

# BLEED

**CAUTION**, do not use HP GND air with APU bleed

Regulated pressure 45 +/- 5 psi

### Leak detection

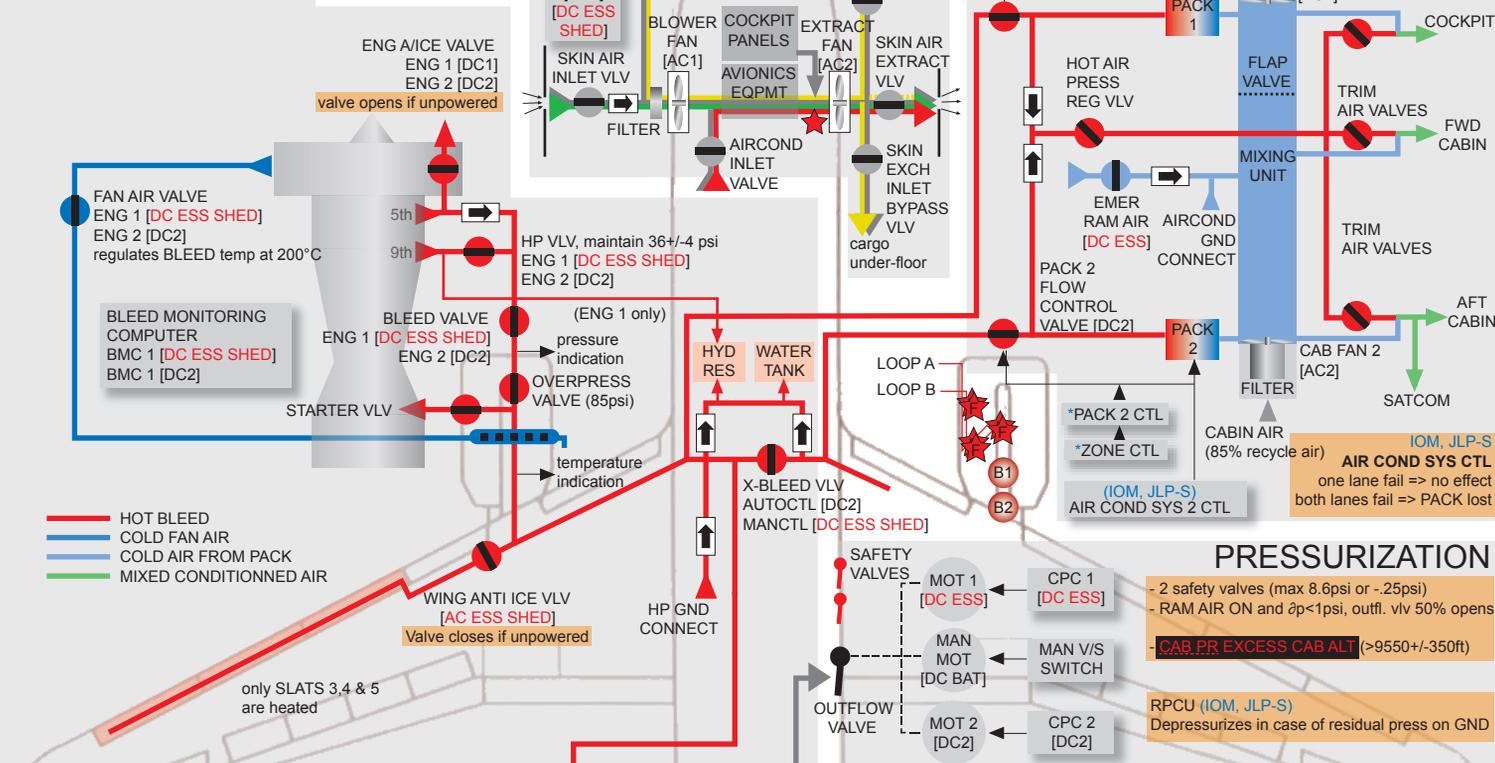
- single loop for APU and pylon ducts
- double loop for wing ducts

# AVIONICS VENTILATION

### CONFIGURATIONS:

- **CLOSED**, on GND (skin<9°-12°C), in FLT (skin<32°-35°C)
- **INTERMEDIATE** if (skin>32°-35°C) then EXTRACT VLV partially opens
- **OPEN**, on GND (skin>9°-12°C)
- **SMOKE CONFIG**

**FANS SPD (-IOM,-JLP-S)**  
HI if T > 40°C  
LO if T < 35°C

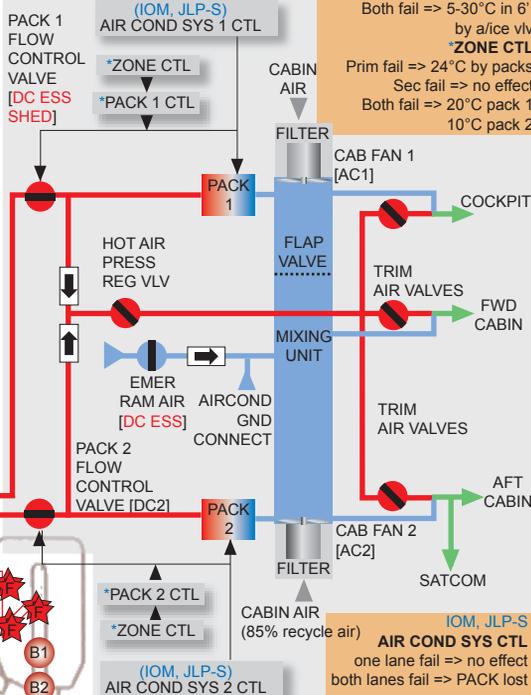


**CAUTION**, do not use GND AIRCOND air with air from packs simultaneously

# AIRCOND

**\*PACK CTL**  
Prim fail => reg. not optimized  
Sec fail => ECAM signal lost  
Both fail => 5-30°C in 6' by a/c vlv

**\*ZONE CTL**  
Prim fail => 24°C by packs  
Sec fail => no effect  
Both fail => 20°C pack 1  
10°C pack 2



# PRESSURIZATION

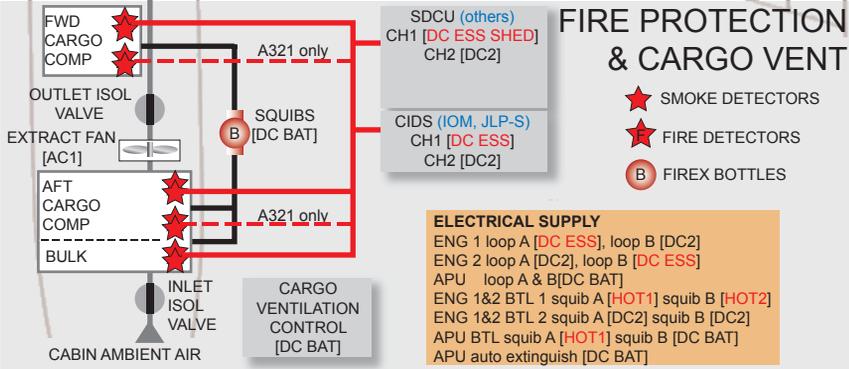
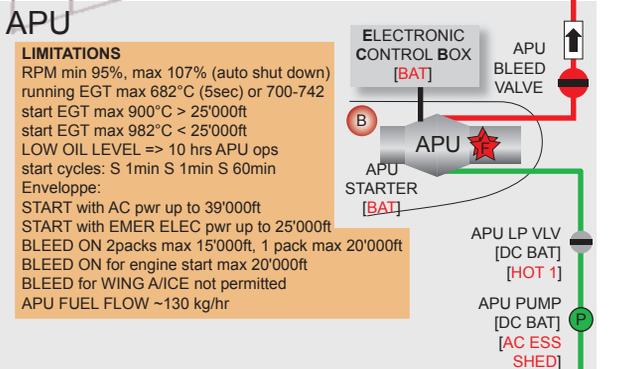
- 2 safety valves (max 8.6psi or -0.25psi)  
- RAM AIR ON and p<1psi, outfl. vlv 50% opens  
- **CAB.PR EXCESS CAB ALT** (>9550+/-350ft)

RPCU (IOM, JLP-S)  
Depressurizes in case of residual press on GND

# APU

### LIMITATIONS

- RPM min 95%, max 107% (auto shut down) running EGT max 682°C (5sec) or 700-742 start EGT max 900°C > 25'000ft start EGT max 982°C < 25'000ft
- LOW OIL LEVEL => 10 hrs APU ops
- start cycles: S 1min S 1min S 60min
- Envelope: START with AC pwr up to 39'000ft START with EMER ELEC pwr up to 25'000ft
- BLEED ON 2packs max 15'000ft, 1 pack max 20'000ft
- BLEED ON for engine start max 20'000ft
- BLEED for WING A/ICE not permitted
- APU FUEL FLOW ~130 kg/hr



# FUEL A319/A320

TOTAL TANKS CAPACITY (den 0.785kg/l)

18728kg / 19004kg (JLP-S)

### OUTER to INNER TRANSFER

- XFR valves open when INNER have ~750kg
- T/O only with Outer TK full
- Automatic XFR after landing (to avoid, switch REFUEL panel PWR ON!) or transfer via DEFUEL/XFR valve.

FQI CH1 [DC ESS SHED] CH2 [DC2]

OUTER TANKS 2 x 691kg

INNER TANKS 2 x 5435kg\* 2 x 5573kg (JLP-S)

CENTER TANK 6476kg

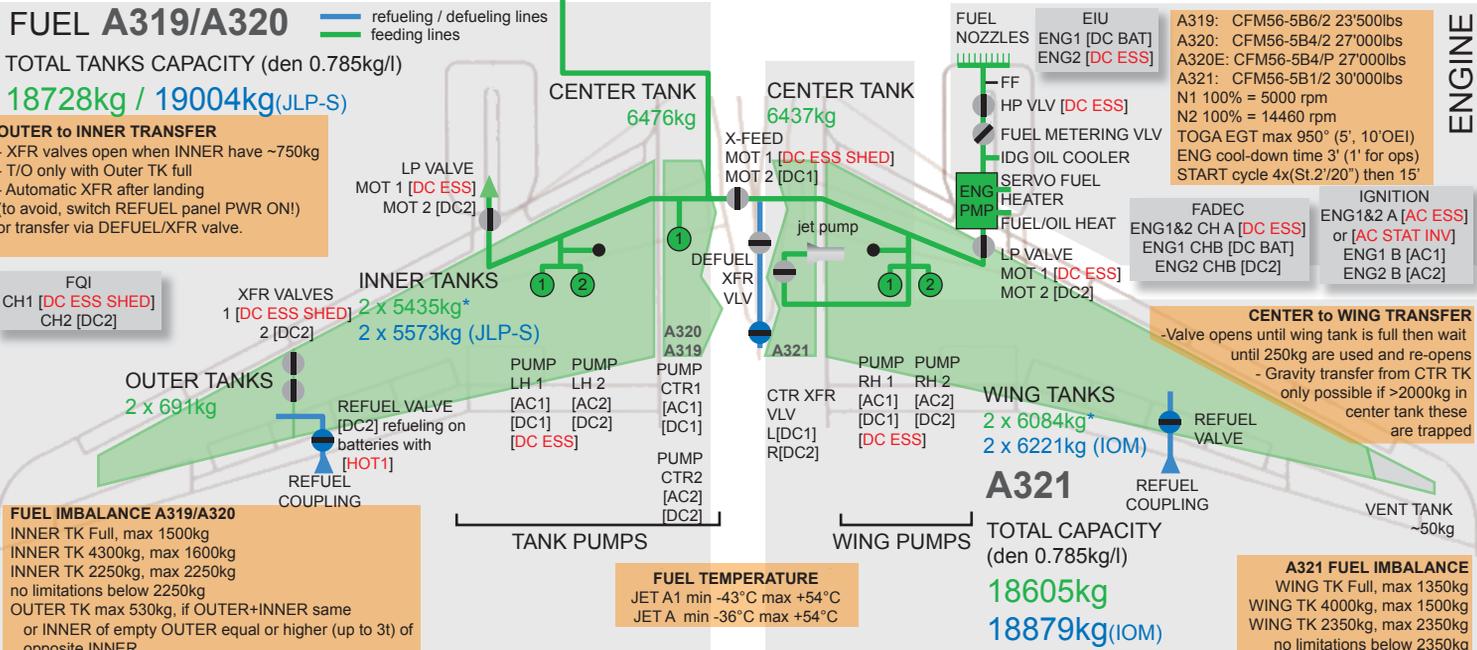
CENTER TANK 6437kg

FUEL NOZZLES ENG1 [DC BAT] ENG2 [DC ESS]

**ENGINE**  
A319: CFM56-5B6/2 23'500lbs  
A320: CFM56-5B4/2 27'000lbs  
A320E: CFM56-5B4/P 27'000lbs  
A321: CFM56-5B1/2 30'000lbs  
N1 100% = 5000 rpm  
N2 100% = 14460 rpm  
TOGA EGT max 950° (5', 10'OEI)  
ENG cool-down time 3' (1' for ops)  
START cycle 4x(St./20') then 15'

**FUEL IMBALANCE A319/A320**  
INNER TK Full, max 1500kg  
INNER TK 4300kg, max 1600kg  
INNER TK 2250kg, max 2250kg  
no limitations below 2250kg  
OUTER TK max 530kg, if OUTER+INNER same or INNER of empty OUTER equal or higher (up to 3t) of opposite INNER

\* all others from type



FADEC ENG1&2 CH A [DC ESS] ENG1 CHB [DC BAT] ENG2 CHB [DC2]

IGNITION ENG1&2 A [AC ESS] or [AC STAT INV] ENG1 B [AC1] ENG2 B [AC2]

**CENTER to WING TRANSFER**  
- Valve opens until wing tank is full then wait until 250kg are used and re-opens  
- Gravity transfer from CTR TK only possible if >2000kg in center tank these are trapped

WING TANKS 2 x 6084kg\* 2 x 6221kg (IOM)

A321 TOTAL CAPACITY (den 0.785kg/l)

18605kg

18879kg (IOM)

**FUEL TEMPERATURE**  
JET A1 min -43°C max +54°C  
JET A min -36°C max +54°C

!!! NOT FOR OPERATIONAL USE !!! ©Pierre-Michel Gasser, 12.1.2013