FURLONG
21 NOV 66

FTD - McKenna Air Strip

8 lessons 4 hrs

4 " 4½ hrs

Telephones

Col BV - DCO 545-2378

545-1312

Orderly 544-7334

First Sarg 544-7628

7485

Question - Priority

#1. PIF

2. Checklist

3. Stan Guide

4. Rash ten

5:30 hrs pack a lunch.

CO - LCol Bailer

DCO - LCol Worthington

TO - Maj Hodges

Vung Tau, Can Tho, Soc Trang, Qui Nhon Trang

Da Nang, Dong , Pleiku, An Khe

WED 700

Engines: Mass 21 Nov

P.W. R-2000-7M2 1450bhp @ 50" Hg + 2700 rpm

Engine life - 1500 hrs 1200 is good right now.

Manifold pressure not direct, it's electric autosyn

Max Except Take Off - any above this restricted to 5 min 1200 bhp, 2550, 42.5"

Climb 900 bhp 2250 rpm 35"

Prohibited range - 2310-2510 rpm - crankshaft failure due to vibration

Limitations:

Overspeed ~~Overboost~~

2700-2800 No Action Required

2800-3050 Spec O.S. insp. req. (before, after 1, 5 + 10) note - recommended removed momentary overspeed permissible

3050 or over Engine Change.

Overboost

rpm above 2200 exceed 54.5" Hg

" " 50.0" Hg for more than 15 sec

no amount of overboost now constitutes engine change.

Ebbe Engine:

Rear row odd, 1 at the top #2 registers Cyl Head Temp Max CHT 260

#6 + #9 are master rod cylinders - direction of rotation from rear is CW

Firing order Add 9 subtract 5 1-10-5-14-9-... etc.

Propellor turns ½ as fast as crankshaft. Mags are LH + RH from rear

Mag - Single high tension system SF14RN-8 15,000 volts

induction vibrator wired to right magneto only

Front spark plugs in both rows served by right hand mag.
Spark 25° before TDC
Engine divided into Power section, Nose case section, accessory area, supercharger section
Single speed, single stage impeller (super charger)
Fuel and air are normally mixed in supercharger throat
Air and fuel metered by carb then injected through holes on the impeller blades
Normal fuel pressure is 17psi ±1. Fuel Pressure Light should come on at 15 psi
Requires 12psi very critical - no leakage permitted when running.
Manifold pressure - power input measurement
40° min oil temp prior to any setting above warmup
Max is 93°
Must be at least 30psi oil pressure as soon as inverter turned on.
Max Oil pressure 110psi min is 80psi
Fire detection only Zone 1 - foward of ~~firewall~~ seal
Fire detect + ext Zone 2 - aft of ~~firewall~~ seal and to primary firewall.
Zone 3 - wheel well.
Oil Tank 29.7 gals with 20.4 gals of oil inside Grade 1100 antidispessant ashless
Low level light comes on when approx 50% oil gone
All engine fluids except fuel drain into Engine drain box.

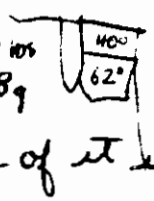
Ground Operation Checks; Crank Throw 15 blades if cold. When thumbs up hit starter then vibrator and primer. Always prime on all starts unless too rich. Only two starts allowed.

INCONEL FECONIAL

The Aircraft Tues 22 Nov

Length - 72' 7" before dome
Loading clearenc - 9' 6"
Wing fences to prevent lateral flow along wing
Outer leading edge drooped to give aileron control during stall
V-strabs along fuselage to prevent slip stream buffet
Nose wheel steering 60° from center
Controls move spring tabs which cause aerodynamic assist

Fuel System:



4968 lbs
First five are selfsealing in each wing - capacity stan 828 g
Self sealing - 806 g, 4836 lbs #1 cell is armor plated because of it importance
#1 houses boost pump, low level and quantity probe
Engine driven fuel pump 17±1 psi Low level warning for pressure at 15 psi
Fuel strainer in outboard wheelwell Boost pump normal - 12-14 psi -22-24
Low level fuel light comes on 100-110 lbs
Ferry tanks top off #5 cell until empty - 480 gals in each ferry tank about 300 mi

Wing + Tail deicing - boots in six sections operated by alternating expansion and suction to break ice 29 sec. Timing can be either fast or slow
Prop deice
Isopropyl Alcohol (CH_3-$CHCH_3$-OH) - One 8.4 gal tank per prop good for 8 hrs.
Cockpit - 50,000 BTU heater - fuel pumped by small unit from #1 cell on rt wing
Separate heating system for cabin: d/f switch on for 2 min w/ no heat - turn OFF
Three requirements to work - no overheat, ram air press sufficient, valves open.

Engine fire warning system - salt inside wire melts at 575° and gives warning. Freon 13B-1 CF_3Br is fire agent

23 Nov Wed

Hydraulics

4 gal/min from two pumps = 3000 psi

Primary Hyd System:

Non pressurized reservoir - ~~5.2~~ 1.52 US gal hyd fluid. Emergency stanpipe gives 0.35 gals if all else goes.

Hyd and engine oil Emerg shutoff - cuts fuel, prop de-ice, hyd, and oil.

Fuel Emerg shutoff - cuts fuel only.

Pressure maintained by pump's integral control

Hyd press low light comes at 1500psi goes out at 1500psi - Lights will flicker at times when gear lowered.

In the event of Hyd leak, a valve is provided to stop flow. Safty wired to the ON position

Secondary Hyd System - includes Emerg hyd selector panel - any time hand pump used

Selector handle normal - all systems

Selector handle emerg - brakes and N nose gear valves only

If there is a leak in flight handpump must be used with selector in emergency position

Flaps - Only one actuator which also changes incidence of horizontal stabilizer

- Only emerg procedure is handpump in normal position - if no fluid, return flap lever to 0° and aerodynamic pressure will blow them up

Gear - Electrically controlled and hydraulicly actuated

When gear is locked up or down there is no hyd pressure on gear

Landing gear lever will light when all gear are not locked up or down

⊕ ♀♂*+∞

Horn - both throttles below 13-15 ρ "Hg and all gear not down and locked.
Gear is shortened 18" to fit into wheelwell.
Three methods of lowering main gear - Primary, Pump-normal, Mechanical
6 sec cycle up and down flaps - 1½°/sec
For all ~~emerg~~ not secondary landing gear operations ELGDS valve will be on (front + main)
Ensures positive return of fluid on up side of actuator

Fluid in system -
a. Gear select lever - Down
b. Handpump Selector - Normal
c. Pump manually - both gear

Fluid leak -
a. Gear select lever - Down
b. ELGDS - on
c. Handpump selector - Emergency
d. Manual release - Pull
e. Pump nose gear down

No fluid at all
a. Gear Select - Down
b. ELGDS - on
c. Manual Release (main)
d. Blow down (nose)

000-000-000

① Nosewheel steering – switch on at all times
② If gear will not come up, turn Nose wheel steering switch off momentarily.
③ This will take pressure off N.W.S. and allow centering cam to straighten
④ nose wheel. This releases squat switch which allows retraction

Brakes

Max Braking – 1000psi to each assembly
When indicator pin is out less than 1/8"

Thurs 24 Nov

IP+RA
Here 2 VOR 1 ADF VN – 2 ADF – 1 VOR
'60-A '61-B '62-C '63-D Avionics conf

A conf – no RMI converter – no VOR reference on RMI
B, C, D conf – RMI " – VOR bearing on RMI
A conf – no MB sensitivity select switch
A+B – separate glide slope control panel – must dial in localizer (i.e. 109.3) on both VOR and GSC Panels, GSC feeds auto. to both GSI VOR for each must also have localizer dialed in, C+D have GSC inc VOR
Fuse on ADF black box behind CP's seat
FM power switch on CB panel must be on for VOR, ADF, FM audio
RMI-ID-198
ADF + VOR switch only control "one needle and references Pilots ADF or VOR
"2 needle references CP's ADF (VN) and CP's VOR (U.S.)
Same on CP's side except RMI is ID-250 which is slaved to ID-198 which is J-2 primary

Position of Emerg VHF switch controls

IFF

Function Control - Normal - old parrot system

Mod - SIF

Civil - ~~Only get IP by being in Civil or Mode 3~~ In civil you can squawk ident M3 only.

Should spend 3-5 min in stby before transmitting

On front of XPDR there are 12 switches

①	②	④	
1	2	3	A
4	5	6	B
7	8	9	C
10	11	12	D

TEST M-2 A B C D 0400 A B C D 2 1 7 3

A all switches on — A switch 2

B switch 6 on — B switch 4

C+D all off — C switch 7,8,9

D switch 10,11

Radar

Power output 20KW peak — 1 scan/sec — 120° scan

30 mile range - 10 marks

60 mile " - 15 marks

150 mile " - 25 mi mark

stabilization - 20° @ 20°/sec for pitch and roll - applied from CP attitude mod

Warmup time - 3-5 min

Unless two objects are 1000' apart, will run together

" " " " 3° " " " "

Operate - Terrain mode, still shows clouds contour - shows precip in cell.

To find tops of clouds 1° at 1 mile 100'. 1° at 60 mi = 1NM

Flying at 1500' Target 2° at 50 mi = 10,000' + 1500' = tops at 11,500

In contour, you must use full gain
Steep Gradient – Sharp vert wind shear ∴ turbulence
Above freezing – stay 5 miles from any cell ; Below freezing stay 10 miles from cell
Hooks severe turbulence and hail
Finger clouds indicate tornado
Ring of dots indicates another radar operating on 9375 mc

Propeller

Hamilton Standard fully feathering reversible prop
Uses Hyd fluid. 13.3 qts in system. No way to replenish.
Capacity level drops to * 10 qts, warning ltr comes on.
Integral oil control unit contains governor. A/C non reversible have gov mounted elsewhere
Centrifugal twist tried to flatten
* Blade switches are easiest failing point prevents runaway ~~raising~~ lowering pitch
When in reverse, aux pump puts extra pressure on system – actuated by
#1 Control switch that shuts off aux pump also turns on reverse lights and reactivates the governor
Light comes on from +2° to -4°
*Blade Control Switch #1 a. terminates unfeathering operation
* b. Shuts off aux pump while in full reverse
c. Turns on reverse indicating light about -4°
d. Terminates unreversing operation
*Blade Control Switch #2 Prevents inadvertant reversing of blades

Rigging - floor support 40psi 1500lbs max on ramp w/o steady strut.

seats 32. - 26 paratroops 14 litter - 12 seats "Nato" 20 litter - 2 seat

CGU-1B Brownline - no good, replace

BIA are alright new - but loosen when old [5000#] A-1A [1250#] like MC-1 also used

	Tension to T	A to A
FWD	8	4
AFT	2	1.5
LAT	1.5	1.5
VERT	2	2

720#/hr fuel

Restraint factors pp 13-29 & 13-17

AFM 71-4 - should have on A/C

2

94.5 9.5 K

Maj Larry Anderson

Propeller - cont

Deicing tanks spray onto leading edge of prop from pinhole

Blade angle settings

Full feather - 88° Low blade - 21° governor range

Reverse -8° Tolerance ± ½°

* Aux pump - Unfeather, feather, reverse, unreverse require its use. (because prop is too slow for engine driven pump)

* If Aux pump fails, you cannot feather prop or unfeather. Reversing is still good but slow and sluggish.

If low level warning light comes on, wait for * 200 rpm fluctuation before feather.

If you lose fluid, the inner rotating sleeve will fuse to outer stationary sleeve which will cause mounts to break. The whole assembly will rotate causing severe vibration.

* If propellor cont. cable breaks, a (the governor) spring will stab. RPM at 2200.

Normal to see hyd fluid venting out drain after flight

Feathering lights (Red) are on when power is applied to aux pump. No indication on load meter. Green light indicates autofeathering system is armed.

Two feathering timers control length of time switch is in feather position. 12-14 sec

* 45 ± 2.5 % - auto feathering of low prop used during T.O. only Differential Press switch

Takeoff range for thrust indicators is 60-100%

* Blue lights indicate prop past reverse, * Most common cause overspeed is governor sticking governor pilot valve in

Should not be unfeathered above 130 KIAS

When unfeathering in flight, release button between 5-600 rpm 800 rpm max

In reverse, no governor, max rpm is 2700, max "Hg is 42.0 Hesitate in idle reverse before going to add power. Reverse may be used if one engine only.

T.O. rpm 2650 - 2675 Barometric rpm 2250 ± 50 Max TO Roll 2700 ± 25

1250 - 1350 Low Pitch Setting

Emergency Proce pp4-5 Dash Ten

First step in Runaway cond - check appropriate feathering e B

Records
Medical
Dental
Pay

Copy Current Physical	SF 88
Record of Emergency Data	AF form 246
Flight Record	AF form 5
Physiological Record	AF form 1274
Current instrument Cert	AF form 8
Thermofax Copy Service Record	AF form 1107
Copy Aeronautical Orders	

Equipment

1pr Thermal Underwear	Heavy socks
1pr Basketball knee pads	Hunting knife
1pr " elbow pads	6 #12 bait hooks, 10yd 6# test mono
2 plastic baby bottles	safety pins, sewing kit

Civilian clothes
flying suits + boots
old boots
fatigues
1pr 1505's
blues