Transport Canada Transports Canada

TP 13524E
(08/2006)

Study and Reference Guide

For
IATRA Examination

Aeroplane Type Rating for
Two Crew or Cruise Relief Pilot

Third edition
August 2006

TC-1002055

Canada

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GENERAL

The conditions of issue of all flight crew licences are stated in the *Canadian Aviation Regulations* (CARs).

KNOWLEDGE REQUIREMENTS

Applicants for the Aeroplane Type Rating Two Crew Aeroplane or Two Crew Aeroplane Restricted to Cruise Relief shall demonstrate their knowledge by writing a Transport Canada 50 question multiple-choice examination on subjects contained in this guide. Applicants must also be able to read the examination in either English or French without assistance.

All subjects in this guide are considered to be important to applicants for the Aeroplane Type Rating.

EXAMINATION FEEDBACK

Feedback statements on the results letter will inform the candidate which questions were answered incorrectly.

Example of Feedback Statement: Recall the rules that apply to inoperative ELTs.

EXAMINATION

This examination contains questions concerning weight and balance graphs, human factors and aeronautics appropriate to two crew aeroplanes.

Examination	Questions	Time Limit	Pass Mark
Aircraft Type Rating	50	2 hours	70%

EXAMINATION RULES

CAR 400.02

(1) Except as authorized by an invigilator, no person shall, or shall attempt to, in respect of a written examination,

a) copy or remove from any place all or any portion of the text of the examination;

b) give to or accept from any person a copy of all or any portion of the text of the examination;

c) give help to or accept help from any person during the examination;

d) complete all or any portion of the examination on behalf of any other person; or

e) use any aid or written material during the examination.

(2) A person who commits an act prohibited under subsection (1) fails the examination and may not take any other examination for a period of one year.

VALIDITY TIME LIMIT

Examinations, including all sections of a sectionalized examination, that are required for the issuance of a permit or licence or for the endorsement of a permit or licence with a rating shall be completed during the 24-month period immediately preceding the date of the application for the permit, licence or rating.

REWRITING OF EXAMINATIONS

CAR 400.04 (1)

Subject to subsections (2) and (6), a person who fails an examination or a section of a sectionalized examination required for the issuance of a flight crew permit, licence, rating or foreign licence validation certificate is ineligible to rewrite the examination or the failed section for a period of

a) in the case of a first failure, 14 days;

b) in the case of a second failure, 30 days; and

c) in the case of a third or subsequent failure, 30 days plus an additional 30 days for each failure in excess of two failures, up to a maximum of 180 days.

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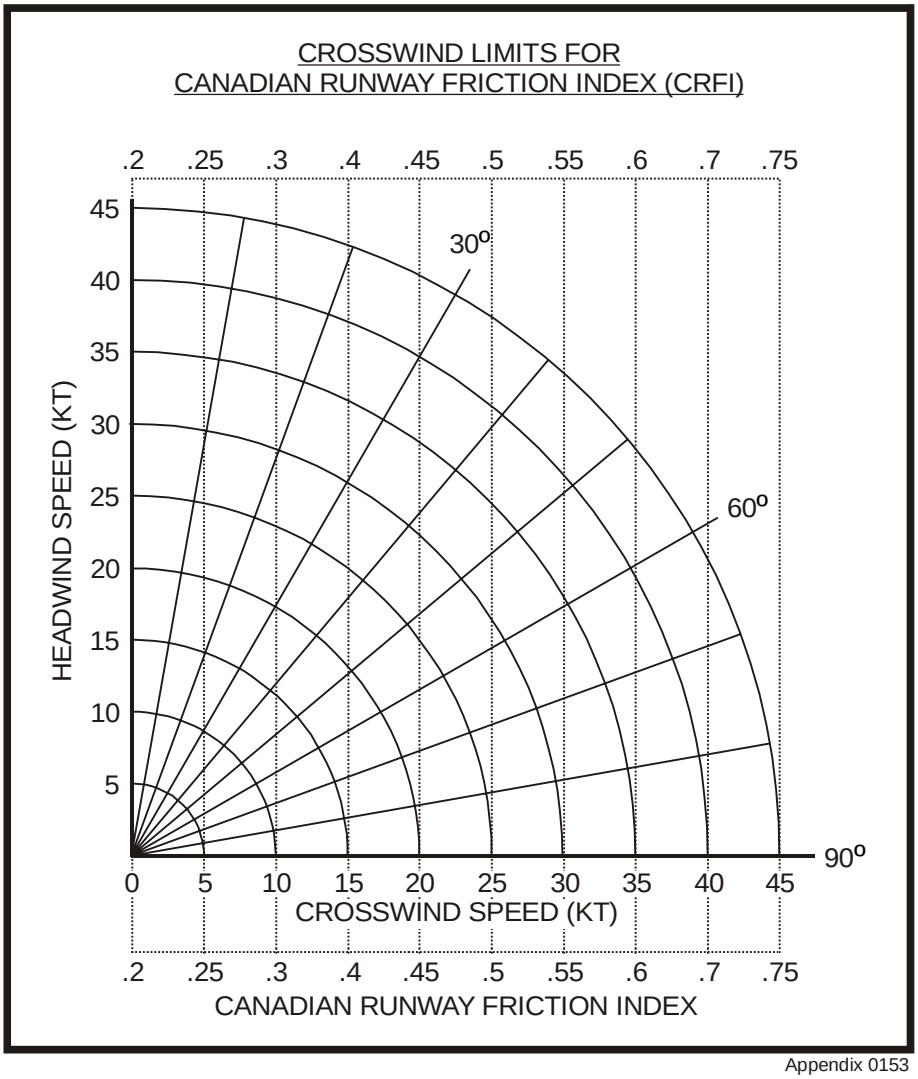
The following section contains examples of different tables and charts, which may be used on the IATRA examination.

WEIGHT SHIFT FORMULA

$$\frac{\text{WEIGHT OF CARGO MOVED}}{\text{WEIGHT OF AEROPLANE}} = \frac{\text{DISTANCE CG MOVED}}{\text{DISTANCE BETWEEN ARM LOCATION}}$$

CROSS-WIND GRAPH #4 (CRFI)



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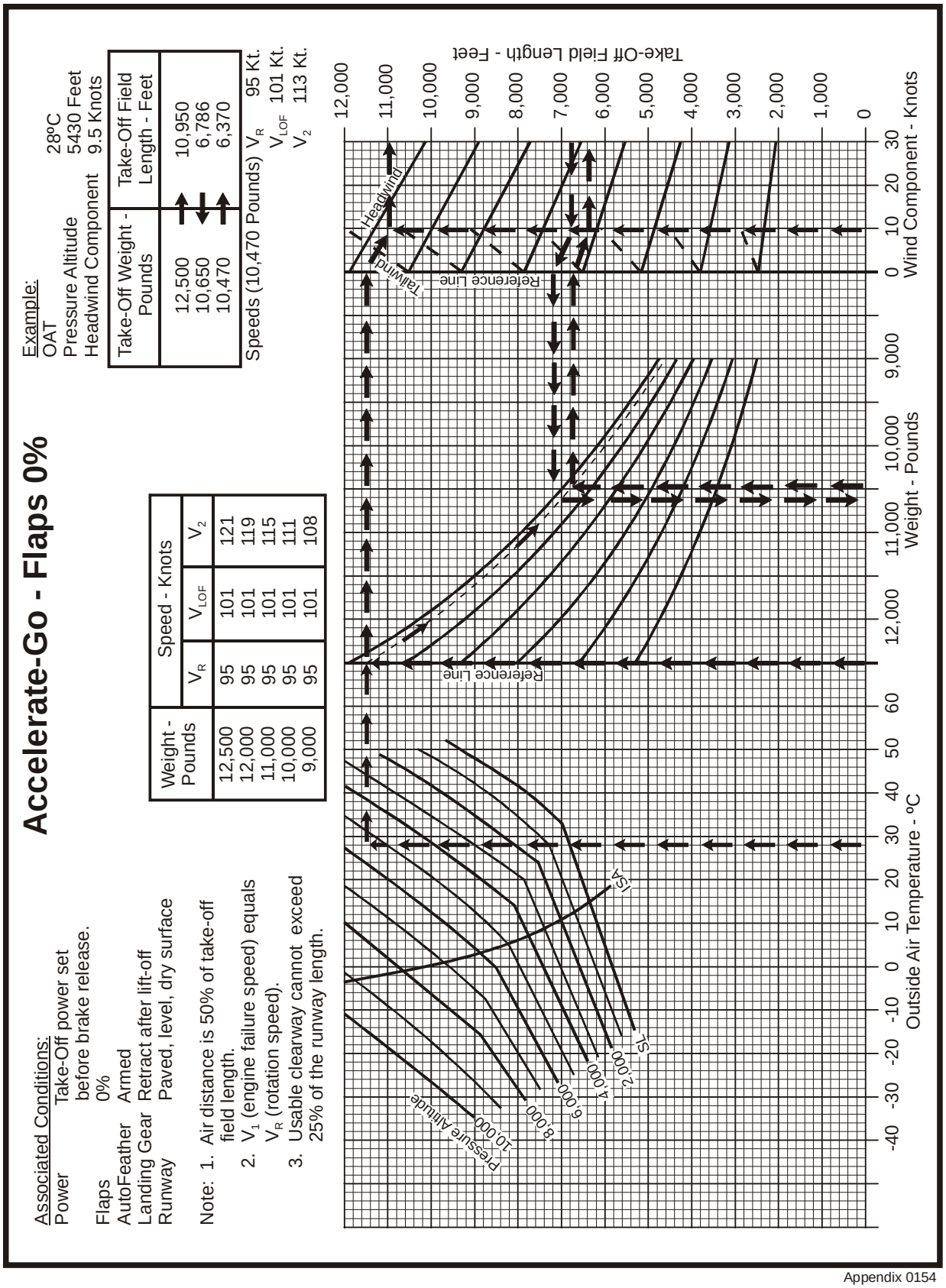

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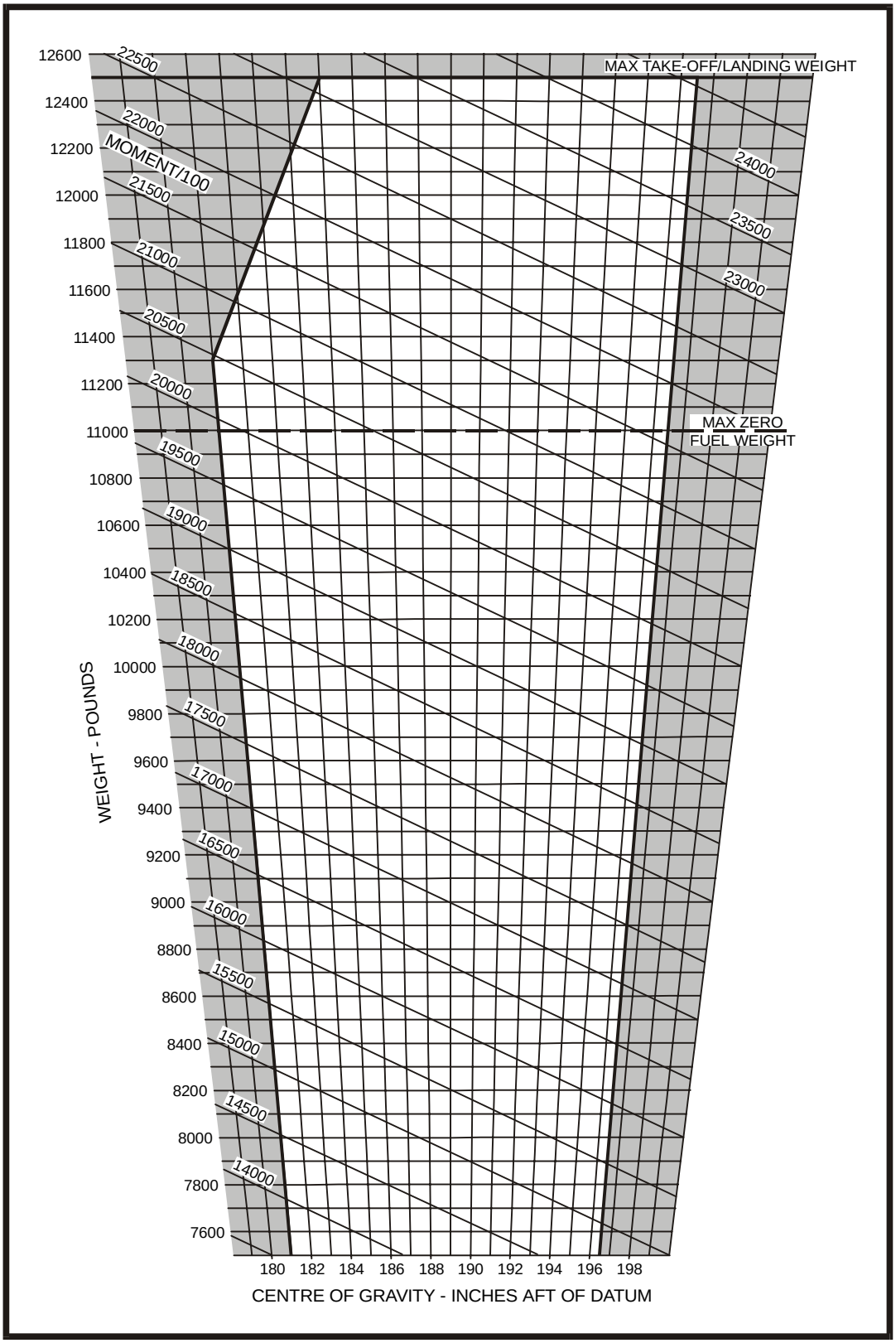

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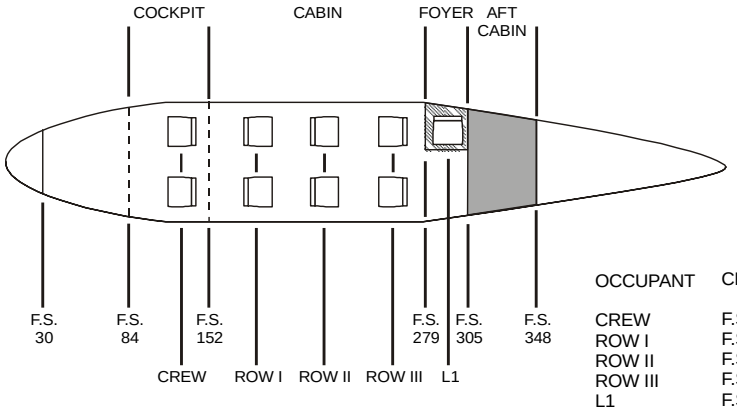

OCCUPANT	CENTROID
CREW	F.S. 129
ROW I	F.S. 176
ROW II	F.S. 215
ROW III	F.S. 250
L1	F.S. 292

CONFIGURATION	BAGGAGE COMPARTMENT	BAGGAGE CAPACITY	CENTROID
SIDE PASSENGER SEAT AND TOILET	FOYER -	150	F.S. 292
	AFT CABIN -	550	F.S. 325

USABLE FUEL

GALLONS	6.4 LB/GAL	
	WEIGHT	MOMENT 100
10	64	99
20	128	197
30	192	305
40	256	423
50	320	542
60	384	662
70	448	782
80	512	904
90	576	1023
100	640	1142
110	704	1260
120	768	1379
130	832	1496
140	896	1615
150	960	1734
160	1024	1852
170	1088	1971
180	1152	2090
190	1216	2209
200	1280	2328
210	1344	2447
220	1408	2567
230	1472	2686
240	1536	2806
250	1600	2926
260	1664	3045
270	1728	3164
280	1792	3283
290	1856	3402
300	1920	3521
310	1984	3641
320	2048	3760
330	2112	3880
340	2176	3999
350	2240	4119
360	2304	4244
370	2368	4365
380	2432	4489
390	2470	4562
400	2560	4741
410	2624	4869
420	2688	4997
430	2752	5126
440	2816	5255
450	2880	5386
460	2944	5514
470	3008	5645
480	3072	5775
490	3136	5907
500	3200	6040
510	3264	6172
520	3328	6307
530	3392	6441
540	3456	6573
544	3482	6626

BAGGAGE

WEIGHT	(Clothing on Hangers) FOYER F.S. 292	AFT CABIN F.S. 325
	MOMENT/100	
10	29	33
20	58	65
30	88	98
40	117	130
50	146	163
60	175	195
70	204	228
80	234	260
90	262	293
100	292	325
200		650
300		975
370		1203
400		1300
500		1625
510		1658
550		1788

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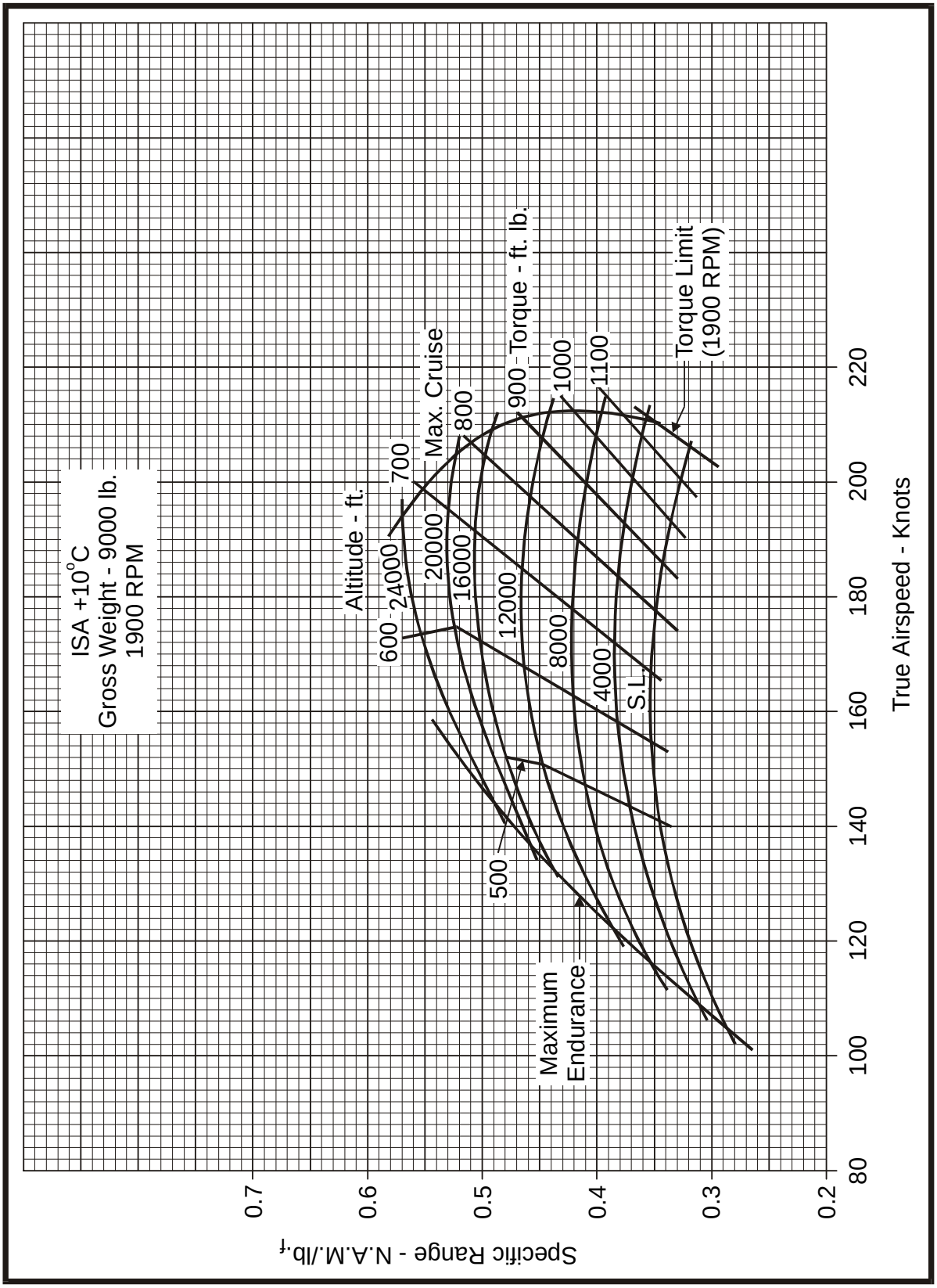

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RECOMMENDED STUDY MATERIAL

- *Canadian Aviation Regulations* (CARs)
- Aeronautical Information Manual (TC AIM) (TP 14371E)
- Air Command Weather Manual (TP 9352E)
- Air Command Weather Manual (Supplement) (TP 9353E)
- When in Doubt… Small and Large Aircraft - Aircraft Critical Surface Contamination Training (TP 10643E)
- Human Factors for Aviation - Advanced Handbook (TP 12864E)
- The Pilot's Guide to Medical Human Factors
- Canada Flight Supplement (CFS)
- Canada Air Pilot (CAP)/CAP General
- VFR Navigation Charts (VNC)/VFR Terminal Area Charts (VTA)/Enroute Low/High Altitude Charts

Additional references produced by commercial publishers can be obtained through local flying training organizations and bookstores.

ENQUIRIES

Information concerning the location of pilot training organizations and matters pertaining to flight crew licensing may be obtained by contacting the appropriate Regional Offices. A complete listing may be found at:

http://www.tc.gc.ca/CivilAviation/General/Exams/Centres.htm