lost.

EXT DC PWR AVAIL
Indicates that external DC power is available.



BATT EMER PWR ON
Indicates that the batteries are feeding the DC ESS BUS and BATT busses in an emergency condition.

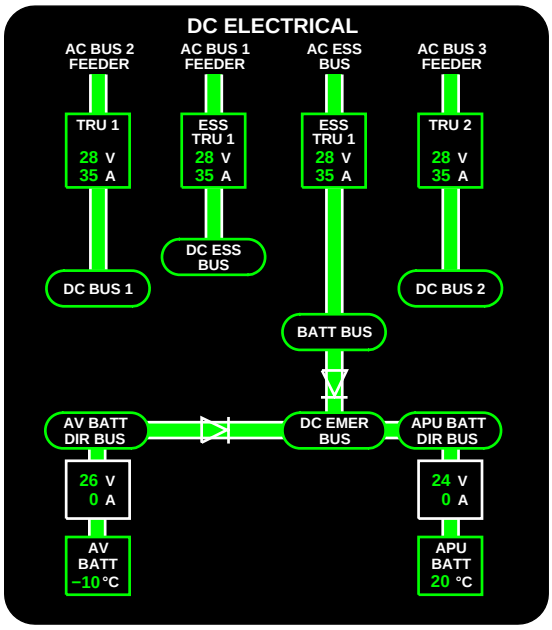
TRU 1−2 FAIL
ESS TRU 1−2 FAIL
Indicates that affected TRU has failed.

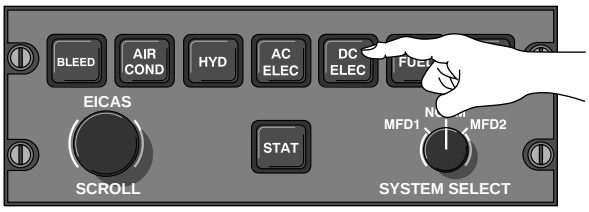
BATT BUS MAN OFF
DC BUS 1 (2) MAN OFF
DC ESS BUS MAN OFF
Indicates that affected DC bus has been manually isolated. DC essential cannot be manually isolated if battery has been isolated and vice versa.

EXT DC PWR ON
Indicates that external DC power has been selected on.

GF0710_038

DC SYSTEM SYNOPTIC



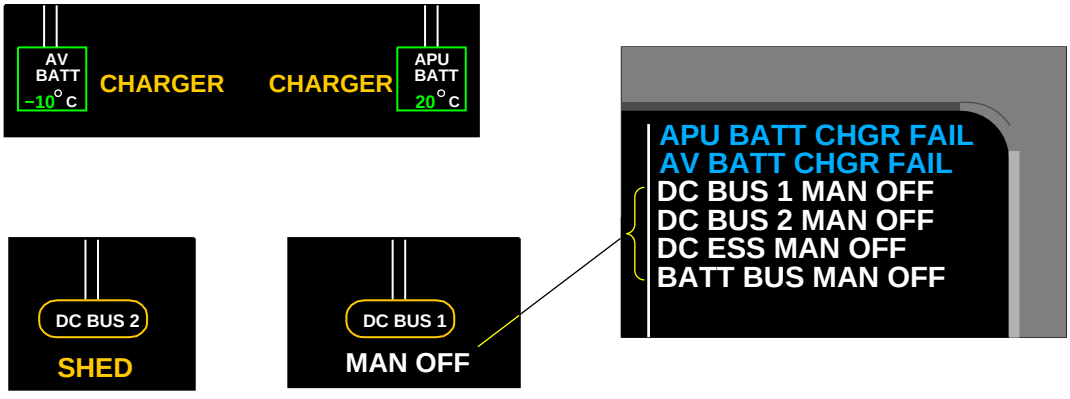


EICAS Control Panel

GF0710_039

The DC electrical page contains digital readouts of TRU and battery output (voltage and ampere output), input/output flow on the bus bars, general status information via color logic and the following messages:

- CHARGER message (adjacent to APU BATT symbol) − APU battery is not charging. Corresponds to APU BATT CHGR FAIL advisory message .
- CHARGER message (adjacent to AV BATT symbol) − Main airplane battery is not charging. AV BATT CHGR FAIL advisory message displayed on EICAS.
- SHED message − Corresponding DC bus has been shed.
- MAN OFF message − Corresponding DC bus is isolated. DC BUS 1, 2, MAN OFF, DC ESS MAN OFF and/or BATT BUS MAN OFF status message displayed on EICAS.



GF0710_041

DC BUS FEED SYSTEM

Each DC bus is normally powered by its respective TRU. Each TRU is normally powered by its own AC BUS FEEDER (ESS TRU 2 is powered by AC ESS BUS). In the event of a TRU malfunction, the priority system will automatically provide an alternate TRU feed to power the respective DC bus.

ESS TRU 2 will be powered (through the AC ESS BUS) when the RAT is deployed and RAT GEN is selected ON.

The DC busses are powered by the TRUs in the following descending order:

- DC BUS 1 − TRU 1, ESS TRU 1.
- DC ESS BUS − ESS TRU 1, ESS TRU 2, TRU 2, TRU 1.
- BATT BUS − ESS TRU 2, ESS TRU 1, TRU 2, TRU 1.
- DC BUS 2 − TRU 2, ESS TRU 2.

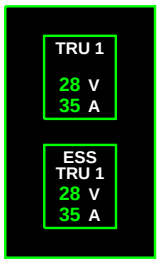
DC BUS 1 and DC BUS 2 are automatically load shed when a single generator is powering the busses.

External DC power will power the BATT BUS, APU BATT DIR BUS and DC EMER BUS. External DC power is normally used by maintenance personnel.

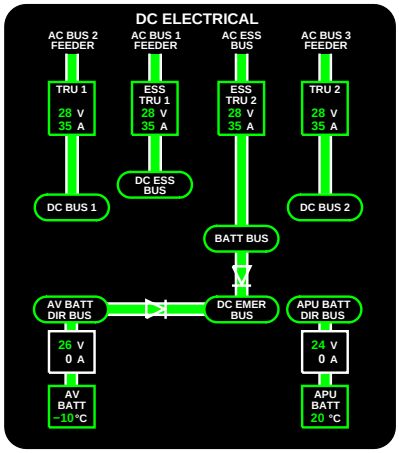
The DC bus feed is displayed on the DC ELECTRICAL synoptic page as follows:

DC BUS FEED SYSTEM (CONT'D)

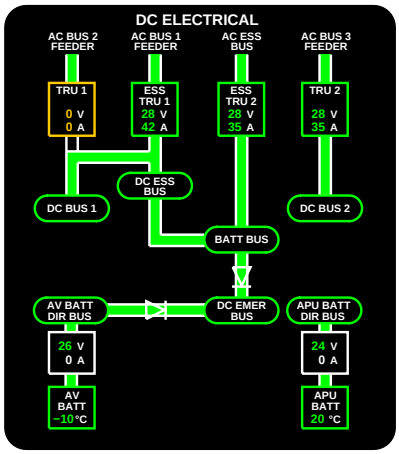
DC BUS 1 − Normally powered by TRU 1, alternately powered by the following, in descending order:



TRU 1



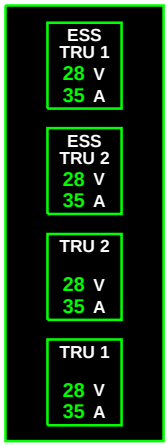
ESS TRU 1

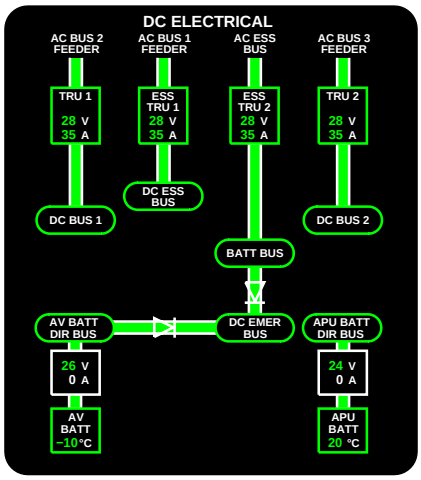


GF0710_043

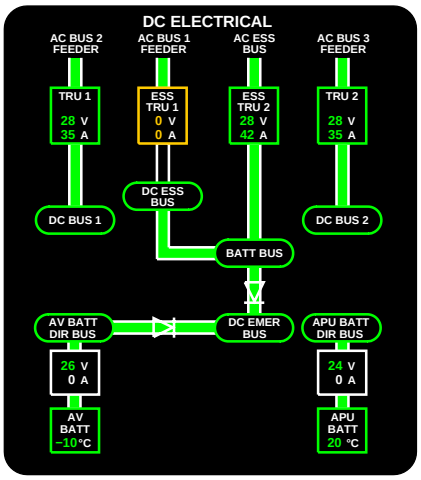
DC BUS FEED SYSTEM (CONT'D)

DC ESS BUS – Normally powered by ESS TRU 1, alternately powered by the following, in descending order:

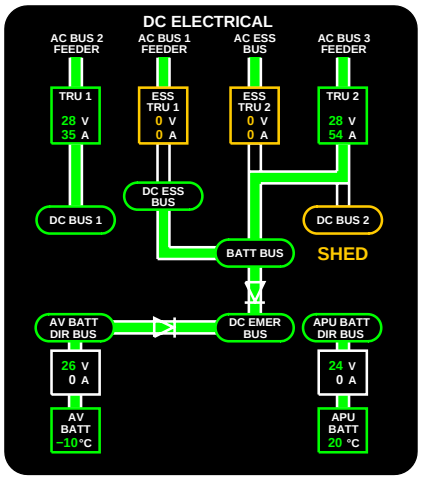




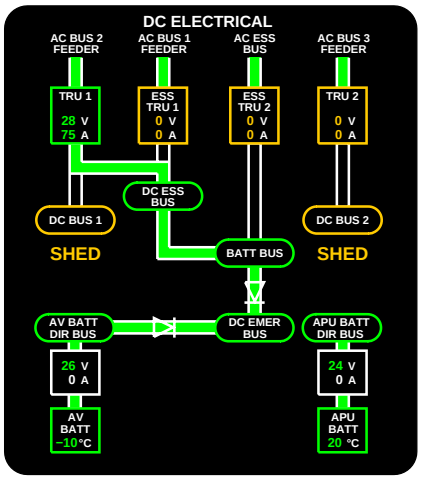
ESS TRU 1



ESS TRU 2



TRU 2

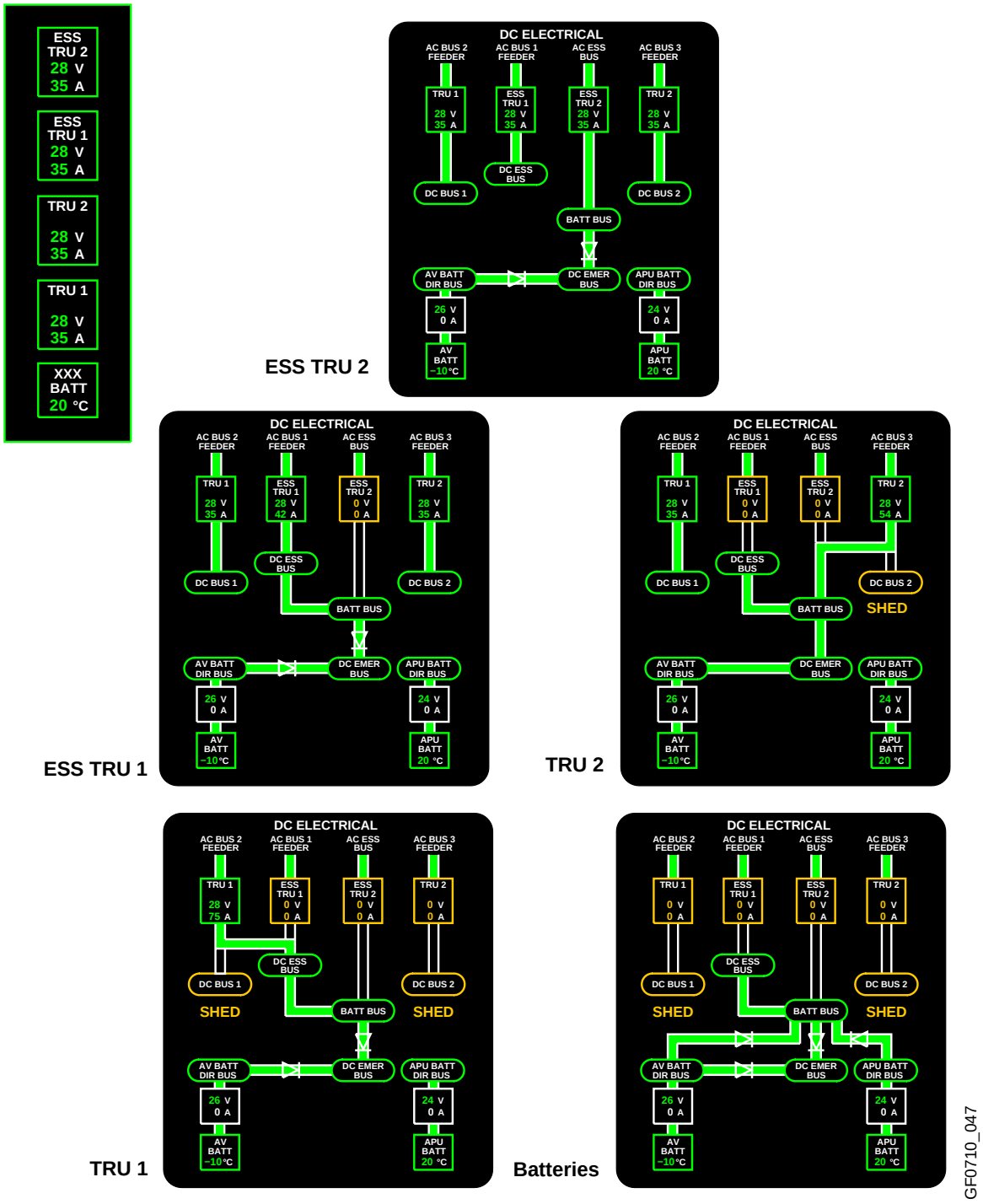


TRU 1

GF0710_045

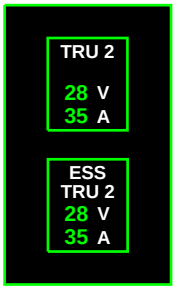
DC BUS FEED SYSTEM (CONT'D)

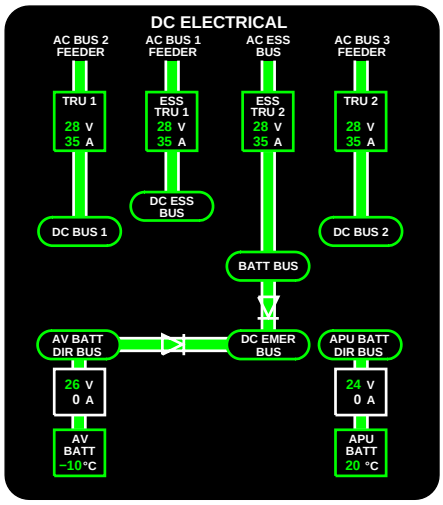
BATT BUS – Normally powered by ESS TRU 2, alternately powered by the following, in descending order:



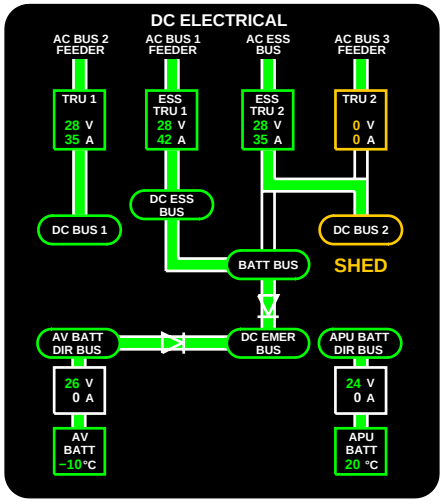
DC BUS FEED SYSTEM (CONT'D)

DC BUS 2 − Normally powered by TRU 2, alternately powered by the following, in descending order:





TRU 2

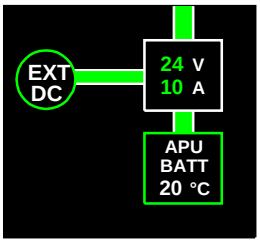


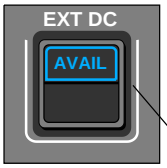
ESS TRU 2

GF0710_049

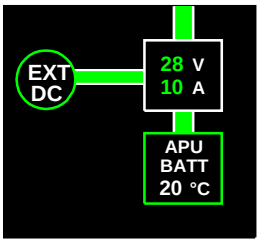
DC BUS FEED SYSTEM (CONT'D)

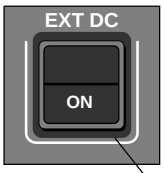
External DC Power



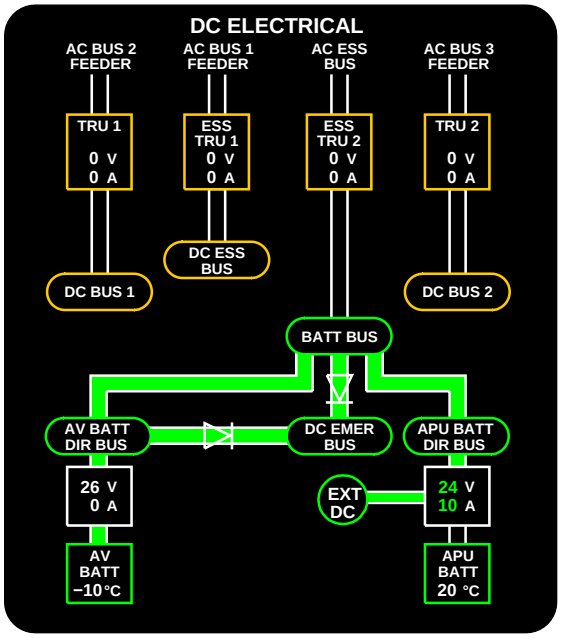


AVAIL Light
Indicates that external DC power is connected (not on−line) and is within limits.





ON Light
Indicates external DC power is powering APU BATT DIR BUS.



GF0710_050

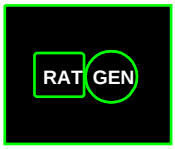
RAT GEN FEED

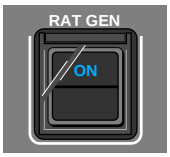
The RAT will deploy automatically, when it senses a loss of all AC power (or dual engine failure) with the airplane Weight off Wheels.

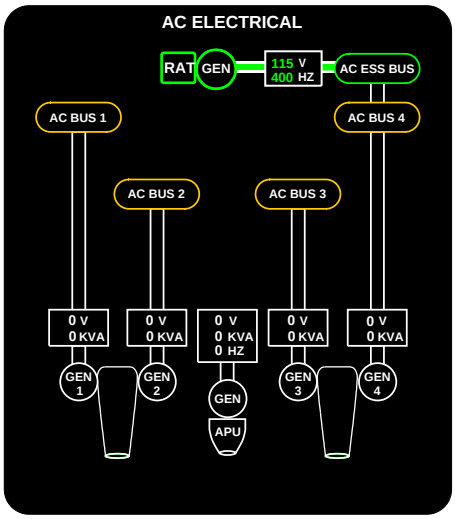
If the flaps/slats are deployed, with a loss of all AC power, the RAT will deploy immediately and will supply power to AC ESS within 6 seconds of deployment.

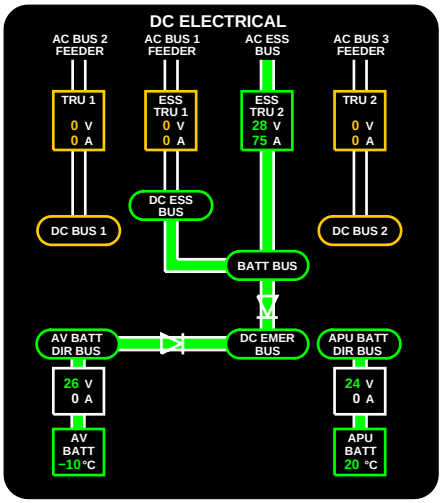
If the flaps/slats are not deployed, with a loss of all AC power, then a 14 second delay takes place before the RAT is deployed. The RAT will supply power to AC ESS within 6 seconds of deployment. This delay is implemented to allow the pilot to regain GEN 1-2-3 or 4 or APU GEN power.

In the event that an operating generator is restored, select the RAT GEN switch to OFF with the RAT manual deploy handle in the stowed position. The RAT GEN will remain in a standby mode.









GF0710_051

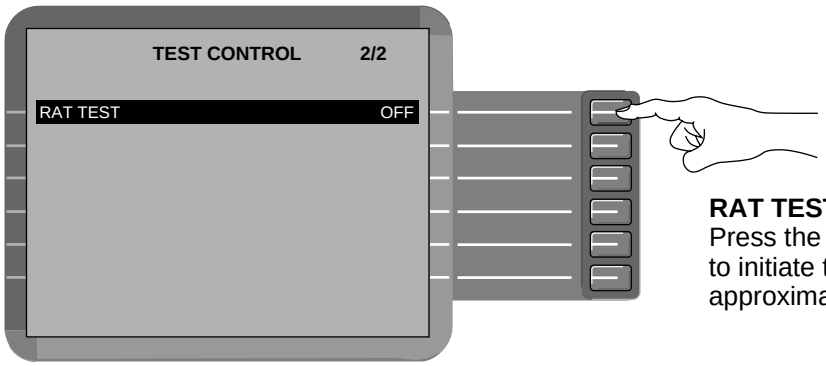
RAT PILOT ACTIVATED TEST

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

The RAT pilot activated test is not available.

The pilot activated test is initiated by the pilot during pre-flight after AC power has been applied to the airplane. It takes approximately 5 seconds to complete the test. The test is activated through the EMS CDU on the ground only.



RAT TEST:
Press the RAT TEST activation button to initiate test. Test duration is approximately 5 seconds.

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The pilot activated test checks the following:

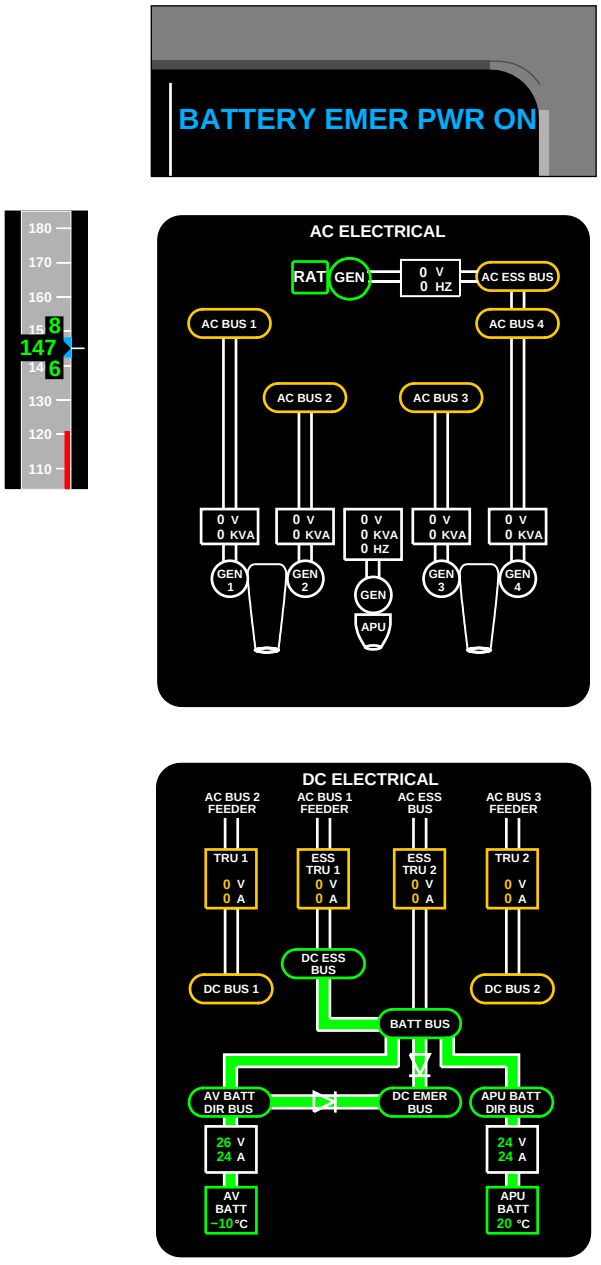
- The RAT line contactor,
- the 147 KEAS discrete signal from the MADCs
- the RAT GCU,
- the RAT deploy handle status signal,
- AC bus 4 status signal,
- the RAT GEN push button annunciator status,
- the RAT generator heater.

A failed test results in a **RAT GEN FAIL** caution message being posted on the EICAS status page.

EMERGENCY DC POWER

In the event of loss of all AC power , or the airplane speed is 147 knots or less with the RAT deployed, a "**BATTERY EMER PWR ON**" EICAS message will be displayed.

If the RAT is deployed and speed is less than 147 knots, it will automatically shed its electrical output giving priority to hydraulics.



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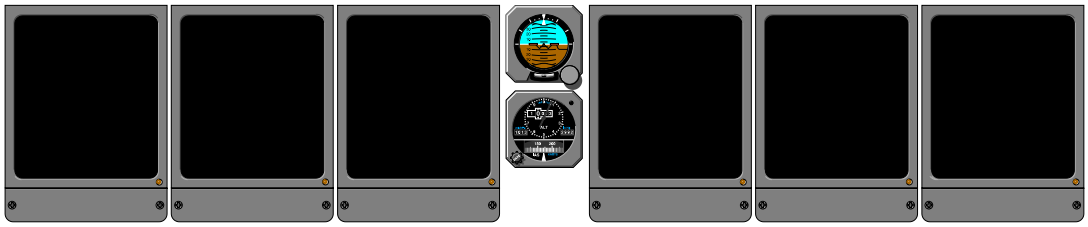
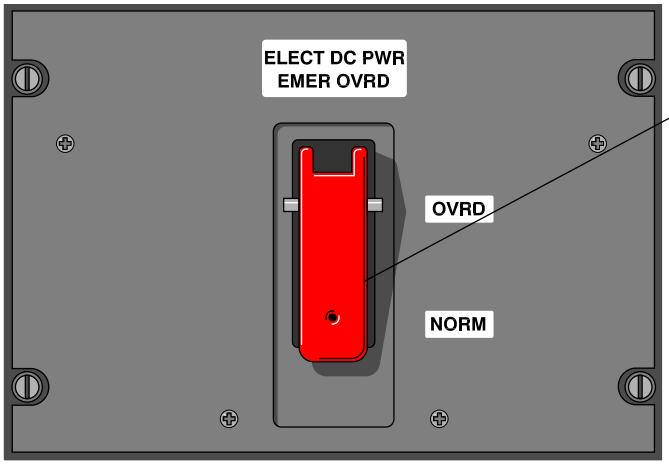
NOTE
Battery emergency power is available for a minimum of 15 minutes.

DC POWER EMERGENCY OVERRIDE

In the event of loss of all DC power control (black cockpit), selecting the DC POWER EMERGENCY OVERRIDE switch (located on the pedestal), to OVERRIDE, will enable ESS TRU 1 and ESS TRU 2 to power the BATT BUS and DC ESS BUS SPDAs.





ELECT DC PWR EMER OVRD Switch
Used to enable ESS TRU 1 and ESS TRU 2 to power the BATT BUS and DC ESS BUS SPDAs, in the event of loss of all DC power control.

- **OVRD** − BATT BUS and DC ESS BUS SPDAs are powered by the essential TRUs.

- **NORM** − BATT BUS and DC ESS BUS are powering their respective SPDAs.

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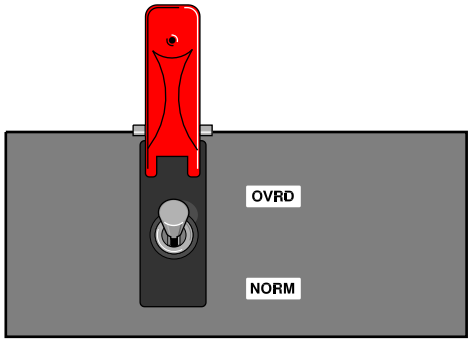
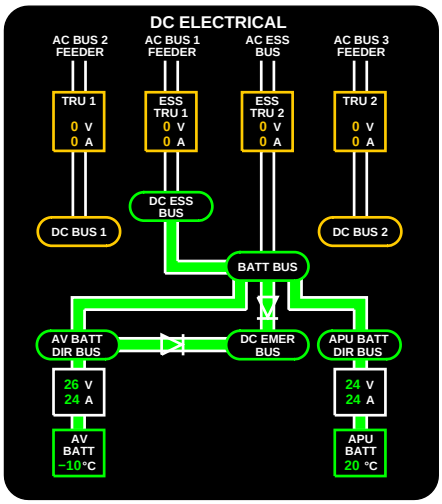
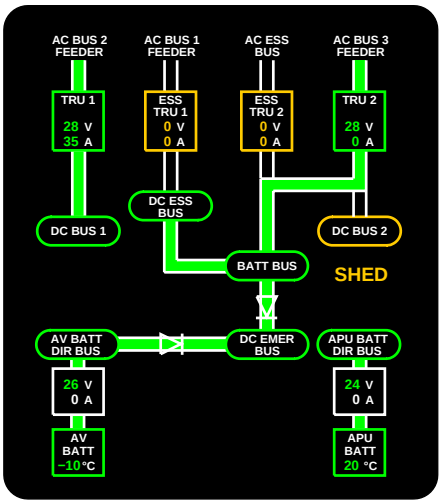
DC POWER EMERGENCY OVERRIDE (CONT'D)

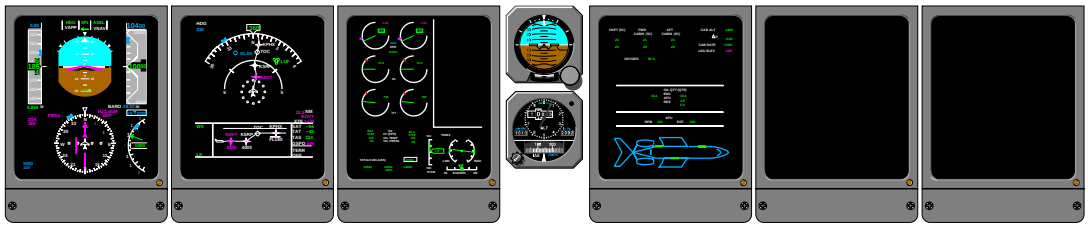




NOTE
Expected results when loss of DC power control occurs. Results may vary depending on degree of failure.



NOTE
Expected flow lines while performing the DC Override Test.



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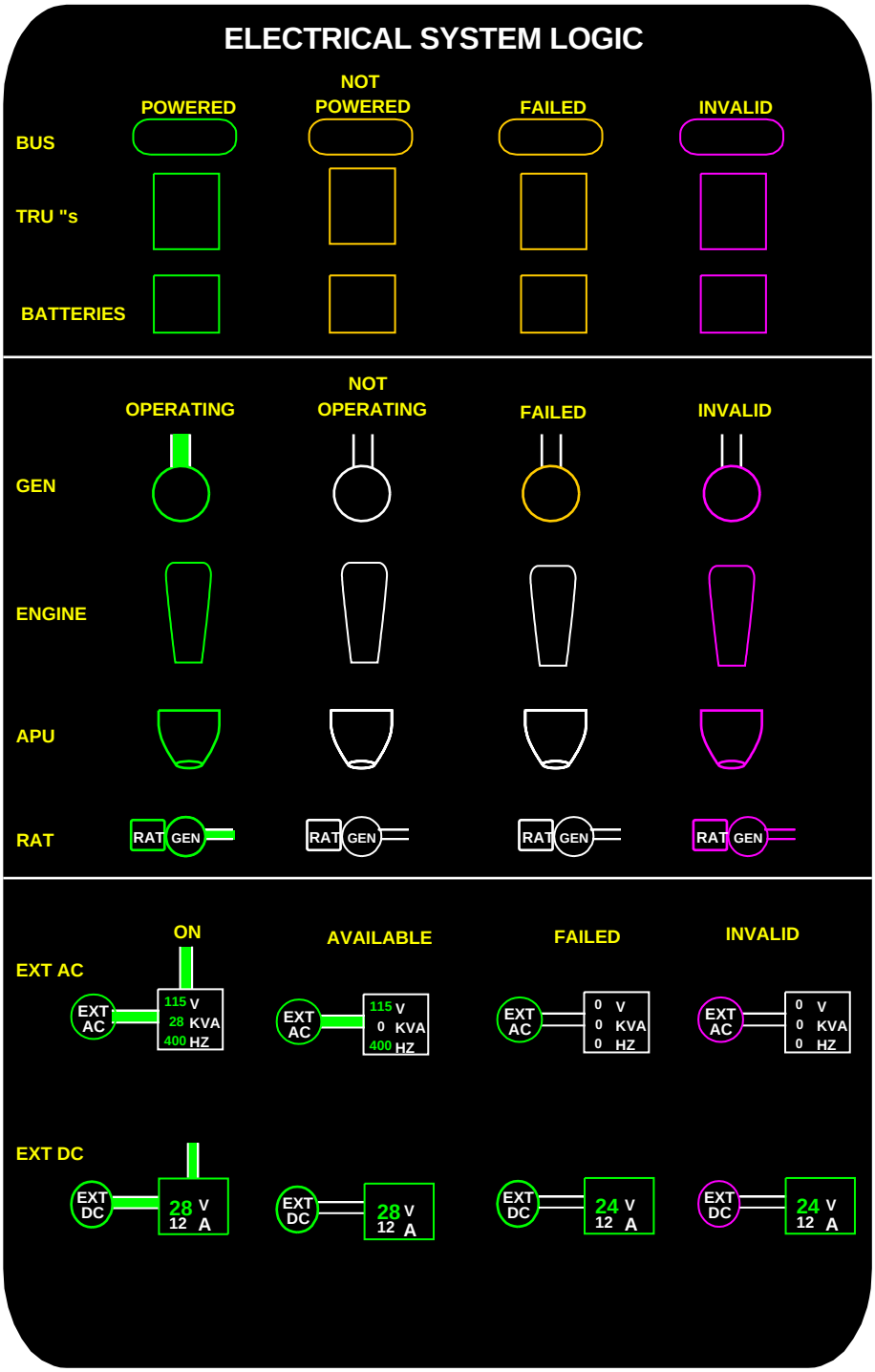
EICAS PHILOSOPHY

The following represents the EICAS symbols and logic for the AC and DC synoptic pages. The symbols are shown in serviceable and failure conditions.



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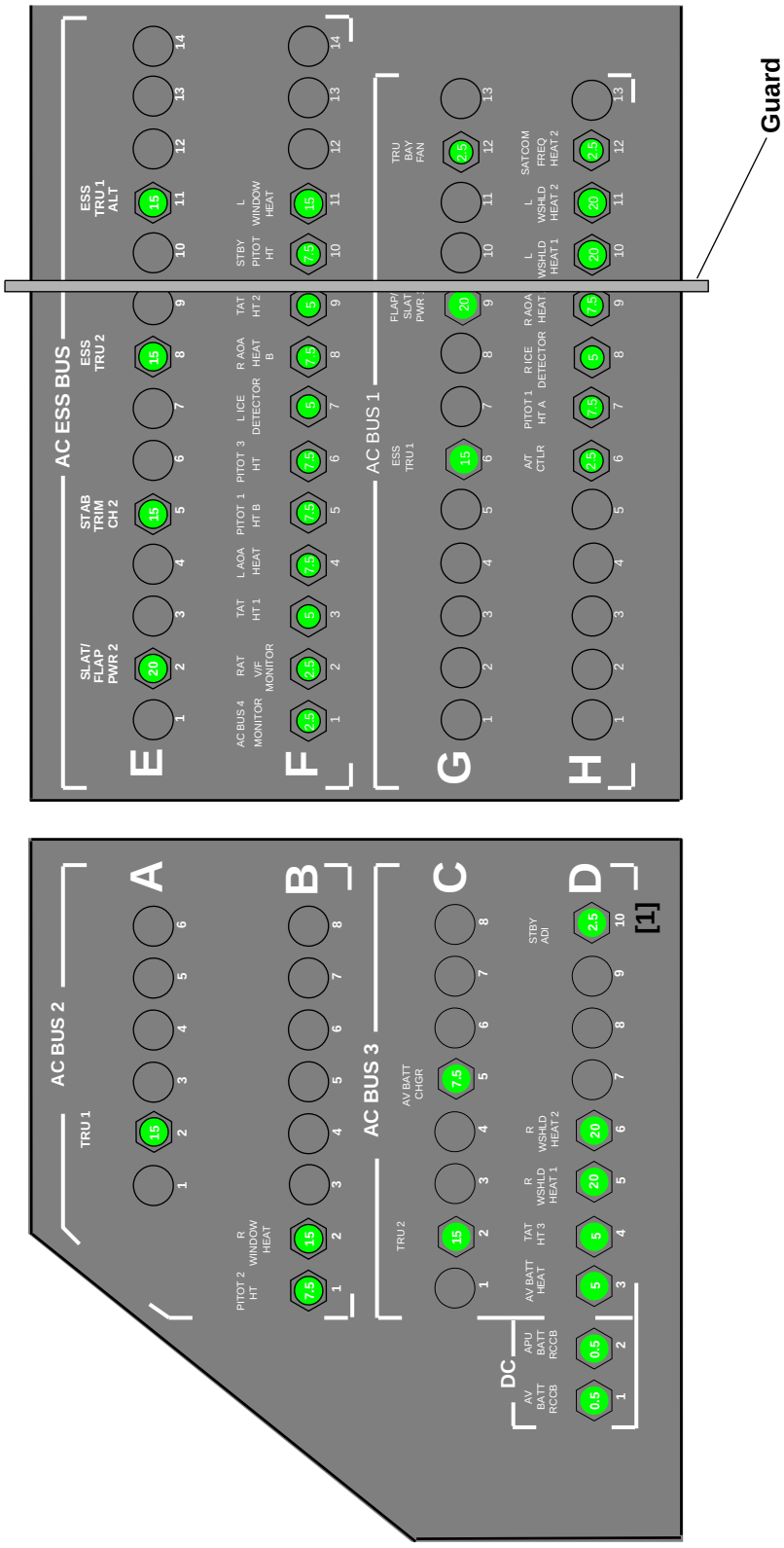
COCKPIT CIRCUIT BREAKER PANEL (CCBP)



[1] On airplane 9105 and subsequent and airplane incorporating Service Bulletin SB 700−34−022.

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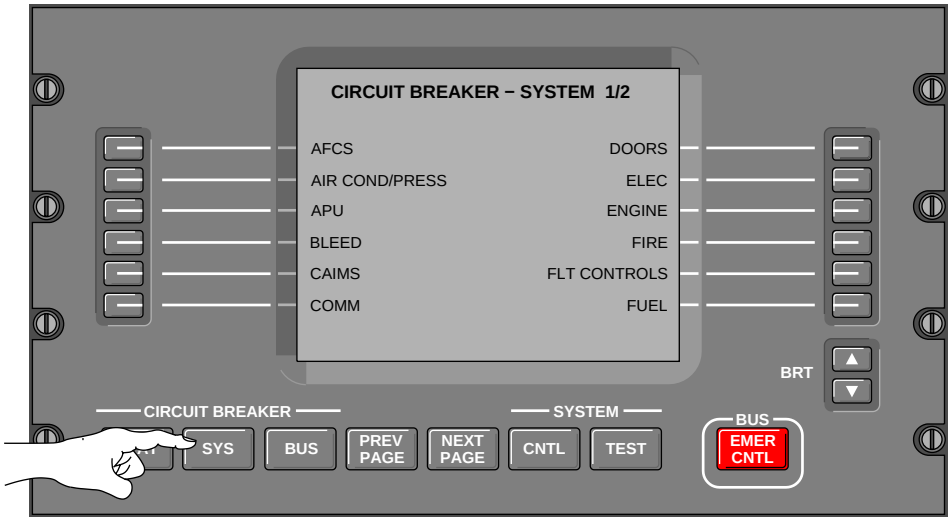
EMS CDU

The EMS CDU keys are used to access the following:

SYSTEM KEY

The SYSTEM key used to access status and location of applicable system circuit breakers and to reset page from 1 to 2.



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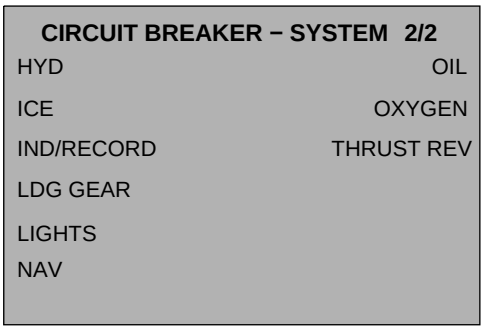
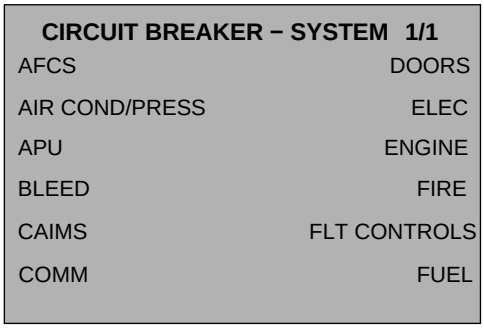
NEXT PAGE KEY

The NEXT PAGE key is used to scroll to the next page.





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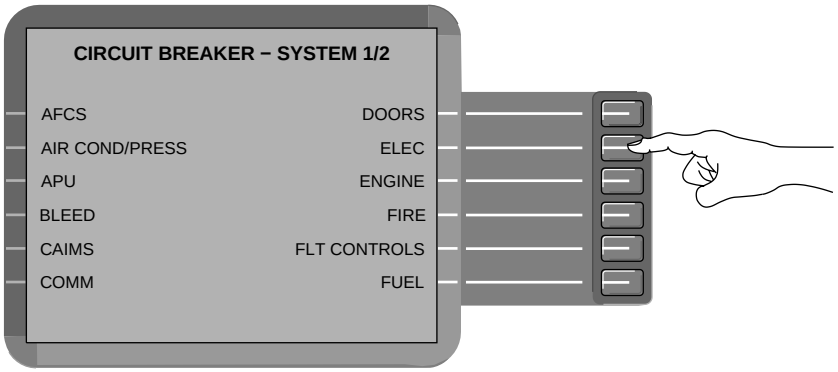
PREVIOUS PAGE KEY

The PREVIOUS PAGE key is used to return to the previous page.

ELEC SYSTEM KEY



CB − ELEC SYSTEM 1/12			
AC 1 CABIN FEED	AC 1	ACPC	IN
AC 2 CABIN FEED	AC 2	ACPC	IN
AC 3 CABIN FEED	AC 3	ACPC	IN
AC 4 CABIN FEED	AC 4	ACPC	IN
AC BUS 1 FEED	AC 1		IN
AC BUS 2 FEED	AC 2		IN

CB − ELEC SYSTEM 2/12			
AC BUS 3 FEED	AC 3		IN
AC BUS 4 FEED	AC 4		IN
AC BUS 4 MONITOR	AC 4	CCBP	IN
ACPC CTL PWR A	BATT		IN
ACPC CTL PWR B	DC ESS		IN
ACPC CTL PWR C	DC 1		IN

CB − ELEC SYSTEM 3/12			
ACPC CTL PWR D	APU BATT	ASCA	IN
APU BATT CHGR	AC 2	ACPC	IN
APU BATT CHGR LD	APU BATT	ASCA	IN
APU BATT HEAT	AC 4	ACPC	IN
APU BATT MSTR	APU BATT	ASCA	IN
APU BATT RCCB	APU BATT	CCBP	IN

CB − ELEC SYSTEM 4/12			
APU GCU	BATT		IN
AV BATT CHGR	AC 3	CCBP	IN
AV BATT CHGR LD	AV BATT	DCPC	IN
AV BATT HEAT	AC 3	CCBP	IN
AV BATT MSTR	AV BATT	DCPC	IN
AV BATT RCCB	AV BATT	CCBP	IN

CB − ELEC SYSTEM 5/12			
BATT BUS FEED 1	BATT		IN
BATT BUS FEED 2	BATT		IN
BATT BUS FEED 3	BATT		IN
BATT BUS FEED 4	BATT		IN
DC 1 CABIN FEED	DC 1		IN
DC 2 CABIN FEED 1	DC 2		IN

CB − ELEC SYSTEM 6/12			
DC 2 CABIN FEED 2	DC 2		IN
DC 2 CABIN FEED 3	DC 2		IN
DC 2 CABIN FEED 4	DC 2		IN
DC BUS 1 FEED 1	DC 1		IN
DC BUS 1 FEED 2	DC 1		IN
DC BUS 1 FEED 3	DC 1		IN

CB − ELEC SYSTEM 7/12			
DC BUS 1 FEED 4	DC 1	DCPC	IN
DC BUS 2 FEED 1	DC 2	DCPC	IN
DC BUS 2 FEED 2	DC 2		IN
DC BUS 2 FEED 3	DC 2		IN
DC BUS 2 FEED 4	DC 2		IN
DC EMER FEED 1	AV BATT	DCPC	IN

CB − ELEC SYSTEM 8/12			
DC EMER FEED 2	BATT	DCPC	IN
DC ESS BUS FEED 1	DC ESS		IN
DC ESS BUS FEED 2	DC ESS		IN
DC ESS BUS FEED 3	DC ESS		IN
DC ESS BUS FEED 4	DC ESS		IN
DCPC EXT CTL PWR	EXT AC	ACPC	IN

CB − ELEC SYSTEM 9/12			
EMS CDU 1 PWR A	AV BATT	DCPC	IN
EMS CDU 1 PWR B	BATT		IN
EMS CDU 1/2 PWR C	EXT AC	ACPC	IN
EMS CDU 2 PWR A	APU BATT	ASCA	IN
EMS CDU 2 PWR B	BATT		IN
ESS TRU 1	AC 1	CCBP	IN

CB − ELEC SYSTEM 10/12			
ESS TRU 1 ALT	AC ESS	CCBP	IN
ESS TRU 2	AC ESS	CCBP	IN
EXT AC INTERLOCK	EXT AC	ACPC	IN
EXT AC PBA LTS	EXT AC	ACPC	IN
GCU 1	BATT		IN
GCU 2	BATT		IN

CB − ELEC SYSTEM 11/12			
GCU 3	BATT		IN
GCU 4	BATT		IN
RAT DEPLOY	BATT		IN
RAT GCU TEST	DC 1		IN
RAT GEN HEATER	DC 1		IN
RAT V/F MONITOR	AC ESS	CCBP	IN

CB − ELEC SYSTEM 12/12			
TRU 1	AC 2	CCBP	IN
TRU 2	AC 3	CCBP	IN

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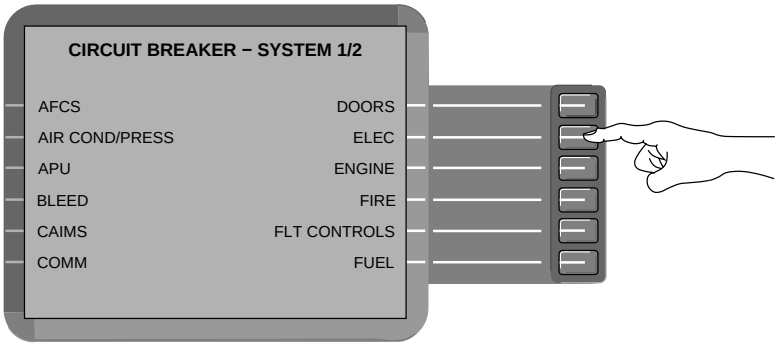
ELEC SYSTEM KEY (CONT'D)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − ELEC SYSTEM 1/12			
AC 1 CABIN FEED	AC 1	ACPC	IN
AC 2 CABIN FEED	AC 2	ACPC	IN
AC 3 CABIN FEED	AC 3	ACPC	IN
AC 4 CABIN FEED	AC 4	ACPC	IN
AC BUS 1 FEED	AC 1		IN
AC BUS 2 FEED	AC 2		IN

CB − ELEC SYSTEM 2/12			
AC BUS 3 FEED	AC 3		IN
AC BUS 4 FEED	AC 4		IN
AC BUS 4 MONITOR	AC 4	CCBP	IN
ACPC CTL PWR A	BATT		IN
ACPC CTL PWR B	DC ESS		IN
ACPC CTL PWR C	DC 1		IN

CB − ELEC SYSTEM 3/12			
ACPC CTL PWR D	APU BATT	ASCA	IN
APU BATT CHGR	AC 2	ACPC	IN
APU BATT CHGR LD	APU BATT	ASCA	IN
APU BATT HEAT	AC 4	ACPC	IN
APU BATT MSTR	APU BATT	ASCA	IN
APU BATT RCCB	APU BATT	CCBP	IN

CB − ELEC SYSTEM 4/12			
APU GCU	BATT		IN
AV BATT CHGR	AC 3	CCBP	IN
AV BATT CHGR LD	AV BATT	DCPC	IN
AV BATT HEAT	AC 3	CCBP	IN
AV BATT MSTR	AV BATT	DCPC	IN
AV BATT RCCB	AV BATT	CCBP	IN

CB − ELEC SYSTEM 5/12			
BATT BUS FEED 1	BATT		IN
BATT BUS FEED 2	BATT		IN
BATT BUS FEED 3	BATT		IN
BATT BUS FEED 4	BATT		IN
DC 1 CABIN FEED	DC 1		IN
DC 2 CABIN FEED 1	DC 2		IN

CB − ELEC SYSTEM 6/12			
DC 2 CABIN FEED 2	DC 2		IN
DC 2 CABIN FEED 3	DC 2		IN
DC BUS 1 FEED 1	DC 1		IN
DC BUS 1 FEED 2	DC 1		IN
DC BUS 1 FEED 3	DC 1		IN
DC BUS 1 FEED 4	DC 1		IN

CB − ELEC SYSTEM 7/12			
DC BUS 2 FEED 1	DC 2		IN
DC BUS 2 FEED 2	DC 2		IN
DC BUS 2 FEED 3	DC 2		IN
DC BUS 2 FEED 4	DC 2		IN
DC EMER FEED 1	AV BATT	DCPC	IN
DC EMER FEED 2	BATT	DCPC	IN

CB − ELEC SYSTEM 8/12			
DC ESS BUS FEED 1	DC ESS		IN
DC ESS BUS FEED 2	DC ESS		IN
DC ESS BUS FEED 3	DC ESS		IN
DC ESS BUS FEED 4	DC ESS		IN
DCPC EXT CTL PWR	EXT AC	ACPC	IN
EMS CDU 1 PWR A	AV BATT	DCPC	IN

CB − ELEC SYSTEM 9/12			
EMS CDU 1 PWR B	BATT		IN
EMS CDU 1/2 PWR C	EXT AC	ACPC	IN
EMS CDU 1/2 PWR D	DC 2		IN
EMS CDU 2 PWR A	APU BATT	ASCA	IN
EMS CDU 2 PWR B	BATT		IN
ESS TRU 1	AC 1	CCBP	IN

CB − ELEC SYSTEM 10/12			
ESS TRU 1 ALT	AC ESS	CCBP	IN
ESS TRU 2	AC ESS	CCBP	IN
EXT AC INTERLOCK	EXT AC	ACPC	IN
EXT AC PBA LTS	EXT AC	ACPC	IN
GCU 1	BATT		IN
GCU 2	BATT		IN

CB − ELEC SYSTEM 11/12			
GCU 3	BATT		IN
GCU 4	BATT		IN
RAT DEPLOY	BATT		IN
RAT GCU TEST	DC 1		IN
RAT GEN HEATER	DC 1		IN
RAT V/F MONITOR	AC ESS	CCBP	IN

CB − ELEC SYSTEM 12/12			
TRU 1	AC 2	CCBP	IN
TRU 2	AC 3	CCBP	IN

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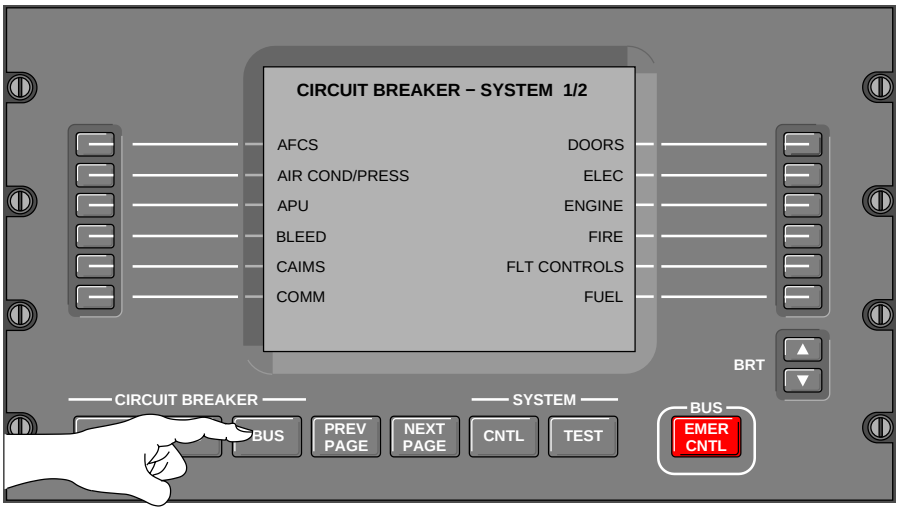
BUS KEY

The BUS key is used to display circuit breaker status and location by individual busses.



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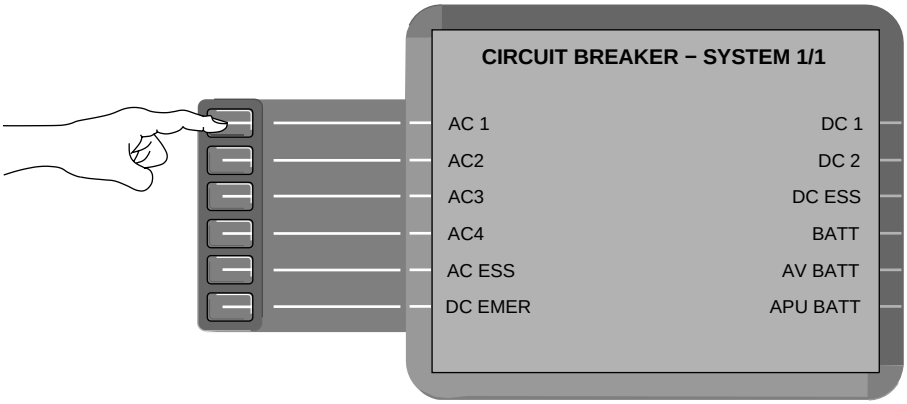
AC BUS 1



CB − AC BUS 1		1/4
A/T CTLR	CCBP	IN
AC 1 CABIN FEED	ACPC	IN
AC BUS 1 FEED	CCBP	IN
ESS TRU 1		IN
HYD PUMP 3B		IN
L AFT PRI PUMP		IN

CB − AC BUS 1		3/4
PITOT 1 HT A	CCBP	IN
R AOA HEAT A	CCBP	IN
R ICE DETECTOR	CCBP	IN
SATCOM FREQ UNIT	CCBP	IN
SLAT/FLAP PWR 1	CCBP	IN
STAB TRIM CH 1	ACPC	IN

CB − AC BUS 1		2/4
L CTR XFER PUMP		IN
L RECIRC FAN		IN
L TAXI LT		IN
L WING LDG LT		IN
L WSHLD HEAT 1	CCBP	IN
L WSHLD HEAT 2	CCBP	IN

CB − AC BUS 1		4/4
TRU BAY FAN	CCBP	IN

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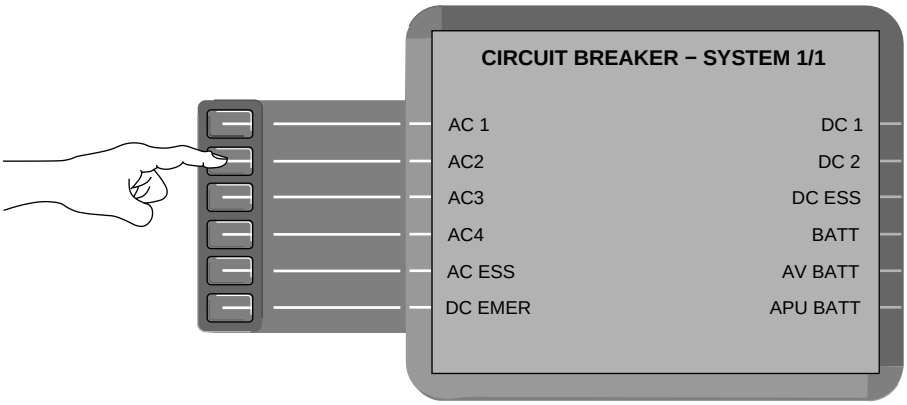
BUS KEY (CONT'D)

AC BUS 2



CB − AC BUS 2		1/2
AC 2 CABIN FEED	ACPC	IN
AC BUS 2 FEED		IN
AFT TANK L PUMP		IN
APU BATT CHGR	ACPC	IN
HYD PUMP 2B		IN
L FWD PRI PUMP		IN

CB − AC BUS 2		2/2
PITOT 2 HT	CCBP	IN
R WINDOW HEAT	CCBP	IN
SATCOM AMP	ACPC	IN
TRU 1	CCBP	IN

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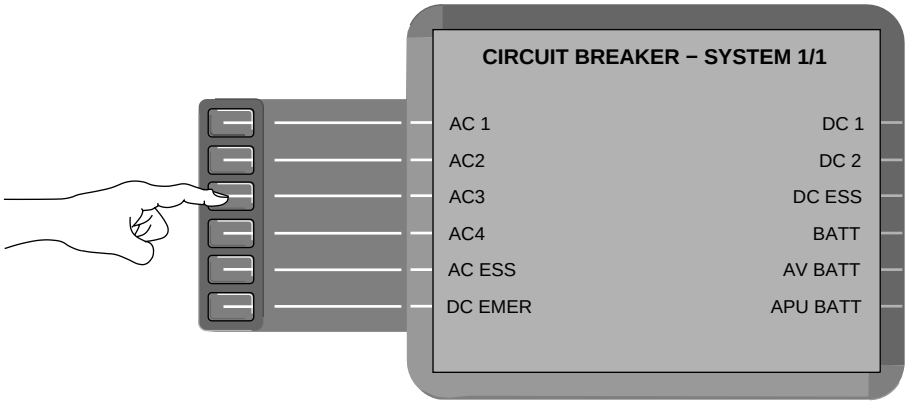
BUS KEY (CONT'D)
AC BUS 3



CB − AC BUS 3		1/2
AC 3 CABIN FEED	ACPC	IN
AC BUS 3 FEED		IN
AFT TANK R PUMP		IN
AV BATT CHGR	CCBP	IN
AV BATT HEAT	CCBP	IN
HYD PUMP 1B		IN

CB − AC BUS 3		2/2
R FWD PRI PUMP		IN
R WSHLD HEAT 1	CCBP	IN
R WSHLD HEAT 2	CCBP	IN
TAT HT 3	CCBP	IN
TRU 2	CCBP	IN
		IN

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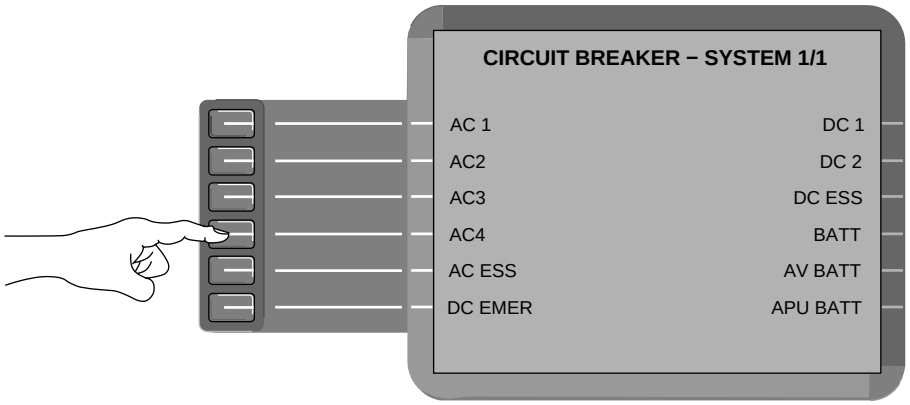
BUS KEY (CONT'D)

AC BUS 4



CB − AC BUS 4		1/3
AC 4 CABIN FEED	ACPC	IN
AC BUS 4 FEED		IN
AC BUS 4 MONITOR	CCBP	IN
APU BATT HEAT	ACPC	IN
APU OIL HEAT		IN
AVIONICS FAN		IN

CB − AC BUS 4	2/3
HYD PUMP 3A	IN
R AFT PRI PUMP	IN
R CTR XFER PUMP	IN
R RECIRC FAN	IN
R TAXI LT	IN
R WING LDG LT	IN

CB − AC BUS 4	3/3
SATCOM HPA FAN	IN

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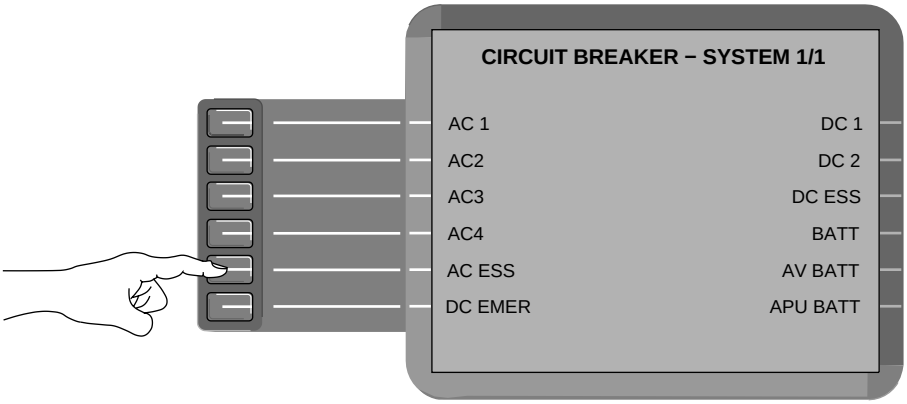
BUS KEY (CONT'D)
AC ESS BUS



CB − AC ESS BUS		1/3
ESS TRU 1 ALT	CCBP	IN
ESS TRU 2	CCBP	IN
L AOA HEAT	CCBP	IN
L ICE DETECTOR	CCBP	IN
L WINDOW HEAT	CCBP	IN
PITOT 1 HT B	CCBP	IN

CB − AC ESS BUS		2/3
PITOT 3 HT	CCBP	IN
R AOA HEAT B	CCBP	IN
RAT V/F MONITOR	CCBP	IN
SLAT/FLAP PWR 2	CCBP	IN
STAB TRIM CH 2	CCBP	IN
STBY PITOT HT	CCBP	IN

CB − AC ESS BUS		3/3
TAT HT 1	CCBP	IN
TAT HT 2	CCBP	IN

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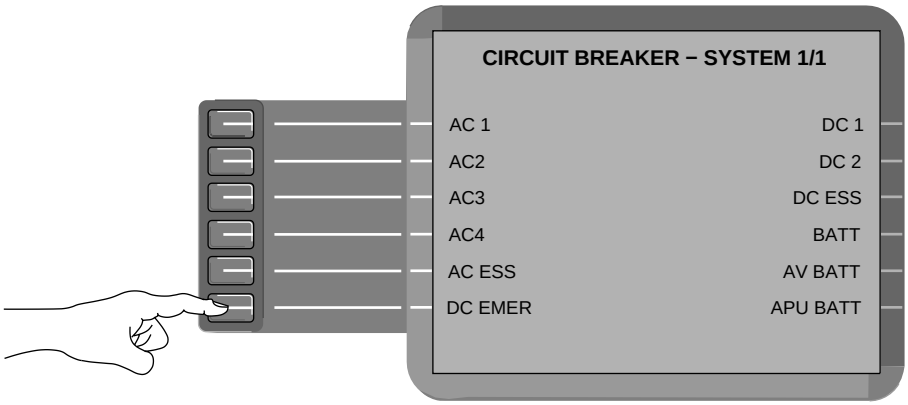
BUS KEY (CONT'D)
DC EMER BUS



CB − DC EMER BUS		1/2
APU FIRE SOV	DCPC	IN
FIREX CH A	DCPC	IN
FIREX CH B	DCPC	IN
L ENG FUEL SOV	DCPC	IN
L HYD SOV	DCPC	IN
R ENG FUEL SOV	DCPC	IN

CB − DC EMER BUS		2/2
R HYD SOV	DCPC	IN

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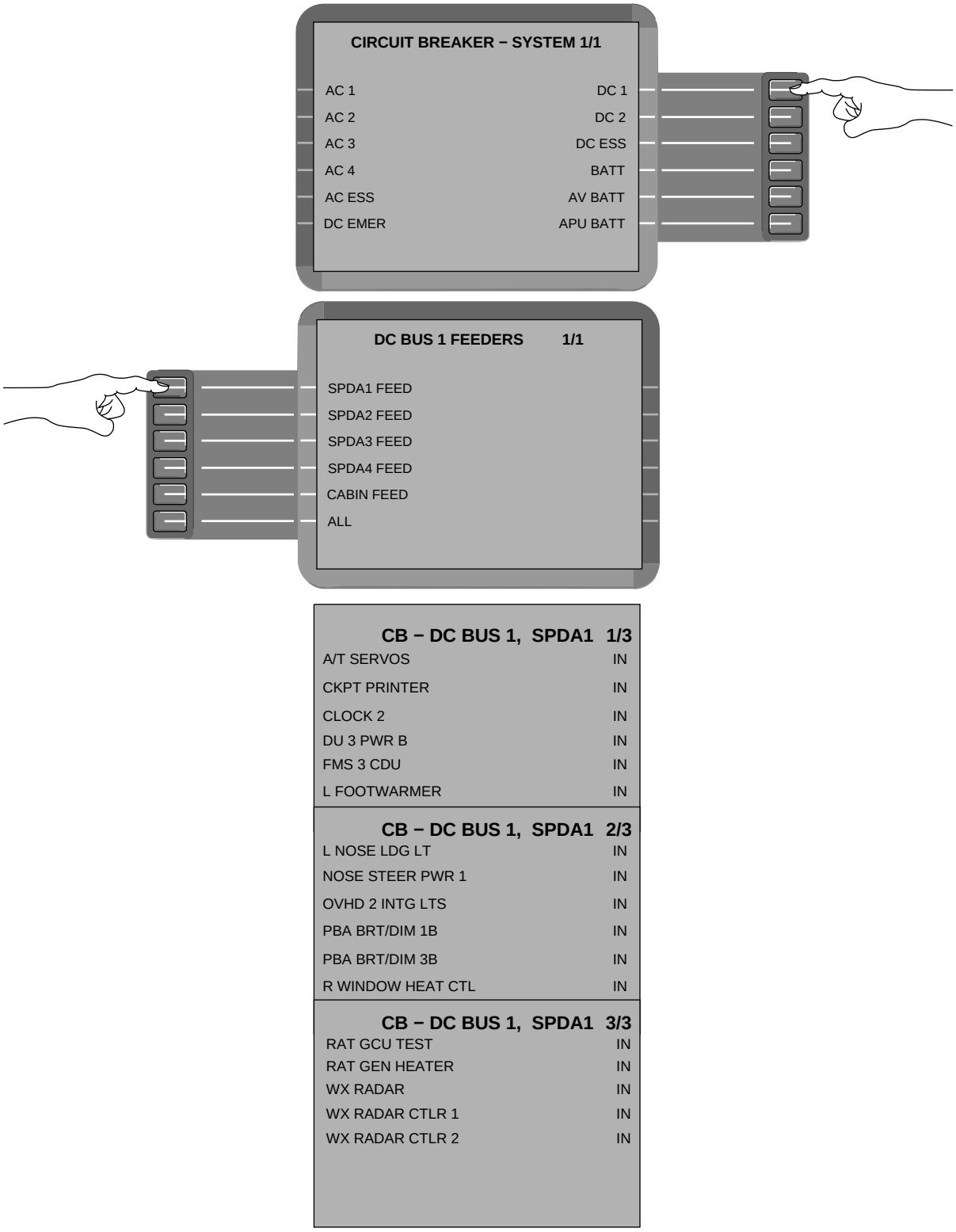
BUS KEY (CONT'D)
DC BUS 1



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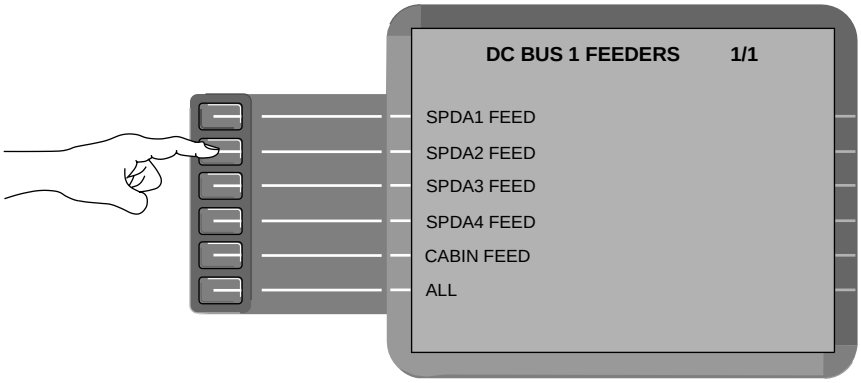
BUS KEY (CONT'D)

DC BUS 1 (Cont’d)



CB − DC BUS 1, SPDA2 1/3	
ADF 1	IN
AFT TANK L SOV C	IN
AFT TANK L SOV O	IN
AIRFONE REPEATER	IN
AP 1 SERVOS	IN
BRAKE CTL CH A	IN

CB − DC BUS 1, SPDA2 2/3	
CAB TEMP SENSOR	IN
FLT CTL 1 CH A	IN
IRS 3 PWR A	IN
L BMC CH A	IN
L ECS PRESS XDCR	IN
L FUEL RECIRC VLV	IN

CB − DC BUS 1, SPDA2 3/3	
L PACK CTLR CH A	IN
P FEEL/RUD LIM 1	IN
R PACK DUCT HEAT	IN
RAD ALT 1	IN
YD HEAT 1	IN

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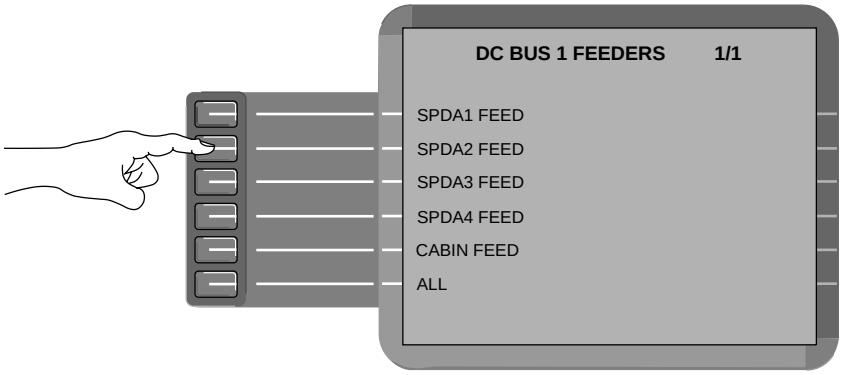
BUS KEY (CONT'D)

DC BUS 1 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 1, SPDA2 1/3	
ADF 1	IN
AFT TANK L SOV C	IN
AFT TANK L SOV O	IN
AIRFONE REPEATER	IN
AP 1 SERVOS	IN
BRAKE CTL CH A	IN

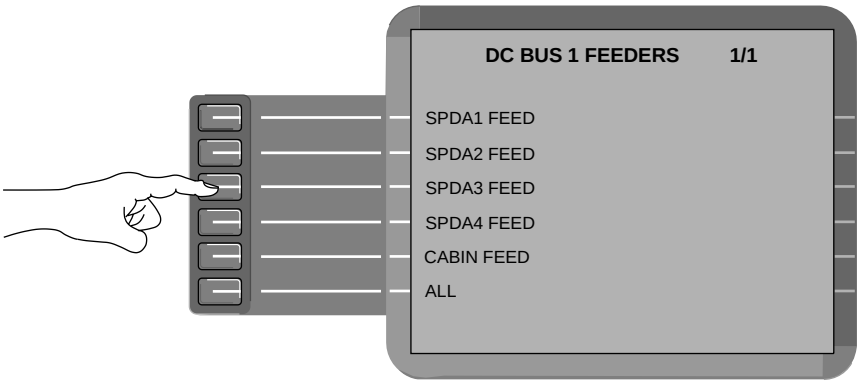
CB − DC BUS 1, SPDA2 2/3	
CAB TEMP SENSOR	IN
FLT CTL 1 CH A	IN
IRS 3 PWR A	IN
L BMC CH A	IN
L ECS PRESS XDCR	IN
L PACK CTLR CH A	IN

CB − DC BUS 1, SPDA2 3/3	
P FEEL/RUD LIM 1	IN
R PACK DUCT HEAT	IN
RAD ALT 1	IN
YD HEAT 1	IN
	IN

GF0720_071

BUS KEY (CONT'D)

DC BUS 1 (Cont'd)



CB − DC BUS 1, SPDA3 1/3	
ACPC CTL PWR C	IN
DAU 1 CH. B	IN
GPS 1	IN
GPWS	IN
HF 2 COUPLER	IN
HF 2 TRANSCVR	IN

CB − DC BUS 1, SPDA3 2/3	
HYD 1 PRESS XDCR	IN
IRS 3 FAN	IN
LIGHTNING SENSOR	IN
R BMC CH B	IN
R PACK CTLR CH B	IN
TAIL STROBE LTS	IN

CB − DC BUS 1, SPDA3 3/3	
TOILET FAN	IN
VIBE MONITOR	IN
WING INSPECT LTS	IN
WING STROBE LTS	IN

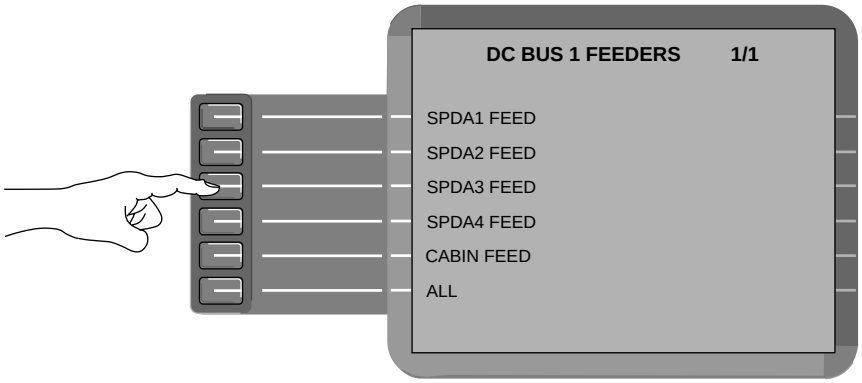
GF0720_072

BUS KEY (CONT'D)

DC BUS 1 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 1, SPDA3	1/3
ACPC CTL PWR C	IN
DAU 1 CH. B	IN
GPS 1	IN
GPWS	IN
HF 2 COUPLER	IN
HF 2 TRANSCVR	IN

CB − DC BUS 1, SPDA3	2/3
HYD 1 PRESS XDCR	IN
IRS 3 FAN	IN
LIGHTNING SENSOR	IN
R BMC CH B	IN
R PACK CTLR CH A	IN
TAIL STROBE LTS	IN

CB − DC BUS 1, SPDA3	3/3
TOILET FAN	IN
VIBE MONITOR	IN
WING INSPECT LTS	IN
WING STROBE LTS	IN

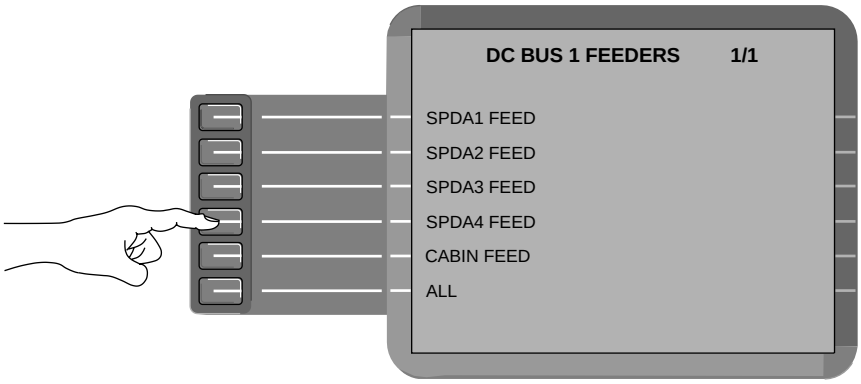
GF0720_073

NOTE

The EMS CDU indicates R PACK CTRL CH A is on DC BUS 1 and R PACK CTRL CH B is on DC BUS 2, of SPDA #3. The EMS CDU should indicate R PACK CTRL CH A on DC BUS 2 and R PACK CH B on DC BUS 1.

BUS KEY (CONT'D)

DC BUS 1 (Cont'd)



CB − DC BUS 1, SPDA4 1/3	
ADC 2	IN
AIRFONE SYSTEM	IN
AUDIO PANEL 1A	IN
AUDIO PANEL 3A	IN
CAIMS PMAT LAPTOP	IN
COPILOT INTG LTS	IN

CB − DC BUS 1, SPDA4 2/3	
DATA LINK	IN
DAU 4 CH B	IN
GEAR CTL A PWR 1	IN
L LOGO LT	IN
LIGHT DETECTOR	IN
RMU 1 PWR A	IN

CB − DC BUS 1, SPDA4 3/3	
SATCOM ANT CTLR	IN
SATCOM DATA UNIT	IN
SELCAL	IN
VHF COM 3 (OPT)	IN
VOR/ILS 3 (OPT)	IN
WING INSPECT LTS	IN

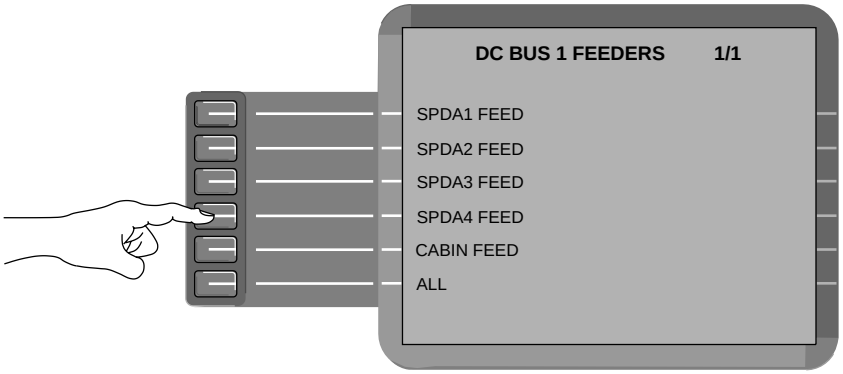
GF0720_074

BUS KEY (CONT'D)

DC BUS 1 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 1, SPDA4 1/4	
ADC 2	IN
AIRFONE SYSTEM	IN
AUDIO PANEL 1A	IN
AUDIO PANEL 3A	IN
CAIMS PMAT LAPTOP	IN
COPILOT INTG LTS	IN

CB − DC BUS 1, SPDA4 2/4	
DATA LINK	IN
DAU 4 CH B	IN
GEAR CTL A PWR 1	IN
L RECIRC SOV 1 C	IN
L RECIRC SOV 1 O	IN
L RECIRC SOV 2 C	IN

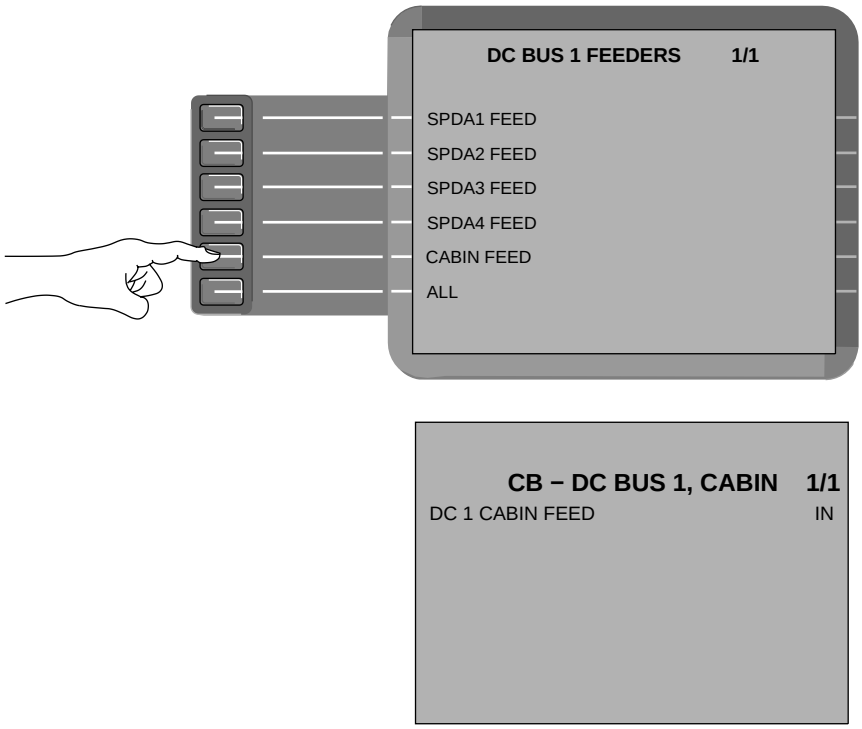
CB − DC BUS 1, SPDA4 3/4	
L RECIRC SOV 2 O	IN
L RECIRC SOV 3 C	IN
L RECIRC SOV 3 O	IN
LIGHT DETECTOR	IN
RMU 1 PWR A	IN
SATCOM ANT CTLR	IN

CB − DC BUS 1, SPDA4 4/4	
SATCOM DATA UNIT	IN
SELCAL	IN
VHF COM 3 (OPT)	IN
VOR/ILS 3 (OPT)	IN

GF0720_075

BUS KEY (CONT'D)

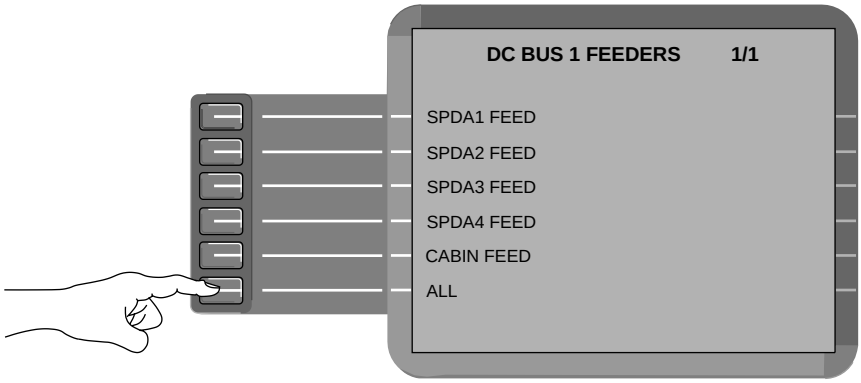
DC BUS 1 (Cont’d)



GF0720_076

BUS KEY (CONT'D)

DC BUS 1 (Cont'd)



CB − DC BUS 1	1/13
A/T SERVOS	IN
ACPC CTL PWR C	IN
ADC 2	IN
ADF1	IN
AFT TANK L SOV C	IN
AFT TANK L SOV O	IN

CB − DC BUS 1	2/13
AIRFONE REPEATER	IN
AIRFONE SYSTEM	IN
AP 1 SERVOS	IN
AUDIO PANEL 1A	IN
AUDIO PANEL 3A	IN
BRAKE CTL CH A	IN

CB − DC BUS 1	3/13
CAB TEMP SENSOR	IN
CAIMS PMAT LAPTOP	IN
CKPT PRINTER	IN
CLOCK 2	IN
COPILOT INTG LTS	IN
DATA LINK	IN

CB − DC BUS 1	4/13
DAU 1 CH B	IN
DAU 4 CH B	IN
DC 1 CABIN FEED	IN
DC BUS 1 FEED 1	IN
DC BUS 1 FEED 2	IN
DC BUS 1 FEED 3	IN

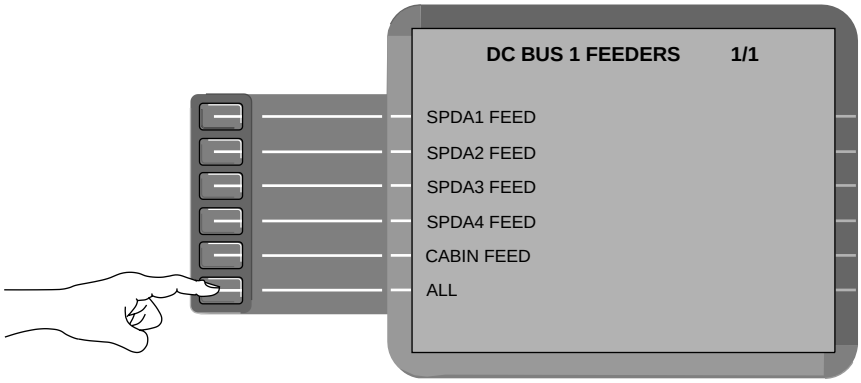
CB − DC BUS 1	5/13
DC BUS 1 FEED 4	IN
DU 3 PWR B	IN
FLT CTL 1 CHA	IN
FMS 3 CDU	IN
GEAR CTL A PWR 1	IN
GPS 1	IN

CB − DC BUS 1	6/13
GPWS	IN
HF 2 COUPLER	IN
HF 2 TRANSCVR	IN
HHD 1 PRESS XDCR	IN
IRS 3 FAN	IN
IRS 3 PWR A	IN

GF0720_077

BUS KEY (CONT'D)

DC BUS 1 (Cont'd)



CB − DC BUS 1	7/13
L BMC CH A	IN
L ECS PRESS XDCR	IN
L FOOTWARMER	IN
L FUEL RECIRC VLV	IN
L LOGO LT	IN
L NOSE LDG LT	IN

CB − DC BUS 1	8/13
L PACK CTLR CH A	IN
LIGHT DETECTOR	IN
LIGHTNING SENSOR	IN
NOSE STEER PWR 1	IN
OVHD 2 INTG LTS	IN
P FEEL/RUD LIM 1	IN

CB − DC BUS 1	9/13
PBA BRT/DIM 1 B	IN
PBA BRT/DIM 3 B	IN
R BMC CH B	IN
R PACK CTLR CH B	IN
R PACK DUCT HEAT	IN
R WINDOW HEAT CTL	IN

CB − DC BUS 1	10/13
RAD ALT 1	IN
RAT GCU TEST	IN
RAT GEN HEATER	IN
RMU 1 PWR A	IN
SATCOM ANT CTLR	IN
SATCOM DATA UNIT	IN

CB − DC BUS 1	11/13
SELCAL	IN
TAIL STROBE LTS	IN
TOILET FAN	IN
VHF COM 3 (OPT)	IN
VIBE MONITOR	IN
VOR/ILS 3 (OPT)	IN

CB − DC BUS 1	12/13
WING INSPECT LTS	IN
WING INSPECT LTS	IN
WING STROBE LTS	IN
WX RADAR	IN
WX RADAR CTLR 1	IN
WX RADAR CTLR 2	IN

CB − DC BUS 1	13/13
YD HEAT 1	IN

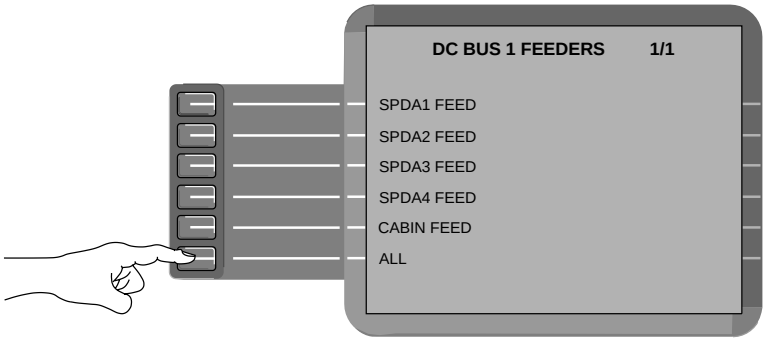
GF0720_078

BUS KEY (CONT'D)

DC BUS 1 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 1	7/13
L BMC CH A	IN
L ECS PRESS XDCR	IN
L FOOTWARMER	IN
L NOSE LDG LT	IN
L PACK CTLR CH A	IN
L RECIRC SOV 1 C	IN

CB − DC BUS 1	8/13
L RECIRC SOV 1 O	IN
L RECIRC SOV 2 C	IN
L RECIRC SOV 2 O	IN
L RECIRC SOV 3 C	IN
L RECIRC SOV 3 O	IN
LIGHT DETECTOR	IN

CB − DC BUS 1	9/13
LIGHTNING SENSOR	IN
NOSE STEER PWR 1	IN
OVHD 2 INTG LTS	IN
P FEEL/RUD LIM 1	IN
PBA BRT/DIM 1 B	IN
PBA BRT/DIM 3 B	IN

CB − DC BUS 1	10/13
R BMC CH B	IN
R PACK CTLR CH A	IN
R PACK DUCT HEAT	IN
R WINDOW HEAT CTL	IN
RAD ALT 1	IN
RAT GCU TEST	IN

CB − DC BUS 1	11/13
RAT GEN HEATER	IN
RMU 1 PWR A	IN
SATCOM ANT CTLR	IN
SATCOM DATA UNIT	IN
SELCAL	IN
TAIL STROBE LTS	IN

CB − DC BUS 1	12/13
TOILET FAN	IN
VHF COM 3 (OPT)	IN
VIBE MONITOR	IN
VOR/ILS 3 (OPT)	IN
WING INSPECT LTS	IN
WING STROBE LTS	IN

CB − DC BUS 1	13/13
WX RADAR	IN
WX RADAR CTLR 1	IN
WX RADAR CTLR 2	IN
YD HEAT 1	IN

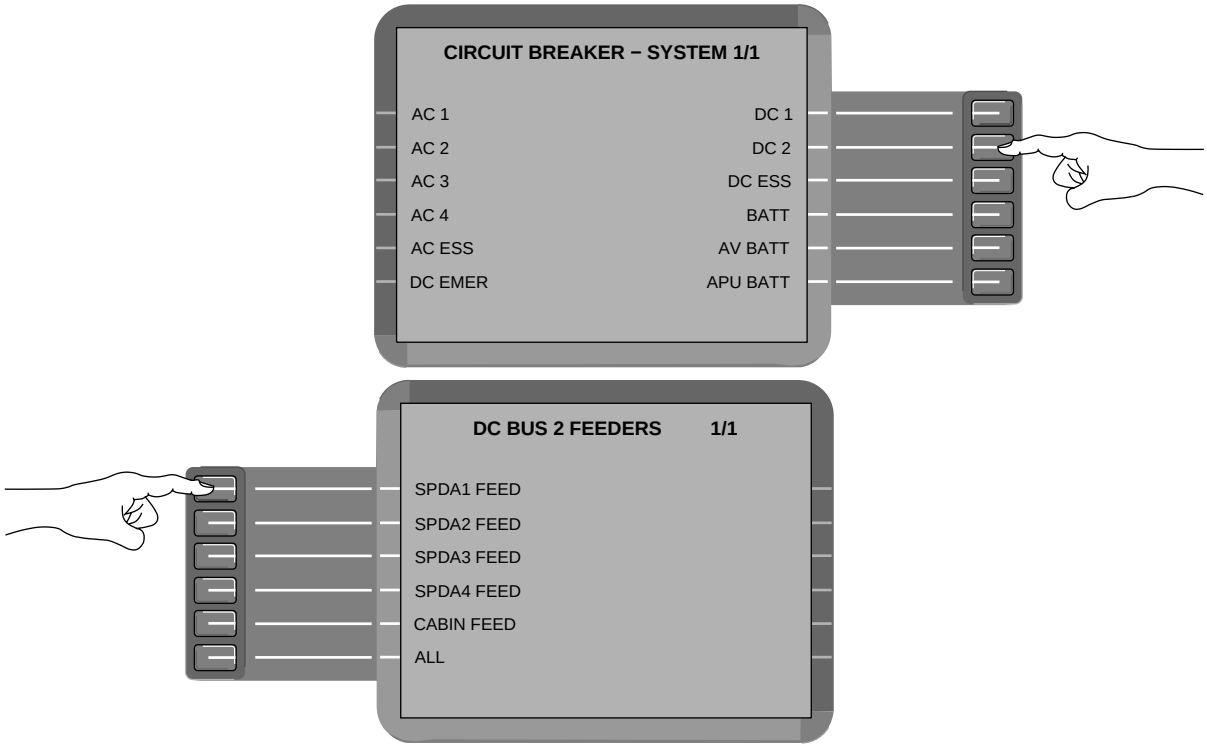
NOTE

The EMS CDU indicates R PACK CTLR CH A is on DC BUS 1 and R PACK CTLR CH B is on DC BUS 2, of SPDA #3. The EMS CDU should indicate R PACK CTLR CH A on DC BUS 2 and R PACK CTLR CH B on DC BUS 1.

GF0720_079

BUS KEY (CONT'D)

DC BUS 2



CB − DC BUS 2, SPDA1 1/3	
AILERON TRIM	IN
CB PNL INTG LTS	IN
CKPT TEMP SENSOR	IN
CTR 3 INTG LTS	IN
CVR ERASE	IN
DATA LOADER	IN

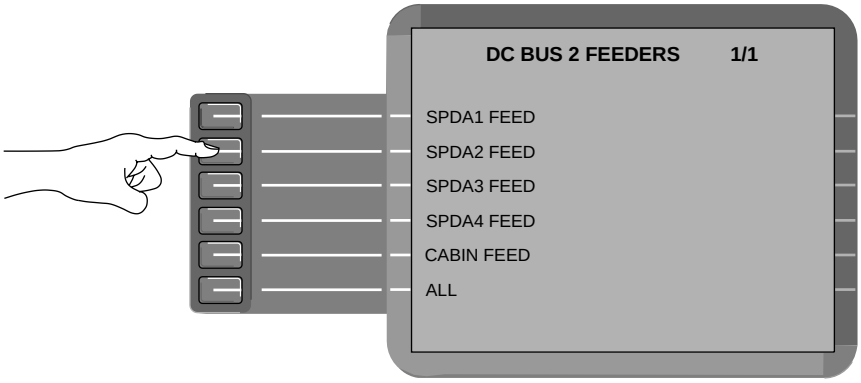
CB − DC BUS 2, SPDA1 2/3	
DAU 2 CH B	IN
DU 6	IN
FLOOR/EYE LTS	IN
FMS 2 CDU	IN
GALLEY FAN	IN
MFD 2 CTLR	IN

CB − DC BUS 2, SPDA1 3/3	
PBA BRT/DIM 2 B	IN
R FOOTWARMER	IN
R NOSE LDG LT	IN
RMU 2 PWR A	IN

GF0720_080

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)



CB − DC BUS 2, SPDA2 1/3	
DAU 3 CH. B	IN
DME 1	IN
DU 4 PWR B	IN
FDR	IN
FDR ACCELEROMETER	IN
GEAR CTL B PWR 1	IN

CB − DC BUS 2, SPDA2 2/3	
HF 1 COUPLER	IN
HF 1 TRANSCVR	IN
HUMIDIFIER	IN
HYD 2 PRESS XDCR	IN
IIRS 2 PWR A	IN
L BMC CH B	IN

CB − DC BUS 2, SPDA2 3/3	
L PACK CTLR CH B	IN
OIL TANK PRODE	IN
TRANSPONDER 1	IN
VHF COM 1	IN
VOR/ILS 1	IN

NOTE

The OIL TANK PROBE power source is tied to the MAP LTS circuit breaker, therefore, the OIL TANK PROBE circuit breaker is OUT for airplanes **incorporating** SB 700−79−005.

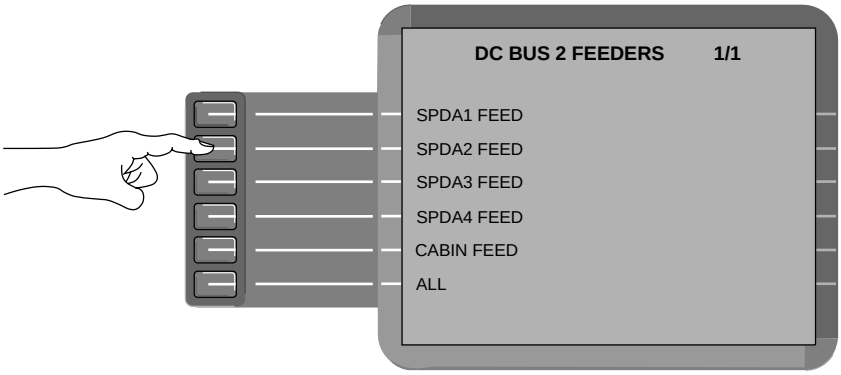
GF0720_081A

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 2, SPDA2 1/3	
DAU 3 CH. B	IN
DME 1	IN
DU 4 PWR B	IN
FDR	IN
FDR ACCELEROMETER	IN
GEAR CTL B PWR 1	IN

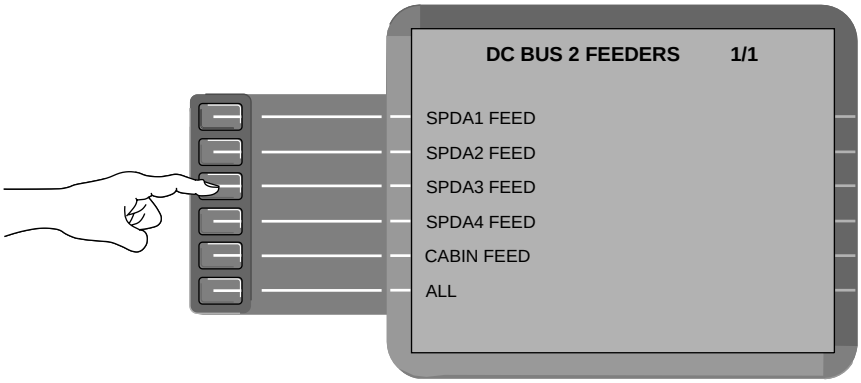
CB − DC BUS 2, SPDA2 2/3	
HF 1 COUPLER	IN
HF 1 TRANSCVR	IN
HUMIDIFIER	IN
HYD 2 PRESS XDCR	IN
IIRS 2 PWR A	IN
L BMC CH B	IN

CB − DC BUS 2, SPDA2 3/3	
L PACK CTLR CH B	IN
TRANSPONDER 1	IN
VHF COM 1	IN
VOR/ILS 1	IN

GF0720_082

BUS KEY (CONT'D)

DC BUS 2 (Cont’d)



CB − DC BUS 2, SPDA3 1/2	
AFT TANK R SOV C	IN
AFT TANK R SOV O	IN
GPS 2	IN
IRS 2 FAN	IN
L PACK DUCT HEAT	IN
NAV LTS	IN

CB − DC BUS 2, SPDA3 2/2	
R BMC CH A	IN
R PACK CTLR CH A	IN
RAD ALT 2	IN

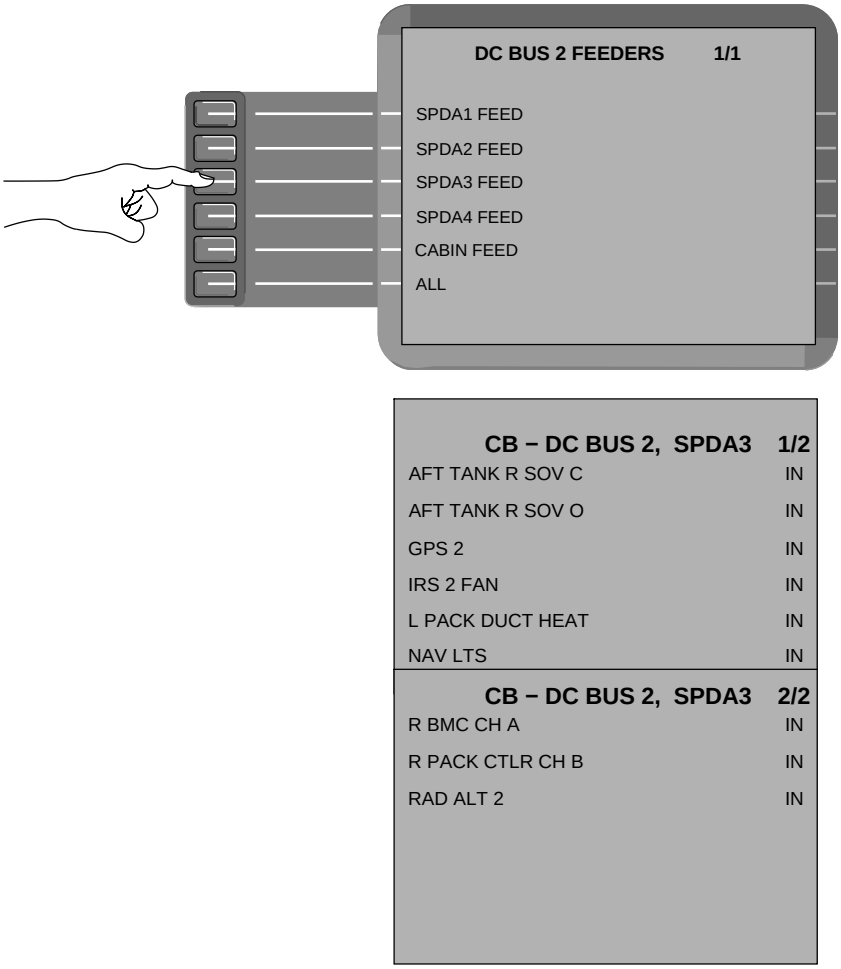
GF0720_083

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

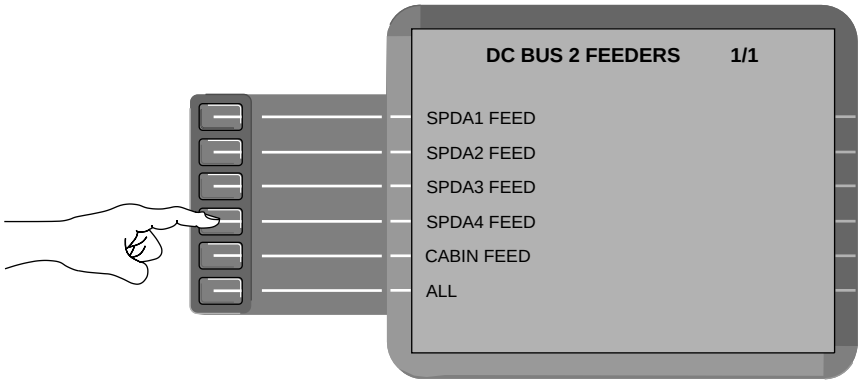


NOTE

The EMS CDU indicates R PACK CTLR CH A is on DC BUS 1 and R PACK CTLR CH B is on DC BUS 2, of SPDA #3. The EMS CDU should indicate R PACK CTLR CH A on DC BUS 2 and R PACK CTLR CH B on DC BUS 1.

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)



CB − DC BUS 2, SPDA4 1/3	
AP 2 SERVOS	IN
AUDIO PANEL 2A	IN
BEACON LT 1	IN
BEACON LT 2	IN
DU 5	IN
FLT CTL 1 CH B	IN

CB − DC BUS 2, SPDA4 2/3	
HUD	IN
NOSE STEER PWR 2	IN
R ECS PRESS XDCR	IN
R FUEL RECIRC VLV	IN
R LOGO LT	IN
TRU BAY FAN CTL	IN

CB − DC BUS 2, SPDA4 3/3	
YD HEAT 2	IN

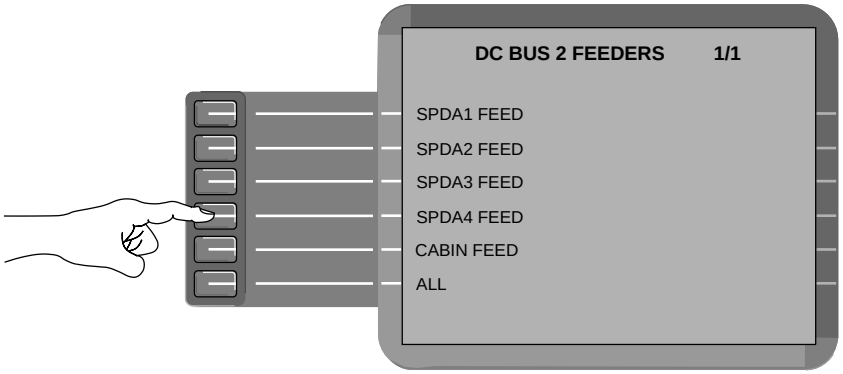
GF0720_085

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 2, SPDA4 1/3	
AP 2 SERVOS	IN
AUDIO PANEL 2A	IN
BEACON LT 1	IN
BEACON LT 2	IN
DU 5	IN
FLT CTL 1 CH B	IN

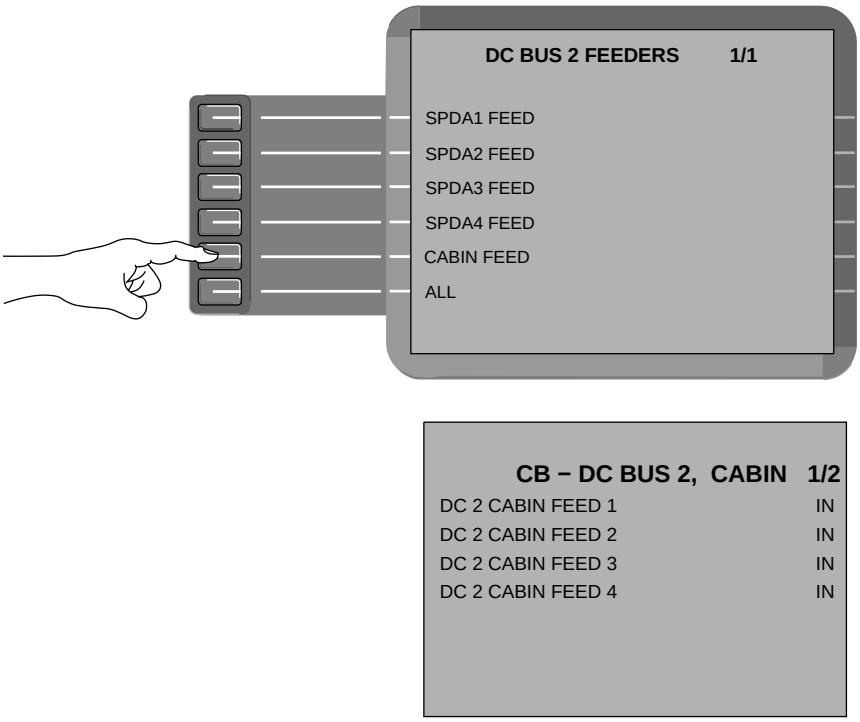
CB − DC BUS 2, SPDA4 2/3	
HUD	IN
HUD CTL PNL	IN
NOSE STEER PWR 2	IN
R ECS PRESS XDCR	IN
R RECIRC SOV 1 C	IN
R RECIRC SOV 1 O	IN

CB − DC BUS 2, SPDA4 3/3	
R RECIRC SOV 2 C	IN
R RECIRC SOV 2 O	IN
R RECIRC SOV 3 C	IN
R RECIRC SOV 3 O	IN
TRU BAY FAN CTL	IN
YD HEAT 2	IN

GF0720_086

BUS KEY (CONT'D)

DC BUS 2 (Cont’d)



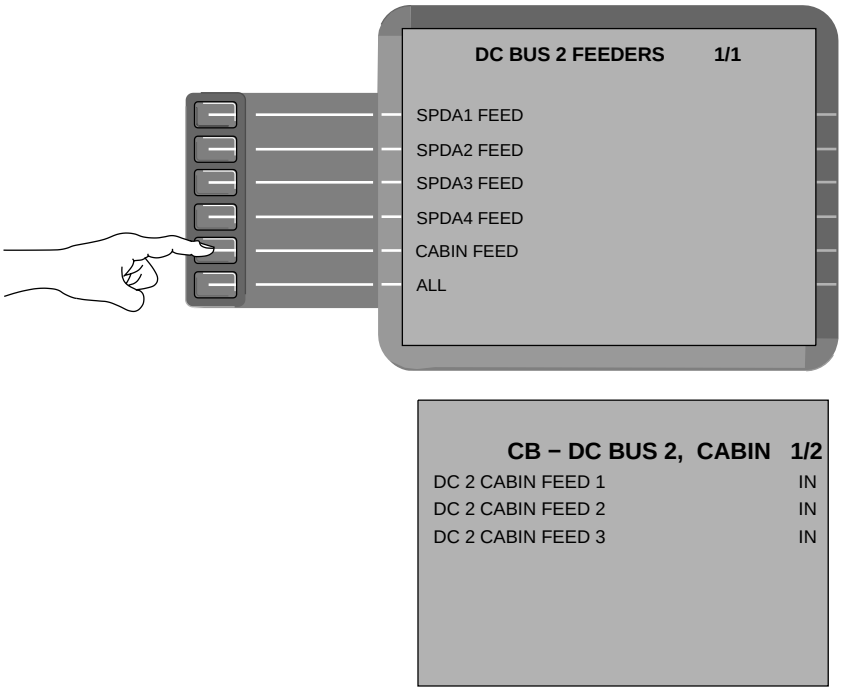
GF0720_087

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)

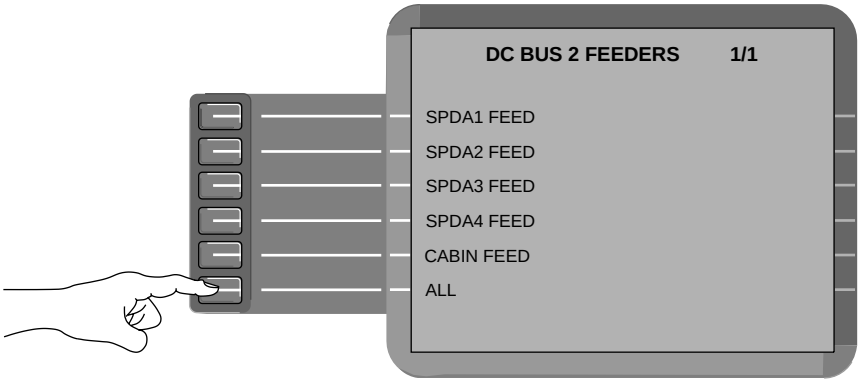
Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



BUS KEY (CONT'D)

DC BUS 2 (Cont'd)



CB − DC BUS 2	1/11
AFT TANK R SOV C	IN
AFT TANK R SOV O	IN
AILERON TRIM	IN
AP 2 SERVOS	IN
AUDIO PANEL 2 A	IN
BEACON LT 1	IN

CB − DC BUS 2	2/11
BEACON LT 2	IN
CB PNL INTG LTS	IN
CKPT TEMP SENSOR	IN
CTR 3 INTG LTS	IN
CVR ERASE	IN
DATA LOADER	IN

CB − DC BUS 2	3/11
DAU 2 CH B	IN
DAU 3 CH B	IN
DC 2 CABIN FEED 1	IN
DC 2 CABIN FEED 2	IN
DC 2 CABIN FEED 3	IN
DC 2 CABIN FEED 4	IN

CB − DC BUS 2	4/11
DC BUS 2 FEED 1	IN
DC BUS 2 FEED 2	IN
DC BUS 2 FEED 3	IN
DC BUS 2 FEED 4	IN
DME 1	IN
DU 4 PWR B	IN

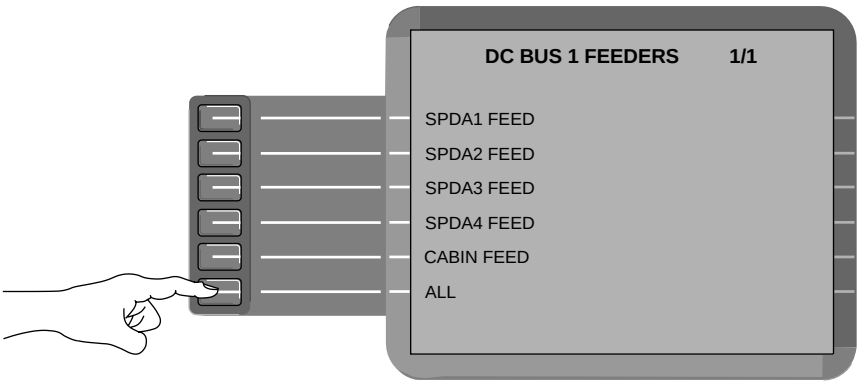
CB − DC BUS 2	5/11
DU 5	IN
DU 6	IN
FDR	IN
FDR ACCELEROMETER	IN
FLOOR/EYE LTS	IN
FLT CTL 1 CH B	IN

CB − DC BUS 2	6/11
FMS 2 CDU	IN
GALLEY FAN	IN
GEAR CTL B PWR 1	IN
GPS 2	IN
HF 1 COUPLER	IN
HF 1 TRANSCVR	IN

GF0720_089

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)



CB − DC BUS 2	7/11
HUD	IN
HUMIDIFIER	IN
HYD 2 PRESS XDCR	IN
IRS 2 FAN	IN
IRS 2 PWR A	IN
L BMC CH B	IN

CB − DC BUS 2	8/11
L PACK CTLR CH B	IN
L PACK DUCT HEAT	IN
MFD 2 CTLR	IN
NAV LTS	IN
NOSE STEER PWR 2	IN
OIL TANK PROBE	IN

CB − DC BUS 2	9/11
PBA BRT/DIM 2 B	IN
R BMC CH A	IN
R ECS PRESS XDCR	IN
R FOOTWARMER	IN
R FUEL RECIRC VLV	IN
R LOGO LT	IN

CB − DC BUS 2	10/11
R NOSE LDG LT	IN
R PACK CTLR CH A	IN
RAD ALT 2	IN
RMU 2 PWR A	IN
TRANSPONDER 1	IN
TRU BAY FAN CTL	IN

CB − DC BUS 2	11/11
VHF COM 1	IN
VOR/ILS 1	IN
YD HEAT 2	IN

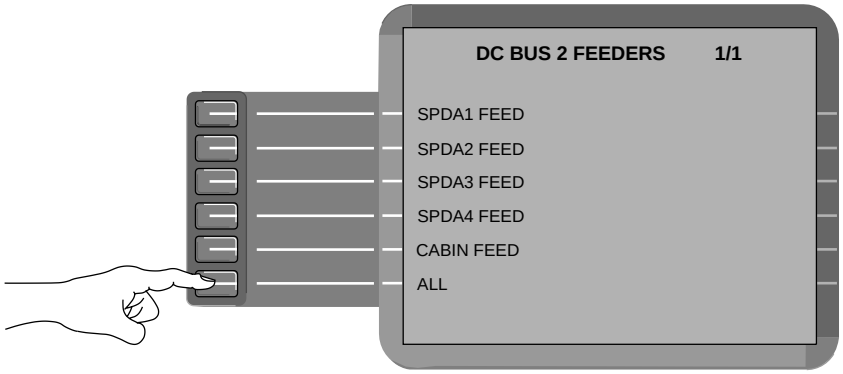
GF0720_090

BUS KEY (CONT'D)

DC BUS 2 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 2	1/12
AFT TANK R SOV C	IN
AFT TANK R SOV O	IN
AILERON TRIM	IN
AP 2 SERVOS	IN
AUDIO PANEL 2 A	IN
BEACON LT 1	IN

CB − DC BUS 2	2/12
BEACON LT 2	IN
CB PNL INTG LTS	IN
CKPT TEMP SENSOR	IN
CTR 3 INTG LTS	IN
CVR ERASE	IN
DATA LOADER	IN

CB − DC BUS 2	3/12
DAU 2 CH B	IN
DAU 3 CH B	IN
DC 2 CABIN FEED 1	IN
DC 2 CABIN FEED 2	IN
DC 2 CABIN FEED 3	IN
DC BUS 2 FEED 1	IN

CB − DC BUS 2	4/12
DC BUS 2 FEED 2	IN
DC BUS 2 FEED 3	IN
DC BUS 2 FEED 4	IN
DME 1	IN
DU 4 PWR B	IN
DU 5	IN

CB − DC BUS 2	5/12
DU 6	IN
EMS CDU 1/2 PWR D	IN
FDR	IN
FDR ACCELEROMETER	IN
FLOOR/EYE LTS	IN
FLT CTL 1 CH B	IN

CB − DC BUS 2	6/12
FMS 2 CDU	IN
GALLEY FAN	IN
GEAR CTL B PWR 1	IN
GPS 2	IN
HF 1 COUPLER	IN
HF 1 TRANSCVR	IN

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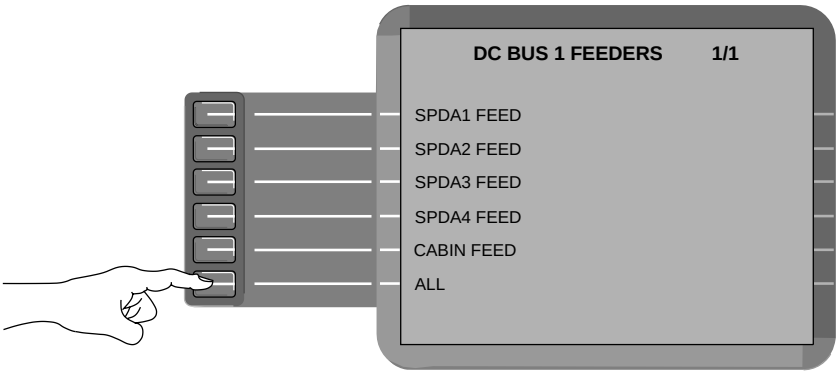
BUS KEY (CONT'D)

DC BUS 2 (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − DC BUS 2	7/12
HUD	IN
HUD CTL PNL	IN
HUMIDIFIER	IN
HYD 2 PRESS XDCR	IN
IRS 2 FAN	IN
IRS 2 PWR A	IN

CB − DC BUS 2	8/12
L BMC CH B	IN
L PACK CTLR CH B	IN
L PACK DUCT HEAT	IN
MFD 2 CTLR	IN
NAV LTS	IN
NOSE STEER PWR 2	IN

CB − DC BUS 2	9/12
PBA BRT/DIM 2 B	IN
R BMC CH A	IN
R ECS PRESS XDCR	IN
R FOOTWARMER	IN
R NOSE LDG LT	IN
R PACK CTLR CH B	IN

CB − DC BUS 2	10/12
R RECIRC SOV 1 C	IN
R RECIRC SOV 1 O	IN
R RECIRC SOV 2 C	IN
R RECIRC SOV 2 O	IN
R RECIRC SOV 3 C	IN
R RECIRC SOV 3 O	IN

CB − DC BUS 2	11/12
RAD ALT 2	IN
RMU 2 PWR A	IN
TRANSPONDER 1	IN
TRU BAY FAN CTL	IN
VHF COM 1	IN
VOR/ILS 1	IN

CB − DC BUS 2	12/12
YD HEAT 2	IN

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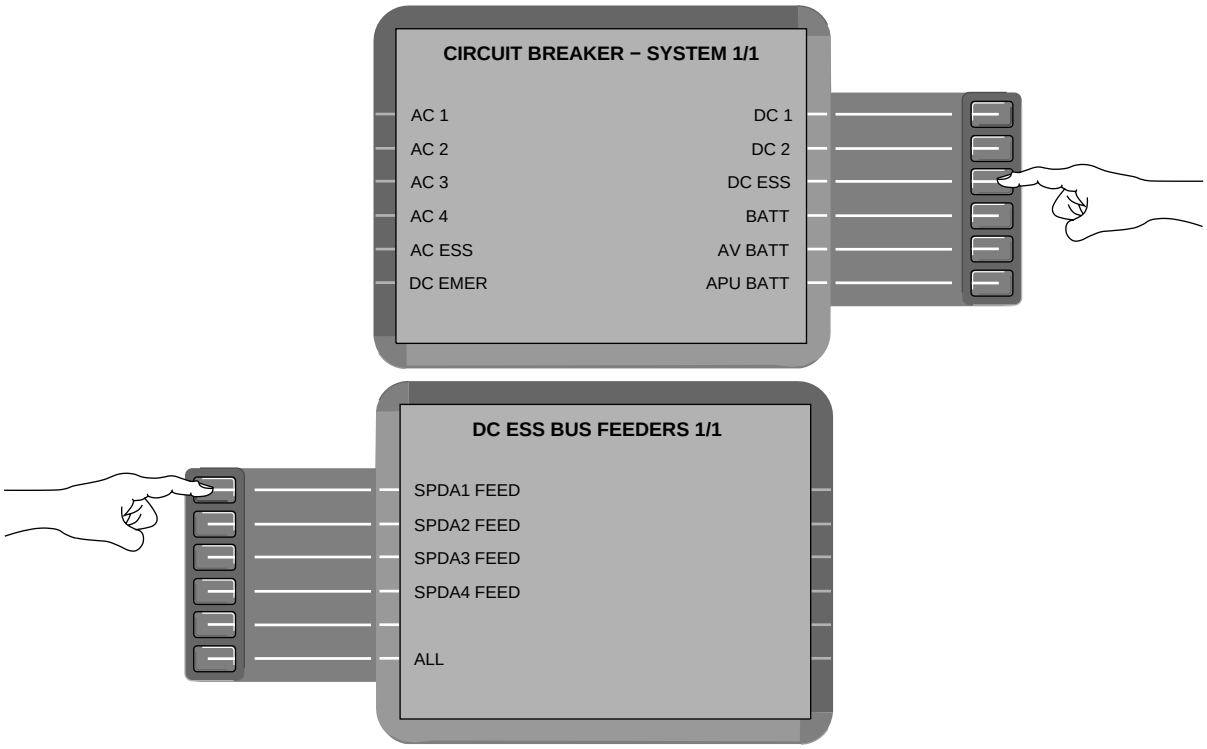
NOTE
The EMS CDU indicates R PACK CTLR CH A is on DC BUS 1 and R PACK CTLR CH B is on DC BUS 2, of SPDA #3. The EMS CDU should indicate R PACK CTLR CH A on DC BUS 2 and R PACK CTLR CH B on DC BUS 1.

BUS KEY (CONT'D)
DC ESS BUS



CB − DC ESS BUS, SPDA 1	1/2
AUDIO PANEL 3B	IN
CTR 1 INTG LTS	IN
DU 2	IN
FLOOD LTS	IN
GUID PANEL CH 2	IN
PILOT INTG LTS	IN

CB − DC ESS BUS, SPDA 1	2/2
RAM AIR VLV	IN
RMU 1 PWR B	IN
RUDDER TRIM	IN
STBY ALT/ASI	IN

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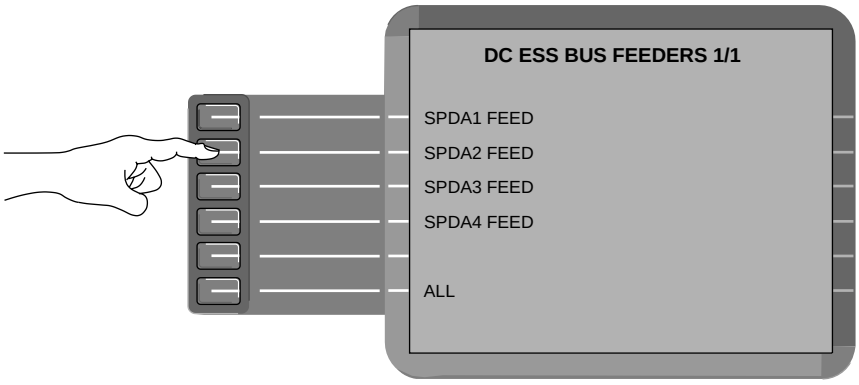
BUS KEY (CONT'D)

DC ESS BUS (Cont'd)



CB − DC ESS BUS, SPDA 2 1/2

⟶ XFER SOV C	IN
⟶ XFER SOV O	IN
L AUX PUMP	IN
L ECS HASOV	IN
L ENG BLEED VLV	IN
L ENG HP VLV	IN

CB − DC ESS BUS, SPDA 2 2/2

L PACK CTL VLV	IN

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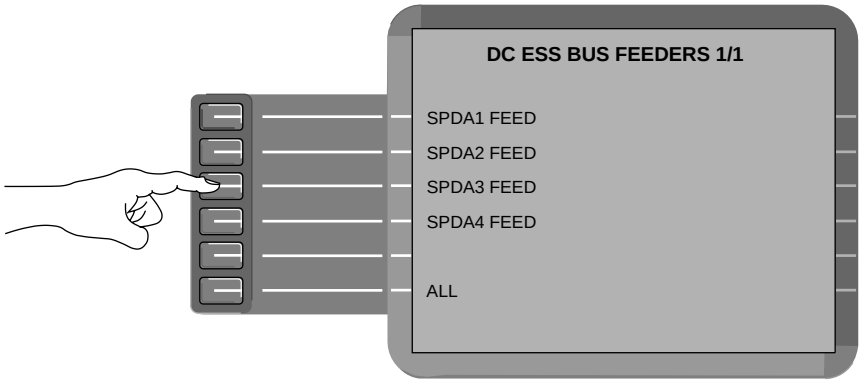
BUS KEY (CONT'D)

DC ESS BUS (Cont'd)



CB − DC ESS BUS, SPDA 3 1/3	
ACPC CTL PWR B	IN
AUTO PRESS 1	IN
CVR	IN
FLT CTL 2 CH A	IN
FUEL COMPUTR CH B	IN
IRS 1 FAN	IN

CB − DC ESS BUS, SPDA 3 2/3	
IRS 1 PWR A	IN
IRS 2 PWR B	IN
IRS 3 PWR B	IN
L WING A/ICE CTL	IN
P FEEL/RUD LIM 2	IN
R BMC SENSORS	IN

CB − DC ESS BUS, SPDA 3 3/3	
R ECS HASOV	IN
R ENG BLEED VLV	IN
R ENG HP VLV	IN
R PACK CTL VLV	IN
SLAT/FLAP CTLR 2	IN
YD 2	IN

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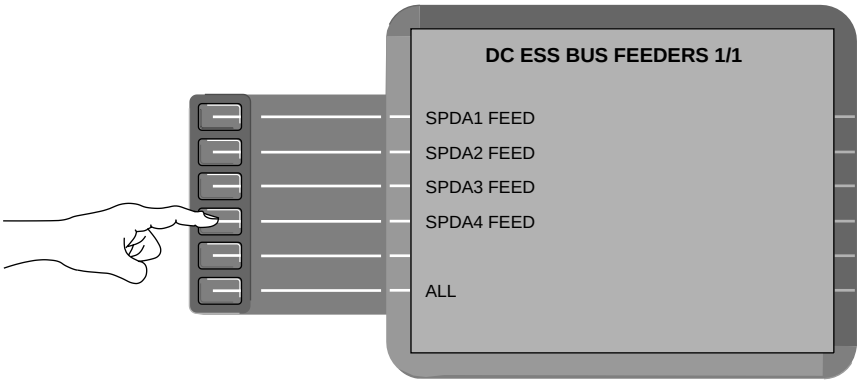
BUS KEY (CONT'D)

DC ESS BUS (Cont'd)



CB − DC ESS BUS, SPDA 4	1/4
ADC 3	IN
ADF 2	IN
AURAL WARNING 2	IN
AUTO PRESS 2	IN
DME 2	IN
DU 1	IN

CB − DC ESS BUS, SPDA 4	2/4
EMER LTS	IN
FLT CTL 2 CH B	IN
HBMU 2	IN
IAC 2	IN
L BMC SENSORS	IN
L WINDOW HEAT CTL	IN

CB − DC ESS BUS, SPDA 4	3/4
PUSHER LOCK CH B	IN
R WING A/ICE CTL	IN
SPC CH B	IN
STICK SHAKER 2	IN
TCAS	IN
VOR/ILS 2	IN

CB − DC ESS BUS, SPDA 4	4/4
WAI XBLEED CNTL	IN
WAI XBLEED VLV	IN

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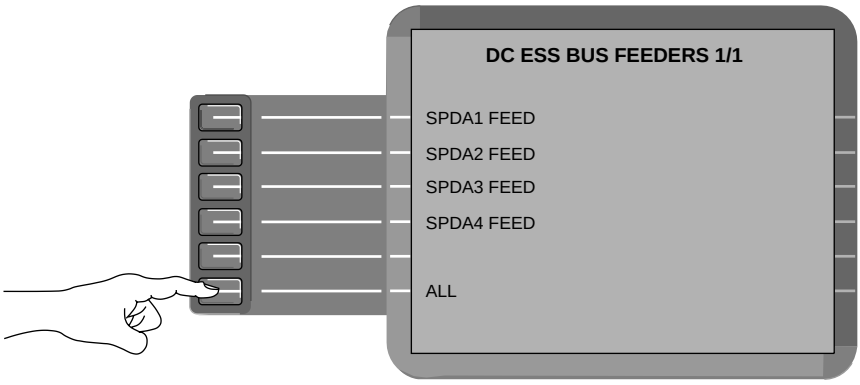
BUS KEY (CONT'D)

DC ESS BUS (Cont'd)



CB − DC ESS BUS	1/10
⟶ XFER SOV C	IN
⟶ XFER SOV O	IN
ACPC CTL PWR B	IN
ADC 3	IN
ADF 2	IN
AUDIO PANEL 3B	IN

CB − DC ESS BUS	2/10
AURAL WARNING 2	IN
AUTO PRESS 1	IN
AUTO PRESS 2	IN
CTR 1 INTG LT	IN
CVR	IN
DC ESS BUS FEED 1	IN

CB − DC ESS BUS	3/10
DC ESS BUS FEED 2	IN
DC ESS BUS FEED 3	IN
DC ESS BUS FEED 4	IN
DME 2	IN
DU 1	IN
DU 2	IN

CB − DC ESS BUS	4/10
EMER LTS	IN
FLOOD LTS	IN
FLT CTL 2 CH A	IN
FLT CTL 2 CH B	IN
FUEL COMPUTR CH B	IN
GUID PANEL CH 2	IN

CB − DC ESS BUS	5/10
HBMU 2	IN
IAC 2	IN
IRS 1 FAN	IN
IRS 1 PWR A	IN
IRS 2 PWR B	IN
IRS 3 PWR B	IN

CB − DC ESS BUS	6/10
L AUX PUMP	IN
L BMC SENSORS	IN
L ECS HASOV	IN
L ENG BLEED VLV	IN
L ENG HP VLV	IN
L PACK CTL VLV	IN

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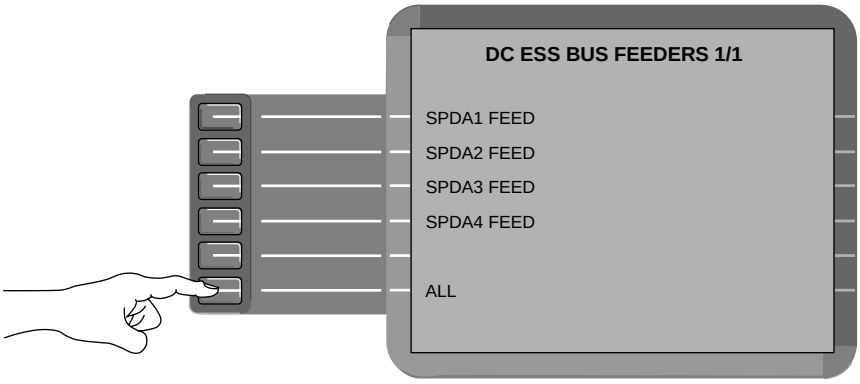
BUS KEY (CONT'D)

DC ESS BUS (Cont'd)



CB − DC ESS BUS	7/10
L WINDOW HEAT CTL	IN
L WING A/ICE CTL	IN
P FEEL/RUD LIM 2	IN
PILOT INTG LTS	IN
PUSHER LOCK CH B	IN
R BMC SENSORS	IN

CB − DC ESS BUS	8/10
R ECS HASOV	IN
R ENG BLEED VLV	IN
R ENG HP VLV	IN
R PACK CTL VLV	IN
R WING A/ICE CTL	IN
RAM AIR VLV	IN

CB − DC ESS BUS	9/10
RMU 1 PWR B	IN
RUDDER TRIM	IN
SLAT/FLAP CTLR 2	IN
SPC CH B	IN
STBY ALT/ASI	IN
STICK SHAKER 2	IN

CB − DC ESS BUS	10/10
TCAS	IN
VOR/ILS 2	IN
WAI XBLEED CTL	IN
WAI XBLEED VLV	IN
YD 2	IN

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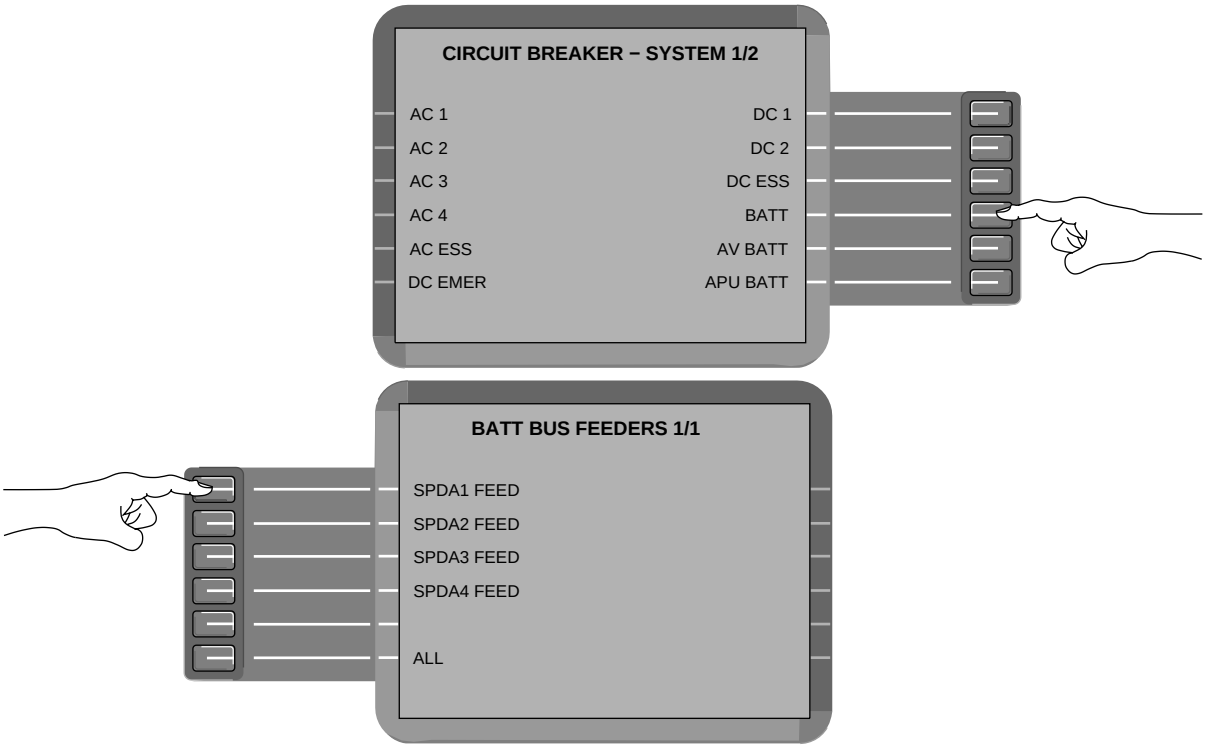
BUS KEY (CONT'D)

BATT BUS



CB − BATT BUS SPDA 1	1/5
ADC 1	IN
AUDIO PANEL 1B	IN
AUDIO PANEL 2B	IN
CLOCK 1	IN
DU 4 PWR A	IN
EMS CDU 2 PWR B	IN

CB − BATT BUS SPDA 1	2/5
IAC 3	IN
L FIRE HANDLE	IN
MACH TRANSDUCER	IN
MAN OUTFLOW VLV	IN
OVHD 1 INTG LTS	IN
OXYGEN	IN

CB − BATT BUS SPDA 1	3/5
PBA BRT/DIM 1 A	IN
PBA BRT/DIM 2 A	IN
PBA BRT/DIM 3 A	IN
PUSHER LOCK CH A	IN
R ENG FUEL HPSOV	IN
R ENG IGN 2	IN

CB − BATT BUS SPDA 1	4/5
R ENG START B	IN
R FADEC CH B	IN
R FIRE HANDLE	IN
R T/R TQA LOCK	IN
RAT DEPLOY	IN
RMU 2 PWR B	IN

CB − BATT BUS SPDA 1	5/5
SPC CH A	IN
STICK PUSHER PWR	IN
STICK SHAKER 1	IN
TRANSPONDER 2	IN

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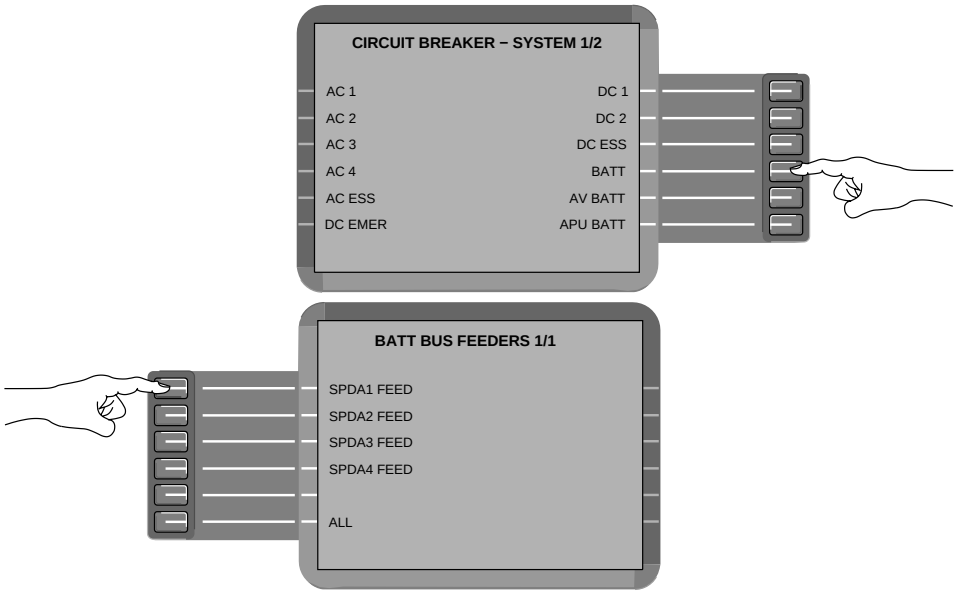
BUS KEY (CONT'D)

BATT BUS (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − BATT BUS SPDA 1 1/5	
ADC 1	IN
AUDIO PANEL 1B	IN
AUDIO PANEL 2B	IN
CLOCK 1	IN
DU 4 PWR A	IN
EMS CDU 2 PWR B	IN

CB − BATT BUS SPDA 1 2/5	
IAC 3	IN
L FIRE HANDLE	IN
MACH TRANSDUCER	IN
MAN OUTFLOW VLV	IN
OVHD 1 INTG LTS	IN
OXYGEN	IN

CB − BATT BUS SPDA 1 3/5	
PBA BRT/DIM 1 A	IN
PBA BRT/DIM 2 A	IN
PBA BRT/DIM 3 A	IN
PUSHER LOCK CH A	IN
R ENG FUEL HPSOV	IN
R ENG IGN 2	IN

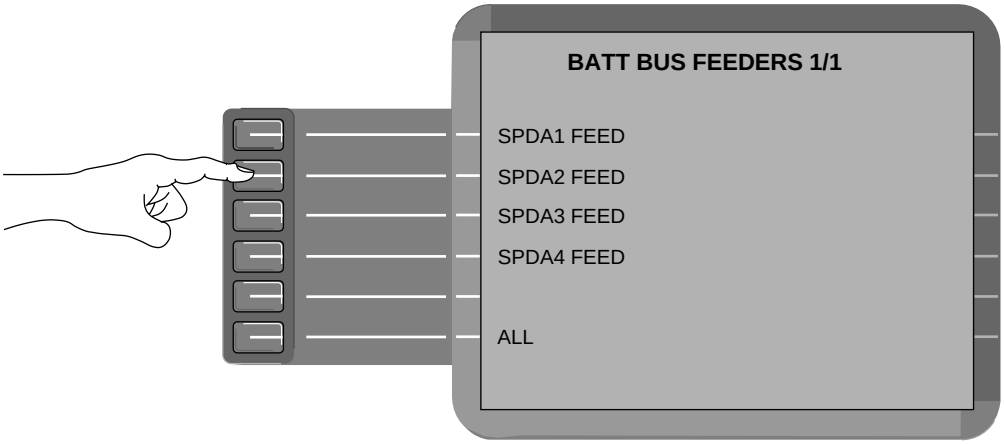
CB − BATT BUS SPDA 1 4/5	
R ENG START B	IN
R FADEC CH B	IN
R FIRE HANDLE	IN
R T/R TQA LOCK	IN
RAT DEPLOY	IN
RMU 2 PWR B	IN

CB − BATT BUS SPDA 1 5/5	
SPC CH A	IN
STBY ADI	IN
STICK PUSHER PWR	IN
STICK SHAKER 1	IN
TRANSPONDER 2	IN

GF0720_100

BUS KEY (CONT'D)

BATT BUS (Cont'd)



CB − BATT BUS SPDA 2	1/5
ACPC CTL PWR A	IN
APU FIRE HANDLE	IN
APU GCU	IN
AURAL WARNING 1	IN
CTR 2 INTG LTS A	IN
DAU 1 CH A	IN

CB − BATT BUS SPDA 2	2/5
FIRE DETECT CH A	IN
FMS 1 CDU	IN
FUEL COMPUTR CH A	IN
GCU 1	IN
GCU 2	IN
GEAR CTL B PWR 2	IN

CB − BATT BUS SPDA 2	3/5
HBMU 1	IN
IAC 1	IN
IRS 1 PWR B	IN
L COWL A/ICE VLV	IN
L ENG IGN 1	IN
L ENG START A	IN

CB − BATT BUS SPDA 2	4/5
L FADEC CH A	IN
L T/R CTL VALVE	IN
L T/R LOWER LOCK	IN
L T/R UPPER LOCK	IN
MAN PRESS 1	IN
MAP LTS	IN

CB − BATT BUS SPDA 2	5/5
MFD 1 CTLR	IN
NO SMOKING SIGN	IN
SLAT/FLAP CTLR 1	IN
XFEED SOV C	IN
XFEED SOV O	IN
YD 1	IN

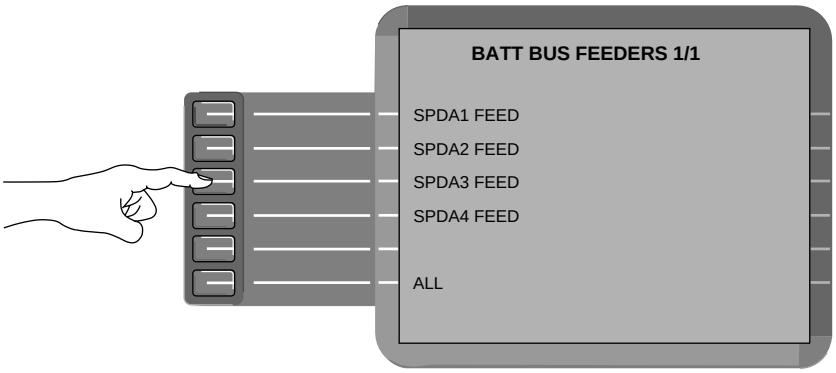
NOTE

The OIL TANK PROBE power source is tied to the MAP LTS circuit breaker, therefore, the OIL TANK PROBE circuit breaker is OUT for airplanes **incorporating** SB 700−79−005.

GF0720_101A

BUS KEY (CONT'D)

BATT BUS (Cont'd)



CB − BATT BUS SPDA 3 1/5	
⟵ XFER SOV C	IN
⟵ XFER SOV O	IN
APU FADEC PWR 1	IN
APU LUBE	IN
APU START	IN
BATT CABIN FEED	IN

CB − BATT BUS SPDA 3 2/5	
BRAKE CTL CH B	IN
DAU 3 CH A	IN
DAU 4 CH A	IN
FIRE DETECT CH B	IN
GCU 3	IN
GCU 4	IN

CB − BATT BUS SPDA 3 3/5	
GEAR CTL A PWR 2	IN
HYD 3 PRESS XDCR	IN
L ENG LUBE	IN
LUBE PUMP	IN
MAN PRESS 2	IN
R AUX PUMP	IN

CB − BATT BUS SPDA 3 4/5	
R COWL A/ICE VLV	IN
R ENG IGN 1	IN
R ENG LUBE	IN
R ENG START A	IN
R FADEC CH A	IN
R T/R CTL VALVE	IN

CB − BATT BUS SPDA 3 5/5	
R T/R LOWER LOCK	IN
R T/R UPPER LOCK	IN
SEAT BELTS SIGN	IN
XBLEED CTL	IN
XBLEED VLV	IN

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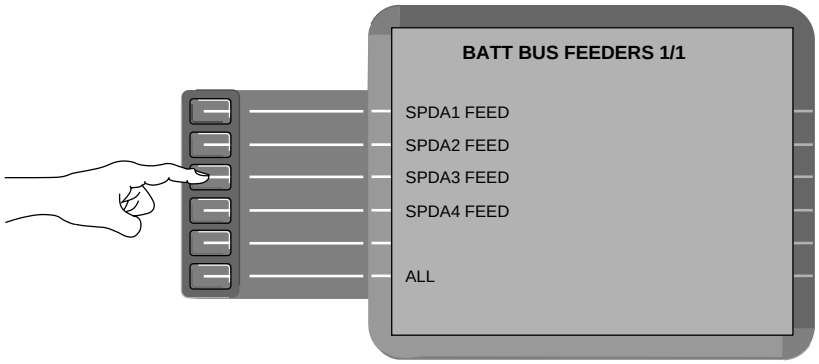
BUS KEY (CONT'D)

BATT BUS (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − BATT BUS SPDA 3 1/5	
⟵ XFER SOV C	IN
⟵ XFER SOV O	IN
APU FADEC PWR 1	IN
APU LUBE	IN
APU START	IN
BRAKE CTL CH B	IN

CB − BATT BUS SPDA 3 2/5	
DAU 3 CH A	IN
DAU 4 CH A	IN
FIRE DETECT CH B	IN
GCU 3	IN
GCU 4	IN
GEAR CTL A PWR 2	IN

CB − BATT BUS SPDA 3 3/5	
HYD 3 PRESS XDCR	IN
L ENG LUBE	IN
LUBE PUMP	IN
MAN PRESS 2	IN
PASSENGER ADDRESS	IN
R AUX PUMP	IN

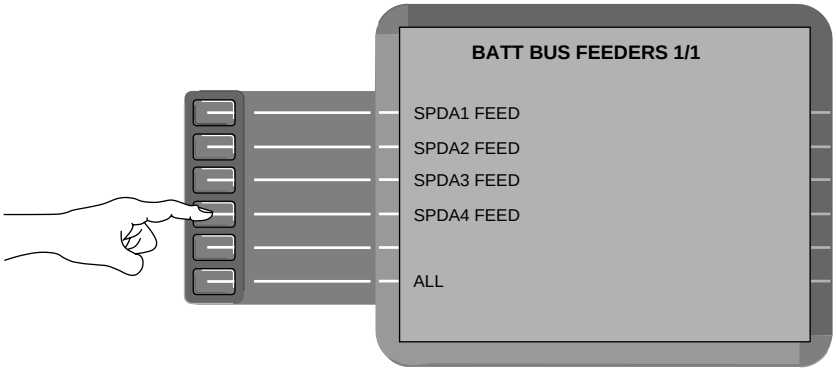
CB − BATT BUS SPDA 3 4/5	
R COWL A/ICE VLV	IN
R ENG IGN 1	IN
R ENG LUBE	IN
R ENG START A	IN
R FADEC CH A	IN
R T/R CTL VALVE	IN

CB − BATT BUS SPDA 3 5/5	
R T/R LOWER LOCK	IN
R T/R UPPER LOCK	IN
SEAT BELTS SIGN	IN
XBLEED CTL	IN
XBLEED VLV	IN

GF0720_103

BUS KEY (CONT'D)

BATT BUS (Cont'd)



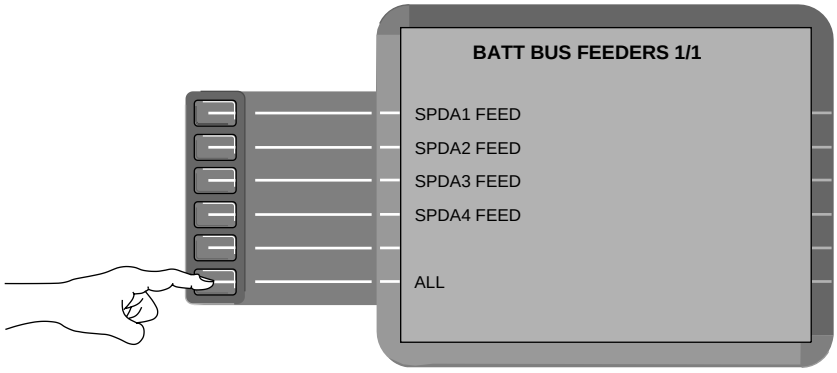
CB − BATT BUS SPDA 4 1/2	
DAU 2 CH A	IN
DU 3 PWR A	IN
EMS CDU 1 PWR B	IN
GUID PANEL CH 1	IN
L ENG FUEL HPSOV	IN
L ENG IGN 2	IN

CB − BATT BUS SPDA 4 2/2	
L ENG START B	IN
L FADEC CH B	IN
L T/R TQA LOCK	IN
VHF COM 2	IN

GF0720_104

BUS KEY (CONT'D)

BATT BUS (Cont'd)



CB − BATT BUS	1/17
⟵ XFER SOV C	IN
⟵ XFER SOV O	IN
ACPC CTL PWR A	IN
ADC1	IN
APU FADEC PWR 1	IN
APU FIRE HANDLE	IN

CB − BATT BUS	2/17
APU GCU	IN
APU LUBE	IN
APU START	IN
AUDIO PANEL 1B	IN
AUDIO PANEL 2B	IN
AURAL WARNING 1	IN

CB − BATT BUS	3/17
BATT BUS FEED 1	IN
BATT BUS FEED 2	IN
BATT BUS FEED 3	IN
BATT BUS FEED 4	IN
BATT CABIN FEED	IN
BRAKE CTL CH B	IN

CB − BATT BUS	4/17
CLOCK 1	IN
CTR 2 INTG LTS A	IN
DAU 1 CH A	IN
DAU 2 CH A	IN
DAU 3 CH A	IN
DAU 4 CH A	IN

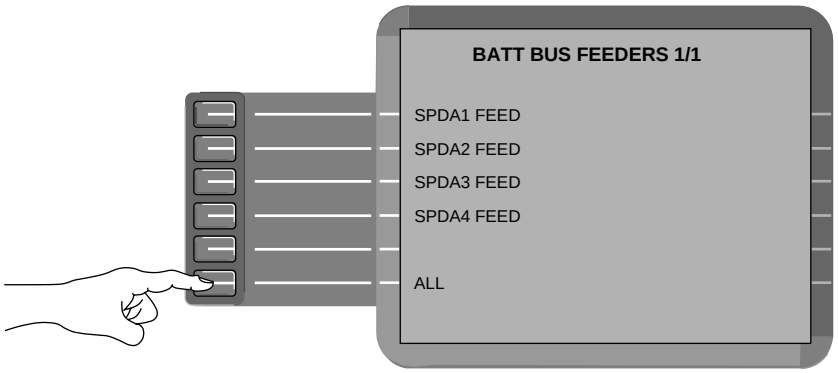
CB − BATT BUS	5/17
DC EMER FEED 2	IN
DU 3 PWR A	IN
DU 4 PWR A	IN
EMS CDU 1 PWR B	IN
EMS CDU 2 PWR B	IN
FIRE DETECT CH A	IN

CB − BATT BUS	6/17
FIRE DETECT CH B	IN
FMS 1 CDU	IN
FUEL COMPUTR CH A	IN
GCU 1	IN
GCU 2	IN
GCU 3	IN

GF0720_105

BUS KEY (CONT'D)

BATT BUS (Cont'd)



CB − BATT BUS	7/17
GCU 4	IN
GEAR CTL A PWR 2	IN
GEAR CTL B PWR 2	IN
GUID PANEL CH 1	IN
HBMU 1	IN
HYD 3 PRESS XDCR	IN

CB − BATT BUS	8/17
IAC 1	IN
IAC 3	IN
IRS 1 PWR B	IN
L COWL A/ICE VLV	IN
L ENG FUEL HPSOV	IN
L ENG IGN 1	IN

CB − BATT BUS	9/17
L ENG IGN 2	IN
L ENG LUBE	IN
L ENG START A	IN
L ENG START B	IN
L FADEC CH A	IN
L FADEC CH B	IN

CB − BATT BUS	10/17
L FIRE HANDLE	IN
L T/R CTL VALVE	IN
L T/R LOWER LOCK	IN
L T/R TQA LOCK	IN
L T/R UPPER LOCK	IN
LUBE PUMP	IN

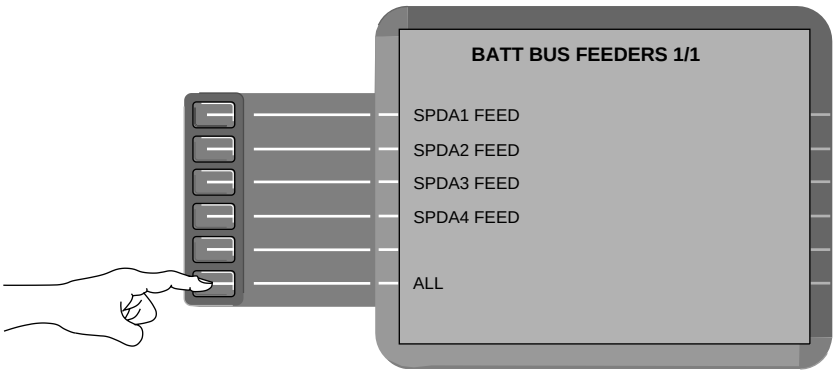
CB − BATT BUS	11/17
MACH TRANSDUCER	IN
MAN OUTFLOW VLV	IN
MAN PRESS 1	IN
MAN PRESS 2	IN
MAP LTS	IN
MFD 1 CTLR	IN

CB − BATT BUS	12/17
NO SMOKING SIGN	IN
OVHD 1 INTG LTS	IN
OXYGEN	IN
PBA BRT/DIM 1A	IN
PBA BRT/DIM 2 A	IN
PBA BRT/DIM 3 A	IN

GF0720_106

BUS KEY (CONT'D)

BATT BUS (Cont'd)



CB − BATT BUS	13/17
PUSHER LOCK CH A	IN
R AUX PUMP	IN
R COWL A/ICE VLV	IN
R ENG FUEL HPSOV	IN
R ENG IGN 1	IN
R ENG IGN 2	IN

CB − BATT BUS	14/17
R ENG LUBE	IN
R ENG START A	IN
R ENG START B	IN
R FADEC CH A	IN
R FADEC CH B	IN
R FIRE HANDLE	IN

CB − BATT BUS	15/17
R T/R CTL VALVE	IN
R T//R LOWER LOCK	IN
R T/R TQA LOCK	IN
R T/R UPPER LOCK	IN
RAT DEPLOY	IN
RMU 2 PWR B	IN

CB − BATT BUS	16/17
SEAT BELTS SIGN	IN
SLAT/FLAP CTLR 1	IN
SPC CH A	IN
STICK PUSHER PWR	IN
STICK SHAKER 1	IN
TRANSPONDER 2	IN

CB − BATT BUS	17/17
VHF COM 2	IN
XBLEED CTL	IN
XBLEED VLV	IN
XFEED SOV C	IN
XFEED SOV O	IN
YD 1	IN

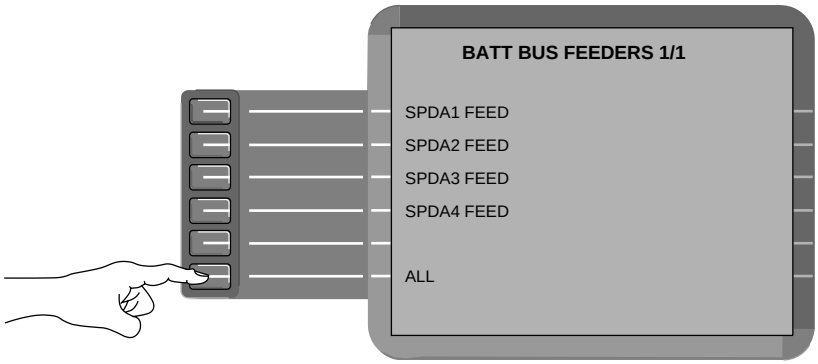
GF0720_107

BUS KEY (CONT'D)

BATT BUS (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − BATT BUS	1/18
⟵ XFER SOV C	IN
⟵ XFER SOV O	IN
ACPC CTL PWR A	IN
ADC1	IN
APU FADEC PWR 1	IN
APU FIRE HANDLE	IN

CB − BATT BUS	2/18
APU GCU	IN
APU LUBE	IN
APU START	IN
AUDIO PANEL 1B	IN
AUDIO PANEL 2B	IN
AURAL WARNING 1	IN

CB − BATT BUS	3/18
BATT BUS FEED 1	IN
BATT BUS FEED 2	IN
BATT BUS FEED 3	IN
BATT BUS FEED 4	IN
BRAKE CTL CH B	IN
CLOCK 1	IN

CB − BATT BUS	4/18
CTR 2 INTG LTS A	IN
DAU 1 CH A	IN
DAU 2 CH A	IN
DAU 3 CH A	IN
DAU 4 CH A	IN
DC EMER FEED 2	IN

CB − BATT BUS	5/18
DU 3 PWR A	IN
DU 4 PWR A	IN
EMS CDU 1 PWR B	IN
EMS CDU 2 PWR B	IN
FIRE DETECT CH A	IN
FIRE DETECT CH B	IN

CB − BATT BUS	6/18
FMS 1 CDU	IN
FUEL COMPUTR CH A	IN
GCU 1	IN
GCU 2	IN
GCU 3	IN
GCU 4	IN

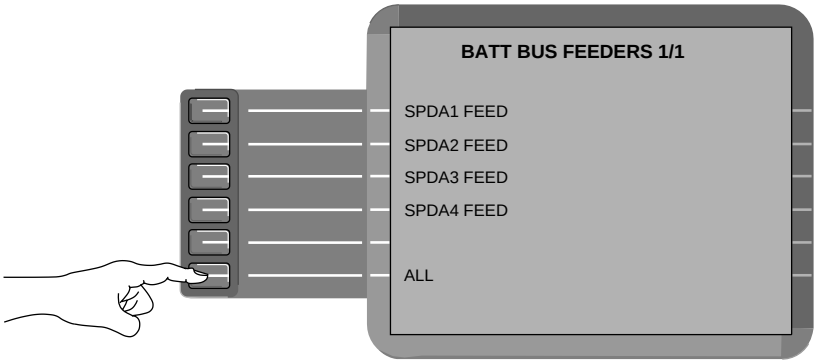
GF0720_108

BUS KEY (CONT'D)

BATT BUS (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − BATT BUS	7/18
GEAR CTL A PWR 2	IN
GEAR CTL B PWR 2	IN
GUID PANEL CH 1	IN
HBMU 1	IN
HYD 3 PRESS XDCR	IN
IAC 1	IN

CB − BATT BUS	8/18
IAC 3	IN
IRS 1 PWR B	IN
L COWL A/ICE VLV	IN
L ENG FUEL HPSOV	IN
L ENG IGN 1	IN
L ENG IGN 2	IN

CB − BATT BUS	9/18
L ENG LUBE	IN
L ENG START A	IN
L ENG START B	IN
L FADEC CH A	IN
L FADEC CH B	IN
L FIRE HANDLE	IN

CB − BATT BUS	10/18
L T/R CTL VALVE	IN
L T/R LOWER LOCK	IN
L T/R TQA LOCK	IN
L T/R UPPER LOCK	IN
LUBE PUMP	IN
MACH TRANSDUCER	IN

CB − BATT BUS	11/18
MAN OUTFLOW VLV	IN
MAN PRESS 1	IN
MAN PRESS 2	IN
MAP LTS	IN
MFD 1 CTLR	IN
NO SMOKING SIGN	IN

CB − BATT BUS	12/18
OVHD 1 INTG LTS	IN
OXYGEN	IN
PASSENGER ADDRESS	IN
PBA BRT/DIM 1A	IN
PBA BRT/DIM 2 A	IN
PBA BRT/DIM 3 A	IN

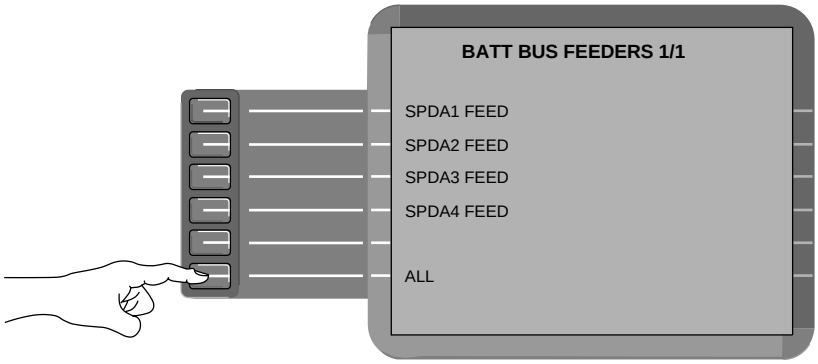
GF0720_109

BUS KEY (CONT'D)

BATT BUS (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



CB − BATT BUS	13/18
PUSHER LOCK CH A	IN
R AUX PUMP	IN
R COWL A/ICE VLV	IN
R ENG FUEL HPSOV	IN
R ENG IGN 1	IN
R ENG IGN 2	IN

CB − BATT BUS	14/18
R ENG LUBE	IN
R ENG START A	IN
R ENG START B	IN
R FADEC CH A	IN
R FADEC CH B	IN
R FIRE HANDLE	IN

CB − BATT BUS	15/18
R T/R CTL VALVE	IN
R T//R LOWER LOCK	IN
R T/R TQA LOCK	IN
R T/R UPPER LOCK	IN
RAT DEPLOY	IN
RMU 2 PWR B	IN

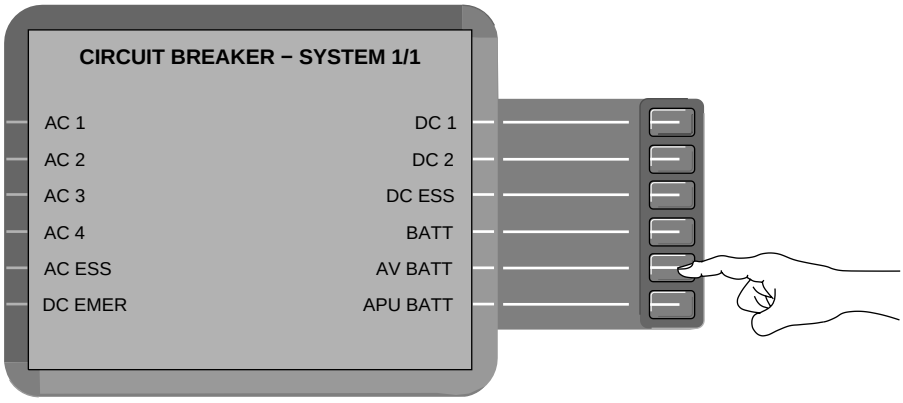
CB − BATT BUS	16/18
SEAT BELTS SIGN	IN
SLAT/FLAP CTLR 1	IN
SPC CH A	IN
STBY ADI	IN
STICK PUSHER PWR	IN
STICK SHAKER 1	IN

CB − BATT BUS	17/18
TRANSPONDER 2	IN
VHF COM 2	IN
XBLEED CTL	IN
XBLEED VLV	IN
XFEED SOV C	IN
XFEED SOV O	IN

CB − BATT BUS	18/18
YD 1	IN

GF0720_110

BUS KEY (CONT'D)
AV BATT BUS



CB − AV BATT BUS		1/2
APU FADEC PWR 2	DCPC	IN
AREA LTS	DCPC	IN
AV BATT CHGR LD	DCPC	IN
AV BATT MSTR	DCPC	IN
AV BATT RCCB	CCBP	IN
CLOCK BACKUP	DCPC	IN

CB − AV BATT BUS		2/2
DC EMER FEED 1	DCPC	IN
EMS CDU 1 PWR A	DCPC	IN
FWD MAINT LTS	DCPC	IN
PAX DOOR MOTOR	DCPC	IN
STAIR LTS	DCPC	IN
STBY ADI	CCBP	IN

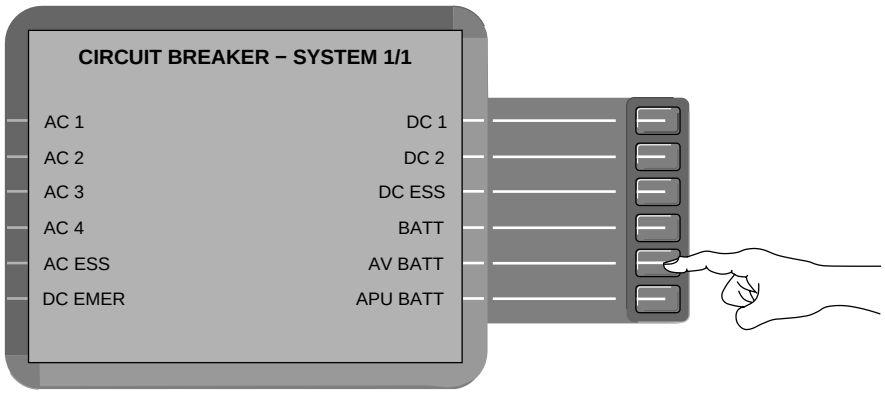
GF0720_111

BUS KEY (CONT'D)

AV BATT BUS (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

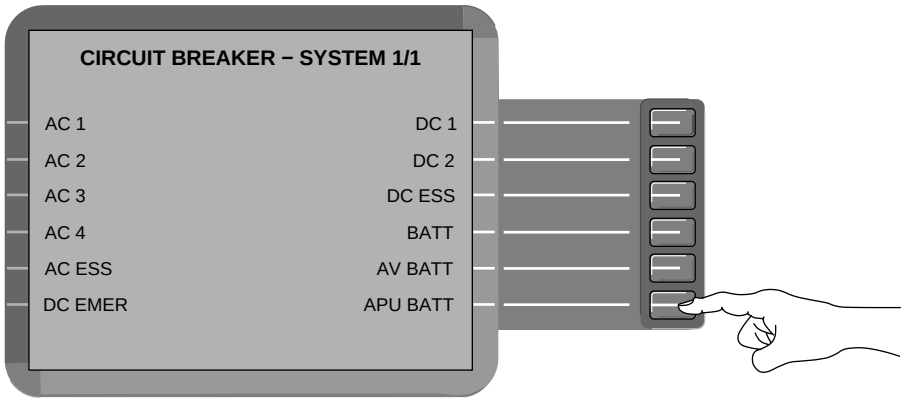


CB − AV BATT BUS		1/2
APU FADEC PWR 2	DCPC	IN
AREA LTS	DCPC	IN
AV BATT CHGR LD	DCPC	IN
AV BATT MSTR	DCPC	IN
AV BATT RCCB	CCBP	IN
CLOCK BACKUP	DCPC	IN

CB − AV BATT BUS		2/2
DC EMER FEED 1	DCPC	IN
EMS CDU 1 PWR A	DCPC	IN
FWD MAINT LTS	DCPC	IN
PAX DOOR MOTOR	DCPC	IN
STAIR LTS	DCPC	IN

GF0720_112

BUS KEY (CONT'D)
APU BATT BUS



CB − APU BATT BUS		1/3
ACPC CTL PWR D	ASCA	IN
AFT MAINT LTS	ASCA	IN
APU BATT CHGR LD	ASCA	IN
APU BATT MSTR	ASCA	IN
APU BATT RCCB	CCBP	IN
APU DOOR	ASCA	IN

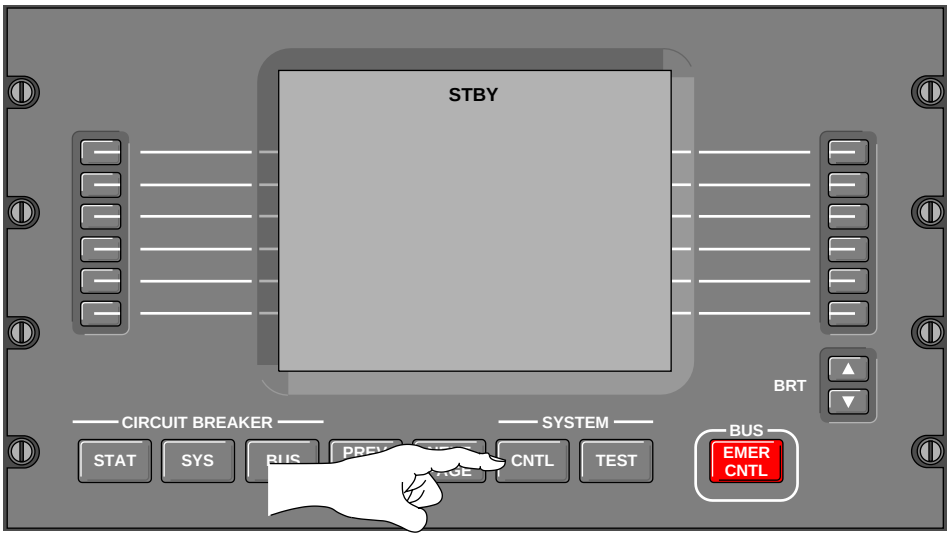
CB − APU BATT BUS		2/3
APU START CONTACT	ASCA	IN
CTR 2 INTG LTS B	ASCA	IN
EMS CDU 2 PWR A	ASCA	IN
FUEL R/D CH A	ASCA	IN
FUEL R/D CH B	ASCA	IN
R/D MOTOR VALVES	ASCA	IN

CB − APU BATT BUS		3/3
R/D PANEL COCKPIT	ASCA	IN
R/D PANEL EXT	ASCA	IN
R/D SOL VALVES	ASCA	IN

GF0720_113

CNTL KEY

CNTL Key is used to display system control options.



SWITCH CONTROL	1/3
SLAT/FLAP RESET	OFF
STALL WARN ADVANCE	NORM
LEFT FOOTWARMER	ON
RIGHT FOOTWARMER	ON
HUMIDIFIER	ON

SWITCH CONTROL	2/3
AC 1 CABIN PWR	ON
AC 2 CABIN PWR	ON
AC 3 CABIN PWR	ON
AC 4 CABIN PWR	ON

SWITCH CONTROL	3/3
DC 1 CABIN PWR	ON
DC 2 CABIN PWR 1	ON
DC 2 CABIN PWR 2	ON
DC 2 CABIN PWR 3	ON
DC 2 CABIN PWR 4	ON

NOTE

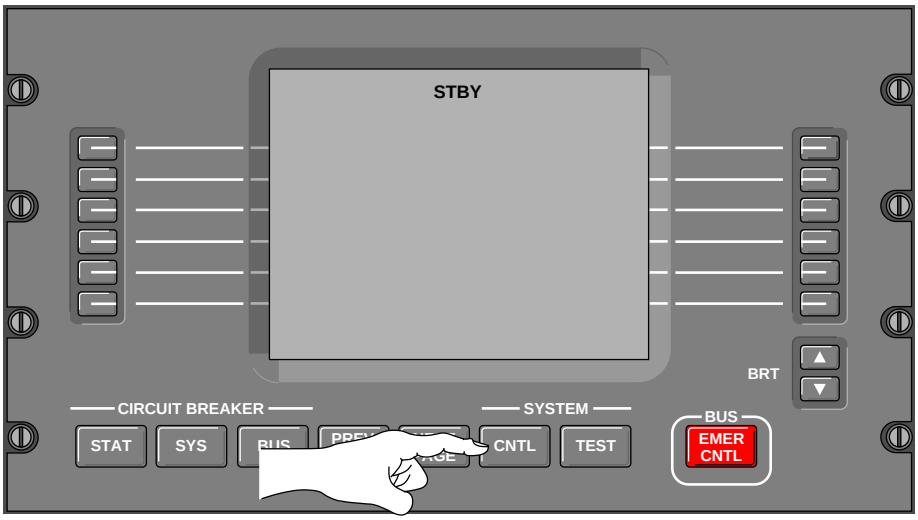
STALL WARN ADVANCE is either NORM or ADVANCE, see Chapter 10 for more information.

GF0720_114

CNTL KEY (CONT'D)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*



SWITCH CONTROL	1/3
SLAT/FLAP RESET	OFF
STALL WARN ADVANCE	NORM
LEFT FOOTWARMER	ON
RIGHT FOOTWARMER	ON
HUMIDIFIER	ON

SWITCH CONTROL	2/3
AC 1 CABIN PWR	ON
AC 2 CABIN PWR	ON
AC 3 CABIN PWR	ON
AC 4 CABIN PWR	ON

SWITCH CONTROL	3/3
DC 1 CABIN PWR	ON
DC 2 CABIN PWR 1	ON
DC 2 CABIN PWR 2	ON
DC 2 CABIN PWR 3	ON
DC 2 CABIN PWR 4	ON

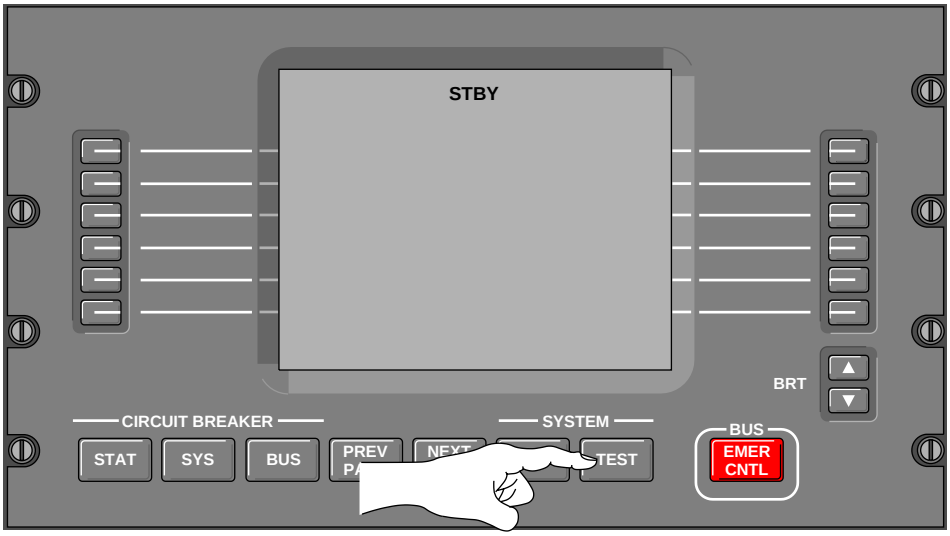
GF0720_115

NOTE

STALL WARN ADVANCE is either NORM or ADVANCE, see Chapter 10 for more information.

TEST KEY

TEST Key is used to display and initiate test options. When TEST key is selected FIRE TEST is automatically highlighted. The TEST function can only be initiated by selecting the associated key. After a TEST is complete, the next selection will automatically be highlighted. To terminate a TEST, re-select appropriate key.



TEST CONTROL	1/2
FIRE TEST	OFF
STALL TEST	OFF
AURAL WARNING TEST 1	OFF
AURAL WARNING TEST 2	OFF
LAMP TEST 1	OFF
LAMP TEST 2	OFF

TEST CONTROL	2/2
RAT TEST	OFF

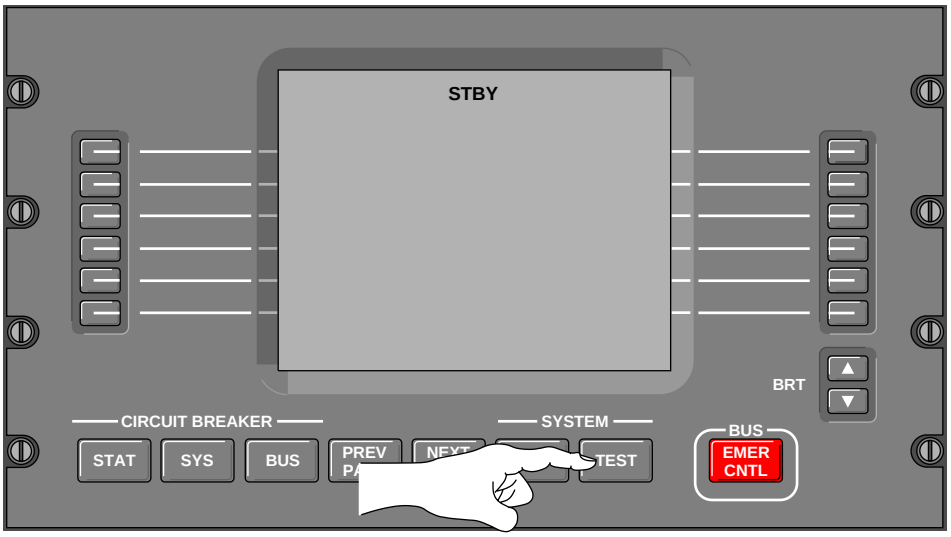
GF0720_116

TEST KEY (CONT'D)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

TEST Key is used to display and initiate test options. When TEST key is selected FIRE TEST is automatically highlighted. The TEST function can only be initiated by selecting the associated key. After a TEST is complete, the next selection will automatically be highlighted. To terminate a TEST, re-select appropriate key.

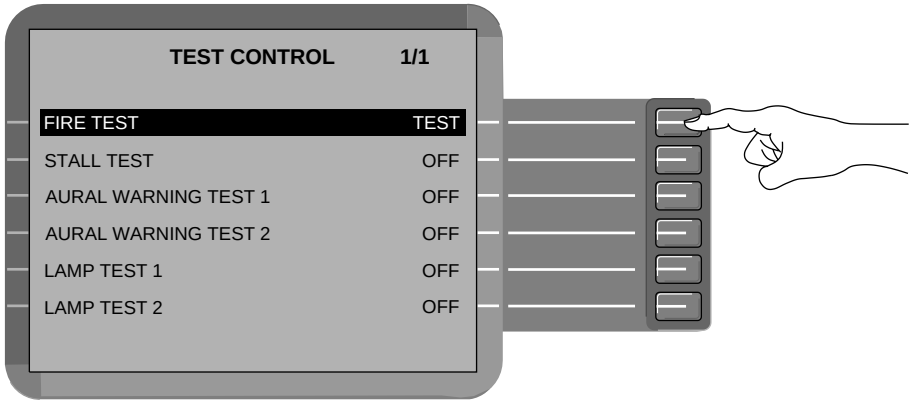


TEST CONTROL	1/1
FIRE TEST	OFF
STALL TEST	OFF
AURAL WARNING TEST 1	OFF
AURAL WARNING TEST 2	OFF
LAMP TEST 1	OFF
LAMP TEST 2	OFF

GF0720_117

TEST KEY (CONT'D)

FIRE TEST



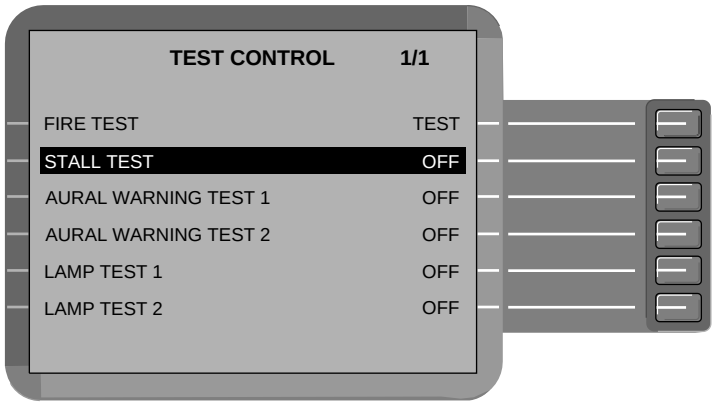
FIRE TEST:

(duration approximately 10 seconds)

Press the FIRE TEST activation button
and note the following:

- Fire and smoke aural warnings are activated.
- Master warning lights flash.
- Fire DISCH handles lights illuminate.
- L and R ENG FIRE warning message comes on.
- APU FIRE warning message comes on.
- MLG BAY OVHT warning message comes on.
- SMOKE AVIONICS BAY warning message comes on.
- SMOKE BAGGAGE warning message comes on.
- SMOKE CLOSET warning message comes on.
- When the FIRE TEST is complete, all warning messages will go out, fire aural warning deactivated master warning lights go out and Fire DISC handles lights go out.

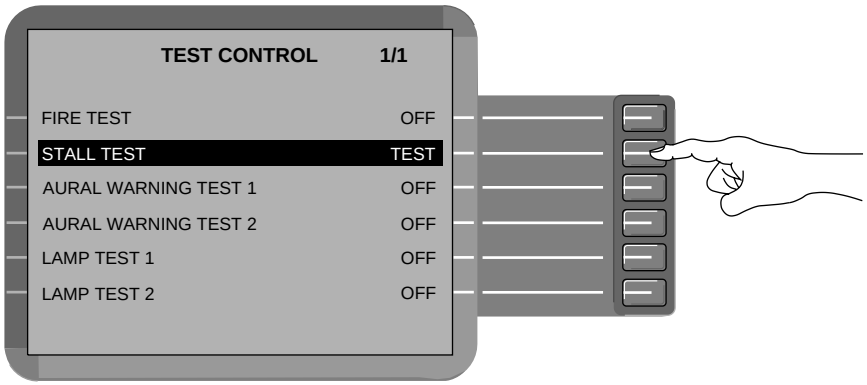
After 10 seconds



GF0720_118

TEST KEY (CONT'D)

STALL TEST



GF0720_119

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

STALL TEST:

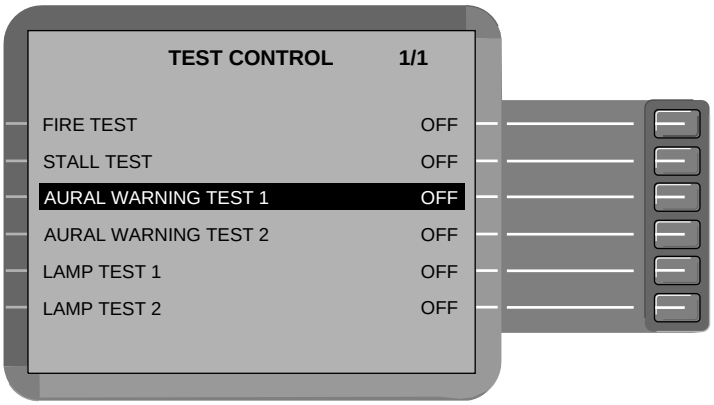
STALL TEST (on ground only):

(duration approximately 20 seconds)

Press the STALL TEST activation button and note the following:

- Stick shaker #1 activates, followed by stick shaker #2.
- Verify that both shakers are activated and stall aural warning is activated.
- Stick pusher is activated and STALL warning message comes on.
- Stick pusher continues to operate until both control columns reach the full forward position.

After 20 seconds



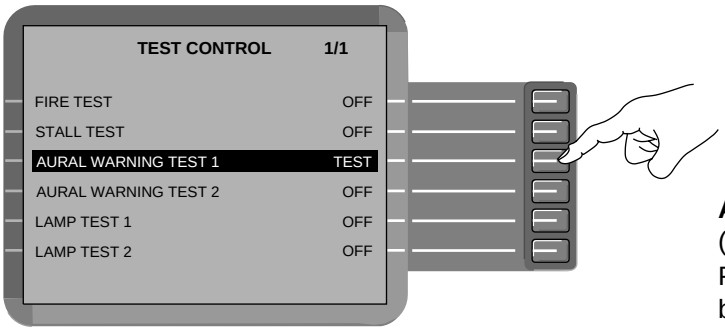
GF0720_120

NOTE

For more information refer to Chapter 10, FLIGHT CONTROLS.

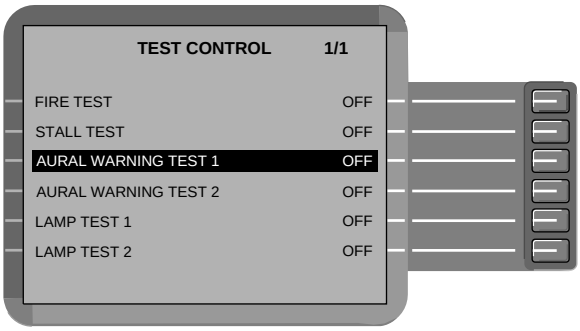
TEST KEY (CONT'D)

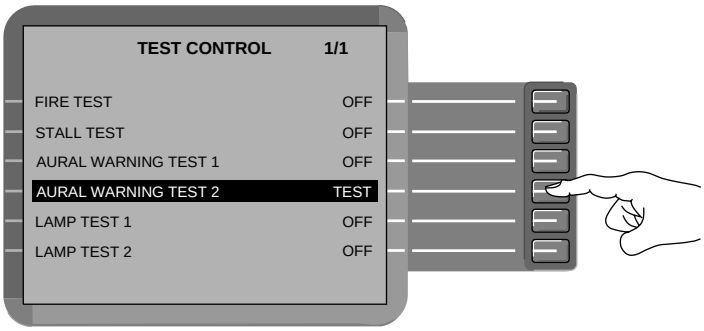
AURAL WARNING TEST



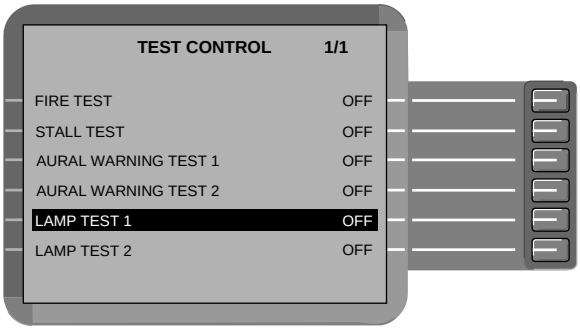
NOTE:
Pressing TEST button again will terminate aural test.

After 60 seconds





After 60 seconds



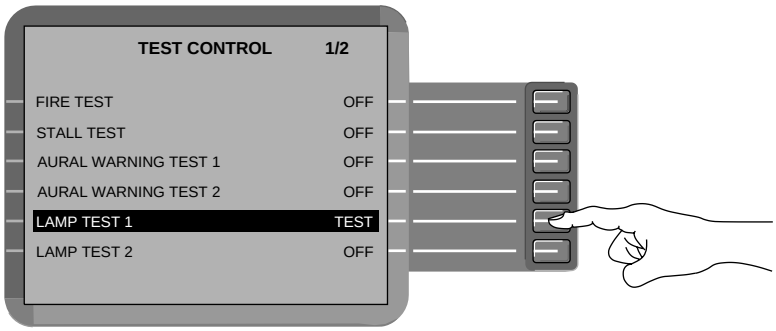
AURAL WARNING TEST:
(duration approximately 60 seconds)
Press the AURAL WARNING TEST button and note the following:

- "AURAL WARNING TEST 1" aural or "AURAL WARNING TEST 2" aural
- "STALL" aural (stall shaker active)
- Continuous Tone (overspeed)
- Triple Chime tone (any warning)
- "NO TAKEOFF" aural
- "LEFT ENGINE FIRE" aural
- "RIGHT ENGINE FIRE" aural
- "APU FIRE" aural
- "SMOKE" aural
- "CABIN ALTITUDE" aural
- "GEAR BAY OVERHEAT" aural
- "LEFT REVERSER UNLOCKED" aural
- "RIGHT REVERSER UNLOCKED" aural
- "NORMAL BRAKE FAIL" aural
- Single Chime (any caution)
- "GEAR" aural
  Single Cavalry Charge tone (autopilot disengage)
- "AUTOTHROTTLE" aural
- "ALTITUDE" aural (altitude alert departure)
- C−chord tone (altitude alert capture)
- Double C−chord tone (vertical track alert)
- Single Chime
- Trim clacker (trim in motion)
- "MINIMUMS, MINIMUMS" aural (DH and MDA).

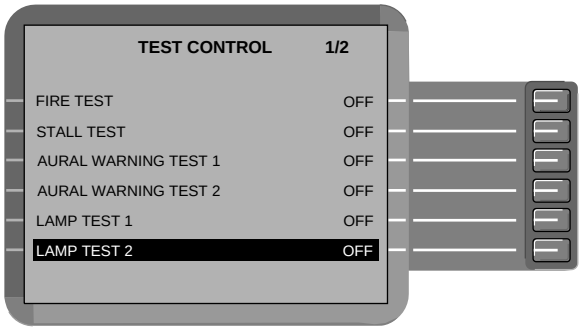
GF0720_121

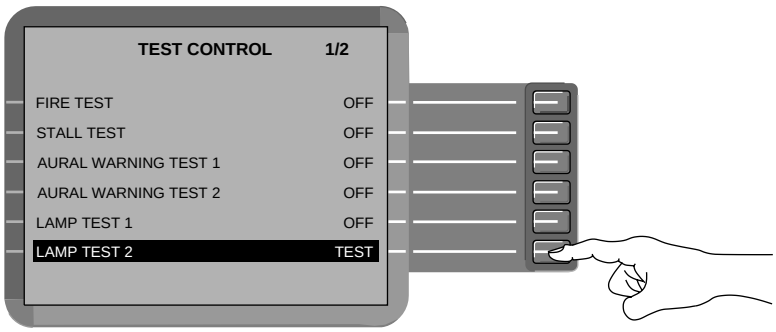
TEST KEY (CONT'D)

LAMP TEST

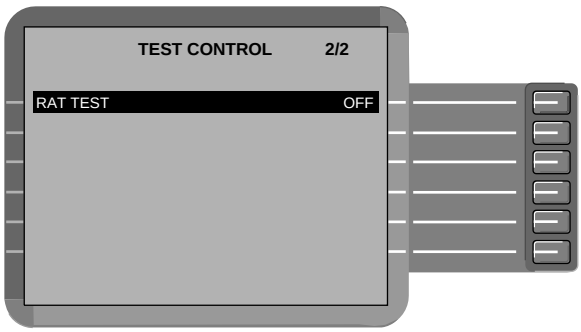


After 20 seconds





After 20 seconds



LAMP TEST:
(duration approximately 20 seconds for each test)
Press the LAMP TEST 1 (2) activation button and note the following:

- Flight deck annunciators illuminate.

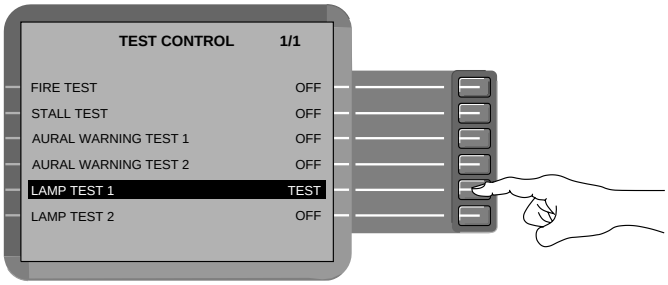
GF0720_122

TEST KEY (CONT'D)

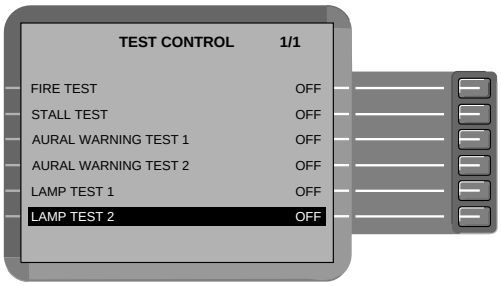
LAMP TEST (Cont'd)

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

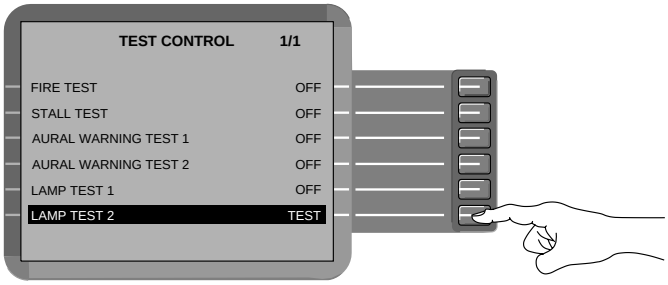


After 20 seconds

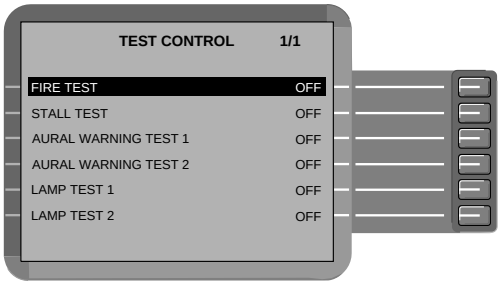


LAMP TEST:
(duration approximately 20 seconds for each test)
Press the LAMP TEST 1 (2) activation button and note the following:

- Flight deck annunciators illuminate.



After 20 seconds



GF0720_123

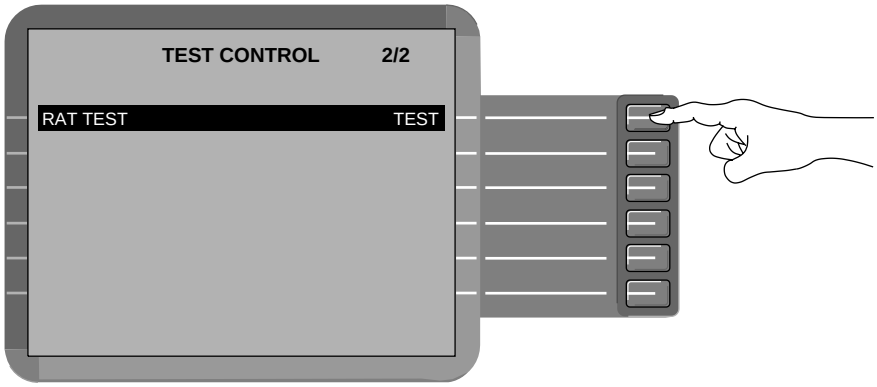
TEST KEY (CONT'D)

RAT TEST

Effectivity:

- *Airplanes 9002 thru 9122* ***not incorporating*** *Service Bulletin:*
  - *SB 700−24−045, AC and DC Power Distribution − Unit Change and Activation of Build 4 Electrical System.*

The RAT TEST is not available.



GF0720_124

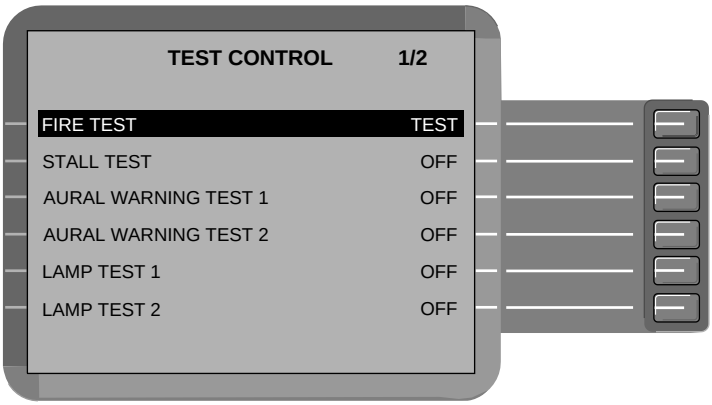
RAT TEST (on ground only):

(duration approximately 5 seconds)

Press the RAT TEST activation button and note the following:

- RAT ICON displayed on AC and HYDRAULIC synoptic pages.
- ESS TRU 2 is momentarily lost and DCPC reconfigures accordingly.
- AC ESS BUS is momentarily lost.

After 5 seconds



GF0720_125

EMER CONT

EMER CONT Key used to display bus isolation status. To isolate a bus, (during an emergency), select associated activation key. When selected, associated bus is isolated from the electrical system (no alternate power transfer to bus).