

RAF TRANSPORT COMMAND REVIEW

NUMBER ELEVEN JULY 1946



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TRANSPORT COMMAND REVIEW

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ROYAL AIR FORCE

No. 11 JULY 1946

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EDUCATION

in Transport Command

WING COMMANDER W. C. V. THOMAS, *Command Education Officer*

THE collapse of Germany in May, 1945, was the signal for the advance on the EVT front. Elaborate preparations for an all-embracing EVT Scheme that would attempt to cater for the requirements, both educational and vocational, of vast numbers of officers, airmen, and airwomen had been in progress for a considerable time. It must be confessed that these preparations were by no means complete when the end of Phase 1 came. Nevertheless, when the word went forth from the Air Ministry a few weeks after the surrender of Germany that the scheme was to be put into operation forthwith, Transport Command wasted no time. The problem that confronted us was the extent to which the scheme could be operated in a rapidly expanding Command with increasingly urgent operational tasks. The high degree of priority given to EVT in other Commands was, therefore, not possible in Transport Command.

In spite of the many difficulties, EVT has proceeded along the even tenor of its way, thanks to the co-opera-

tion of all branches, and to the enthusiasm and goodwill of EVT Instructors of all categories and of all ranks and ages. Until the end of 1945 the emphasis was upon educational rather than vocational instruction, owing principally to the existence of the Royal Air Force Educational Service and the training of large numbers of EVT Instructors before the advent of VE Day. Most of our Instructors had been trained at No. 7 Instructors' School (EVT) at Bowlee in Maintenance Command. Although educational training, both for examination purposes and for general improvement in educational standard, was carried out mainly on stations, appreciable numbers attended local Technical Colleges, Polytechnics, or even University Colleges. On stations, our main efforts were directed to preparing candidates for the two Service examinations, the RAF War Educational Certificate and the Forces Preliminary Examination, open to all Services and conducted by the Civil Service Commissioners.

Over one thousand pupils studied for the first WEC examination at which a total of 629 sat in November, 1945, and 295 in February 1946; while at one time 1,500 candidates were preparing for the Forces Preliminary Examination, which is recognised by the Universities and a large number of business and professional bodies. A total of 604 candidates sat for the first Forces Preliminary Examination in February, 1946. In addition to those who prepared for the Service examinations, large numbers devoted their EVT periods to higher education or to general educational and vocational training of what may be called the professional or semi-professional type, the bulk of which was undertaken at external institutions.

At one time over 500 pupils were attending classes arranged for post matriculation students. Some of these sat for academic examinations such as Intermediate B.Sc. or professional examinations, such as the Intermediate examination of the Society of Incorporated Accountants. Large numbers, at one time over 3,000, attended classes in general subjects at the elementary, secondary, and higher level, mainly for the sake of brushing up their knowledge and improving their general education.

Although some of the more enterprising stations have been able to provide vocational training of the professional or semi-professional kind, most of this work has been done off the stations. Approximately 120 external institutions, comprising colleges of the older Universities, modern Universities, Technical Colleges, Polytechnics, Secondary Schools, and many other institutions, have provided instruction to about 2,500 personnel in the Command. From one station alone, 175 officers, airmen, and airwomen were attending evening classes at the Cambridge Technical College. Tuition was given in the widest range of subjects including engineering, commerce, science, modern languages, pottery, sculpture, diamond mounting, architecture, and coach building. Since the beginning of this year, broadly speaking, our efforts have been concentrated upon the development of vocational training, especially non-professional training, although relatively the same degree of interest is evident in both the WEC examination and the Forces Preliminary Examination. The lag in the training of EVT Instructors of the non-professional kind meant an inevitable delay in meeting the demand of large numbers who had asked for training in a variety of trades.

Since January 17th this year the Command has established ten Schools of Vocational Training, and up to date approximately 700 students have taken courses at these Schools lasting from two to four weeks. These Schools cater for such subjects as automobile engineering at Netheravon, agriculture at Bassingbourn, watch and clock repairing at Melbourne, plumbing at Broadwell, Teachers Pre-Training at Kenley, domestic science, hairdressing, and motor driving at Biggin Hill, and the electricians' conversion course at Honington. Most of the courses are of the refresher type and those who attend soon realise that

serious work is necessary to make up for the years they have been away from their vocations. Whether it is the sheer hard physical labour of tilling the soil at Bassingbourn, re-learning to re-sole shoes at Melbourne, or mastering the theory of the internal combustion engine at Netheravon the purpose is always the same, to give as much refresher training as possible in the short time available, and to restore confidence in the student's ability to resume his former trade. The School for Conversion Training in the electrician trades at Honington has been organised for those whose training has been acquired solely in the RAF and who wish to take up electrical work in civilian life. The Trade Union recognises Service training and has established a special section of the Union of which ex-Service people can become members on a year's probation.

If any reader doubts the value of these courses, let him visit, say, the Domestic Science School at Biggin Hill and sample any meal the airwomen are taught to prepare. He would then agree that the motto of the School might well be "Domestic Bliss through Domestic Science." During the same visit he might pity the poor airwoman who submits her head to the tonsorial attention of a half-dozen novices, until he sees the deftness and skill with which the Sergeant Instructor covers up all mistakes and produces a glamorous head worthy of any film star. The popularity of the Teachers Pre-Training course at Kenley is evidence that large numbers of all ranks, from AC2 to Wing Commander, are actively interested in the Government's Scheme for the Emergency Recruitment of teachers. The course provides a real opportunity to the would-be teacher of discovering whether he is suited to the profession.

The Command, by virtue of the location of its Headquarters, is able to arrange full-time courses in three printing processes—letterpress, hand-composition, and monotype keyboard—at Twickenham Technical College by agreement between the Air Ministry and the Middlesex Education Authority. Three courses of about three weeks' duration have already been held. The course is an excellent one, the machinery is the most up to date obtainable and the tuition expert. The art colour work produced on the course, under the guidance of the masters, bears comparison with that in the best produced magazines. A recent pupil, who had completed five and a half years of his apprenticeship before joining the RAF, declared that the course had given him the necessary confidence to return to his pre-war occupation.

The enthusiasm, both of the EVT Instructors and of the pupils, shows that this venture of centralised training in the Command has been amply justified. Another gratifying feature of vocational training has been the large number of refresher courses with civilian firms whose co-operation has been invaluable. All told, some 750 personnel in the Command have undergone training with outside firms in an endless range of occupations, among which may be mentioned banking,

accountancy, engineering, tailoring, printing, salesmanship, hairdressing, pharmacy, and even glazing, as at York Minster, or cellarage with a firm of London wine merchants.

The WAAF, in general, have evinced but little interest in purely educational facilities. Their main interest lies in Resettlement Training—particularly in domestic science, dressmaking, and needlework. Apart from Command and Group Schools of Domestic Science, there have been successful courses at external residential centres, organised by the Air Ministry in conjunction with Regional Committees, at such places as Leeds, Gloucester, Edinburgh, Bristol, and Trowbridge. The Board of Trade allowance of five coupons per enrolled airwoman for dressmaking and two for embroidery has stimulated interest in these activities. An added inducement has been the issue of salvage material ranging from delicate and colourful silks and nylons to harsh, severe, but useful hessian.

No account of EVT in the Command would be complete without a brief reference to such essential features as accommodation, equipment, libraries, and vocational advice. Accommodation varies from station to station. Biggin Hill is fortunate in having a complete Officers' Mess allocated for EVT. Other stations, including Melbourne and Stoney Cross, have shown ingenuity and enterprise in converting disused NAAFI accommodation, while many stations have had to be content with a few Nissen huts. A former armoury was converted into a luxurious EVT Centre at Ibsley, which bore a magnificent EVT signboard. The supply of equipment, especially of tools and machinery for vocational purposes, has been on a most generous scale, and the same can be said of an infinite variety of salvage materials. The Command has had approximately 115,000 books at its disposal during the EVT period. Of this number, approximately 51,000 were new books allotted to the Command under the EVT Scheme. The EVT background libraries, which are of three types—large, medium, and small—are the envy of the educational world. Each station has at least one of these libraries, while some stations have recently acquired a second or even a third selection. Those who have not yet made the acquaintance of these

rich collections would do well to browse over them while the opportunity remains. One frequently hears of released officers and airmen who deplore their inability to borrow books owing to the acute shortage of civilian supplies.

From the station viewpoint, the best-known representative of the vocational advice service is the First Stage Interviewer. About 300 of these were trained at the Command School of First Stage Interviewers, Full Sutton, from August to October, 1945. Armed with his numerous pamphlets the First Stage Interviewer has given advice on careers and training facilities to innumerable applicants, particularly to those eligible under the Ministry of Labour Services Training Scheme. Typical instances in the Command are those of a Wing Commander, married with one child, who has gone up to Oxford for a three years' course under the Ministry of Labour scheme; and of a Flight Lieutenant who has a grant of £350 per year for his wife and two children while he pursues his course at the London School of Art.

"Education," said Kim's lama, or rather the letter-writer he employed, "education greatest blessing if of right sorts. Otherwise no earthly use."

From this we might argue, if it were necessary, that much of EVT is "of right sorts," since EVT embraces all sorts of education. The Air Ministry, in its wisdom, has allowed us the greatest flexibility and latitude in operating the several aspects of the scheme. It might well be asked to what extent has the Scheme been successful in the Command. The statistics already quoted are an indication of the very considerable numbers who have taken up EVT in the realisation that here was an attempt on the part of the Service to afford some measure of compensation for the training and experience they may have missed throughout their years in uniform. That is the personal angle. What benefit has accrued to the Service from the working of the Scheme? The answer may be given in the word—morale. Does anyone doubt that EVT has played its part in maintaining that spirit of contentment and that hope for the future which are so essential during the difficult times when men's thoughts are centred—not unnaturally—upon release from the Service and their prospects on return to civilian life?

NOTES OF THE MONTH

Victory Day Fly-past

AMONG more than 300 aircraft of the RAF and Fleet Air Arm in the Victory Day flight over London on June 8th, Transport Command was represented by three Halifax Mk. VII of No. 297 Squadron, 38 Group. Taking off from Tarrant Rushton, the Halifaxes flew a course over Salisbury, Beachy Head, Ashford, Whitstable, and joined the main stream off Foulness Point. Only over Eastbourne was the weather at all clear and it deteriorated steadily on the run in. Mainly on account of the difficult weather conditions, the

fly-past was delayed by nearly a minute at the point where 297 Squadron joined in (they flew third in the parade), and the Halifaxes were obliged to reduce speed to 160 m.p.h.

Air Training Corps Gazette

FOLLOWING the establishment of the RAF Reserve Command, the *Air Training Corps Gazette* has, with the consent of the Air Ministry, become the AIR RESERVE GAZETTE, its contents being modified to make it of interest to all members of the RAF Reserve.



THE HANDLEY PAGE HASTINGS

THE new Handley Page aircraft, the Hastings/Hermes prototype, one of the largest of the new British transport aircraft, made its first flight on May 7th from RAF Station, Wittering, in Lincolnshire. The Hastings (a photograph of which appeared on the cover of the June issue of the REVIEW) is the military version of the civil air liner Hermes, but the external appearance of the two aircraft will be almost identical. The Hastings is going into service with Transport Command as a military freighter and will supersede the Halifax A.IX as a transport support aircraft, having more than double the payload and a greatly increased fuselage capacity.

As a RAF transport aircraft, it will adequately fill the roles of troop transport, paratrooper, supply dropping aircraft, glider tug, and ambulance, and will have a disposable payload of 17,000 lb. for a practical radius of action of 500 miles. Specimen loads in these roles are anticipated to be as follows:

Trooper. 50 troops with kit.

Paratrooper. 30 fully-equipped paratroops, and 20 CLE containers Mk. III stowed externally.

Supply Dropping. 22 panniers all-up weight 350 lb. each, and 20 CLE containers Mk. III stowed externally. To permit the dropping of heavy equipment, the aircraft has four strong points, which, in conjunction with a special beam, will allow various combinations of stores, such as

one six-pounder and one jeep to be carried externally and dropped by parachute.

Glider Tug. It will tow a Horsa or Hamilcar glider, but performance figures must await practical tests.

Ambulance. Capacity is 32 stretcher cases, and seats for up to a maximum of 18 sitting cases.

The Hastings fuselage has a capacity of 2,480 cubic feet, with a door 9 ft. 4 in. by 5 ft. 10 in. on the port side, or a smaller door 5 ft. by 3 ft. on the starboard side. The aircraft is, therefore, a good general freighter, but its capacity to handle the bulkier loads of military equipment is limited by virtue of the size and position of the door (the loading platform is approximately 7 ft. 6 in. from the ground).

Performance figures for the Hastings are given below, but it should be borne in mind that they are based on estimations, or preliminary trials made by the manufacturers.

Maximum all-up weight, 75,000 lb.

Take off run to clear 50 ft. screen in a fully loaded condition is 1,000 yards under ICAN conditions.

Maximum operational range, 1,900 n.m. Payload at this range is 10,300 lb. at an economical cruising speed of 214 knots. Maximum payload for an operational range of 1,420 n.m. is 17,000 lb.

The power for the prototype Hastings is provided by four 1,675 h.p. Bristol Hercules 101 engines, driving four-bladed constant speed fully feathering hydromatic airscrews. Production aircraft will have reversible pitch airscrews of the same type.

Handley Page have development plans for the Hermes which are quoted as an indication of possible Hastings development.

In all there will be three variants of the Hermes. Mark I, the flying qualities of which have already been tested in the Hermes/Hastings prototype, has a fuselage length of 82 ft. 2 in. It carries 50 passengers at a cruising speed of 300 m.p.h.

Mark II will be powered by Bristol Hercules engines

but its fuselage length will be increased by more than 13 feet to 95 ft. 6 in. With a cruising speed of 290 m.p.h. it will carry 64 passengers.

Mark III will be powered by Bristol Theseus gas turbine propeller jet units, giving a cruising speed of 355 m.p.h. Its fuselage length will be 95 ft. 6 in. and it will accommodate 64 passengers. Operational height of this aircraft will be about 30,000 feet, and it will obviously have to be fitted with a pressurised fuselage.

THE SCHOOL OF FLIGHT EFFICIENCY IN TRANSPORT COMMAND

SQUADRON LEADER R. K. BAILEY

As a result of considerable effort on the part of aircraft designers and technicians, great strides have been made in the field of aircraft performance during recent years. With few exceptions, operational crews have not been able to acquire sufficient technical knowledge to keep pace with these developments. Consequently, the majority of crews are not capable of taking full advantage of the improvements.

Appreciation of this situation led to the formation of the "Engine Control Instructional Flight" in Coastal Command. This Unit was transferred to Transport Command in July, 1945, and renamed "The School of Flight Efficiency."

Headquarters Transport Command are at present producing Cruise Control Charts for all types of aircraft operated by the Command and these are in the process of being printed. These Charts give directions, to which pilots must adhere, for all conditions of transport aircraft operation, i.e. Normal Transport Operation and Maximum Range Flying.

The task of operating any Transport Command aircraft under any condition of flight for which a crew may be briefed, will, therefore, be greatly simplified. At the same time it is desirable that pilots and flight engineers have a sound knowledge of the principles on which the charts have been produced.

The aim of the School of Flight Efficiency is to provide pilots and flight engineers with adequate knowledge of the basic principles governing efficient aircraft and engine handling. Further, the school is very much abreast with developments in Transport Command policy on all subjects related to the improvements of aircraft performance. The introduction of such procedures as Transport Command Weight and Balance Control, Cruise Control, and revised Flight Engineer Log compilation, have been greatly assisted by the up-to-date instruction given at the school.

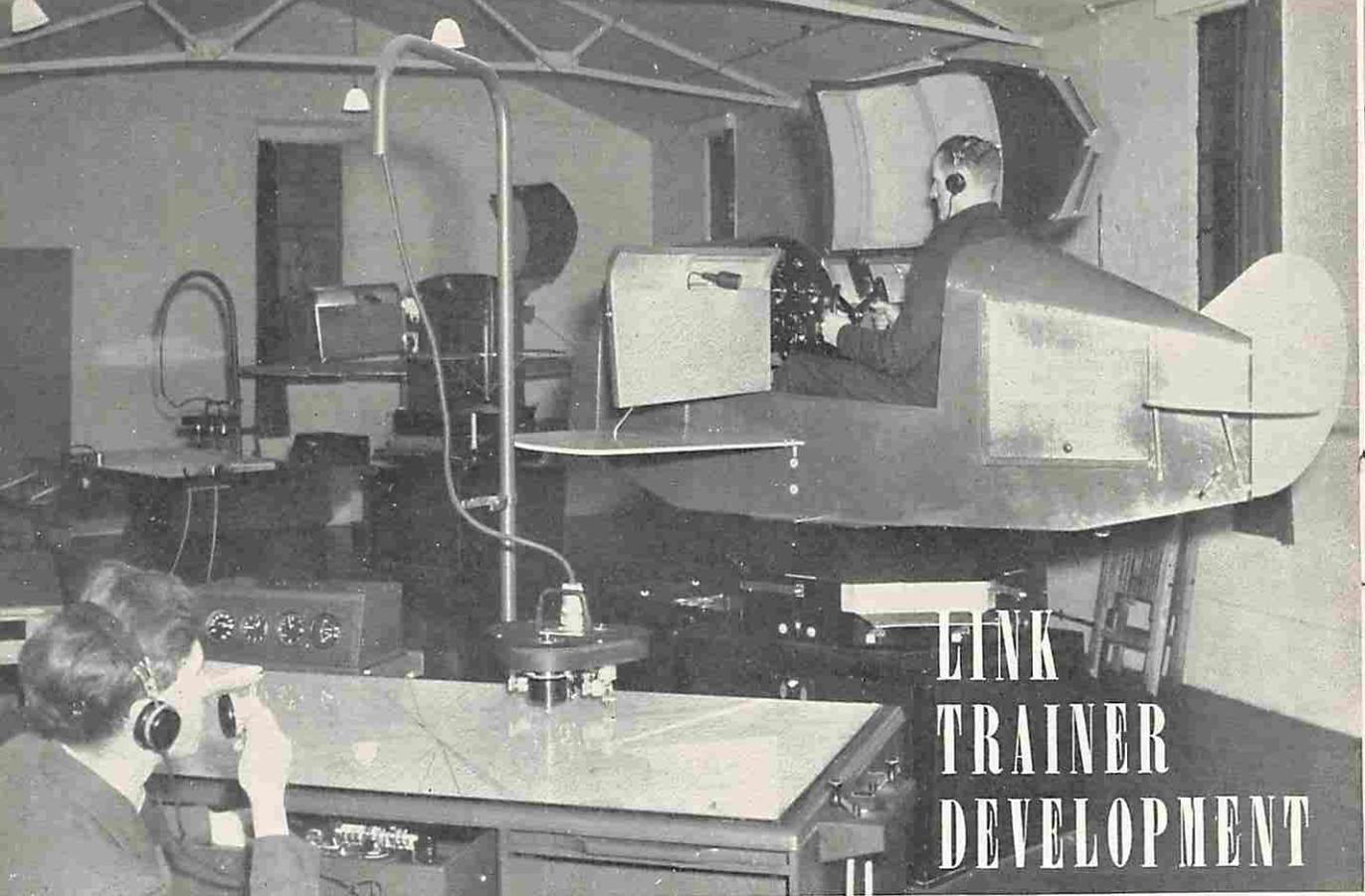
Two types of course are given: a Senior Course of twelve days' duration is run each month. This course is intended for Squadron Commanders, Flight Commanders, and Group and Squadron Flight Engineer Leaders. The following subjects are included in the syllabus of training.

Mechanics Revision; The Air and Atmosphere; Aerodynamics (Airflow over a body, Airspeed, Principles of the Aerofoil, Drag analysis, the Propeller, Powered Flight Stability); Engines (Principles of the Heat Engine, The Internal Combustion Engine, Engine Power Graphs, Fuels, Specific Fuel Consumption, Carburettor Principles, Engine Performance Summary); Specific Air Range (Assumption of Constant Specific Fuel Consumption and Propeller Efficiency, Variation of Specific Fuel Consumption, Variation of Weight, Variation of Height and Air Temperatures, Effect of Wind, Climb and Descent, Endurance, Asymmetric Flight, Miscellaneous Considerations); Weight and Balance Control; and, lastly, Cruise Control.

There are also three Junior Courses of two-and-a-half days' duration run each month. These courses are available to all Transport Command pilots and flight engineers. The syllabus includes Aerodynamics, Engine Performance, Weight and Balance Control, and Cruise Control.

Both courses consist entirely of ground instruction and include lectures, films, and the viewing of sectioned equipment. An examination is set only on the Senior Course.

The School of Flight Efficiency is now located at RAF Station, Brize-Norton. To those interested in getting the best performance from their aircraft and keen to acquire further knowledge of aerodynamics and its kindred subjects the school offers excellent opportunities, and time spent there will certainly be amply rewarded.



LINK TRAINER DEVELOPMENT

PREPARED BY TRAINING BRANCH HEADQUARTERS, TRANSPORT COMMAND

SYNTHETIC training devices spread rapidly throughout the RAF during the war years, although in fact scarcely existing before. Most of them were accepted by aircrew with mixed feelings, with the exception of the Link Trainer, which became instantly popular with pilots because it represented the nearest approach to flying technique without actually flying.

The Link Trainer was one of the early synthetic training machines, but even so it did not appear in the RAF until 1935. It is certain that the coffers of the Treasury were not so empty then as now, but the RAF was small, and no doubt Link Trainers seemed to be too costly.

The early models were very elementary contrivances and the dashboards displayed the usual half-dozen or so instruments which could be seen in any aircraft of that period. All *ab initio* units were first equipped with machines which were used without hoods and flown against a panorama of the ground erected in front; they were known as Visual Link Trainers. The scheme was eventually abandoned because of the discontinuity between the period of Link instruction and actual air practices. But the Link was still to prove of value for instrument flying practices with a fitted hood. This simulated night flying on instruments, but now an opaque white hood replaces this and gives the effect of being in cloud.

Originally all Link instruction was given by an officer in the Squadron, but it became obvious that

Link Training would be a whole-time job if properly organised, so the trade of Link Training Instructor was created. To qualify as instructors, Officers and NCOs now attend a course at the RAF Central Link Training School, Elstree, where, on successful completion, grades similar to the QFI Categories are awarded. The School also sends out a Travelling Flight which visits units to ensure the maintenance of a high training standard.

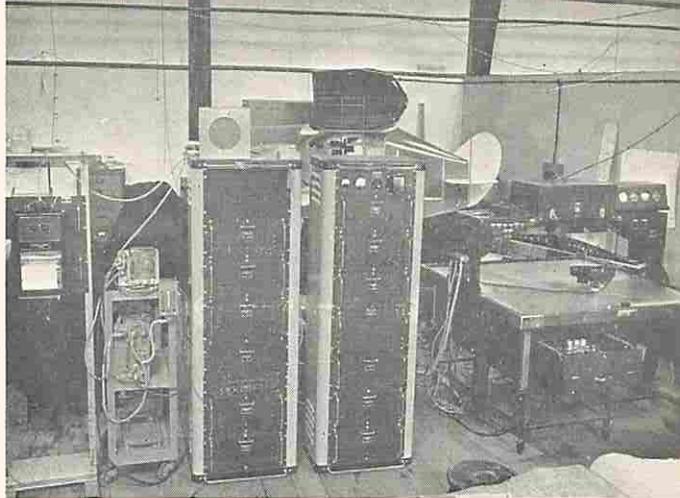
The Link Trainer has been modified considerably since the early types were introduced. All the essential indicators used in the flying of modern aircraft have been incorporated, and innumerable ancillary devices have been added. Gyroscopic instruments can be toppled at will by the instructor, and failure of the Air Speed Indicator can be simulated, so that pilots have to be prepared to change over to primary instruments immediately.

The most valuable use to which the Link Trainer has been put in recent years has been for training flying personnel in Radar Aids. As the use of Airfield and Runway Approach systems are dependent upon a high standard of instrument flying, the Link Trainer has been modified so that Radio Range, Standard Beam Approach, and the SCS 51 procedures can be carried out. To-day, stations in Transport Command are being equipped with the Type 31 Trainer which enables Rebecca/Babs procedure to be practised. The Type 31 is fitted with a radio altimeter, and a more

realistic touch is introduced by the provision of synthetic undercarriage and flaps which alter the trim when the controls are operated.

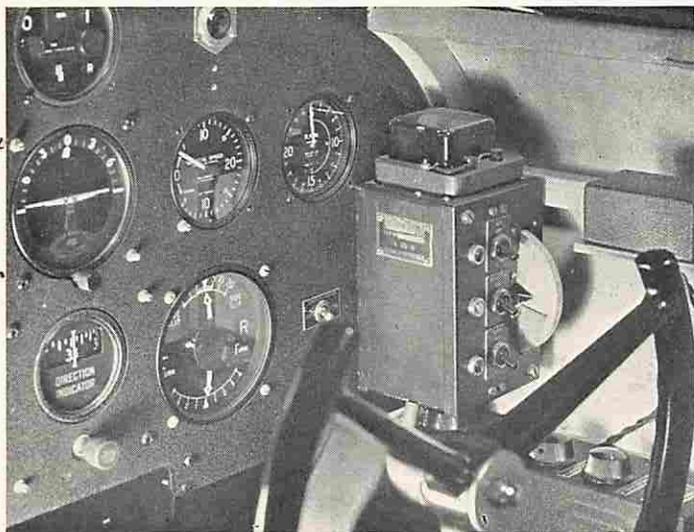
Each pilot must complete a minimum of two hours practice in the Link Trainer every month—in fact a pilot is not permitted to fly on an operational flight unless this has been done. Squadron Training Officers are responsible for making sure that the Link programme is carried out according to plan.

At the moment there is a serious shortage of Link Training Instructors in the whole Service, due to their having been given a lower priority than other trades in the re-allocation of man-power. This has hit Transport Command badly and Squadron pilots and flying instructors at the Training Units are now being called upon to give instruction after double handling for a short time with an experienced instructor.



A B C D

On the right above is a picture of the complete type 31 Link Trainer equipment. A is the height recorder which operates in conjunction with the radio altimeter on the instructor's panel and with the one on the Link instrument panel. On the completion of a pupil's flight in the Link a record of his variations from the correct altitude is easily read. B shows the navigator's airborne equipment. C and D together are the two Rack Assemblies containing all the radio equipment necessary for operating the Link radio controls. E is a view of the instructor's table with the crab connected. It will be noted that all normal exercises can be carried out on one table. In the background is the Link itself with the hood raised ready for entry by a pupil.



The interior of the Type 31 Link Trainer clearly shows the cockpit layout, which includes flap and undercarriage control switches and tail trimmer. Although not shown in the photograph a radio altimeter on the instrument panel is fitted in addition to the normal altimeter.



The Type 31 Link Trainer instructor's table has control panels on either side of the gantry and with these the instructor can keep a detailed check on the pupil's progress under the hood. It will be noted that different charts can be inserted beneath the glass cover by lifting the handle at one side of the table.

Another Long History

Told in Brief — No. 24 Squadron

24 Squadron is one of the oldest Squadrons in the Service, older than the RAF, for it started at Hounslow in September, 1915, more than two and a half years before the RFC and the RNAS merged into the present Service.

In both wars it has played a vital role—in the Great War as a fighter squadron, and in the World War as a transport squadron. Its duties have carried it to such famous places as St. Omer, Bertangles, and Morieux, operating the old D.H.2s, D.H.5s, the S.E.5 and 5A fighter planes.

In 1919 the Squadron returned to England and in turn was based at London Colney, Uxbridge, Kenley, and Northolt, carrying on the duties of a Communication Squadron. On September 15, 1945, this famous Squadron celebrated its thirtieth birthday, at Hendon airport, which had been its home for twelve years.

In its present form the Squadron consists of two flights, one for carrying VIPs, and the other for carrying freight and not-so-important passengers. A detachment from this Squadron has made a name for itself by flying an all-weather daily service from Blackbushe to Prestwick over a long period.

Other than this, the duties of the Squadron do not include any scheduled services except for a thrice weekly service to Belfast. The rest of the air fleet is governed entirely by the necessities of the hour and the crews are always ready for immediate action. Sometimes only a few hours' notice is given before an actual take-off is made.

During the World War of 1939-45, some of the notable events in the Squadron's Service duties included the 323 shuttle flights, carrying vital supplies in unarmed Hudsons to the bomb-scarred island of Malta, involving 10,000 flying hours and covering 1,500,000 miles. More than 6,000 passengers and 1,300,000 lb. of freight were carried. And for all this hazardous flying over the enemy-dominated waters there were only four casualties among all the crews and passengers.

Planes have flown to all corners of the earth, including the U.S.A., Russia, India, Italy, Poland, Ceylon, Singapore, South Africa, Canada, and all parts of Europe, the Middle East, and Iceland. Almost all the Ministers of the War Cabinet have flown with 24 Squadron at one time or another, and amongst her proud records are the special flights carrying the King and Queen. On one of these occasions Princess Elizabeth made her first flight accompanying her father and mother.

To-day the Squadron maintains the very highest standard of aircrew proficiency. Up until a short time ago, there was a sprinkling of Belgians, Poles, Canadians, New Zealanders, and almost all Allied Nations.

The training is unending, the Squadron putting in 944 training hours in the six months ending December, 1945, and during all these training flights there were no accidents. The training programme is very comprehensive, keeping all crews in constant practice with all forms of blind approach procedure, and other finer points of airmanship.

The total flying hours for the six months ending December, 1945, were 10,083.

In 1940, when Hendon was severely damaged by bombing, much of the interesting history of 24 Squadron was lost, but to-day history is being made afresh.

The Squadron has now left Hendon, and is based at Bassingbourn, in No. 46 Group. At the end of June, 1946, No. 1359 VIP Flight was amalgamated with 24 Squadron.

FUTURE RAF QUARTERS

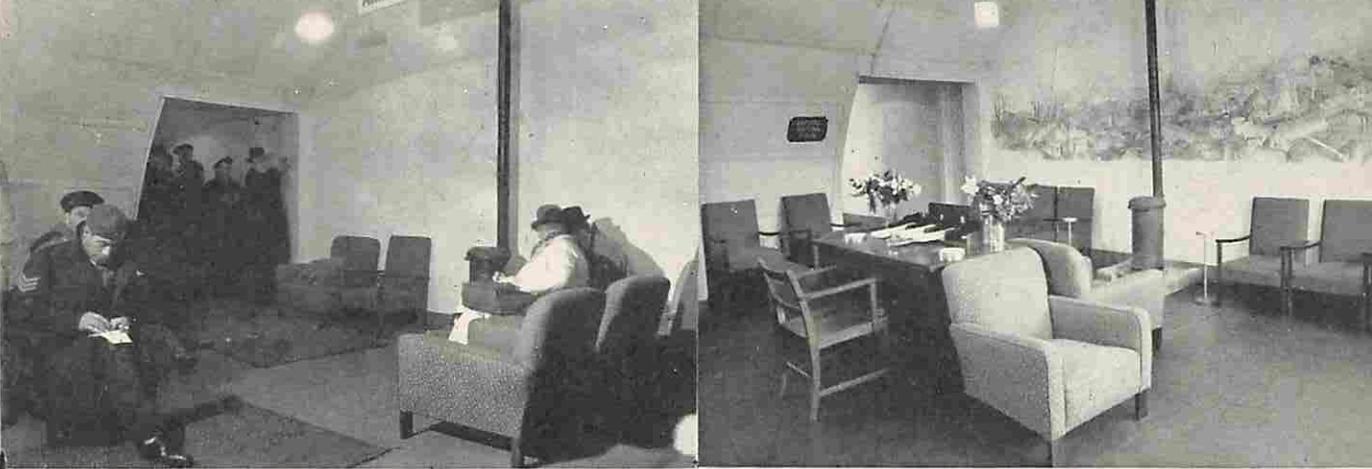
CONSIDERABLE improvements have been made in living quarters since the first RAF buildings were erected twenty-six years ago, but many of the buildings set up during the recent war were not designed for peace-time conditions; many comforts were sacrificed for speed of erection, and for safety from air attack. With the end of hostilities an immediate step had to be taken to build new quarters of modern design and of easy management to house the peace-time Air Force, a much larger Air Force than the pre-war RAF.

The first aim of the Air Ministry will be to improve conditions at those temporary stations which will be retained in peace-time, and at those permanent stations which were inadequately expanded in war-time.

The ultimate aim of the planning committee set up at Air Ministry is to provide conditions and services comparable with those which might be expected in civil life. Every effort is being made to re-open married quarters.

The limited social amenities of the station of to-day will be supplemented by swimming baths, cinemas, concert halls, dance floors, rooms for entertaining guests, and comfortable libraries. There will be restaurants complete with bar lounges and the paraphernalia for entertaining guests of the opposite sex, who will be admitted during off-duty hours. Shopping centres will be complementary to the present day NAAFI.

All these plans, however, can only be put into action as man-power and materials permit, but every possible effort will be made to speed the operation.



The Arrival Waiting Room—before and after

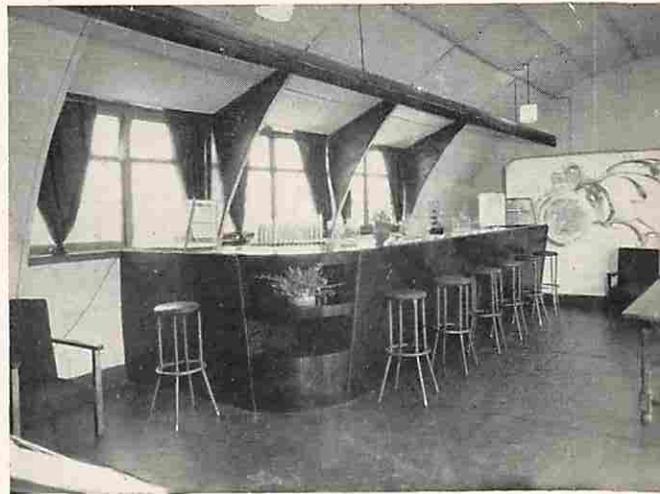
TRANSFORMATION SCENES AT BLACKBUSHE

As it was found by Passenger Services Section in the early days of November, the Passengers' Arrival Waiting Room at Blackbushe contained armchairs arranged, haphazardly, with a few mesh mats on an unpolished floor. Windows were uncurtained and bare walls surrounded the entire room. As can be seen from the first photograph, no provisions were made for the filling up of Air Movement Forms.

The second photograph shows the same room after Passenger Services Section had been working. The furniture has been re-arranged; ash trays, flower vases (made from old shell cases), and good modern lampshades have been installed. Facilities have also been made for Form filling. The large mural decorating

the wall was designed and painted by an ex-glider pilot, Flying Officer Brooke. This was done in aircraft dope and ordinary house paint on the distempered wall.

The Buffet was equally bare, as can be seen in the photograph below. Tables and chairs were the only decoration. Passenger Services Section have designed and built a modern Buffet counter of stained ply-wood and supplied pot plants and high stools. Curtains have been added, and lampshades of good design replace the old Service ones. The screen at the end of the counter which obscures the serving entrance has been decorated with a Transport Command Crest with decorative arrows extending to European Staging Posts. This was also painted by Flying Officer Brooke.



The Passengers' Buffet as it was, and is now

CUMULO-NIMBUS ahead



Cumulo-nimbus clouds have had much written about them, and training courses bristle with warnings of their ugly nature. Yet pilots (old and new) continue to treat them with less respect than they deserve, or fail to recognise them in the sky. The revised Transport Command Air Staff Instruction Vol. 1 No. 5 lays down specific instructions to both Briefing Officers and Pilots that cumulo-nimbus is at all times to be avoided. Here, from an officer formerly of the Accidents Branch at Transport Command, is an article which describes the structure of cumulo-nimbus and details the procedure in the event of meeting it.

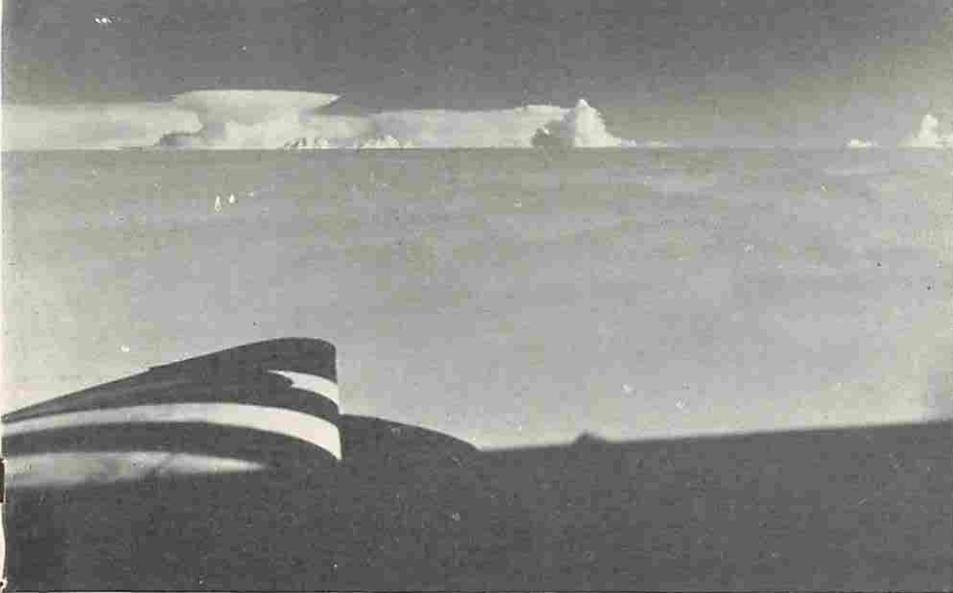
BY GROUP CAPTAIN W. P. SUTCLIFFE, D.F.C.

THE anvil shaped top and the relatively flat base are the outstanding visible characteristics of cumulo-nimbus, the most dangerous type of cloud in the skies. In Europe the tops sometimes reach a height of 35,000 feet, and in the Far East they may build up to 50,000 feet. The width and the breadth of these clouds is also much greater in the East than in Europe. Underneath the base is an area of turbulent air with upcurrents in the predominance, while inside them is an area of extreme turbulence, so violent that an aircraft may get out of control or even break up.

The construction of cumulo-nimbus cloud may be compared to a series of tubular funnels, some of which contain air travelling upwards and some containing air travelling downwards, the number of "up" funnels corresponding to the number of "down" ones. These funnels may be adjacent to each other, in which case they may contain air travelling in opposite directions.

The speed of the air may reach as much as 200 m.p.h. in the funnels but the air in adjacent ones seldom moves at the same speed; in other words, in two adjacent funnels the air may be going upwards at 250 m.p.h. in one and down at 150 m.p.h. in the other. It is easy to understand from this what tremendous forces are at work and the serious threats they represent to the structure of an aircraft. Naturally the faster the aircraft is moving, the greater will be the strain on it.

The most important thing for any pilot to remember if he is in the vicinity of cumulo-nimbus clouds is *to keep away from them and to keep out of them.* No pilot or Met. Officer can ever foresee the strength of the up or down currents, and if the risk of flying through is taken, control will be lost in probably nine cases out of ten. For the aircraft which happens to encounter cumulo-nimbus cloud ahead there are several simple rules.



The picture above is a fine example of cumulo-nimbus piercing high strato-cumulus. The danger of flying inside strato-cumulus is obvious from this.

Let us take a few examples of what may be encountered.

The captain is, say, flying at 10,000 feet and sees cumulo-nimbus tops going up to about 15,000 feet straight ahead. He should immediately climb up and circumnavigate the tops, being careful to keep out of cloud and to keep well clear of the tops.

In the Far East, in the late afternoon, extreme cases occur when the cloud is more or less continuous, with tops towering up to 25,000 feet. Then, unless a wide diversion is possible, there is only one course to take—and that is the reciprocal. In the Far East it is always advisable to try and make the flight in the early hours before the clouds have had time to build up.

Or consider the case of a pilot flying at a low altitude and becoming hemmed in by cumulo-nimbus, which often happens in the Far East, but rarely in Europe. If he is near the sea he should make for it, because convection currents are never so great over the sea as they are over the land and, therefore, the turbulence will not be so severe. If he can safely let down to 200 or 300 feet over the ground he should do so (making sure that there are no hills or mountains ahead or below), for here he would be flying in air which, although turbulent, would not be travelling at such high velocities as that a few hundred feet higher up. The reason for this is that the down-draughts rebound or "bounce" off the surface of the earth and form

a "cushion." The up currents at this height have only just started and are still travelling very slowly.

If the presence of high ground prevents a let-down, then he must turn round and go back; in no circumstances must he take the risk of letting down over high ground.

If a pilot finds himself flying underneath an isolated cumulo-nimbus with a 1,500 feet base, his immediate action should be to lose height on a reciprocal course and fly in the cushion of air just described. If the pilot does not take this action he might find this

sort of thing happening to his aircraft—the airspeed might remain steady at cruising speed, the aircraft might still be in level flight, but the rate of climb indicator might show as much as 3,500 feet per minute up, and remain steady on this figure. He is, in fact, being steadily drawn up into the cloud by the powerful up-currents. In order to keep his aircraft out of the cloud he must lose height at a greater rate than his rate of ascent, and the only way he can do this is to throttle right back, descending at a steep angle and dropping the landing gear if necessary. These conditions occur at the edges of cumulo-nimbus, so it is very desirable to keep right away from them.

The first thing to do, therefore, on encountering severe turbulence, is to slow down the aircraft, using the landing gear and/or flaps as necessary. Fly at the slowest speed consistent with control, thus reducing the stresses and strains on the aircraft structure and probably on the passengers' nerves and muscles as well.

Below can be seen a picture of an isolated cumulo-nimbus with fracto-cumulus surrounding it. The anvil shaped head is extremely prominent.





The two pictures above were taken at New Delhi by F/LT. HERITAGE. They show the amazingly quick development of a monsoon cumulo-nimbus, the pictures being taken within a twenty minute interval.

It might appear, that by considering the method of dealing with the sudden encounter of cumulo-nimbus clouds first, we are putting the cart before the horse, as the proper detection of such clouds might be a prevention rather than a cure, but at present there is only one sure method of detecting cumulo-nimbus clouds, and that is by looking for them. Sometimes they are associated with thunderstorms, which will be evident by visual signs of lightning, or oral signs of increase in "static" noises. In the course of flying over the Bay of Bengal during the monsoon, the writer found that a severe thunderstorm could be detected by manipulation of the radio compass. When the radio compass was tuned in to any medium frequency it was seriously affected by thunderstorms; whereas the identification signal of some of the beacons and ranges could still be heard, it was noticed that the compass pointer, instead of pointing to the M/F station selected, pointed to the thunderstorm.

Every pilot who has experienced the effects of cumulo-nimbus will agree that a means of identifying this type of cloud at night or in bad weather conditions is of first importance for the future of aviation. The development of equipment for this purpose has taken longer than anticipated but it is comforting to know that experiments are proceeding in the right direction. The equipment in its final form will be a radar device. Such a device has in fact already been used for the detection of cumulo-nimbus; Liberator weather "Snoopers," Eastern Air Command, ACSEA, operating in the Bay of Bengal during the war, were fitted with equipment capable of detecting these clouds some 100 miles away from their centres.

Cumulo-nimbus remains the pilot's worst airborne enemy. It is doubtful if aircraft can ever be built strong enough, or adequate controls devised to enable a pilot to fly into these powerful clouds with safety. Meanwhile, avoid them at all costs.

ROAD TO THE WESTERN ISLES

ONE of Transport Command's less spectacular but very important jobs has been to maintain a communication flight linking the Western Isles with the mainland of Scotland. Flying all the year round often in very bad weather, 1680 Flight has carried mail, and personnel (principally Navy) on duty and leave, to and from the remote stations. The work has been done using Dominie aircraft, such as the one seen in the picture accompanying flying over the rugged coast of the island of Barra. Among those places served by this Flight were Campbeltown, Port Ellen, Benbecula, Tiree, Stornoway, and the Orkney and Shetland Isles. 1680 Flight, now disbanded, also used Sparrows, a Dakota, a Harrow, a Walrus, and a D.H. 89 Ambulance. The latter was often called out for extreme emergencies.



SPORT IN TRANSPORT COMMAND

Athletics

Our Command trials to select a team for the RAF Championships were held at RAF Station, Stradishall, on Thursday, June 6th, and the best athletes from all our home stations took part. The weather was kind and G/Capt. Baines, OC Stradishall, and his staff, made excellent arrangements for the day. No outstanding times were put up but good and close finishes were seen.

AC. Frost, of RAF Croydon, won by inches in the 100 yards, beating W/O Maudesley in 10.3 seconds.

F/L. Read, HQTC, beat AC Frost by a narrow margin in the 220 yards. This was a needle match as both are members of the Belgrave Harriers.

The best performance of the day was in the "Putting the Shot," in which F/O. Vanhegan, Lyneham, put 41 ft. 6 in.

Scoring 3 points for a win, 2 for a second, and 1 point for a third. Groups scored the following:

No. 4 Group ..	26 points
No. 46 Group ..	26 points
No. 47 Group ..	23 points
No. 38 Group ..	10 points
No. 44 Group ..	Nil.

Inter-Command Athletic Championships

THE Championships were held at the White City Stadium on Wednesday, June 26th.

Command results were as follows:

Tech. Training Command	82 points
Flying Training Command	45 "
Bomber Command	42 "
BAFO	40 "
Transport Command	30 "
Fighter Command	22½ "
Coastal Command	19½ "
Maintenance Command	16 "
90 Group	15 "

AC. Macdonald-Bailey (TT Command) won the 100 yards in 9.7 seconds, equalling the British record, but the record was not recognised as, on measurement, the track proved to be seven inches short.

Point scores for Transport Command were:

Pole Vault	F/O. Redpath	Dishforth	5th
100 yards	AC. Frost	Croydon	4th
One mile	LAC. McNeil	Northolt	5th
440 yards	F/O. Riddock	Northolt	3rd
Javelin	F/O. Redpath	Dishforth	2nd
Hammer	Sgt. McCoy	Snaith	2nd
Shot	F/O. Vanhegan	Lyneham	2nd

Cricket

Our Groups are holding Inter-Station Knock-Out Tournaments and the Inter-Group Competition is being held.

The first Inter-Group game was played on Tuesday, June 12th, and resulted in a draw: No. 38 Group, 88 all out; No. 47 Group, 54 for 9.

Rifle Shooting—Transport Command Rifle Championship Meeting

RESULTS. TRANSPORT COMMAND INTER-GROUP RIFLE TEAM CHAMPIONSHIP (HPS 1200)

- 1st. Silver Challenge Cup and eight Silver Medals.
No. 46 Group Team. F/L. Steele, DFC, F/S. Toule, F/S. Flanagan, F/S. Farrel, Sgt. Shuter, LAC. Spill. Reserves: S/L. McQuillam F/O. Jones.
Score 782.
- 2nd. No. 44 Group. Score 648.
- 3rd. No. 4 Group. Score 610.
- 4th. No. 47 Group. Score 554.
- 5th. No. 38 Group. Score 534.

Rifle Shooting—Inter-Command Championship

The Inter-Command Rifle Championship was shot off on the Century Range at Bisley on June 26, 1946. The conditions of the championship were the standardised NRA Service conditions ("Queen Mary's"), viz.:

- 10 rounds with 2 sighters at 600 yards.
- 10 rounds fire with movement 600-100 yards (2 rounds each at 500, 400, 300, 200, and 100 yards with 45 seconds exposure of target for each advance and shot in the positions prone at 500 yards, kneeling at 400 and 300, and standing at 200 and 150).
- 10 rounds rapid at 300 yards.
- 10 rounds snapshooting at 300 yards (2 shots at each of 5 six-second exposures of a 22 in. disc).

The Command team was coached on the firing point by Air Commodore W. E. Staton, DSO., MC., DFC., ADC., AOC No. 46 Group, as non-shooting team captain. Conditions during the forenoon were difficult, with a tricky wind, bad light, and an intermittent drizzle. Outstanding for Transport Command in this match was F/S. Toull (Bassingbourn), who scored 47—the highest score of the match, and only equalled by Squadron Leader Willott, of Coastal Command.

Results :

1 Coastal Command	1,224
2 Transport Command	1,157
3 Technical Training Command ..	1,121
4 Maintenance Command	1,091
5 Bomber Command	1,067
6 Fighter Command	1,064
7 Flying Training Command	1,013

Transport Command Team :	Match				Total
	1	2	3	4	
1. F/S. Toull, Bassingbourn (46 Group)	39	38	36	47	160
2. Sgt. Coad, Upper Heyford (38 Group)	35	41	40	34	150
3. F/S. Stocks, Holmesly South (47 Group)	37	36	34	40	147
4. F/S. Flanagan, Fairford (46 Group)	41	39	30	36	146
5. F/L. Steele, Hendon (46 Group)	39	37	41	26	143
6. S/L. McQuillam, Blackbushe (46 Group)	43	35	33	27	138
7. W/C. Ellis, Filton (44 Group) ..	39	27	28	43	137
8. Sgt. Shuter, Bassingbourn (46 Group)	43	31	36	26	136

Totals: 316 284 278 279 1,157
Average: 39.5 35.5 34.75 34.8 144.6



AIR MAIL

BY SQUADRON LEADER E. J. GARDNER

TRAFFIC BRANCH (MAILS) H.Q., TRANSPORT COMMAND

DURING 1945, Transport Command's peak year for all classes of traffic, 20,000 tons of air mail were carried throughout the world on Transport Command services. This represents some 1,800,000,000 letters.

It may not generally be realised that one of the main tasks of transport squadrons, both in Transport Command and in the Commands abroad, is the carriage of mail. From a small beginning in 1943 the task grew to 20,000 tons in 1945. A conservative estimate of what this represents in terms of letters gives the staggering total of 1,800,000,000, or roughly 5,000,000 a day. In most cases, and to most destinations, the transit time of these letters, under wartime conditions, was less than the transit time for air mail before the war.

Mail can be divided into four main classes, Troops', Diplomatic, Official, and Civil mail. As its name indicates Troops' mail consists of private correspondence to and from members of the Forces. Diplomatic mail is mail between the Foreign Office, Government Departments, and their counterparts overseas, often of a secret or top secret nature, which, by international usage, is afforded diplomatic immunity by the countries through which it passes. Official mail is mail from Government Departments and Service Ministries to overseas formations, but which is not of a sufficiently high degree of security to warrant diplomatic immunity. Civil mail is largely correspondence handled by the civil postal organisations both at the posting and delivery ends, and is generally to and from civilians. Under present conditions it is mostly between business firms.

It is a Cabinet ruling that these four classes of mail have absolute priority in that order of precedence over all classes of traffic except AOG Trans Spares (spares required to make serviceable transport aircraft grounded along the routes). The reasons for this decision are fairly obvious. Nothing has a greater bearing on the morale of troops overseas than the speed and efficiency of the mail deliveries, and during the war, when many of the troops overseas and their relatives at home were in imminent danger of enemy action, nothing was more reassuring to both sides than the receipt of recently written letters. Similarly, now that the war is over, the quick receipt of letters from home makes the enforced separation more bearable and has a marked influence on morale.

Diplomatic mail frequently contains last-minute instructions from the Government to its ambassadors and ministries overseas. As an example of the importance of this class of traffic, the correspondence between the Government and the Cabinet Mission to India is all being carried out through diplomatic bags. Official mail is, of course, the day-to-day correspondence between the Service Ministries, Government Departments, and Headquarters overseas; the importance of speed in peace and war of this class of traffic cannot be over-emphasised. Civil air mail was practically non-existent during the war, but with the end of hostilities it rapidly reached and then surpassed its pre-war volume. A great deal of this correspondence is concerned with trade, and its importance to the economic recovery of the country will be apparent.

Mail is given varying treatment so far as security is



PHOTO: COURTESY OF "ILLUSTRATED"

Opening a sealed diplomatic bag at the Foreign Office. The bags are perforated and loaded with weights in case of jettisoning over water.

concerned, commensurate with its classification. Troops' and Civil mail which have no security classification are given the same treatment as valuable freight, because in many cases mail contains valuables in the form of currency notes, postal orders, and merchandise, and in addition it is very liable to violation and theft. In this country the risk of violation is considerably less than it is overseas, where natives, with an eye to the main chance, are used for manual work. Official mail bearing no security classification is given the same treatment as Troops' and Civil mail because, to the uninitiated, one bag of mail is very like another and the risk of theft is always present in overseas theatres. Diplomatic and Official mail contained in crossed bags is given special security treatment. This type of mail, as already explained, is the normal means by which Government Departments and Service Ministries give their instructions and obtain information, and its value to persons ill-disposed towards the United Kingdom cannot be overlooked. Until the outbreak of war, and for some time afterwards, this mail was carried by couriers of the King's Messenger Service, but due to manpower shortages and the world-wide nature of the war, the Government decided that the responsibility for diplomatic and secret official mail in transit by air should be vested in captains of aircraft carrying the mail, and by officers of the ground organisation of Transport Command at intermediate stops, and at destination airports. The responsibility is a heavy one. Every step must be taken to prevent loss, theft, delay, or access by unauthorised persons; and it is essential that all officers handling it should clearly understand the regulations.

The trunk route services carry mail for several destinations. Stops are frequently of very limited

duration and the personnel position is acute at the Staging Posts *en route*. Intelligent loading of mail is, therefore, essential to obviate much unnecessary work and to prevent overcarriage of bags. It takes a little longer to load it, but in the aggregate it saves considerable time where time is most precious, and ultimately saves further time at the despatching unit which would be spent in answering discrepancy reports and enquiring into cases of delay caused by overcarriage.

The system of acceptance of mail at airports is designed to ensure that bags are in good condition when received by the carriers and that they can be delivered at their destination without difficulty; that in the event of non-delivery they can be returned to the consignor, and to ensure also that all bags are officially authorised, and can be readily identified.

Documentation is based on aircraft safety, financial and statistical requirements, and is adapted from the system in international use before the war. Good documentation not only ensures efficient working but reduces to a minimum the work entailed in answering queries.

Mail received out of sequence frequently leads to very heavy signals traffic because the recipient is referred to a letter despatched previously and not yet received. In some cases the whole context of the letter may be altered by the non-receipt of previous correspondence. Possible consequences are unlimited and mail should always be despatched in serial sequence. The smallest delay will result in an enquiry from the consignor. The preparation of discrepancy reports reduces the need for subsequent enquiries very considerably and also assists the staff in judging the efficiency of a unit in its mail handling duties.

Mail bags are often lost from open or unattended trucks and the wisdom of using closed vehicles for the carriage of mail on the ground and of not leaving these vehicles unattended needs no stressing.

Loss of mail is a matter of urgent interest to the consignors, and every step should be taken to see that they are advised as early as possible. Violation is obviously a case for the SIB, who will be greatly assisted in their enquiries by an early report from the

At its destination in foreign countries, diplomatic mail is placed in locked vans and accompanied by an armed guard.



person observing mistreatment. In cases where quick action has been taken the miscreants have been discovered, but the prospects are small when the enquiry is instituted some time after the occurrence.

Transport Command, although contracting, continues to handle some 1,000,000 lb. of mail per month to and from all parts of the world, and will continue to do so until civil aviation can take over the commitment. The comparatively few queries on the carriage of this mail, particularly at a time when skilled and experienced personnel are being rapidly demobilised, reflects very creditably upon the captains and crews and the traffic personnel, all of whom play an important part in ensuring that the mail gets through.

MAIL HANDLING INSTRUCTIONS

Mail handling instructions for the RAF, with which captains, crews, and traffic staffs should be fully conversant, are contained in Section "E" of Air Ministry's Air Movements Instructions (Provisional) issued in May, 1946.



Air Transport Prototype?

AN announcement concerning the new de Havilland D.H.108 research aeroplane has now been authorised, following the successful first flights in Suffolk.

The D.H.108 has been designed to explore the problems of control in aeroplanes with swept-back wings. It should not be confused with what has come

to be known as the "flying wing," which has no fuselage and which is not necessarily intended to reach speeds of the order at which the de Havilland designers are aiming.

In order to produce the 108 as quickly as possible, the new wing was applied to a standard Vampire fuselage, fitted with a de Havilland Goblin turbo-jet engine. In the past two weeks 2,500 miles have been flown without any need for modification.

The controls of this revolutionary aircraft are interesting. Since there is no tail-plane and, therefore, no elevators, the ailerons at the wing extremities perform the functions of elevators as well and are called "elevons." The controllability of the aircraft has been well established—it has already been indulging in mock dog-fights with a Mosquito.

For the present the 108 is undergoing tests at moderate speeds. Later the aircraft will be modified to some degree (since it is not at present equipped for high-speed flying), and the problems arising from the compression of the air around the aircraft at speeds approaching that of sound will then be tackled.

The swept-back wing delays the onset of compressibility sufficiently to permit higher speeds without loss of control and there is reason to hope that later in its career the D.H.108 will be flying successfully at speeds substantially higher than those obtainable with a conventional layout. Thus the data provided by this purely experimental aeroplane will be made the basis of future applications of the swept-back wing to both military and civil transport aircraft. The de Havilland D.H.106, for example, is a projected jet air liner which will incorporate the swept-back wing.





The Dove Takes Wing

THE De Havilland Dove proved itself in flight trials during May. This eight-to-eleven passenger aircraft with two Gipsy Queen 71 engines (330 h.p. each) is the first small transport to be built to standards of maintenance, performance, and equipment comparable with large airliners.

A low-wing design, combined with a tricycle undercarriage, confers several advantages on pilot, passenger, and maintenance engineer. For instance, the relative smallness of the constant-speed full-feathering braking propellers allows the aircraft to stand both level and low, so that passengers can step into the cabin from a two-step ladder, and the pilot has an unusually good field of vision when landing and taxiing. From the servicing point of view, almost everything around the aircraft can be reached at shoulder height without the need of platforms or ladders. On the following page we show a number of photographs to illustrate this valuable feature.

Pilots will find in the control cabin a layout which is simple and logical. Dual control is provided, but the starboard column can be instantly detached and the second seat occupied by a radio operator; or the aircraft can be comfortably managed by the pilot alone; in other words, the radio and controls are as accessible to the first pilot as the flying instruments and controls

are to the second pilot. The crew positions are relatively high, and enclosed in a bubble-type canopy which affords a useful look-out to the rear. Throttles, pitch controls, elevator and rudder trimmers, undercarriage and flap selectors, fuel cocks, cooling shutter controls and air cleaner control are all mounted on a central pedestal, so that all ancillary control can be operated with one hand when taking off or landing.

Although the Dove has fuel capacity for about 1,000 still-air miles, it has been developed mainly for operation over stages of about 300 miles, with tanks half full, at a cruising speed of 155 m.p.h.; it is essentially a feeder line aircraft, and the small cabin is comfortable and exceptionally well lit by the large and well-placed windows. Noise and vibration are efficiently muffled.

The estimated weights and performance figures proved conservative when the Dove went under trials. Total all-up weight is 8,500 lb., with a payload of 1,868 lb. (including eight passengers) for 500 miles at cruising speed. In normal conditions the Dove will climb at 750 feet per minute from sea level. Single engine performance is impressive, with a climbing rate of 230 feet per minute using take-off power, with one propeller feathered. On demonstration at Hatfield the Dove made several climbing turns against a dead engine.



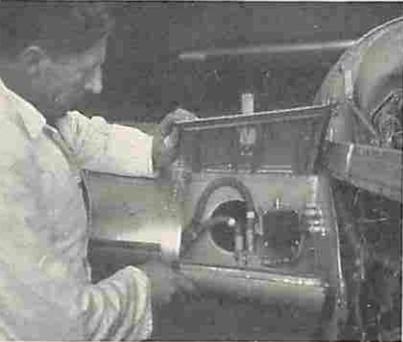
Wing-tip held in place with Phillips headed recessed screens (production models incorporate navigation light in wing tip).



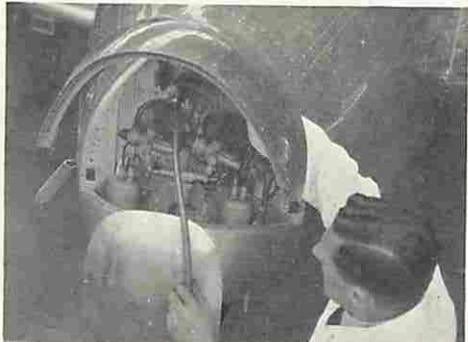
Towing bar attachment.



Battery stowage on runners.



Inertia switch on starboard leading edge, outboard of the engine.



Hinged door in nose, covering air bottles, adjusting valves and charging points.



Hinged leading edge, inboard of motor.



Removing tail-cone, held by four toggle fasteners.



Main junction box, starboard side, with wiring diagram on door.



Ground starter plug.

With a few obvious exceptions, the Dove can be inspected and worked on without the use of steps or platforms; engines, propellers, and practically the whole airframe are at shoulder height. Routine inspections can be made through hinged doors or toggle fasteners. Many components are interchangeable, including power plants and undercarriage legs.

AIR EVACUATION FROM CENTRAL JAVA

FLIGHT LIEUTENANT E. A. ELDERS



Dutch internees being reassured by the crew of a Dakota aircraft before take-off.

DROPPING supplies behind the enemy lines was a commonplace event to No. 31 (Transport) Squadron of 232 Group during the Burma campaign. Recently, however, in the disturbances which have been troubling the Netherlands East Indies, the Dakotas of this Squadron have been doing even better; they have been landing on an "enemy occupied" airfield in Java to bring out Dutch internees, men, women, and children who have been in prison camps for years.

They have been landing daily on an airstrip at Solo, near Soerakarta, which has been used solely by Japanese aircraft for the past four years; and they have successfully tackled a job which could not otherwise have been done in the troubled state of the countryside.

The TRI (Indonesian Republican Army) has guaranteed the safe delivery of the internees from their camps in the mountains to the airfield, and of the British aircraft—but only on the airfield. One British Dakota, which flew to Solo on the second day of the operation, was refused permission to land because it carried European markings; it had the familiar red, white, and blue roundels which the Indonesians insisted were Dutch. (Our aircraft in Java usually carry markings of dark and light blue, to avoid this confusion.)

I have just returned from one of these missions in an aircraft of 31 Squadron, one of two which left Kemajoran airfield, Batavia, in the first light of dawn to fly along the flanks of the volcanic mountains of Java's Northern coast. Turning inland along the slopes of an active volcano, we sighted Solo airfield and, being unable to land because the 2,000-yard

runway was blocked by rows of oil drums, we circled it.

Once the aircraft were recognised, the obstructions were quickly cleared and the Dakotas went in to land. The TRI—young irregulars in nondescript uniforms and black forage caps, armed with rifles, a few automatic weapons, and Jap swords—stood on guard over the huts where the internees would be assembled. Aircraft of the "Indonesian Air Force," which are Japanese trainer planes marked with the red and white halved roundels of Indonesia, circled and landed. Their young pilots seemed very ready to discuss their Air Force: their second-in-command, a youthful well-spoken "Colonel," told me that they had a number of transport planes and light bombers as well as their biplane and monoplane trainers. Their "ace" pilots (50 flying hours) are mostly pre-war Dutch-trained, but they are now training their own aircrews at Jogjakarta.

The evacuees are brought in lorry-loads of about 100 at a time over the rough roads from the camps at Ambarawa and Banjoebiroe. They are mainly women and children, and most of them are Eurasians. They seem dazed when packets of "K" rations are handed out by an airman. A few of the women contrive to look tidy in summer dresses, but most wear patched clothing, and go barefoot or in home-made sandals, as they clutch pathetic little bundles of belongings.

We helped about thirty evacuees into each plane,

strapped them in, and quietened the youngsters with biscuits and sweets. As soon as the wheels left the ground, the realisation that at last they were free seemed to strike all simultaneously. Some of the women laughed and cried together; some broke into quavering renderings of the Netherlands National Anthem.

Within ten minutes of landing at Semarang, the evacuees had been whisked away in Dutch Red Cross transport, and the Dakota took off again for another load from Solo.

As fast as the Indonesians can bring the internees

to the airfield (which is not very fast, since their motor transport all too frequently breaks down *en route*) the Dakotas fly their shuttle service to Semarang; and then take one final load each back to Batavia.

In the first five days of the operation, 1,000 internees were flown out and in the next week more than 1,500.

No. 31 Squadron is the last close support Transport Squadron in this theatre to be still engaged on operations; in June, 1946, Wing Commander Macnamara was awarded the DSO in recognition of his leadership of the Squadron in its work.

RABAT-SALE

On the North-West African coast, in the French Colony of Morocco, there is what used to be one of the great major Terminal Staging Posts. Only a few miles inland from the blue waters of the Atlantic Ocean, RABAT-SALE coined its name from the two neighbouring towns of Rabat in the South-West and Sale in the West. It became a Transport Command Staging Post in September, 1943, when No. 7 Ferry Control HQ and No. 70 Staging Post moved in from Ras-el-Ma.

After the North African victories, RABAT-SALE played an important part in the reinforcement of the Air Forces engaged in Italy and in the Far East. Miles of metal hardstandings were packed with new machines delivered from English, Canadian, and American factories, ready to be ferried on to the Middle East war theatre. It was a common sight to see Canadian and RAF flying personnel, some dressed in the tropical dress of the desert, others, having just flown the Atlantic, in thick blue tunics.

The airfield of RABAT-SALE cannot boast of the splendid runways of Bermuda and Gander, but, despite their size, all types of aircraft were landing and taking off in unending streams.

From the control tower there is a very fine view of the surrounding scenery—to the West the open expanse of the Atlantic, to the North and South the vast coastal plains, so green in winter and so brown in summer, and

to the East the gradual slope rising in the far distance to the Atlas Mountains; close to the airfield are the great corkwood forests.

Accommodation for the transit crews was partly on the airport, and latterly, partly in the Balimā Hotel, in the town of Rabat.

Crews who arrived at RABAT-SALE and who were accommodated in the town will not forget that half-hour trip by bus through the winding roads, down streets lined with eucalyptus trees, past the ancient and the ultra-modern houses with their clean and tidy gardens. They will not forget the side-walk cafés, the orange groves, the gaily coloured dresses of the women, and the magnificent new church on a small hill overlooking the town. For the few who stay for more than a day, the famous town of Casablanca, featured in modern stories of mystery and intrigue, is only fifty-odd miles away. And in Rabat itself is the famous "Medina," the native town within a town, very similar to the "Casbah" in Algiers.

RABAT-SALE airfield is 238 feet above sea level, has facilities for all major repairs, ample hangar space and quarters for 3,600 personnel, not including the Balimā Hotel. The mean temperature varies from about 55°F. in January to 70°F. in July, and the weather is mainly fair except for fogs during the period May to September. Occasional dust storms are encountered, but they do not affect flying very seriously.

To-day the parking spaces, once filled with "backlog" deliveries, are empty, but Halifaxes, Stirlings, and the glittering wonders of BOAC and Air France are frequent visitors. Soon the RAF will be leaving this popular airfield altogether.



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WESTERN GRATS BETWEEN MAURIPUR AND POONA



