

No.1. SCHOOL OF TECHNICAL TRAINING

ROYAL AIR FORCE

HALTON



GUIDE TO THE "SCHOOLS".

No.1 SCHOOL OF TECHNICAL TRAINING, HALTON  
GUIDE TO THE "SCHOOLS", CRAFT APPRENTICES

Introduction

The staff of the Apprentice Schools have prepared this booklet to introduce you to "Schools" and I hope it will help you to understand the important part that educational training plays in your two year course at Halton.

You have only recently left school and may even be a little surprised to find yourself back in a classroom, in front of a blackboard. However, if you think for a moment, you will realise that in all technical training today theory must go hand in hand with practice, and you will find this is what happens at Halton. This means that all parts of your training are equally important; if you are to succeed, you must not only make your mark in your trade training and in your general service training but, also, in your educational training. You will find that the School syllabus includes everything you need to understand your trade training. You will probably have realised already that your apprenticeship is much more than a mere trade training course and, for this reason the School syllabus has been made just as broad as those used for training civilian engineering apprentices. Finally, if you think ahead to the time when you leave Halton - which today may seem far off - you will realise that your training does not stop even then, and the School course therefore tries to lay the foundation for you to continue training for your duties in the RAF and, perhaps, for technical work in industry when you eventually leave the Service. You are therefore given the opportunity of entering for the General Certificate of Education: but more of that later.

Class Grades

You would of course be worried at finding yourself in a class where all the work was "above your head". It would

be equally unsuitable for you to be in another class where you felt continually held back because the others were much slower than you to understand the work. The ideal arrangement, both for you and for the class teacher, is for everyone in your class to be of about the same standard. This is not easy to arrange, but we do our best by dividing you all, on arrival at Halton, into graded classes according to your selection test results and any GCE successes. Later on you may be moved to a class of more suitable standard, though the majority of such class adjustments are made after the Intermediate Examination.

### Educational Examinations

You will not be surprised to learn that there are several compulsory examinations in Schools. The main examinations which determine your place in the Intermediate and Final Order of Merit List are:

<u>Stage</u>	<u>Training Week</u>	<u>Subject(s)</u>
Intermediate	27	Mechanics
Intermediate	<b>39-40</b>	Mathematics, English, Science
<b>FINAL</b>	27	Engineering Drawing (Electrical Trades)
Final	<b>66</b>	Engineering Drawing (Other Trades)
Final	<b>65- 66</b>	Mathematics, Science, English with RAF History and Georgraphy

Your marks in the Intermediate and Final Examinations in Educational subjects count towards your position in the Final Order of Merit. Your marks in technical

subjects will be used also to give your mark for basic-principles in Part I of your Trade Test. You will find details of these examinations, of prizes, of exemptions from the RAF Education Test and so on in Annex A at the end of this booklet.

In addition to these formal examinations, you will be given class tests in all subjects in training weeks ~~13, 25, 47~~ and ~~57~~. These tests are designed to help us to find anyone who is not making satisfactory progress in a particular subject and to help him to improve before he takes the next main examination. Therefore, if you fail any of these tests you will have to attend for extra tuition in the evenings and then take another test.

#### Educational Standards

The increase in your pay on completion of one year's training is not awarded automatically. In order to get this increase, you must obtain at least 35% in Science, 25% in any other subject and 30% of the aggregate in the Intermediate Examination taken during and at the end of your first year of training and also reach a satisfactory standard in Workshop and GST training. There is also a minimum acceptable level of attainment in the final educational examinations. It is:

Not less than 35% in Science and not less than 30% in each other subject.

You will not be allowed to take the final trade test until you have passed this final educational hurdle. If you fail to do so at your first attempt you will be required to attend an intensive revision course on Monday evenings and will then be re-examined. If you fail at the second attempt you will be considered for discharge, re-coursing or diversion.

Your mark in Section A of Part 1A of the Final Trade Test is based on the aggregate of your marks in the Science in the Intermediate and Final educational examinations. Although this Section carries only 30 (20 for A fitt (W)) of the 100 marks allotted to this part of the trade test, you must obtain at least 50% in each separate section to qualify as a Junior Technician; you will fail to do so if you do not reach the educational hurdle standard in Science in both the Intermediate and Final examinations.

### The General Certificate of Education (GCE)

You will of course not need to have the GCE examination explained to you - perhaps you have already passed in some subjects. Certain passes in the GCE are required by an airman before he is commissioned - details are given in Annex B, para 4. If you want to take one or more subjects of the GCE, either for the first time, or to add to those you have already gained, you can do so whilst at Halton. Ordinary Level examinations are held twice each year, in July and November, and you will be allowed to sit in one or more subjects, provided you can satisfy us that preparation for the GCE will not interfere with your normal training, and provided also that you have a reasonable chance of passing. If you do wish to enter for the GCE, the most suitable examinations for you to aim at would be those held approximately twelve months after your arrival at Halton.

You may be interested in the possibility of transferring to the aircraft technician course; if so, you should read paragraphs 1 and 2 of Annex B. If you have already passed in three or more GCE 'O' level subjects (including Mathematics or an acceptable science subject) but failed in Mathematics or a science subject at school, you should discuss the possibility of transferring to technician training with the Senior Education Officer in charge of your entry during the first week of your formal training in the apprentice school.

Your name in Section A of Part II of the Final List  
is based on the agreement of your name in the  
list in the instructions and final examination results  
of the 1950 examination. Although this list is only for  
the 1950 examination, you must check it carefully to  
see whether you are listed as a candidate. You will  
not be able to do so until the examination results  
are available in both the Department and the  
Examination Board.

The General Certificate of Education (GCE)

You will of course not need to have the GCE  
examined in your - perhaps you have already passed  
in some subjects. Certain parts of the GCE are  
by an award before the examination - usually the  
in Award B part. If you want to take one or more  
subjects of the GCE, either for the first time, or to  
add to those you have already gained, you can do so  
while at school. Ordinarily, your examination will be  
taken each year, in July and November, and you will be  
allowed to sit in one or more subjects, provided you are  
satisfied in that preparation for the GCE will not interfere  
with your normal training, and provided also that you have  
a reasonable chance of passing. If you do wish to enter  
for the GCE, the most suitable examination for you  
should be chosen for you. It would be most desirable to  
also your entry at school.

You may be interested in the possibility of taking  
entry to the private examination board. If you  
should read paragraphs 1 and 2 of Award B. If you have  
already passed in one or more GCE's, your subjects  
should be included in the list of subjects to be  
examined in the examination. It is possible to take  
but failed in Mathematics or a relevant subject at school  
you should discuss the possibility of transferring to  
examination. In doing with the General Education Office  
an entry of your name during the first year of your  
school training in the appropriate subjects.

## Entry Qualifications for the Ordinary National Certificate in Engineering (O.N.C.)

The National Certificates are among the best known qualifications for civilian technicians. You will not be able to take the Ordinary National Certificate in Engineering while you are here, but you can qualify for admission to an O.N.C. course, to enable you to enter an O.N.C. course after completing your training at Halton.

To satisfy the entry requirements for the O.N.C. during your Halton training you must:

- a. Satisfactorily complete your training as a Fitter.
- b. Obtain at least a B1 pass in the final examination in educational subjects.
- c. Obtain not less than 50% of the marks in the Final Examination in mathematics, and 50% of the aggregate of the marks in Mechanics and the intermediate and final examinations in science.

If you should not succeed in achieving these results you may be interested in alternative ways of qualifying for admission to an O.N.C. course. These qualifications are detailed in Appendix B para 3 for entry to ONC courses in England and Wales.

### General Advice on Examinations

You will see from what you have already read that whilst at Halton you will have the chance of catching up with some opportunities you may have missed at School. If you want further details about any of the examinations mentioned in this booklet, or any help in preparing for the examinations - supply of past papers for revision, and so on - ask your class education

officer. Particulars of application dates for the GCE will be given in Wing Routine Orders and syllabuses of the various examinations can be seen in the Trenchard Library but, when in doubt, ask !

### Extra Work

As in all technical schools you will have to do a certain amount of school work outside the classroom, ie "homework". This will usually be in Mathematics, Mechanics and Science, and the normal amount should take about 45 minutes in each of these subjects each week. During your first year of training each Monday evening will be set aside for working at School subjects and education officers will be on hand in the wing from 1830 to 2000 hours, to give you whatever help you may want.

During your final year of training, you will still be able to obtain help with evening work by consulting one of the education officers who will be on duty in Schools, from 1830 to 2000 hours each Monday. Details of subjects and of the rooms in use are shown just inside the side entrance of the Schools.

### Drawing Instruments, Slide Rules and Books

You are a technical student and must provide yourself with a fountain pen, pencils, a good ruler and a rubber. You will also need a set of geometrical instruments or, at least a protractor, a 60° and a 45° set square and a pair of compasses which may be bought at the HALTON SOCIETY SHOP for a few shillings each. These you must obtain as soon as possible as you will need them for classwork and homework and for all your examinations except those in Engineering Drawing. Drawing Instruments will be provided only for periods when you are receiving instruction in Engineering Drawing in Schools.

Engineering students usually possess their own slide rules. The FABER/CASTELL 57/92 (Students' log-log) has been selected as the slide rule most suitable for craft and technician apprentices. A bulk order has been made through the Halton Society Shop and you can buy a rule at a much reduced price. Your mathematics instructor will tell you how you can take advantage of this "bargain offer" and, if you wish, pay for the rule on credit terms at 5/-d per week. You should buy a slide rule as soon as possible after you start formal training.

There is a large library - the Trenchard Library - in Schools. It contains more than 25,000 books. You may borrow books from this library during your break periods or at other times arranged by your class education officers. Later in your training course, you may wish to buy your own text or reference books; if so, your class teacher will advise you on the most suitable books to buy.

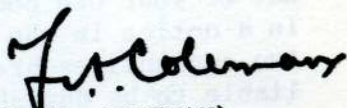
### Discipline in Schools

Now that you have left school we hope that you will learn how to behave as an adult technical student and grow out of schoolboy tricks such as eating in class, or reading magazines or novels under the desk! Also, during breaks or between classes, we expect you to move about Schools in a sensible manner, without rushing or making too much noise. Of course, if you damage any part of the building, or any equipment, by silly or careless behaviour, you will have to make good the damage out of your own pocket. Rules about smoking are given in a notice in the main corridor of Schools: if one or two apprentices break these rules, not only are they liable to be punished themselves, but all apprentices may suffer by the privileges being stopped altogether. Whilst in the Schools Area, as with other parts of the Station, you are to pay compliments to all officers. Of course, within the Schools building this rule does not apply. Also during morning and afternoon breaks you are not required to pay compliments except when you meet

officers of the rank of Group Captain and above.

I repeat that you will come to be regarded as an adult technical student, which means that the sort of behaviour expected in classroom and laboratories is what one would find in any good technical college. In the same way, satisfactory production of exercises and homework is expected. An apprentice who abuses the Schools' standard of discipline, particularly if he interferes with the work being done by other apprentices, will quickly find that the normal rules of RAF discipline apply. Also, an apprentice who is persistently lazy in class and slack with his work will be reported to a Senior Education Officer or to me, a note of this being made on his records. There is also a system whereby the idle apprentice may be "put on report" and has to obtain a report on his conduct and work from every education officer who takes him in class for every period, for two weeks.

However, I hope you will never find yourself in any of the uncomfortable situations mentioned in the last paragraph and that you will make your course in Schools useful and profitable: it is, after all, almost entirely up to you.

  
(F. A. COLEMAN)  
Group Captain  
Principal Education Officer

1st December 1967

HN/772/11/ED

DISTRIBUTION

Copy to:

\*Apprentices of the Entry  
Commandant  
Senior Training Officer  
Senior Education Officers, with copies for distribution  
to other educational staff  
Officer Commanding, No 3 Apprentice Wing, with copies  
for distribution to Wing Staff  
Officers Commanding, Nos 1 and 2 Apprentice Wings  
Officers Commanding, Technical Training Wing, with  
copies for distribution to Technical Training Wing  
Staff  
Station Education Officer, with copies for distribution  
to other educational staff  
Adjutant, Apprentice Schools

**\*This booklet is to be kept by each apprentice for reference during his training at Halton. If it is lost, he is to report to the Adjutant, Apprentice Schools, who will give him another in return for a contribution to the Royal Air Force Benevolent Fund.**

EXAMINATIONS AND EXEMPTIONS1. Order of Merit

a. An Order of Merit List common to all craft apprentices is published after the main Intermediate and Final Examinations held in training weeks 37 and 66 respectively. Classification, see para 2, depends on the Final Order of Merit mark.

b. The maximum marks allotted to the various subjects in the Order of Merit List are as follows:

INTERMEDIATE EXAMINATION	
Mathematics	200
Mechanics	100
English	50
Science	350

FINAL EXAMINATION		
Subject	Marks	
	A Fitt (A) & (P) & (W)	A Fitt (E) & E Fitt (G)
Mathematics	100	100
English with RAF	140	140
History & Geography	60	40
Engineering Drawing	100	120

2. Education Classification. The requirements for various classes awarded in educational subjects are:-

<u>Class</u>	<u>Standard</u>	<u>Result</u>
A1	Not less than 85% of the )	
A2	total marks 70%-84% of ) the total marks and not ) less than 40% in any ) subject. )	Pass With Credit
B1	55%-69% of the total marks.)	Pass
B2	40%-54% of the total marks.)	
C	Less than 40% of the total marks or less than 30% in any subject.	Fail

3. The RAF Education Test

a. Part I. A pass in (or exemption from) Part I of the RAF Education Test is a compulsory qualification for promotion to the substantive rank of Corporal. Craft apprentices who successfully complete the first year of training will be granted exemption from RAF Education Test Part I.

b. Part II. A pass in (or exemption from) Part II of the RAF Education Test is a compulsory qualification for promotion to Sergeant. In order to obtain this qualification, a candidate must pass in English and two other subjects. Exemption from the RAF Education Test, Part II will be granted on a subject-for-subject basis to Craft apprentices who obtain 45% in Schools examinations as follows:

SCHOOLS EXAMINATION	RAF ET SUBJECT
Final Mathematics	Mathematics
Final Drawing	Tech Drawing
The English Section of the Final English and RAF History and Geography	English II
Intermediate Science and Mechanics combined	Science A or Science B

4. Prizes. Prizes are awarded by the Ministry of Defence to the Craft apprentices who are first and second in the final Order of Merit in educational subjects. Attainment in educational subjects is also taken into account for the award of other prizes.

ANNEX B

QUALIFICATIONS FOR AIRCRAFT TECHNICIAN  
AND ORDINARY NATIONAL CERTIFICATE COURSES

Transfer of craft apprentices to the technician apprentice  
scheme

1. Craft apprentices who appear capable of absorbing the training given to technician apprentices, and who obtain the GCE qualifications stated in para 2, may be permitted to transfer to the technician apprentice scheme during their first year of service.
2. The educational qualifications for entry to technician apprentice training are:
  - a. The General Certificate of Education showing a minimum of 4 passes at the Ordinary level, including Mathematics an appropriate Science subject. Those who do not offer Mechanics, Mechanical Science, Physics, Physics-with-Chemistry, Chemistry with Physics, Engineering Science or Science (Building and Engineering) will be required to pass a test in Physics at the Youth Selection Centre.
  - b. The Scottish Certificate of Education showing a minimum of 4 passes at Ordinary Grade, including Mathematics and an appropriate Science subject. Those who do not offer Physics or Applied Mechanics will be required to pass a test in Physics at the Youth Selection Centre.
  - c. The Northern Ireland General Certificate of Education showing a minimum of 4 passes at the Ordinary level, including Mathematics and an appropriate Science subject. Those who do not offer Physics or Applied Mathematics will be required to pass a test in Physics at the Youth Selection Centre.

Educational qualifications for admission to an Ordinary National Certificate in Engineering Course

3. Students admitted to the first year of the course must possess one of the following qualifications:

a. The General Certificate of Education at the Ordinary level in four subjects including Mathematics and one of the following subjects: Physics, Physics-with Chemistry, Mechanics, Mechanical Science, Engineering Science, Science (Building and Engineering) or other Science subjects specifically approved by the Committee.

b. Satisfactory completion of the General Engineering Course at an Establishment for Further Education and the possession of a General Engineering Course Certificate with Credit in Mathematics and in Engineering Science and a pass either in Engineering Drawing or Workshop Practices and Materials.

Education Qualifications for Commissioning

4. Passes at the Ordinary level in English Language, Mathematics and three other subjects, excluding such subjects as Art, Music and Handicrafts, form the minimum educational qualification for serving airmen for consideration for a permanent commission in the General Duties, Equipment and Secretarial Branches. In the Technical Branch, GCE passes at the Advanced level in Mathematics and Physics and at Ordinary level in English Language and two other subjects form the minimum educational requirement for serving airmen.

5. For serving officers, a pass in English Language at the Ordinary level is required in addition to the Higher National Certificate for consideration for appointment to a permanent commission in the Technical Branch.

6. A scheme now exists whereby a serving airman may apply for a Permanent Commission on the Supplemental List in the Technical Branch providing he has an ONC in Engineering, a GCE 'O' level in English Language and has completed at least 3 years productive service.

a. CC 331 Part II (Final Exam)	a. CC 331 Aeronautical Engineering Certificate Part I (2nd Year) Examination.	a. CC 331 Last the final examinations in educational subjects and graduate as junior technician	1. Aircraft Officers Propulsion
b. CC 332 Supplementary Examination in "Power Plant Maintenance".	b. CC 332 Aeronautical Engineering Craft Practice (Mechanical) Entry to 2nd Year of Course.		
a. CC 331 Part II (Final Exam)	a. CC 331 Aeronautical Engineering Technician Certificate Part I (2nd Year) Examination.	- B.110 -	2. Aircraft Officers Airframe
b. CC 332 Supplementary Examination in (1) Aircraft Erection and Overhaul. (2) Aircraft Maintenance.	b. CC 332 Aeronautical Engineering Craft Practice (Mechanical) Examination.		

CITY AND GUILDS OF LONDON INSTITUTE -  
APPRENTICES TRAINING

Trade	Minimum Trade Standard	Direct Entry to City & Guilds Examination/Year of Study	Suggested further Study
<u>Craft Apprentices</u>			
1. Aircraft Fitters Propulsion	Pass the final examinations in educational subjects and graduate as junior technician	<p>a. CG371 Aeronautical Engineering Certificate Part I (2nd Year) Examination.</p> <p>b. CG 332 Aeronautical Engineering Craft Practice (Mechanical) - Entry to 2nd Year of Course.</p>	<p>a. CG 371 Part II (Final Exam)</p> <p>b. CG 332 Supplementary Examination in "Power Plant Maintenance".</p>
2. Aircraft Fitters Airframe	- Ditto -	<p>a. CG 371 Aeronautical Engineering Technicians Certificate Part I (2nd Year) Examination.</p> <p>b. CG 332 Aeronautical Engineering Craft Practice (Mechanical) Examination.</p>	<p>a. CG 371 Part II (Final Exam)</p> <p>b. CG 332 Supplementary Examination in (1) Airframe Erection and Overhaul. (2) Airframe Maintenance.</p>

ANNEX C Continued

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Trade	Minimum Trade Standard	Direct Entry to City & Guilds Examination/Year of Study	Suggested further Study
3. Aircraft Fitters (Electrical)	- Ditto -	CG 57 Electrical Technicians Course.	CG 57 Part II
4. Electrical Fitter (Ground)	- Ditto -	Entry to Third year of course (T3).	

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CRAFT  
APPRENTICES  
COURSES