

The Woman Engineer

The Organ of the Women's Engineering Society (Incorporated 1920).

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VOL. V. No. 6.

MARCH, 1941.

PRICE 6D.

"The Woman Engineer"

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Items of interest and newspaper cuttings regarding the position of women in the Engineering World will be welcomed by the Editor.

Subscription Rate, 2/6 per annum. Post Free.

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"I certainly appreciated being remembered by my friends."

—Extract from Miss Johnson's last letter is the keynote of this issue.



Miss Amy Johnson, C.B.E.

Past President, Women's Engineering Society

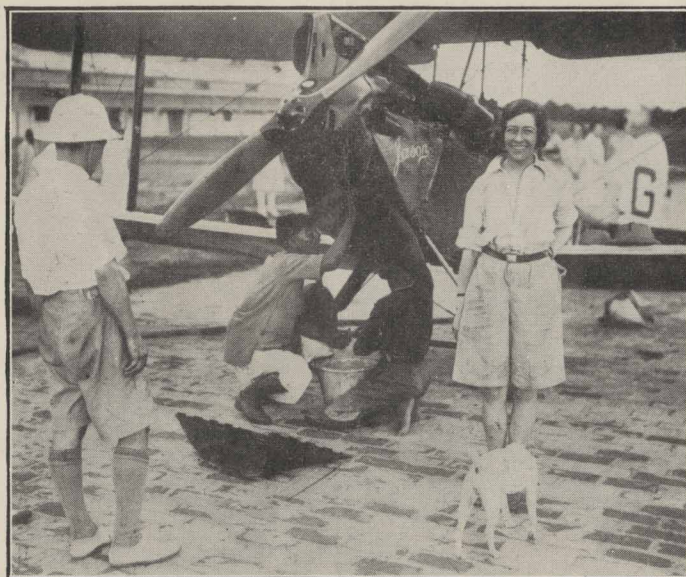
We Owe Them Much—

AMY JOHNSON — LORD WAKEFIELD

In the month of January our hearts were saddened by the death of Amy Johnson, and a few days later by that of Lord Wakefield. Our first reaction to these blows was "how great a loss"—we felt the world would be a poorer place, less joyous, less noble, because two such great souls had departed. But the passing days have put the emphasis in another place; having focused our eyes to suit the new conditions we see how much brighter, how much better, life is because two such spirits lived here.

We cannot draw up a profit and loss account and state in precise terms how any one life affects others but the old simile of the pebble dropped in the pool sending out concentric circles that grow larger but are less marked can aptly be applied to Amy Johnson. The outer circle has touched the horizon everywhere, every corner of the world knew her, was inspired by her daring, her courage, her patriotism, her disinterestedness. The small inner circle enjoyed the strong essence of her spirit, knew by personal experience how truly daring, courageous, patriotic, unselfish she was, and added to admiration, affection. Another circle, our own, very privileged too, had many opportunities to prove that lavish praise was never too lavish, that adulation was all deserved, that to the heroic qualities which the world knew, Amy added the homely ones of gaiety, modesty, friendliness. Individually those who knew her are the better for the experience.

And the things Amy stood for have not lost her support. She demonstrated for all time that women can plan daring feats, can pay close attention to detail, can superintend and carry out a prescribed programme, can overcome obstacles as they are encountered, can learn from misfortune, can face disappointment without loss of



Amy en route for Australia, May, 1930

courage. If we are tempted to say that in the difficult days that will follow victory we will need her strong personality we must remind ourselves that we know what Amy would have said and done in such circumstances and other women will, as a consequence, do and say those things.

There is another regret in the minds of some, that Amy did not live long enough to do the really big job which she could have done for the country just now or in the more strenuous days of the future. But if Amy had lived for three score years and ten she would never have done anything finer than the work she was doing. She was often impatient of our national method of "muddling through," her imperious spirit and her study of economics alike did not help her to suffer fools and folly gladly, but if the country would not use her to the utmost limit of her ability she was determined to be as useful as circumstances allowed. Her acceptance of a subordinate position in the Women's Section of Air Transport Auxiliary and her success in it are proofs of her own greatness. Incidentally her happiness in the work, as shown in many ways but especially in her own article, is a tribute to her chief, Miss Pauline Gower.

Amy died in harness. Death must have been a familiar figure for her since she planned her first record flight more than ten years ago, and her whole life since was a challenge to fate. She would have been the last to give up adventure for the sake of security.

Amy Johnson died on 5th January, 1941. Ten days later Lord Wakefield died, having completed 81 years of unselfish living. His name is associated with London, with the Empire, with aviation. The man is revealed in his small book, *On Leaving School and the Choice of a Career*; his sympathies with the youth who must venture forth from school to undertake some measure of responsibility was an indication of his attitude to all adventurers and his care for those not completely equipped for the battle of life. His benefactions to hospitals and other charities were very great and continuous.

One of his great enthusiasms was for aviation and another for the Empire and when these were combined, as they frequently were, they obtained his whole-hearted co-operation. Amongst others whom he encouraged was Amy Johnson, and her first record flight to Australia received his support.

He gave many large gifts, but his encouragement of small causes was more remarkable. The Society of Model Aeronautical Engineering for instance owed much to him, and the Women's Engineering Society funds were appreciably augmented by his practical interest. The list of Societies (almost one hundred), represented at the Memorial Service in St. Paul's Cathedral, is an indication of the variety of his interests.

Of Lord Wakefield, as of Amy, it is true that his deeds live after him and that he lives on in the men and women whom he enriched by his kindly thought and generous consideration.

CHRONOLOGY OF AMY JOHNSON'S CAREER

Two years' practical work in Engineering Workshops, London Aeroplane Club, Stag Lane, on maintenance and overhaul of aeroplane engines.	September, 1932	Elected Vice-President, Women's Engineering Society.
Associate of Royal Aeronautical Society.	November, 1932	Flew from England to Cape Town (record flight).
March, 1930	December, 1932	Cape Town to England (record).
Elected member of Women's Engineering Society in recognition of her achievement in becoming first woman to obtain ground engineer's licence C.	July, 1933	Flew to America (with Mr. Mollison). Spent several months in America studying aviation design and manufacture.
May, 1930	1934	Acting as pilot for Hillman Airways London-Paris (daily trips).
Flew solo from Croydon to Australia. Record flight to India.	September, 1934	Elected President, Women's Engineering Society.
Had the honour of C.B.E. conferred on her by King George V. Made Hon. Fellow, Society of Engineers.	October, 1934	London-Melbourne Air Race (record flight to India).
Made Hon. Member, Guild of Air Pilots.	1935	Inaugurated series of Aeronautical Debates for Women's Engineering Society.
March, 1931	May, 1936	London-Cape-London flight—broke three records. Awarded Gold Medal of Royal Aero Club.
Presented by the Society of Engineers with the President's Gold Medal for the year 1930 for her paper on "The Attention which I gave to Jason's Engine during my Flight."	1937	Back in America.
August, 1931	1938	Motor Racing and Gliding.
Flew from England to Japan (with C. S. Humphreys).	October, 1940	In the Air Transport Auxiliary.
September, 1931		
Japan to England.		

TRIBUTES TO AMY JOHNSON

SIR FRANCIS SHELMEKDINE in 1937

At the Annual Dinner of the W.E.S. in 1937, when proposing the toast of "Women in Aviation," Lt.-Col. Sir FRANCIS SHELMEKDINE, C.I.E., O.B.E., Director General of Civil Aviation, concluded by saying:

"I feel that no account of the work of women in aviation can have a more adequate summing up than is afforded by the record of Miss Johnson's most distinguished flying career.

"At about the time when, as I have already mentioned, aviation had received a great fillip by the introduction of the light aeroplane, Miss Amy Johnson had already served a thorough apprenticeship to aviation. She was first granted her 'A' licence on the 6th July, 1929, and in December of that year, obtained her ground engineer's licence, being the first woman in this country ever to do so, though she has since allowed it to lapse. In May, 1930, she surprised and delighted the world by flying solo from Croydon to Australia. She was the first woman to do so and accomplished the journey in the then record time of 19½ days. In December of that year Miss Johnson obtained her 'B' licence, and in the following year (1931) she flew with C. S. Humphreys to Japan, covering the 7,000 miles in 10 days. In 1932 all existing records were beaten by her flight to Cape Town; flying

solo she did the journey in 4 days 6 hours 54 minutes. The return journey was one of many severe trials and vicissitudes, but it was done in 7 days 7 hours 5 minutes, a record at the time. In 1933 she flew the Atlantic from East to West, and other record breaking long distance flights followed in succeeding years, including in 1936, the solo flight from London to Cape Town in 3 days 6 hours 26 minutes.

"The knowledge and experience gained by these flights form the most important contribution to the work of laying the foundations of the regular services now in operation. In this, as in all other respects, the services to aviation by Miss Amy Johnson may be said to have been equalled by few individuals, and it is a matter of speculation whether, in their cumulative effect, they can have been excelled by anybody, man or woman.

"I have had the privilege of knowing Miss Johnson for many years and I know that her achievements have been actuated by one sole objective, to advance the cause of aviation in Great Britain and the Empire. I am glad Miss Johnson agrees that the days of stunt flying are over but I am convinced there is scope for the full use of her abilities in some other way to the same end, the success of Empire aviation."

THE PRESIDENT wrote

All the world knows of the Amy Johnson who flew solo to Australia ten years ago, but it is perhaps those who knew her more closely who were able to appreciate her gifts and abilities, the generosity of her mind, her modesty over real achievement, her unquenchable spirit which, with her keen wit and boundless humour, must have carried her through times of tedium as well as of horrific experience. Whatever Amy did she did it with zest and relish. The sparkle and vigour of her personality communicated itself to all who came into contact with her, and the Women's Engineering Society enjoyed it in full measure during her three years as its president. She was no nominal president, but someone who imparted her own verve and enterprise to this society, to whose pioneering spirit her own was akin. She was always ready to give of her time and talent, and the latter certainly was not limited. As a public speaker and as a writer she had a clear, incisive style, and the ability to infect others with her own enthusiasm.

Amy Johnson was intensely alive to the beauty and strangeness of form and colour which her flying experience presented to her in a very vivid

THE HEAD OF THE WOMEN'S SECTION, A.T.A., wrote

Miss Amy Johnson was known throughout the world for her many famous flights, but in her private life and as a person she was less well known. I had the privilege of meeting her first in 1930, and during the years that followed got to know her as a friend. Although I always appreciated her brilliance as a pilot, the attributes which went to make her character were to me more impressive than her wonderful feats in the world of aeronautics. Her physical courage as an aviator was undoubted; her moral courage, her large-heartedness and her sense of humour were only fully appreciated by her friends. In her private life Amy Johnson was unassuming and entirely lacking in conceit. It is inevitable that the name of someone as famous as she was should be coupled with many extravagant stories. Those who knew Amy Johnson intimately saw her as an ordinary human being, keen on her job, brilliantly successful but always accessible. After her spectacular flight, when the world was at her feet, she could spare the time to give encouragement, help, and advice to any who asked her. Many have been assisted, encouraged, and cheered by her.

When she joined the Air Transport Auxiliary she settled down to her new life with all the eagerness and enthusiasm of somebody who obviously had her heart in her work and was anxious to do a job for her country. The flying she was required to do was not spectacular, but it required steady application. Sometimes it was easy for one with her experience; at other times her skill stood her in

manner. Her book, *Sky Roads of the World*, is full of many word pictures seen from the cockpit of her aeroplane, and she infused into them the emotions she must have felt when enchanted by the vagaries of sea, sky, and cloud, or awe-struck by the cruel and relentless manifestations of nature in adverse mood. The élan which characterised Amy's activities either in word or deed was tempered by a shrewd common sense; the vision which inspired and the ardour which led her to attempt her feats of aviation were accompanied by a capacity for endurance which is not always appreciated by those who read of the triumphal conclusion to a well-nigh impossible venture. Only recently the *Woman Engineer* received from her an article telling of the pleasure she found in her work in the Air Transport Auxiliary and of her delight at the opportunities it gave her, an article which, while recording the satisfaction in a job well done, exults in the unexpected turns encountered in the performance, and in the camaraderie to be met on every hand—its author was truly Amy.

CAROLINE HASLETT.

The Times, January 14th, 1941.

good stead. Whatever the circumstances, however she was feeling, the job was done; and the conscientious manner in which she carried out her duties was an inspiration to all those who worked with her. Amy Johnson is not only a loss to aviation; those who knew her have lost the type of friend who cannot be replaced.

PAULINE GOWER.

The Times, January 8th, 1941.



Rotax Navigation Set presented to Miss Johnson by the W.E.S. on 19th September, 1932.

AMY

by A FELLOW PILOT OF THE A.T.A.



Amy—a photo taken at the Sheffield Conference, 1936

The two most noticeable things about Amy Johnson were, at one end of the scale, the range, depth and consistency of the devotion she inspired in many thousands of people who could never ordinarily hope to meet her, and, at the other end, the affection of those who knew her well. She had her detractors, but they fell mainly between these two classes and consisted mostly of the smaller fry of aviation.

To fly regularly with Amy was a revelation; ten years after she had made the flight which, in fact, made her, she had only to land at an R.A.F. aerodrome for airmen to crowd round. Some of them only wanted to look at her, but many wanted her autograph. In fact, it became a kind of Air Transport Auxiliary "family" joke that whenever she was to be in the party, an extra ten minutes must be allowed at every stopping place for Amy to sign autographs. The officers would want to take her out to lunch—a superior kind of autograph hunting.

One day, at a country inn, a party of the A.T.A. were having lunch. The cook came in, carrying a six months' old infant: would Miss Johnson hold the baby, just for a minute? A week after her death, two women ferry pilots were dining at a well-known restaurant; the Chef brought to them personally a new savoury he had created, "in memory of Amy Johnson." Many such stories could be told by her colleagues, but perhaps the finest tribute of all was the unconscious one paid by a member of the congregation at her Memorial Service. Half a dozen women A.T.A. pilots, in uniform, were acting as ushers; someone was heard to ask who and what they were. Amy was bigger than the thing to which she belonged.

The secret of Amy's popularity lay, I think, in a combination of two facts. Firstly, her achievements were not made easy by advantages of wealth, position or influence. She got away, and got away by her own efforts, from the treadmill

which makes up the life of the ordinary young man and young woman, whose escape can usually be only a vicarious one through the celluloid adventures of the cinema. Amy typified Hollywood come true. The second fact was the general feeling (it is surprising how accurate most popular estimates of character in public figures are) that she was not out for what she could get. It was somehow sensed that achievement was itself her objective, and that although she did reap big rewards, and certainly enjoyed getting them, they were quite incidental. It was for these two reasons, taken together, that she captured the imagination of the world.

Timing had of course much to do with her fame; a few years earlier would have been too soon, and a few years afterwards, too late. That this had little to do with her popularity, as apart from fame, is proved by the comparative oblivion into which most of the other record-breaking pilots have sunk.

Many people have wondered why Amy did not receive the public appointments which have fallen to other women in aviation. I think the answer lies quite simply in one of the things which endeared her to so many people; she had no eye to the main chance. If you want a thing enough (and the operative word is "enough") you know instinctively how to conduct yourself so that it comes your way. Undoubtedly, too, she did some silly things at times—the sort of things which office-seekers simply must not do—but then why the devil shouldn't she? The things which Amy did want were friends, flying and fun, and these she had in full measure.

She gave much, too. As a senior pilot of the Women's Section of the A.T.A., she was kindly and helpful to the younger ones, generous about the achievements of her equals, and completely silent about her own. She was so direct and unassuming that they all quickly forgot she was a celebrity, and learnt to accept her as one of themselves. Perhaps the fact that for probably the first time she was working with pilots who could have no sex jealousy may have helped.

Much of her time was spent in giving conscientious replies to the hundreds, mostly women, who wrote to her for advice about flying careers, and she tried in many ways to advance the standing of women in professions generally, and in aviation particularly.

No lasting tribute could therefore be more fitting than the Amy Johnson Memorial Scholarship for Women which it is now proposed to found. Amy Johnson's unique reputation will thus in death be the means of giving practical effect to her views, as she was perhaps never quite able to do in life.

EXTRACTS FROM SPEECHES BY MISS JOHNSON

Reproduced from "The Woman Engineer"

"My flight was carried out for two reasons: because I wished to carve for myself a career in aviation, and because of my innate love of adventure." *March, 1931.*

"We women are just now on the threshold of another career which has so far been regarded as the strict province of man—that of aeronautical engineering. . . ."

"The only argument that men can bring forward against woman's intrusion is that of physical strength, but this seems to me very poor grounds for establishing and retaining a monopoly. After all physical strength is purely relative—there are some women stronger than some men. In engineering there are many jobs beyond a man's strength. What does he do? He fetches an instrument. What did I do when I found a job beyond my strength? At first I used to fetch a real man engineer, and if he couldn't do the job he'd fetch some tool that would. I soon learned that it saved time to fetch the tool right away.

"Women, I am sure, share with men the vital qualities needed in aeronautical engineering—patience, skill, delicate fingers, and a fertile mind. There is surely no reason whatever why we should not make good, whether it be in the design department, the workshops, or the repair shops. Anyhow, we're going to try." *March, 1932.*

"Progress in aviation, as in every sphere, is due to the people who believe nothing to be impossible. The course of ease is to say it cannot be done. The sceptics actually do much to further progress—they hold the pistol at the head of the dreamer and the optimist, challenging them to bring their dreams to reality. The answer of Progress to 'It can't be done' is 'Hold tight and watch.' Progress means always trying to go one better. To get more out of something, by trial and error, by crying for the moon, by hitching one's wagon to a star, by never saying die, so the world progresses. Individual steps may be too small to matter much, but the sum total, like the ant heap, the honeycomb, the skyscraper, or the 'Queen Mary' is an achievement worth while.

"In 'Modern Times,' Charlie Chaplin's picture, there is portrayed a time when man succumbs to the machine. I should hate to imagine such a possibility, and frankly, I think it highly improbable. Behind the machine there is the mind, creator and controller of the machine. Human emotions will always rise superior to any degree of mechanisation, and we must retain the machine as a servant to do 'the chores' of life, leaving us, freedom for leisure, pleasure and *High Thought.*" *September, 1936.*

"Why is it that there are not many more women employed in aviation?"

"I believe that the fault lies as much with the women aspirants themselves as with the employer

of labour so often captioned as hard-hearted, prejudiced and unjust.

"It is a significant fact that in every case of a woman achieving success, she is hailed by her firm as a real treasure and has become part and parcel of the organisation.

"As a general rule it may be admitted that technical efficiency is not the only qualification for a job. Book-learning and skill can be acquired by every eight out of ten merely by patient application to one's instructors. About 15% of real success is due to technical efficiency, and about 85% to skill in human engineering—to personality and the ability to deal with people.

"I would say that women have such a struggle and uphill fight that by the time they have acquired the technical skill equal to a man's, they have acquired something a great deal more valuable and of vast potential importance to their future employer—personality.

"To women who may sometimes feel they are not being given their dues I would like to say this:

"We should try not to start off in a spirit of resentfulness and aggression. Sometimes we are our own worst enemies. We argue and try to convince that we are just as good as any man and we are amazed when our belligerent tactics go unrewarded, when we fail to get the job and complain bitterly of inequality and injustice.

"Instead we should be first of all sure of ourselves on the technical side of the job and spend the rest of our energies putting ourselves over. Women are noted for talking. Well, remember that it is said that leadership gravitates to the man who can talk. Lowell Thomas once said in a speech—and how truly—that the man who can speak acceptably is usually given credit for an ability out of all proportion to what he possesses.

"You need not wait for an after dinner speech to try this out—try it at interviews."

September, 1937.

The following quotations are taken from *Testament of Friendship*, by Vera Brittain, a recent biography of her friend, Winifred Holtby:

"A recent volume of popular psychology puts to its readers, as a test of their ability to win affection; 'If you died to-morrow, how many people would come to your funeral?' In Winifred's case we know the answer. Midday on Tuesday in London is a busy hour and St. Martin-in-the-Fields is a large church, but at Winifred's funeral service it was crowded to the doors."

"But of this at least I feel certain; that whether or not the spirit of man is destined for some unknown flowering in a life hereafter, the benevolence of the good and the courage of the undefeated remain, like the creative achievements of the richly gifted, a part of the heritage of humanity for ever."

IN MEMORIAM

THE MEMORIAL SERVICE.

When there was no longer any hope that Miss Johnson might still be alive the Women's Engineering Society arranged a Memorial Service for her in the church of St. Martin-in-the-Fields. This was held on 14th January when Rev. G. L. Davey officiated and Miss Janet Miles sang "I vow to thee, my country."

The congregation, which taxed the capacity of the church, represented the many types of people and societies which were interested, in one way or another, in Miss Johnson's life and work. They included her parents, Mr. and Mrs. J. W. Johnson, her sisters, Mrs. Trevor Jones and Miss Betty Johnson, her brother-in-law, Mr. Trevor Jones and her godson, Master Paul Courtenay. The Secretary of State for Air, Sir Archibald Sinclair, the Minister of Aircraft Production, Lord Beaverbrook, Lord Rothermere and Lord Wakefield sent representatives. Amongst others present were men and women of high and humble standing who were friends of Miss Johnson. It would be invidious to list them.

Some forty women's organisations at that service paid a tribute to one woman who did so much for all women by being herself, by daring to live to her full capacity, by following her bent. There were men in the congregation too, one who had come from Cornwall, because he so much appreciated Miss Johnson's achievements.

A PERMANENT MEMORIAL.

It was generally agreed that there should be a permanent record of this intrepid airwoman, and various suggestions have been received such as the erection of a statue in a central location, the placing of a plaque where heroes and public benefactors are generally commemorated, such as Westminster Abbey or St. Paul's Cathedral. But then another suggestion was made, which was immediately approved, the establishment of a

SCHOLARSHIP IN AVIATION FOR WOMEN.

It is of interest that when funds were raised to commemorate Miss Johnson's flight to Australia Miss Johnson herself advocated that they should be used to found the Amy Johnson Scholarship in Aviation at University College, Hull, and she herself contributed a large sum to make this possible. It is the more fitting then that the memorial should take this form. The Women's Engineering Society has launched the scheme which is sponsored by the Viscountess Astor, C.H., M.P., Colonel the Rt. Hon. Lord Sempill, A.F.C., Sir Malcolm Campbell, M.B.E., Miss Caroline Haslett, C.B.E., Miss Pauline Gower, and Mrs. Gabrielle Patterson.

Donations whether large or small are welcomed, for it is realised that Miss Johnson's admirers include many who are not blessed with this world's goods, but who would welcome the opportunity of expressing their admiration in this way. The first list of gifts, below, opened by a donation of £10 from Mrs. Wm. Paterson, is an index of the widespread appeal of a permanent memorial.

Until the war is over it was decided that funds should be invested in National Bonds—a decision which it was felt would have met with the full approval of the practical Yorkshirewoman that Miss Johnson certainly was.

	£	s.	d.
The De Havilland Aircraft Co. Ltd.	100	0	0
Mr. Wm. Courtenay	10	10	0
The Hon. Mrs. Ionides	10	10	0
Mrs. Wm. Paterson	10	0	0
Mrs. J. W. Patterson	10	0	0
Mr. J. H. Trounson and friend	6	6	0
Margaret, Lady Moir	5	5	0
Miss Caroline Haslett	5	0	0
Mrs. Alice C. Corns	5	0	0
Miss E. McClelland	3	3	0
Lady Maud Warrender	3	3	0
Miss W. K. Farmer	2	2	0
Elliott Equipment, Ltd.	2	2	0
The Steam Engineer	2	2	0
A.B.C. Motors, Ltd.	2	2	0
Admiral Mark Kerr	1	1	0
Mrs. Margaret Cross	1	1	0
E.A.W. Hartlepoons Branch	1	1	0
Dr. Stella H. Brown	1	1	0
Mrs. Dorothy Allhusen	1	0	0
The Dowager Lady Swaythling	1	0	0
Anon.	10	0	0
Mr. G. M. Naismith	10	0	0
E.A.W. Great Yarmouth Branch	7	0	0
Mr. and Mrs. E. Herne	5	0	0
Mrs. and Miss Midgley	5	0	0
Capt. H. Merrick	5	0	0
Mr. F. Cook	5	0	0
Miss B. Rimmer	5	0	0
Miss E. M. Gosse	5	0	0
Mr. S. W. Newsome	2	6	0
Mr. F. M. Hewitt	2	0	0
Mr. C. Ryland	2	0	0
Mrs. Oliver	1	0	0
Anon.	1	0	0

1st January, 1941.

My dear Caroline,

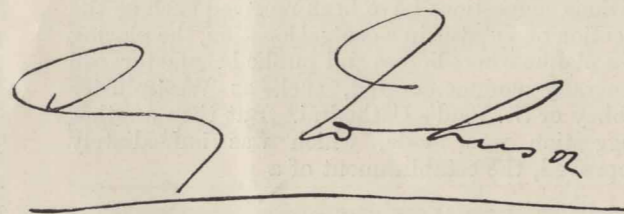
Enclosed is my effort for the "Woman Engineer" which you asked me to write. It is an honour to be asked to contribute to your magazine, and I am afraid my article isn't anywhere near adequate. My only excuse is that I am so out of practice (this is my first bit of writing since war started) that I find it extremely difficult to string words together. I'd rather do a week's flying any time!

Very many thanks for your card for Xmas. I'm afraid I didn't send any out this year, but I certainly appreciated being remembered by my friends.

I hope the gods will watch over you this year, and I wish you all the best of luck (the only useful thing not yet taxed!)

All the best,

Yours affectionately,



[NOTE: This last letter from Miss Johnson, written a few days before her death, is so typical of her that it seems justifiable to share it with her friends in the Society. C. H.]

A DAY'S WORK IN THE A.T.A.

AMY JOHNSON'S LAST ARTICLE

The shrill note of the alarm blares in the sleepy ear of Miss X, ferry pilot of the Air Transport Auxiliary. Confused by sirens and "all-clears," she doesn't realise for the moment that this new noise is merely the signal to get up. At last the alarm's insistent call penetrates her brain and she knows the day's work has begun.

The clock points to 7. Outside it is pitch dark and it is impossible to see what the weather is likely to be. If there is fog there is no hurry, and she would dare roll over and have that extra fifteen minutes. Unfortunately, however, it is much too dark to see, so she has to make the best of things and get up quickly in case it is fine, as there is certain to be lots of work to do.

In the winter months, aircraft production and repair work go on unabated, increasing every day, but the bad weather holds up delivery of machines from factories to aerodromes, and numbers of planes accumulate, making no mean problem for the organisation staff, as, somehow or other, in spite of the weather, the machines must be dispersed in order not to present too alluring a target to the enemy.

Miss X hastily puts on her navy uniform—slacks, military tunic, forage cap and overcoat, pausing just long enough before the mirror to admire her two new gold stripes. She is now a First Officer, and is qualified to fly a great many more types of planes than—alas!—her employers (British Overseas Airways Corporation, under

whose ægis the A.T.A. has its being) will allow. "All single-engine Service types and light multi-engine trainers" is the caption on her C.F.S. report. However, no use wasting time sighing over the Hurricanes and Spitfires she is not permitted to handle—rather is she grateful for the enormous privileges she has so far gained. The war has placed opportunity right in her path. At no expense to herself, she has been given the best training that money can buy—an R.A.F. Central Flying School Conversion Course. From the light training machines, like Moth and Avian, she flew before the war at her local Flying Club, she has been "converted" to fast modern types with their hundreds of knobs and complications.

Thanking her lucky stars, she eats a hearty breakfast, as the chances are she may not have time for any lunch. The aerodrome is a sharp ten minutes' walk away from her digs, and she steps out into a misty wet fog which tries its best to dampen her high spirits.

Arrived at the aerodrome, her first enquiry from the Duty Pilot (who has, poor soul, been on duty since 7.30 a.m.) is what are the chances of the weather clearing. "In an hour's time" she is told optimistically. The next enquiry is the vitally important question—What exciting sort of aeroplane has she been allotted for her first day as a First Officer? "A Tiger Moth from Y to Z" she is told. Stifling a bitter disappointment, she goes to the locker room to prepare her maps;



Members of the A.T.A. Women's Section.

enquires from the Signals Officer (Miss Susan Slade, late secretary of Airwork, Ltd., Heston, or Miss Connie Leathart, veteran peace-time private-owner of wide experience) where are the balloon danger zones on her route; obtains from the safe the "Signals" for the day (*i.e.*, signals which must be given if one's plane is challenged by one of our own aircraft, ships or ground stations); telephones for a route weather forecast; asks permission from Fighter Command H.Q. to land at the aerodrome for which she is bound; collects together her parachute, Sidcot suit, flying boots, gloves, helmet and goggles, emergency kit for the night (in case she cannot get back to her base), some sandwiches in lieu of lunch, and, reinforced by a cup of hot coffee from the canteen, is ready to start.

Unfortunately, the weather still persists in being damp and misty, and only an enthusiastic pupil of the Women's Section's instructor—Miss Margaret Cunnison, formerly chief instructor at Perth—takes off to do a "circuit and bump." Miss X, tired of gazing at the miserable sky, goes inside into the cheery atmosphere of the "mess" and challenges someone to a game of darts. The game finishes, two others are played, more coffee is consumed, knitting is taken out, friendly gossip and "shop" fly back and forth, one or two of the girls ask for and receive permission to go and have their hair washed and do some shopping.

"How many hours did you get in last month?" asks Miss X of "Margy" Fairweather, one of the four taxi pilots. "70 hours on Ansons on taxi work and three hours on a ferry flight to Scotland." "You lucky thing" chimes in Mona Friedlander, erstwhile ice-hockey champion. "I only manage to get in about thirty hours' ferrying, with at least a hundred waiting about!" Margy smiled quietly to herself, as there are two definite points of view on this subject. An outsider would naturally conclude that the more hours flying a pilot puts in in a given time the harder she must undoubtedly have worked, but the outsider "knows nuthin." Amongst the ferry pilots (*i.e.*, those delivering machines) competition is as keen as mustard for any jobs that may be going, and the hours flown are carefully collected in a most miserly fashion. The smaller their total the keener they are to augment them, only those with two thousand or more losing to some degree this urge to "pile them up." The taxi pilots, on the contrary, always have so much extra flying that their totals for the month are always in excess of anyone else's. For example, a ferry pilot may have a job which means only twenty minutes' flying for the day, whilst the rest of her time is spent waiting on the aerodrome for the taxi machine to collect her, or riding with the taxi pilot on her long round. The outsider would consider twenty minutes' flying a very slack day's work as compared with the taxi pilot's probable five hours (or even eight or nine in the summer), but ask both the pilots separately what they think! Anyway, Margy Fairweather won't swap her taxi job for even the most exciting machines

the ferry pilots fly, which is a very good thing for the rest of the girls, as she is one of the safest and best pilots to be found anywhere in the country, and taxi work is a great responsibility, to say nothing of being in the nature of a command performance before an audience of experts.

Miss X, however, is getting tired of talk, and wanders outside to have another look at the weather. It looks rather better, so she asks the Chief Ferry Officer, if she can "have a crack at it." The C.F.O. confers with her C.O., Miss Pauline Gower, well known as to her high flying capabilities, but nowadays seen mostly in the light of a clever psychologist, studying and understanding to no mean degree the temperaments of the girls under her care. The C.O. knows that Miss X is a good, careful pilot, not brilliant, but having the common-sense to know her limitations, and she feels justified in allowing her to set off if she feels like it, knowing that she won't take undue risks. After all, the work of the A.T.A. is to deliver machines safely and in one piece. Whether it be to-day or to-morrow matters far less than the condition in which a brand-new highly expensive machine arrives.

All Miss X has to do now is to persuade the taxi pilot to take her to the aerodrome from which she has to collect her machine. Her pilot being Mrs. Fairweather, this is easy. Arrived at their destination, Miss X gets out, with parachute, Sidcot suit, maps and kit and goes in search of the Station Engineer. Eventually, after innumerable papers are signed, she is tucked into the cockpit of a shining new Moth, the propeller is swung and she is away.

Even if she does have to battle in an open cockpit with wind and rain, snow and hail; though she may lose her way in driving mist and narrowly miss colliding with a balloon barrage; though she may at last arrive frozen and frightened, she knows it is useless to "shoot a line" to people who are doing this sort of thing every day as a matter of course. So she just gets her receipt signed and makes enquiries about transport back to her base. If she is lucky, the taxi machine will come and collect her, though there may be a long wait, but otherwise she will have to "hitch-hike" or take train, 'bus and car. Only too often a half-hour flight entails hours of travel to get back to her base, but she is as used to this as she is to the uselessness of airing her troubles.

Back at last, she triumphantly hands over her precious receipt for the safe delivery of her machine, and, after packing away her kit in the locker room, putting her parachute on its proper place on the shelf, and locking away her maps, she finally goes home, to what she is herself at any rate convinced is a well-earned dinner and sleep (perhaps to dream of the super machine she may have to-morrow).

Back at the aerodrome, in the Operations Room, her day's work is officially entered up as "One Tiger Moth, No..... delivered by First Officer X (followed by appropriate times and places). Flying Time fifty minutes." Just another job done.