HIGHLIGHTS from book

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| --- | --- |
| GENERAL AIRCRAFT |  |
| ELECTRICAL |  |
| POWER PLANT AND SYS |  |
| PROPELLER |  |
| FUEL SYS |  |
| FLIGHT CONTROLS |  |
| LANDING GEAR |  |
| ENVIRONMENTAL |  |
| FLIGHT INSTRUMENTS |  |
| AVIONICS |  |

|  |  |  |
| --- | --- | --- |
| * LENGTH | * 35 FT 6.0 IN | |
| * HEIGHT | * 14 FT 2.6 IN | |
| * WING SPAN | * 50 FT 2.9 IN | |
| * MAX RAMP WEIGHT | * 9710 LBS | |
| * MAX LAND WEIGHT | * 9168 LBS | |
| * VMO and (changes \_\_\_KIAS per \_\_\_ ft above \_\_\_MSL | * 227 KIAS, 4 KIAS/1000’ ABOVE 15,500 ft MSL | |
| * Vyse | * 110 KIAS | |
| * Landing Limitations? (3) | * flared landings only * max sink rate = 600 fpm * max xwind = 20 kts | |
| * Min crew with passengers? | * AC COMMANDER +   + 2nd pilot, IUT, PIU, SNA | |
| * ELT has \_\_\_\_\_ battery. Transmit for \_\_\_ hours | * Self-contained battery * 48 hrs | |
| * Rubber door seal pressure provided by\_\_\_\_ | * Pnuematic air (bleed air? Pg 1-10 workbook) | |
| * DO NOT OPEN \_\_\_\_\_ WHILE AIRCRAFT PRESSURIZED | * Emergency Exit Hatch | |
| * 4 sources of DC POWER | * Battery – 24 V / 42 amp-hr * Aux Bat – 24 V / 5 amp-hr * L/R Starter Gen – 28 V/ 250 amp | |
| * Each Generator Control box provides (5) | * Voltage regulation (28.25 +/- 0.8 Vdc) * Auto paralleling * OVERvoltage protection (31 Vdc) * UNDERvoltage protection (18 Vdc) * REVERSE current protection | |
| * APU must NOT exceed \_\_\_\_ Vdc and must be capable of delivering CONTINUOUS load of \_\_\_\_ amps and SURGE loads up to \_\_\_\_\_\_ amps for \_\_\_\_\_ second if required | * 28 vdc * 300 amps * 1000 amps * 0.1 second | |
| * APU START requires | * 20 V | |
| * HOT BAT BUS single powered? | * L/R fire exting * Threshold lights | |
| * HOT BAT BUS Dual powered? | * XFEED VALVE * L/R BOOST PUMP * L/R FIREWALL SHUTOFF | |
| * *[no more AC power \_\_ 20170220]* |  | |
| * *[no more AC power \_\_ 20170220]* | | |
| * GEN malfunction: first indications? | * L/R GEN OUT light and * Flashing FAULT WARN | |
| * Single Gen failure: steps? | * Turn gen off, attempt reset * Unsuccessful? Turn gen off and perform current limiter check –see page 2-12 | |
| * Dual Gen failure: If both lights on and gen do not reset you are running on \_\_\_\_ power exclusively.   + Last for \_\_\_\_ amp hours, as few as \_\_\_\_ minutes | * BATTERY POWER * 42 amp hours for 10 minutes | |
| * Dual Current Limiter Fail: All equipment still powered? * Volt meter will read \_\_\_\_ V. | * Yes as long as gens good * 24 V, battery no longer charging | |
| * Gen fail with OPPOSITE side current limiter: equipment lost? * Battery is \_\_\_\_\_\_. | * Not initially * Discharging –see page 2-13 | |
| * Gen fail with SAME side current limiter: buses and equipment on fail side working? * Battery is \_\_\_\_\_\_. * Results in loss of \_\_\_\_\_, and main \_\_\_\_\_ and \_\_\_\_\_ busses. | * NO, INOP * Not being discharged * fuel and avionics buses *[no more AC power \_\_ 20170220]* | |
| * DO NOT RESET THESE CIRCUIT BREAKERS | * Subpanel feeder circuit breaker * Non-essential circuit breaker | |
| * COMPRESSOR PROGRESSIVE BLEED VALVE: * Full closed at \_\_\_\_% * Fully open at \_\_\_\_% and below | * 75% * 62% and below | |
| * Compression ratio = | * 7:1 | |
| * When N1 reads 100%, Gas gen/comp speed= * When N1 reads 101.5%, Gas gen/comp speed= | * 37,500 rpm * 38,000 rpm | |
| * Approx. \_\_\_\_% intake air mixed with fuel | * 25% | |
| * \_\_\_\_\_ fuel nozzles (\_\_\_primary and \_\_\_\_ secondary) * \_\_\_\_ igniter plugs | * 14, 10 primary, 4 secondary * 2 igniter plugs | |
| * RGB directly connected to \_\_\_\_\_ | * Power turbine | |
| * Power turbine at 33,000 rpm, prop spd: * Power turbine at 28,500 rpm, prop spd: | * 2200 rpm * 1900 rpm | |
| * OIL fuel heater: begins to bypass at \_\_\_\_\_, full bypass at \_\_\_\_. | * 70 DEGREES **F** * 90 DEGREES **F** | |
| * STUDY diagram power quadrant fig 3-3 controls pg 3-9 | | |
| * Power Lever connected to | * Cam box🡪FCU and beta linkages | |
| * Condition Lever connected to | * SCU (starter control unit) | |
| * Power Lever ranges: What power lever cntrls   + A =   + B =   + REVERSE = | * A = N1 ONLY * B = BLADE ANGLE * REVERSE = BOTH | |
| * Study chart on 3-12   + Max allowable: AKA \_\_\_\_\_   + Oil temp range   + Oil P range   + On takeoff initially \_\_\_\_ limited as you climb you are \_\_\_\_ limited   + Hi/Lo idle for N1 \_\_\_/\_\_\_\_   + ITT exceed \_\_\_\_ discontinue start   + Gen load 0.5 to 0.75 min N1? | * Chart on 3-12   + Takeoff = max allowable   + 10-99 C   + 85-100 psi   + Torque, ITT (normal day)   + 70-73 / 51-54   + 925   + (see chart) | |
| * COLD TEMP LOW ALT = Torque or ITT limited? * HOT and HIGH = Torque or ITT limited? | * TORQUE * ITT | |
| * ITT LIMITS (normal range, max continuous, max starting?) | * 400-790, 790, 1090 Celsius | |
| * Blade angles:   + Feather   + Low pitch   + Zero thrust   + Reverse   + Approx. cruise | * 87 * 15 * -5 * -11 * 25-35 | |
| * Normal prop op range | * 1800-2200 | |
| * Primary gov fail? If overspeed N2 \_\_\_\_ | * 2288 +/- 40 | |
| * Prop Gov test switch tests \_\_\_\_\_\_, resets to maintain b/w \_\_\_\_ to \_\_\_\_ rpm | * OVERSPEED GOV * 1900-2100 | |
| * Fuel topping gov prevents rpm exceeding \_\_\_\_ | * 2332 rpm | |
| * Auto feather occurs if engine dies if (2) | * System armed * BOTH power leverS above 90% N1 | |
| * With auto feather in armed, retarding 1 or both power levers will disengage auto feather system. T or F | * TRUE | |
| * Below 410 +/- 50 ft lbs= * Below 260 +/- 50 ft-lbs= | * Turns off auto feather sys for opposite engine, denergizes opposite auto feather light * Auto feather system ACTIVATE | |
| * LEFT prop \_\_\_\_\_, right prop = \_\_\_\_\_ | * MASTER – slave | |
| * If synchrophaser in use and right landing gear extended, this light will illuminate | * PROP SYNC – pg 4-10 | |
| * Plus or Minus \_\_\_\_ RPM is the limit of actuator authority | * 30 RPM, pg 4-11 | |
| * Prop link fail, either result in (2) | * Prop remain at current setting * Or increase to 2200 rpm | |
| * 5 fuels approved * 2 alternates * AVGAS on for \_\_\_\_\_ use. | * JET: A1, B, 4 / JP 5,8 * JET A1 and F42 * 80/87/100LL through 115/145 | |
| * TRANSFER SWITCHES   + Pump on at \_\_\_\_ gal   + Pump off at \_\_\_ gal or \_\_\_ if other fails | * 42 on * 51 off or 59 | |
| * If fuel transfer fails with fuel in wing tanks, up to \_\_\_ gal can be trapped * OVERRIDE mode bypasses \_\_\_\_\_ switches and it runs Continuously/Set amount of time? | * 28 gallon * Bypass float switches * Runs CONTINUOUSLY | |
| * R/L NO FUEL TRANSFER LIGHT can mean 3 things | * 1) Total fuel = Nacelle? – no fuel in wing tanks * 2) Total fuel > Nacelle? –depends, you need those 28 lbs?   + Yes? Try switch to OVERIDE     - NFT light off = pump good     - NFT light still on = pump fail, plan for 28 lbs unusable   + No? don’t use override, turn pump off, gravity flow starts once nacelle drop to 3/8 full * 3) Fuel in wings but Nacelle = YELLOW ARC, with no light?   + Transfer switch off?   + Transfer pump CB out?   + 42 gal float switch inop- override it | |
| * Transfer light warning IF (2) | * Pressure switch detect <3 psi * PUMP TOLD TO RUN | |
| * Boost pump fail, indications? | * FUEL P Light FLICKER * XFEED LIGHT ON (if in auto) * Crew close xfeed valve to determine which boost pump has failed   + Xfeed or suction decision     - Xfeed if range not factor, if it is suck it | |
| * XFEED goes from TANK on one side to \_\_\_\_ * Generally used for \_\_\_\_ fails * Why do we not fly with xfeed valve open normally? | * ENGINE on the other side * Boost pump fails * The strongest boostpump will feed both engines and imbalance will occur | |
| * Steering range with NWS and brakes? | * 48 either side | |
| * DO NOT tow with \_\_\_\_ control lock | * RUDDER | |
| * Elevator trim tab = \_\_\_\_\_\_ action | * Anti servo | |
| * Trim disconnect switch, 2 levels | * 1st = disconnect auto pilot and YD * 2nd = disconnect ELECTRIC TRIM | |
| * Landing gear, what holds gear in the UP position? * What prevents coasting and overtravel? | * Jackscrew and dynamic braking (pg 7-3) * Dynamic braking and limit switches | |
| * WHEELS UP WARNING = 3 signals | * Warning Horn, WHEELS UP light, 2 red handle | |
| * Get the warnings if gears not down and locked and: (2) | * Both power levers retarded below 79% N1 rpm * FLAPS beyond apprch | |
| * See figure 7-1 pg 7-5workbook for how to silence | | |
| * R SQUAT SWITCHES | * “**FLRSTOTS**” * **F**-light hour meter * **L**-anding gear circuit * **R**- ight eng inlet lip boot heat * **S**- tall warn * **T**- ransponder * **O**- peration of some stuff in (AHRS/DCU/GPS) * **T**- AS/RADAR * **S**- tall warn heat | GROUPS  **FLR** = INOP  **STO** = DEACTIVATE/INHIBIT  **T** = STDBY  **S** = GOES TO 14 V |
| * L SQUAT SWITCHES | * L- eft engine inlet lip heat = INOP * E-lectric heater = GND MAX * A-mbient air solenoid = CLOSE * P-ressurization controls = INOP | |
| * LIMIT SWITCHES: location | * On landing gear drive train assembly underneath floor of cabin | |
| * Parking brakes CAN/CANNOT be set using copilot brake pedals | * CANNOT | |
| * Retraction of landing gear automatically centers nose wheel and disengages OR can you move it in flight? | * Disengage, no move in flight | |
| * OUTFLOW VALVE: diff p not exceed \_\_\_ PSID * Does it have negative P relief? | * 4.7 * Yes | |
| * SAFETY VALVE: diff p not exceed \_\_\_ PSID * Does it have negative P relief? | * 4.9 * Yes | |
| * “Our friend MANUAL” COOL controlled through INCR/DECR or knob thingy | * INCR/DECR, manual = no knob | |
| * ELECTRIC HEATER LOCKOUT, if these ON (3) | * Windshield Heat * Prop De-ice * Engine Lip boot heat | |
| * Oxygen Supply gives \_\_\_\_\_ cubic ft * Pressure = \_\_\_\_ psi * Temperature | * 49 * 1850 psi +/- 50 * 70 | |
| * Operate windshield on dry glass? | * No | |
| * ICE VANES EXTENDED, what results? (3) | * Engine torque DECREASE – around 40-60 ft lbs * ITT may INCREASE * Range REDUCED – around 10-12% | |
| * On deck electrical power to heating elements goes from 28 Vdc to \_\_\_\_ Vdc | * 14 | |
| * Except during TO roll, pitot heat SHOULD/SHOULD NOT be used while aircraft on ground | * SHOULD NOT * Overheat possible, lack of cooling airflow | |
| * STDBY COMPASS can give error if these are activated (5) | * Windshield ANTI ICE * Windshield WIPERS * AC * Electric Heat * Vent blower | |
| * Alternate static located in \_\_\_\_\_\_, info goes to \_\_\_\_\_ instruments and \_\_\_\_\_ if normal static air source fail. | * Rear pressure bulkhead * Pilot instruments and ESIS * Pg 9-6 | |
| * ESIS powered by \_\_\_\_\_\_ bus, that bus in emergencies can be powered by \_\_\_\_ * Gets info from AHRS 1 OR 2? * Has its own ADC? * Gets other stuff from \_\_\_\_ 1. See page 9-7 | * ESSENTIAL AV BUS, AUX BATT * AHRS 1 * YES * NAV 1 | |
| * AV ESSENTIAL BUS POWERS: CRANE | * C-OM 1 * R-TU * A-UDIO (PILOT) * N-AV 1 * E-SIS | |
| * FMS consisted of \_\_\_\_ and \_\_\_\_\_ computer. * System blends input from \_\_\_\_, \_\_\_\_\_, and\_\_\_\_ to compute present position | * CDU and FMS * VOR, DME, GPS | |
| * CDU- TUN button allows tune and select for: | * COM1 * NAV1 AND NAV2 (receive VOR/LOC freqs only) * DMEHOLD * ATC * ADF | |
| * FLIGH DIRECTOR (FD) provides \_\_\_ and \_\_\_\_ guidance based on crew inputs on the \_\_\_\_ | * Pitch and roll * FGP (Flight Guidance System) | |
| * Autopilot may be engaged at \_\_\_\_ on dep, \_\_\_\_ at cruise, disengaged by \_\_\_\_ on aprch | * 400 AGL dep * 1000 AGL cruise * 180 AGL aprch | |
| * TAS provides/does not provide resolution | * DOES NOT | |
| * Weather radar antenna located on \_\_\_\_\_ * Detect Precip (WX mode) up to \_\_\_\_ NM * Detect Turb (WX + T) up to \_\_\_\_ NM * To display RADAR PFD must be in \_\_\_\_ or \_\_\_\_ and RDR \_\_\_\_ selected | * Nose of aircraft * 300 * 50 * 120, 120 map mode, overlay | |