THE DE HAVILLAND AERONAUTICAL TECHNICAL SCHOOL

1937 PROSPECTUS

"I arrived at the Tech School on June 20 1940. Digs at 25 Selwyn Drive were twenty eight shillings a week; this included three meals a day! The price seems unbelievable today.

At that time, just after Dunkirk, a group of 'refugee' Westland Lysanders arrived back from France and took up a temporary home on the far side of the aerodrome. Some of them were pretty battered, and one I seem to remember had lost most of its fin and rudder, but had still managed to fly in.

The aerodrome itself had its own defence force; a single Gloster Gladiator that took to the skies when an air raid was expected. Fortunately, as history relates, there was back up in the form of an anti-aircraft gun on the factory roof manned by the Local Defence Volunteers, soon to become the Home Guard."

John Collings-Wells, January 2008

The de Havilland Aeronautical Technical School Association is grateful that John preserved this Prospectus and allowed us to reproduce it, also the letter which accompanied it. The cover of the Prospectus is shown first, followed by pairs of left and right hand pages.

John died in February 2009 aged 86.

DHACTSA 2009

ALL LETTERS SHOULD SE ADDRESSED TO THE COMPANY AND NOT TO INDIVIDUALS

THE DE HAVILLAND

AIRCRAFT CO., LTD.

DIRECTORN A. S. BUTLER OFAIRMAN O.O. WALKER F. T. HEARLE T. P. WILLS W. E. NIKON KE.H. SEBARSE

AERODROME

ENGLAND

HATFIELD 2546 to UNIX TELEGRAMS HAVILLAND HATFIELD CARLER

BENTLEY CODE

ASSOCIATED COMPANIES IN AUSTRALIA, CANADA, INDIA AND SOUTH AFRICA

Ref. C/B/LE.

5th November, 1937.

TECHNICAL SCHOOL.

N. Collings-Wells, Esq., Horslake, Cheriton Bishop, MR. EXECUTER.

Dear Sir,

In reply to your letter of the 4th inst., we have pleasure in enclosing a Prospectus of this Technical School, which is run in conjunction with the Works.

Should you consider taking a Course here, we shall be much obliged if you will kindly complete the enclosed Form, on receipt of which, your application will be laid before the School Committee. The School is at present filled to capacity and an early application is desirable.

The undersigned will be pleased to conduct you around the Technical School and Works by appointment any day between Monday and Friday from 9.0 a.m. to 3.30 p.m., and explain in detail the scope of the training offered.

If there is any further information we can supply, we shall be only too pleased to do so.

Yours faithfully,

THE IM PAVILLAND ATRONAUTICAL TECHNICAL SCHOOL.

ALTO O. O. W. CLAPP. GULLY





Dear Sir

In reply to your letter of the 4th inst., we have pleasure in enclosing a Propectus of this Technical School, which is run in conjunction with the Works.

Should you consider taking a course here, we shall be much obliged if you will kindly complete the enclosed Form, on receipt of which, your application will be laid before the School Committee. School is at present filled to capacity and an early application is desirable.

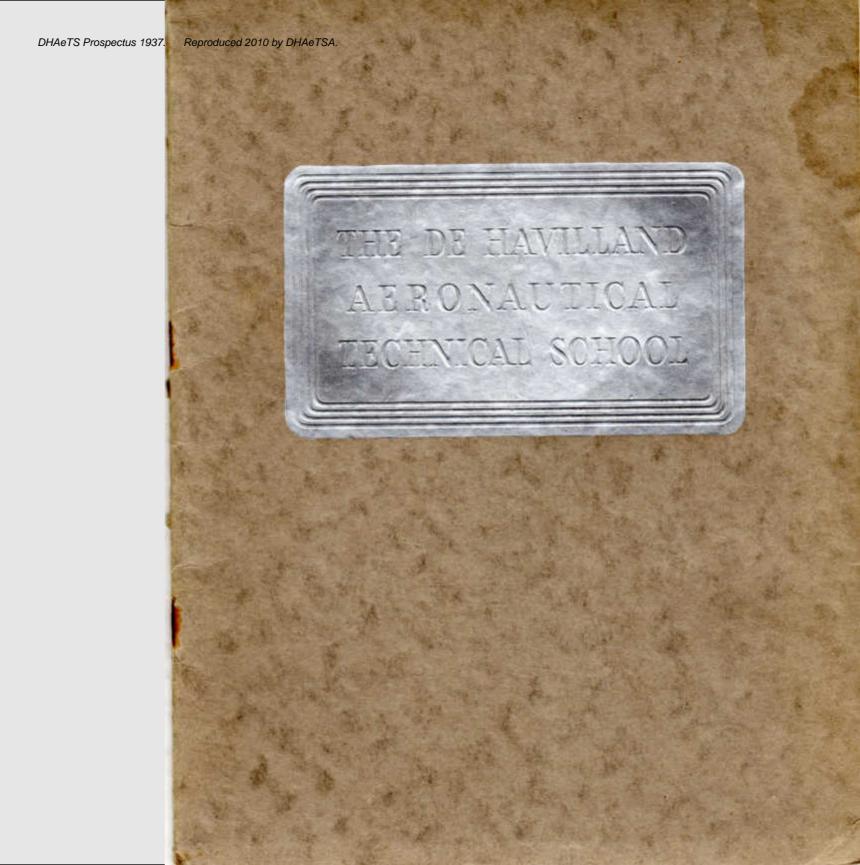
The undersigned will be pleased to conduct you around the Technical School and Works by appointment any day between Monday and Friday from 9.0 a.m. to 3.30 p.m., and explain in detail the scope of the training offered.

If there is any further information we can supply, we shall be only too pleased to do so.

Yours faithfully,

THE DE HAVILLAND AERONAUTICAL TECHNICAL SCHOOL

O. W. CLAPP PRINCIPAL





THE DE HAVILLAND AERONAUTICAL TECHNICAL SCHOOL

HATFIELD, HERTFORDSHIRE

The entrance to the office building of the de Havilland establishment at Hatfield.



THE NEWEST OF THE GREAT INDUSTRIES

Of recent years the march of progress has become so rapid that those faced with the problem of choosing a life career may well pause to ask themselves: "If I take up this or that where shall I be a few years hence-still in the run of things or a back number almost before I have started?"

But to those possessing the necessary bent the problem is quite easy of solution. A career in the technical side of aeronautics cannot end blindly, for the science of aviation is the key to all future transport. The world must have aeroplanes. And, before an aeroplane can be flown, it must be designed and built. It must be tested and passed as airworthy. Even at that the need for the technical man does not cease. For machines must be maintained : their journeys must be controlled.

Here is work for men, not machines. Machines cannot tackle the task, nor can men-unless they be expert by reason of long and intensive training.

It was to meet this need that the de Havilland Aeronautical Technical School was founded. The newly-equipped School offers thorough training in every branch of the industry. Design, Business, Ground Engineering, Works Management, Aeronautical Inspection, Air Transport Service and Aerodrome Management are only some of the branches catered for.

Egyptian

RECORD OF SUCCESS

It has often been said that one should never judge a School by its Prospectus, but should be guided by the successes achieved by its teachings. Look, then, at some of the successes of the de Havilland School :

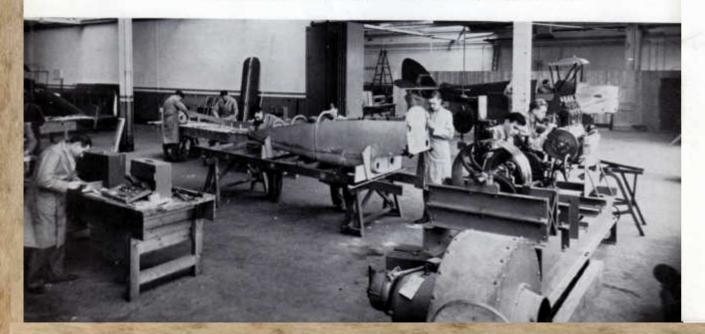
Thirty-one recent appointments to the A.I.D. were secured by de Havilland Air Ministry: students.

Indian A.I.D.: Two principal assistants are ex-de Havilland students.

Airways: Imperial Airways, British Airways, British & Continental Airways, Portsmouth-Southampton-Isle-of-Wight-Jersey Airways and the other Air Services all employ numbers of de Havilland students on executive aircraft engineering duties.

Students have been sent to this School for training as Government Government: Inspectors.

> One of the School workshops with fuselage and wing flanges of T.K.4, a new aeroplane designed entirely by students. In the background is a Tiger Moth, thirteenth machine built in the School, and, on the right, pupils are rigging up a new engine test bench.





T.K.2. A high-performance single-seater designed and built entirely by de Havilland students. This aeroplane was placed fourth in 1935 and sixth in 1936 in the King's Cup Air Race. It also wan the Heston to Cardiff Air Roce in 1936 at an average speed of 189.2 m.p.h.

Aircraft Manufacturers:

Ex-students hold responsible positions on the design, works, sales and testing staffs of The de Havilland Company, Ltd., as well as with other manufacturers both at home and abroad.

Ground Engineering:

Over 650 licences have been issued by the Air Ministry to de Havilland students during the last five years—a fact which speaks volumes for the thoroughness of the training given !- and these men have found employment with: Imperial Airways; The Maharajah of Jodhpur; The British Air Navigation Co.; The Persian, Egyptian, Indian and Nyassaland Governments; Tata Air Lines; The Chinese Eastern Corporation; Air Taxis, Ltd.; British Aeroplane Co., Ltd.; Handley Page, Ltd.; Birkett Air Services; Blackpool & West Coast Air Services; Olley Air Services, Ltd.; A. V. Roe & Co., Ltd.; Airspeed, Ltd.; Blackburn Aircraft, Ltd.; Pobjoy Airmotors, Ltd.; Armstrong Development Co., Ltd.; Phillips & Powis Aircraft, Ltd.; Percival Aircraft Co.; and with various Flying Clubs in Great Britain and abroad.



M

The Method of Training is such as to give the student the most thorough instruction possible in all the principles and processes involved in the manufacture and maintenance of aircraft of all sizes. In this respect The de Havilland Company has unrivalled facilities. Their factory at Hatfield is the most modern in the country. It produces all types of machines, ranging from small sporting aircraft up to large multi-engined passenger transport.

Then there is the Engine Works at Stag Lane, Edgware. Here are complete and most up-to-date facilities-machine shops. erection bays, engine test houses equipped with a dozen dynamometer and other forms of testing brakes for the production of the famous range of Gipsy Engines.

A large part of the Edgware works is engaged in the complete manufacture of controllable-pitch airscrews. This vast and highly specialised plant is the foremost of its kind in Europe and provides airscrews for most of the leading engines and aircraft employed both for civil and military purposes. This undertaking embodies an enormous capital expenditure in machine shops, heat treatment, and testing plant. The plant includes batteries of milling, hobbing, profiling and shaping machines together with special lathes and equipment for the boring, polishing and balancing of the airscrews. The airscrew itself is a great step forward in aircraft development over the fixed-pitch type. Greater fuel economy with larger pay loads, higher cruising speeds, increased safety and lighter engine loads are some of its manifold advantages.

The Company's Laboratories are continuously employed in checking and testing raw materials and finished components. A micro-camera and a very comprehensive range of physical testing machinery is constantly in use controlling and improving the quality of the finished work.

Thus it will be seen that the de Havilland claim to have unrivalled facilities is no idle boast. The facilities exist, and, in consequence, students enjoy remarkable opportunities for the gaining of essential experience.

A good educational background and satisfactory character is required of the prospective student. The first six months of his training is regarded as a probationary period, at the end of which it is possible to decide whether the student is sufficiently promising to justify the continuance of his

He spends some months in the School workshops learning to use hand and machine tools on both wood and metal. This is followed by periods in all departments of the factory: woodwork, metal fitting, machining, welding, heat treatment, anticorrosion treatments, fabric and doping, mechanical testing laboratory, etc. All the work he does is subject to the inspection of A.I.D. and works inspectors. Exactly the same standard of finish as that of a skilled workman must be attained.

A sense of responsibility is thus induced at the beginning of the student's training. It will be appreciated that this

experience of a very high standard of workmanship will be invaluable in his later career, whatever branch of aviation he takes up. But experience is not merely a measure of time, but of the student's capacity to absorb knowledge and of his powers of observation and deduction.

Running parallel with the day-time training in practical engineering are Evening Classes held on the Company's premises under the supervision of the Board of Education and County Education Committee. The advantages are many and students will appreciate the convenience of not being required to travel some distance from the works. The subjects include:

> Aero-Mathematics: Aero-Mechanics: Aero-dynamics: Aero-Drawing and Design; Design and Stressing; Aircraft Materials : Ground Engineering: Machine Jig-tool Drawing; Factory Organisation.

The theoretical subjects are taught by lecturers who are members of the firm's design and technical staff who obviously have a wide experience of the everyday problems of design and construction and are able to impart much more than an academic or textbook knowledge of their subjects. The student gains more than the advantage of this, for he is studying the theory concurrently with the practice and can appreciate the relationship between the two. He sees

the different problems in a truer perspective than one who concentrates alternately on theory and practice as with the university trained man.

Conducted visits to engineering places of interest are a feature that is much appreciated. Each year the senior students are invited to inspect the National Physical Laboratory, The Imperial Science Museum, several motor engineering works, and steel works. Students are encouraged to become Student Members of The Institution of Mechanical Engineers, The Royal Aeronautical Society, or The Institution of Production Engineers.

Gradually the student begins to realise in which branch of aviation lies his best hope of advancement. If, for example, he contemplates going into air transport and favours ground engineering, he may get further experience in engine and aircraft maintenance, aerodrome service, and so forth. If, on the other hand, he wishes to go into design, he spends perhaps a year in the School Drawing Office. Here he begins with the principles of simple mechanical drawing and works up to the designing of the complete aeroplane, including all the performance and strength calculations.

No "Specimens"-All Work is Specific!

No "specimen" work is done and every drawing and calculation he makes is for a specific design which is being built and which may be flown. This department was



The above photo-montage conveys graphically the many subjects in which students receive instruction. The individual attention paid by instructors is also indicated in many of the pictures,

An aeroplane built entirely by Students leaves the factory for first test.

A lecture on aircraft rigging.
Instructor supervises the opening up of a Gipsy engine
by students.

Instruction on the use of a lathe.

A lesson in aircraft design.

A general view of the Technical School machine shop. Students assembling a wing under the guidance of an instructor.

Detail assembly of an engine mounting.

The Technical School Drawing Office.

Working on the fuselage of a new aircraft designed by the students themselves.

Proof loading a wing of the same machine.

Students installing an engine.

entirely responsible for the design of T.K.I, a two-seater biplane which took fifth place out of a field of 43 in the 1934 King's Cup Race! This machine was designed and constructed in the School by the students. A second design, T.K.2, a low-wing cabin monoplane, followed through in a similar way.

T.K.2 was entered for the King's Cup Race and obtained fourth place in 1935, and in 1936 won the Heston-Cardiff race with a speed of 189.2 miles per hour. Then followed T.K.3, which was limited to a design exercise and not built. T.K.4 is a racing low-wing monoplane of advanced design and extraordinarily clean lines, and is expected to give a good account of itself.

Incidentally, thirteen machines of the "Moth" type have also been built by the students by way of workshop experience. These machines were constructed to A.I.D. standards and have been licensed for flight.

Choice of Degrees

The student who has gone through all the steps in the design of an aeroplane and having been made responsible for his work, is in the right state of mind to take up a position in any aircraft design department. The desirable qualification for an aircraft designer or draughtsman is that of Associate Membership of the Institution of Aeronautical Engineers (A.M.I.Ae.E.) or Associate Fellowship of the Royal Aeronautical Society (A.F.R.Ae.S.). These have equivalent examinations held by the same examining authority ("The Royal Aeronautical Society, with which is incorporated the Institution of Aeronautical Engineers").

By an arrangement with this authoritative body, students of the de Havilland Technical

School may be exempted from the examination if a sufficiently high standard is reached in the School's own examinations. A double examination is thus avoided. Each year the best students are put forward for this exemption and in the period since the scheme came into operation about fifty per cent. of the Senior Class have thus qualified.

After passing through the School Design Drawing Office the student may complete his training in one or more of the drawing offices of the firm, on aircraft, engine, or propeller design.

In brief, the de Havilland School gives a thorough grounding in Aeronautical work and, during this process, special steps are taken to find the best in each individual and then to develop this fully. Theory finds its proper place in the course. The student learns practice and he eventually sees the result of his work—flight! From beginning to end, the Directors of the Company employ very strict supervision over the students' welfare, and parents need never fear that time will be wasted.

Qualifications for Admission

In order that they shall be at least 21 years of age when eligible to take the Ground Engineers Examination conducted by the Air Ministry, candidates must be at least 18 years of age for the three years' Course and 19 years old for the two years' Course. Design and Production Engineer students taking the four years' Course (see details shown later in this Prospectus) may commence at the age of 17.

A good standard of general education is required, such as the School Certificate

with several Credits, or the London Matriculation Examination. This standard is highly desirable, but in cases where the candidates can give evidence of satisfactory technical instruction, together with sound common sense and an irreproachable character, the School Committee is prepared to consider each case on its merits.

Working Hours

At first the student is accommodated in the Technical School buildings, when the hours are as follows:

Monday to Friday

9 a.m. to 12.30 p.m. 1.30 p.m. to 5.15 p.m.

Saturday:

9 a.m. to 12 noon.

After preliminary instruction in the Technical School proper, he is posted to the various Workshops of the Company, and must strictly conform to the hours of working laid down for the particular Department or Shop, which are normally:

HATFIELD

Monday to Friday:

8 a.m. to 12.30 p.m. 1.30 p.m. to 5.30 p.m.

Saturday:

8 a.m. to 12.30 p.m.

STAG LANE

Monday to Friday:

7.30 a.m. to 12.30 p.m. 1.30 p.m. to 5.00 p.m.

Saturday:

7.30 a.m. to 12 noon.

Boarding Accommodation

Students are advised to obtain suitable accommodation in the vicinity of the Hatfield Works or of the Engine Shops and Controllable Pitch Airscrew Shops at Stag Lane. The addresses of several persons who are desirous of accommodating students at moderate inclusive terms may be obtained on application to the Principal.

Fees

In order to save the expense to candidates of embarking upon a complete Course from which they are unlikely to gain full benefit, a probationary period of six months is necessary for those undertaking two or three year Courses. The fee for this probationary period is 60 guineas, which therefore should be deducted from the fees shown below:

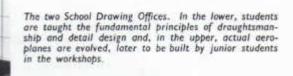
Two years' Course for students aged 19 or over, who have had some previous engineering experience ... Fee 200 guineas

Three years' Course for students aged 18 or over. Fee 250 guineas

Four years' Course for students aged 17 or over. Fee 300 guineas

The fees for Short Courses are laid down in the special paragraph dealing with the subject.

All fees are payable in advance. In special cases, to suit the convenience of students, these fees may, by special arrangement with the Company, be paid in four or six instalments at six-monthly intervals. Where, however, this method of payment is agreed upon, an increase of 10 per cent. on the fees mentioned is charged.



Thoroughness the Keynote

From time to time in this booklet stress has been laid upon the thorough nature of the de Havilland training. The following is a list of the Departments through which students will, at the discretion of the Principal, be expected to work:

Technical School Workshops Fitting Department Panel Shop Erecting Shop Fabric Shop Dope and Paint Shops Wood Detail Shop Wood Mill & Wood Inspection Aeroplane Assembly Shops Engine Department "A" Engine Department "B" Engine Stripping & Testing Shop Controllable-pitch Airscrew Depts. Jig & Tool Room Case Hardening & Heat Treatments inspection Department Laboratory Aircraft Fitting Inspection Repair and Service Department Aerodrome Service **Business Routine**

On the satisfactory completion of this long course of training the student will find that he has a thorough grasp of the manufacture, testing, maintenance and repair of Aircraft and Aero Engines and is equipped to take his proper place in his profession.

Four-Year Course for Design and Production Students.

It has been decided by the School Committee to offer Courses of four years' duration in addition to the present well-known two and three years' Courses. The subjects dealt with will, as formerly, be Aeronautical Engineering and Aeronautical Design, and in order to fill the demand for Production Engineers a limited number of students will be accepted for training in this branch. The qualifications for admission, excepting minimum age limit, will be as laid down in this Prospectus. The minimum age is now seventeen years instead of eighteen.

Aircraft Design

The Design Course was inaugurated some years ago, and the position is now that the School cannot fill all the vacancies which are occurring and which might be filled by ex-students. The training begins with two years in the workshops, learning the practical side of aircraft construction which is so necessary for a complete understanding of all the problems which face the designer. This is followed by two years on actual design work spent in the School Drawing Office and one of the Company's drawing offices.

It is hoped that by this extension of the School and its curriculum it will be possible to meet the growing demand for properly trained designers with both practical and theoretical experience.

Production Engineering

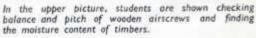
Of late there has been a steady demand for engineers who are skilled in methods of

production, costing, routing, and planning. This work is highly specialised and engineers trained in these methods are regarded as important factors in aeronautical engineering manufacture. Provided the candidate has a strong engineering bent and good

personality, together with the capacity to control, there is much scope for production engineers. The training is such that the principles can be applied to engineering generally and not specifically aeronautical engineering. The production angineer student will conform to an approximate time schedule, but each student will be carefully studied and his course modified as necessary to ensure that any previous training he may have had shall be brought into use and additions made in accordance with the latest practice.

Short and Refresher Courses

Courses of short duration are available for engineers who have had previous aircraft experience, and who require their knowledge to be brought up-to-date in order to qualify or re-qualify for Air Ministry licences. In addition, private aircraft owners who are desirous of undergoing training for their Pilot's Licences, or otherwise, are similarly



In the lower, students are engaged in the manufacture of de Havilland controllable-pitch airscrews at the Stag Lane factory.

13

Drawing Office

accommodated. The actual length and extent of the training necessary can be decided after consultation with the Principal.

Six months ... 60 guineas FEES Three months ... 35 guineas One month ... 15 guineas

Subsequent Employment

In this connection it should be clearly understood that the Company can give no guarantee to find work for students who have completed the Courses. But ample has been said to show that ex-students who have studied diligently and made progress have hitherto experienced no difficulty in obtaining satisfactory employment. To aid in this work, an Appointments Section exists. Up to date it has succeeded in placing the majority of students to suitable posts.

Discipline

Apart from the fact that experience proves that where discipline is good the pupil learns more readily, it is readily appreciated that in an Aircraft Works, where the product is a carefully-designed, highlystressed machine and the utmost care and attention are necessary to ensure its safety, discipline assumes great importance. The Company reserves the right, in case of any serious breach of discipline and/or incompetence on the part of the student, to terminate his training at any time. In the event of the training being ended for such cause, the Company shall be under no obligation to refund any portion of the fee for the unexpired period of the Course.

Attendance at Evening Classes

Students must be seated in Lecture Rooms at 6 p.m. when the register is called. Registers are closed at 6.10 p.m. and after

that time later arrivals are regarded as absentees. This is the ruling of the Board of Education and cannot be modified. Lectures are held on five evenings per week; the fifth evening is optional to the student. Illness is the only reason that can be accepted for absence from these Classes. During the Summer months Classes are held once or twice weekly to help backward students and to act as a refresher to the others. The Annual Examination, which is held at the end of the Winter Session, must be taken by all students, and the results, together with a progress report of the year's work and attendance, are posted to parents or guardians.

Overalls

Whilst engaged in the workshops students must wear the standard type overall coat and whilst employed on the aerodrome an approved type of mechanic's suit. These items of dress have been designed with a view to comfort and appearance and provide sleeves that button close to the wrists to avoid loose flapping cuffs catching in moving machinery. These overalls are supplied at cost price, that is 5s, 6d, for the coat and 6s. 9d. for the suit, which is provided with Zip fasteners.

Tools

The Student's first exercise on arrival is to make a tool box of an approved pattern. and he is then supplied with a comprehensive tool equipment, which becomes his own property on the satisfactory completion of a long Course. All tools will be checked periodically, and deficiencies must be made good by purchase to complete the kit to standard. Students are advised to mark the tools for easy recognition.

Special tools are issued on temporary loan from the Tool Stores on signature, and must be returned on completion of the job. or on Friday afternoons before 2 p.m., whichever is the sooner. Losses and breakages will be charged to the student.

Tools must not be left lying about in workshops or in aircraft, as serious damage or possible accident may result if tools become entangled or jammed in controls. A good workman always looks after his tools, for they are indispensable to his work.

Well-kept tools and a tidy tool-box indicate a well-ordered mind.

Holidays

Annual vacational leave is granted in August (14 days), and at Christmas and Easter (7 days each), in addition to the statutory holiday when the works are closed at Whitsun. Leave of absence cannot be granted at times other than the routine holiday periods, but any case of extreme hardship in this matter should be brought to the notice of the Principal through a School Instructor.

Note Books

Every student must provide himself with a rough note book for workshop notes and fair note book for reference. The looseleaf type is recommended, since it may be divided into sections corresponding to the various subjects covered by the curriculum. Further, such a note book is capable of unlimited expansion, as the student gains knowledge of the subject. Fair note books must be written up and ready for inspection by the Educational Staff on Saturday mornings. The workshop rough note book is as essential as the tool kit, and must be shown when the tools are inspected.

Flying

Flying is not essential to an Aeronautical Engineer, but is a very useful asset. The fees for this service are very moderate and the flying facilities formerly enjoyed by the students at Stag Lane Aerodrome are now embodied in the London Aeroplane Club, at the Company's Aerodrome at Hatfield, Herts. The majority of flying students have qualified for the "A" Pilot's Licence, and many of these for the Commercial Licence "B"; this latter, it should be noted, qualifies the holder to undertake flying as a profession, if he so desires. The requisite engineering knowledge for holders of this licence is a part of the ordinary Technical Course.

Recreation

Students who are members of the London Aeroplane Club may enjoy the amenities of the Club, its open-air swimming bath, tennis courts, squash courts, restaurant. social and rest rooms.

Compensation, etc.

As students do not receive pay or other remuneration, they are not insurable under the National Health and Unemployment Schemes. They are, however, covered by a policy under the Workmen's Compensation Act, 1925, in accordance with the Form of Agreement. In the event of accident or injury, however trivial, students must report to the First Aid Post. This procedure is necessary to comply with the Home Office Regulations and the conditions of the Workmen's Compensation Act.

Prize Essay and Travelling Scholarship

The Directors of the Company have sanctioned the annual award of a £10 prize to the student whose essay is considered most worthy and complies with the rules. This amount is to be expended by the student in visiting a foreign aero exhibition.

In addition, prizes are awarded to the first three students in each section of the Evening Classes.

School Magazine

The School magazine, "The Pylon," is edited and published by the students. It has been well received both inside and

outside the aircraft industry, has a circulation of over 1,000 copies, and is sent all over the world.

Sports and Games

Students are encouraged to maintain physical fitness by indulging in various sports and games. Extensive playing fields and a large and well-equipped pavilion have been provided. One afternoon per week is given to the playing of outdoor games.

School Badge and Colours

A winged shield in gold, maroon and black is the School badge, and ties and badges in School colours can be obtained at the School office.

THE DE HAVILLAND AERONAUTICAL TECHNICAL SCHOOL HATFIELD AERODROME, HATFIELD, HERTFORDSHIRE

Telephone:

Telegrams:

HATFIELD 2345