

PART 8. MISCELLANEOUS

AL.13, November 1975,

PART 8 MISCELLANEOUS

LIST OF FIGURES

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1. Ram temperature

The table on Fig. 8.1. gives the IAS to which the aircraft should be restricted to avoid exceeding the quoted ram temperature. These restrictions are imposed to prevent overheating of certain components.

Note. . .

R.A.F. limitations as given in Pilot's Notes must not be exceeded.

2. Level flight wing incidence

Fig. 8.2. gives the variation of the aircraft wing chord line to the direction of motion against mach number and altitude for steady level flight. It is reasonable to assume that the incidence is proportional to normal acceleration.

Note. . .

The horizontal fuselage datum is 2° below the wing chord line.

Example

From Fig. 8.2, wing incidence at 1.2M, 40,000 ft equals 4°, thus incidence at 3g equals 12°.

3. Load Classification Groups.

The Load Classification Groups (LCGs) of aircraft and aircraft pavements are determined by the Aircraft Pavements Branch,

Directorate of Civil Engineering Development, Public Services Agency, Department of the Environment (DOE).

Aircraft Load Classification

3.1. The loading characteristics of an aircraft on a pavement are calculated from the all up weight, tyre pressure, and wheel arrangement of the aircraft. To simplify the relationship between aircraft and pavement classification each aircraft type is allocated a Load Classification Group or Groups according to permissible variation in all up weight. LCGs vary from I, for the heaviest aircraft, to VII for the lightest aircraft.

Pavement Load Classification

3.2. The bearing strength of a pavement is calculated from the total thickness of pavement construction and the bearing capacity of the sub grade and is allocated an LCG, from I for the highest bearing strength, to VII for bearing strengths suitable only for light aircraft. Pavement LCGs are to be published in:—

- a. En-route Supplement.
- b. The Flight Information Publication "Planning" Section 5.

Application of LCGs

3.3. It is the responsibility of the officer authorising a flight and the captain of an aircraft to ensure that the aircraft LCG is compatible with the pavement LCGs of the airfields of intended operation. The following regulations are to apply to the operation of military aircraft:—

- a. Aircraft of a given LCG may operate without restriction on pavements of the same or a higher rated LCG. (e.g. Aircraft of LCG IV may be operated continuously on pavements of LCG I, II, III, or IV).
- b. Aircraft of a given LCG may operate only on an occasional basis on pavements with an LCG rated one group lower than that of the aircraft. (e.g. Group IV aircraft may be operated only occasionally on pavements of LCG V.) Such movements are to be made on a "prior permission only" basis.
- c. Pavements rated two or more groups lower than that of a given aircraft may be operated on by that aircraft only in an emergency. (e.g. Group IV aircraft may be operated on pavements of LCG VI and VII only in an emergency).

3.4. Figure 8.3. provides LCG, LCN or ESWL data in tabular form for the scheduled tyre pressure. In addition when operators require to know the boundaries where LCG, LCN or ESWL changes with variation in AUW, the curve on the lower part of Figure 8.3. provides this information.

RAM TEMPERATURE 50°C

Height Ft.	OAT -°C													
	-85	-75	-65	-55	-45	-35	-25	-15	-5	+5	+15	+25	+35	+45
S.L.	-	-	-	-	-	-	-	-	670	595	515	425	315	185
10,000	-	-	-	-	-	-	700	640	575	505	435	360	-	-
20,000	-	-	-	-	695	645	595	540	485	425	-	-	-	-
30,000	-	-	670	630	585	540	495	445	-	-	-	-	-	-
36,000	670	635	600	560	520	475	-	-	-	-	-	-	-	-

} Knots
-IAS

RAM TEMPERATURE 60°C

Height Ft.	OAT -°C													
	-85	-75	-65	-55	-45	-35	-25	-15	-5	+5	+15	+25	+35	+45
S.L.	-	-	-	-	-	-	-	-	-	660	585	510	420	320
10,000	-	-	-	-	-	-	-	690	625	560	495	430	-	-
20,000	-	-	-	-	-	690	640	585	530	470	-	-	-	-
30,000	-	-	695	650	610	570	525	480	-	-	-	-	-	-
36,000	-	660	620	580	545	505	-	-	-	-	-	-	-	-

} Knots
-IAS

RAM TEMPERATURE 70°C

Height Ft.	OAT -°C													
	-85	-75	-65	-55	-45	-35	-25	-15	-5	+5	+15	+25	+35	+45
S.L.	-	-	-	-	-	-	-	-	-	715	650	575	500	415
10,000	-	-	-	-	-	-	-	-	670	615	550	485	-	-
20,000	-	-	-	-	-	-	665	620	565	515	-	-	-	-
30,000	-	-	-	680	640	600	560	515	-	-	-	-	-	-
36,000	-	680	640	605	570	530	-	-	-	-	-	-	-	-

} Knots
-IAS

FIG. 8.1. RAM TEMPERATURES

30,000 LB

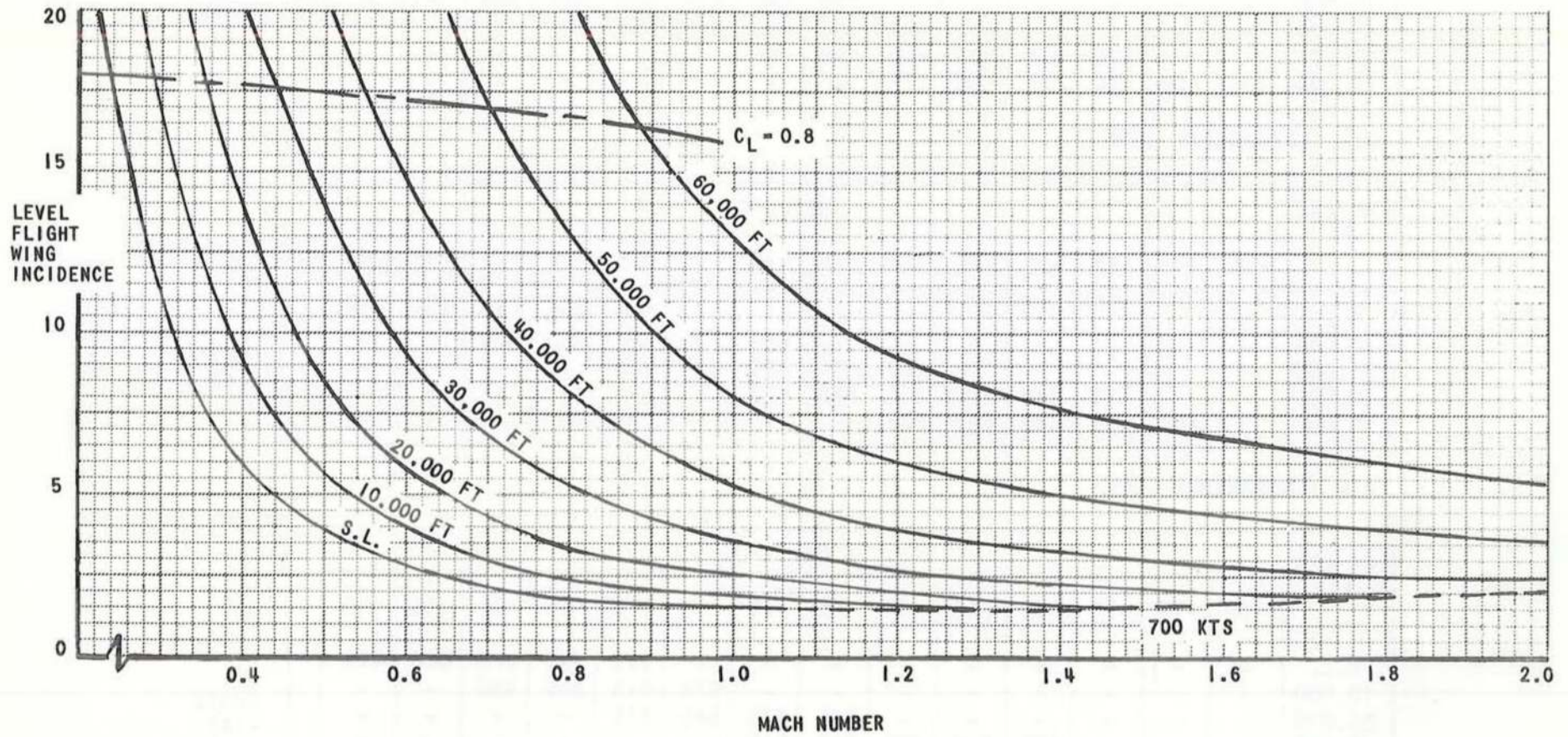


FIG. 8.2 LEVEL FLIGHT WING INCIDENCE

RESTRICTED

LIGHTNING (2 x AVON 210)

AP 101 B- $\left\{ \begin{array}{l} 1001 \\ 1002 \\ 1004 \end{array} \right\}$ -16

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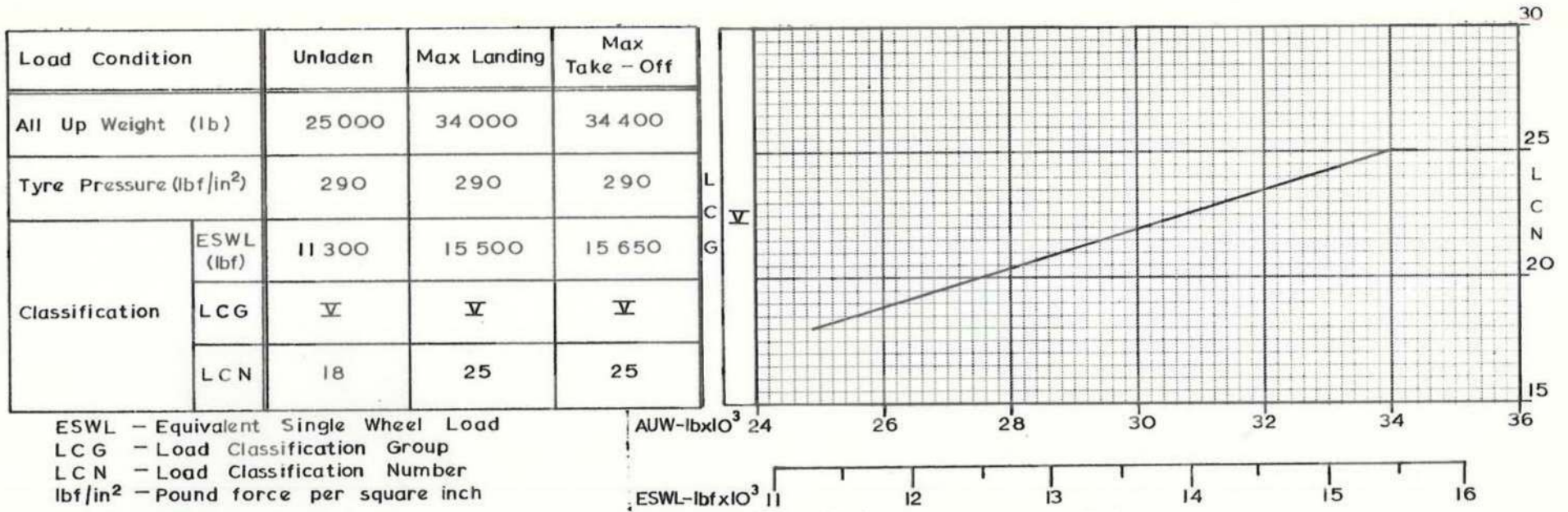


FIG. 8.3 AIRCRAFT LOAD CLASSIFICATION

RESTRICTED

RESTRICTED

RESTRICTED

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