PART 2

LIMITATIONS

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These limitations are applicable to aircraft Serial No. XK 486 for first preview by A. & A.E.E.

LIST OF CONTENTS

	Para.
Engine data - de Havilland Gyron Junior D.GJ.1	1
Design limitations	2
Temporary flying limitations	3
Weight limitations	4
C. of G. limitations	5
Electrical actuator limitations	6
Boundary layer control system limitations (ground running) ..	7

1. Engine data - de Havilland Gyron Junior D.GJ.1 - Phase 1(a)

(Serial Nos. 3220 & 3222)

The principal engine limitations are as follows:-

Condition	R.P.M.	Time limit per flight (min.)	J.P.T. (°C)
Max. with air bleed . . .	9,000	5	710
Max. without air bleed . .	9,000	10	650
Military rating	8,550	30	565
Max. continuous	8,300	Unlimited	525
Min. approach with air bleed	6,000	Unlimited	-
Min. approach without air bleed	4,500	Unlimited	-
Ground idling	4,200	Unlimited	-

Oil pressures

Ground idling . . . . . 10 - 20 lb. per sq.in.

Normal (at max.continuous R.P.M.) . . . . . 20 - 25 lb. per sq.in.

Oil temperature (sump) . . . . . 80°C.

2. Design limitations

Maximum speeds:-

Flaps down to 30 deg. (blow OFF)	260 knots
Flaps down to 45 deg. (blow OFF)	200 knots
Flaps down to 30 deg., ailerons drooped to 20 deg. (blow ON)	210 knots
Flaps down to 45 deg., ailerons drooped to 30 deg. (blow ON)	160 knots
Tail plane flap operation	175 knots
Alighting gear lowering	200 knots
With alighting gear locked down	225 knots
Boundary layer control ON	300 knots

3. Temporary flying limitations

(i) Speed

Maximum permissible speed . . . . . 450 knots E.A.S.
(to be corrected for scale altitude for I.A.S.)

Maximum Mach No. 0.9

Minimum flying speeds (knots I.A.S.)

A.U.W. (lb.)	30,000	35,000	40,000
Flaps 0 deg.	150	160	170
Flaps 30 or 45 deg., blow OFF	142	152	162
Flaps 30 or 45 deg., aileron droop 15 deg., blow ON	128	138	148

(ii) Normal acceleration

+ 5.0 indicated
- 2.4 indicated

(iii) Altitude

Altitude not to exceed 30,000ft.

(iv) Manoeuvre limitations

Max. rate of roll . . . . . 100 deg./sec. for 360 deg. roll

Minimum speed for 360 deg. roll . . . . . 330 knots

Maximum angles of sideslip

deg.	17	11.5	6.5
knots E.A.S.	260	300	400

Maximum angle of climb . . . . . 60 deg.

Maximum angle of dive . . . . . 60 deg.

Maximum speed for bomb door rotation . . . . . 350 knots

Maximum speed for air brake operation . . . . . 400 knots

The operation of air brakes in yawed flight is prohibited.

4. Weight limitations

Max. take-off weight . . . . . 40,000 lb.

Max. landing weight . . . . . 34,500 lb.

5. C. of G. limitations

Forward . . . . . 18 in. aft of datum (0.27 S.M.C.)

Aft . . . . . 25.17 in. aft of datum (0.32 S.M.C.)

6. Electrical actuator limitations

To avoid overheating the respective electrical actuators, the following operating limitations are to be observed:-

(i) Aileron droop - each complete cycle, i.e., full droop and retract, is to be followed by a rest period of two minutes.

(ii) Aileron trim - each complete cycle, i.e., full trim and back to neutral, is to be followed by a rest period of one minute.

(iii) Rudder trim - as for aileron trim.

(iv) Tail plane trim - operation of the trim through its full range should be effected only at high rate and must be followed by a rest period of five minutes. Operation at low rate should be confined to short bursts of two or three seconds duration, where possible, each followed by a rest period of eighteen seconds.

(v) Canopy operation - each operation of the canopy, i.e., opening or closing, must be followed by a rest period of three minutes.

7. Boundary layer control system limitation (ground running)

When operating the boundary layer control system on the ground, a maximum operating time of 3 minutes must not be exceeded.