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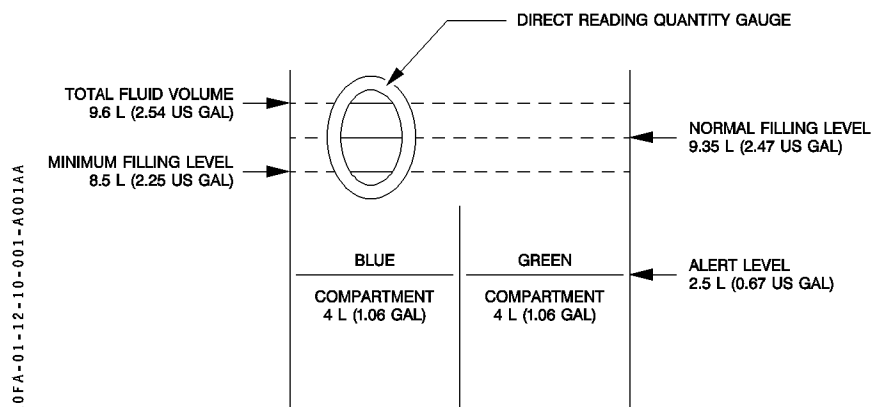
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10.1 DESCRIPTION (See schematic p 7/8)

The aircraft has two hydraulic systems, designated blue and green.

The common hydraulic tank is located in the hydraulic bay (LH landing gear fairing).



The tank is a direct air-fluid contact type and is not pressurized. A compartment baffle ensures fluid antisplashing and limits fluid foaming.


A direct reading quantity gauge is located on the tank. A low level alert is provided for each compartment when quantity drops below 2.5 l (0.67 USgal).

POWER GENERATION

Each system is pressurized by an ACW electric motor driven pump. Delivery pressure of each pump is displayed. Normal operating pressure is 3000 PSI (206.9 bars). The blue circuit is also fitted with an auxiliary DC motor driven pump.

Each system is provided with a 0.2 l (0.05 USgal) power accumulator installed in the hydraulic bay. They damp pump delivery pulsations and any pressure surges and compensate for pump response time in the event of high output demand.

On the ground, when no electrical power is available, hydraulic power may be generated by a hydraulic ground power unit, through a ground connector located in the hydraulic bay. A ground switch on the pedestal enables to energize the auxiliary pump even when no electrical power is available.

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USERS

- The blue system supplies :
 - wing flaps extension/retraction :
 - four wing flap actuating hydraulic jacks.
 - spoilers :
 - two spoilers actuating hydraulic jacks.
 - nose wheel steering :
 - one steering hydraulic jack.
 - propeller brake for the RH engine.
 - emergency and parking braking for the four main landing gear wheels through a specific accumulator with separate pressure ind.
- The green system supplies :
 - landing gear extension/retraction :
 - three landing gear actuating hydraulic jacks
 - three landing gear uplock release actuators
 - three landing gear downlock release actuators.
 - normal braking for the four main landing gear wheels.

In case of hydraulic pump failure, the associated system users may be supplied by the other pump by opening the crossfeed valve.

Note : In case of LO LEVEL alert, cross feed valve :

- is inhibited to open
- closes automatically if it was in open position

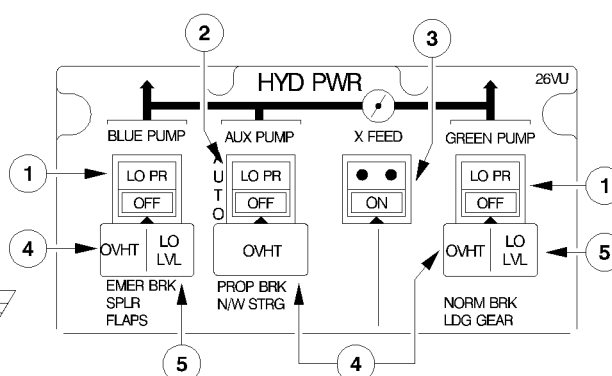
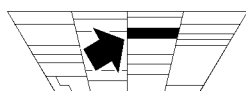
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10.2 CONTROLS

HYD PWR PANEL

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① Main pumps pbs

Control activation/deactivation of ACW electric motor driven pumps.

pb pressed in : pump is energized

OFF : (pb released) pump is deactivated, OFF It illuminates white.

LO PR : The light illuminates amber and the CCAS is activated through the MFC when the associated pump delivered fluid pressure drops below 1500 PSI (103,5 bars).

② Auxiliary pump pb

Controls operating mode of DC auxiliary pump.

AUTO (pb pressed in) pump runs as soon as the following conditions are met :

- ACW blue pump pressure below 1500 PSI and,
- propeller brake released and,
- gear handle selected DOWN and,
- at least one engine running

OFF (pb released) ; auxiliary pump is deactivated, OFF illuminates white.

LO PR the light illuminates amber and CCAS is activated when auxiliary pump outlet pressure is detected lower than 1500 PSI and functioning conditions are met.

③ XFEED pb

Controls opening and closure of the crossfeed valve.

pb released : crossfeed valve is closed. Both hydraulic circuits are separated.

ON : (pb pressed in) crossfeed valve is selected open. Both hydraulic circuits are connected. ON It illuminates white.


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④ OVHT It

The It illuminates amber and the CCAS is activated when pump case drain line overheat is detected ($T > 121^{\circ}\text{C}/250^{\circ}\text{F}$)

⑤ LO LEVEL It

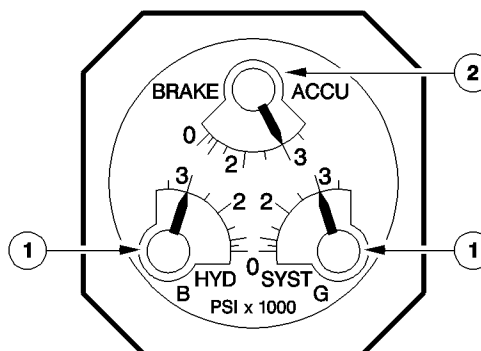
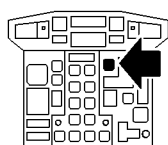
The It illuminates amber and the CCAS is activated when associated tank compartment fluid quantity drops below 2.5 l (0.67 USgal). The XFEED automatically closes.

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PRESS IND.

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① HYD SYST ind.

Displays the blue and green system pressure in the delivery line. Pressure indication is PSI X 1000. Normal values are 3000 PSI. Red dots indicate alert thresholds.

② BRAKE ACCU ind.

Displays the brake accumulator pressure in the blue system, available for emergency and parking braking if Pressure > 1600 PSI. Pressure indication is PSI X 1000. Normal value is 3000 PSI.

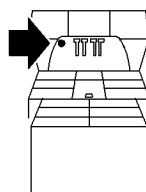
Note : • In the event of electric failure, the pointers move to 0.

- Gas pressure gauges are installed in the hydraulic bay for each accumulator (one per system + emergency and parking braking). They may be used on ground, when aircraft is not powered, to check the accumulator charge.

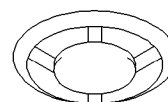
Gas pressure of each accumulator is 1500 PSI.

AUX PUMP PEDESTAL SWITCH

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AUX HYD PUMP



When used, this switch :

- energizes for 30 seconds the auxiliary DC hydraulic pump provided :
 - GND HDLG BUS under power (Models 101, 201, 211 only).
 - other auxiliary pump operation conditions are not met.
- supplies power to the pressure indicators, enabling to check hydraulic pressures.


CAUTION : This switch operates even when batteries master switch is selected "OFF". Intensive use could discharge the main battery.

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10.3 ELECTRICAL SUPPLY/MFC LOGIC/SYSTEM MONITORING

ELECTRICAL SUPPLY

MODEL	EQUIPMENT	DC BUS SUPPLY (C/B)	AC BUS SUPPLY (C/B)
ALL	Blue pump power	– Nil –	ACW BUS 1 (on lateral panel BLUE HYD PUMP)
	Blue pump control	DC EMER BUS (on lateral panel PUMP CTL)	– Nil –
	Blue system alert	DC EMER BUS (on lateral panel ALERT)	– Nil –
	Green pump power	– Nil –	ACW BUS 2 (on lateral panel GREEN HYD PUMP)
	Green pump control	DC ESS BUS (on lateral panel PUMP CTL)	– Nil –
	Green system alert	DC EMER BUS (on lateral panel ALERT)	– Nil –
	Auxiliary pump power	DC BUS 2 (on lateral panel AUX HYD PUMP NORM PWR SPLY) HOT MAIN BAT BUS (on lateral panel AUX HYD PUMP GND PWR SUPPLY)	– Nil –
	Pressure ind.	DC STBY BUS (on lateral panel PRESS IND)	– Nil –
	XFEED valve	DC STBY BUS (on lateral panel XFEED)	– Nil –
102 202 212 212 A	Auxiliary pump control	DC BUS 2 (on lateral panel HYD PWR AUX PUMP CTL IND NORM) HOT MAIN BAT BUS (on lateral panel HYD PWR AUX PUMP CTL IND GND)	– Nil –
101 201 211	Auxiliary pump control	DC BUS 2 (on lateral panel HYD PWR AUX PUMP CTL IND NORM) GND HDLG XFR BUS (on lateral panel HYD PWR AUX PUMP CTL IND GND)	– Nil –

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MFC LOGIC

See chapter 1.01.

SYSTEM MONITORING

The following conditions are monitored by visual and aural alerts :

- Tank compartment fluid quantity below 2.5 l(0.67 US gal).
 - See HYD TK COMPT LO LEVEL procedure in chapter 2.05.05.
- Pump delivery pressure below 1500 PSI (103.5 bar)
 - See HYD LO PR/HYD OVHT procedure in chapter 2.05.05.
- Pump case drain line temperature above 121°C (250°F)
 - See HYD LO PR/HYD OVHT procedure in chapter 2.05.05.

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10.4 SCHEMATIC

