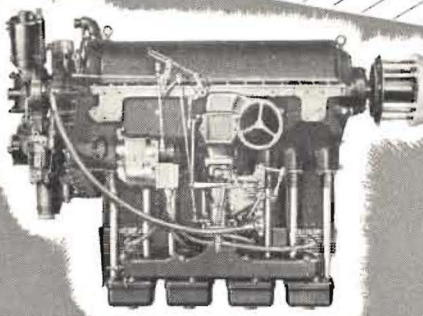
AIRCRAFT *News*

APRIL · 1950



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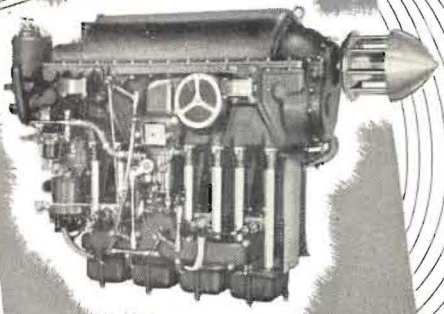

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AIRCRAFT NEWS

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APRIL, 1950

Editorial

THERE IS MUCH DISCUSSION from time to time regarding the comparative costs of personal travel by air, road, sea and rail. We have always maintained that air travel, particularly by Auster, is something that every business executive should be well acquainted with.

The application is not confined to business men either. Sportsmen, Government officials and many others would be well advised to think carefully of the general all-round saving that can be gained from this form of travel.

We do not propose to give any figures here to support our arguments.....after all, the best way to obtain these is to ask any business man owning an Auster. He will very quickly present a good case for air travel.

Elsewhere in this issue an article from *Flight* is reproduced. This too, not having originated from the pen of a member of this Company, gives an excellent impartial view on the comparative merits of our four-seater AUTOCAR in relation to a typical car of similar power and capacity.

The whole subject is one which will probably provide many people with food for further thought, but one essential point to bear in mind is the great time-saving which arises from the use of an Auster. Obviously cross-country or overseas trips can be effected in a fraction of the time taken by any other form of transport, and through this a considerable saving must inevitably arise in hotel and incidental expenses alone.

Four Up

Private-owner Travel by Air and Road : a Comparison of Performance and Costs.

(Reproduced by kind permission of the Editor of "Flight" from the issue dated 16th March, 1950.)

SPORTS CARS and modern private aircraft are surprisingly comparable in many of their characteristics, although in a few they differ in a marked manner. These photographs illustrate the recently introduced four-seater *Auster Autocar* with 130 h.p. Gipsy Major engine, and it is interesting to compare its specification, costs and performance with those

["Flight" photo

Passengers in the "Autocar" *have an excellent view of the countryside. In this case Ascot racecourse is to be seen.*

of an imaginary but typical sports saloon of similar power and capacity.

The *Auster* costs £1,500 ; the car, without purchase tax, would probably cost about the same. Seating layout is similar except that the driver of the aircraft usually sits on the "Continental" side and, moreover, the car would probably provide a little more room and comfort as well as being quieter.

What of performance? The *Auster* can cruise at just over 100 m.p.h. and has a maximum speed of 118 m.p.h. By comparison a car with 130 b.h.p. engine should cruise

at 80-90 m.p.h. on suitable roads, and should be capable of just over 100 m.p.h. maximum. There would not be much difference in loaded weight, for the *Auster* weighs $20\frac{1}{2}$ cwt., and the car should not exceed 24-26 cwt. Fuel consumption would be even closer. The *Auster* uses $6\frac{1}{2}$ gal.hr. at 105 m.p.h., which is a fraction over 16 m.p.g., and this figure would be improved by a small amount at rather lower speeds, say 90-95 m.p.h. At high cruising speed the car, too, could be expected to average 16-17 m.p.g. Both would normally run on the same grade of fuel. On balance, the aircraft would have a slight pull in the matter of fuel consumption, for it is able, by flying in a straight line, to reach a given destination in fewer miles. A headwind might offset this advantage on some occasions.

It is not such a simple matter to compare running costs for a car and an aircraft, because standards of requirements are very different. Insurance depends upon many variables, although drivers' records and insurable values are considerations applicable to both. Because of the higher potential exposure, third-party cover is very much greater in the case of aircraft. Strangely enough, although third-party insurance is compulsory for a road-user, there is no law to compel a pilot to have any insurance at all. In practice, however, all aircraft are fully covered. To give some sort of indication of the cost of comprehensive insurance cover in each of the cases under consideration, a figure of £25 per annum may be mentioned as representative for the sports car and £105 per annum for the aircraft, for average private utilization of 20,000 miles (200 hr.) per year.

Maintenance costs, assuming both vehicles to receive correct routine attention by qualified engineers, is another item difficult to compare. A car might cost 50s. every 1,000 miles, plus one engine and chassis overhaul—de-coke, brakes, and so on—in 20,000 miles at a cost of £20. This gives an annual cost of £70. At least one set of four tyres would be required in this mileage, and these would cost about £16. Incidental repairs and adjustments would probably bring the total figure up to £90 p.a.

For the private aircraft the main annual servicing costs are for the renewal of the Certificate of Airworthiness and three 50-hour inspections. In addition, an occasional minor

inspection and adjustment is desirable. The C. of A. for the first few years should not cost more than £60 on the average, and the 50-hour airframe inspections about £5 each. This makes a total of £75. Other minor inspections of the D.I. type (say, one per month) would cost about 17s 6d each, and the supply of an occasional spare part would bring this figure to £15 ; thus the overall total again amounts to about £90. However, some allowance must be made for engine overhaul, which in the case of the Gipsy Major would occur only every 7½ years, for it is a type which is officially approved for 1,500 hours' running

["Flight" photo

Windsor Castle provides an interesting background for the "Autocar."

between overhauls. This is a figure which will set most car engine designers thinking. If £10 p.a. is allowed for a share of the ultimate engine maintenance cost, the estimated figure for the *Auster Autocar* reaches £100 p.a. The car engine would need a major overhaul about twice as often as would the aircraft, *i.e.*, every 60,000 miles. The cost would be, as a conservative estimate, and depending upon the number and configuration of cylinders, £80 to

£100. Thus, some £30 should be budgeted each year for this purpose. The owner-pilot pays £1 1s. registration fee, but the car owner pays £10 annual registration. Major overhaul and registration of the car therefore offset some £29 of the excess accommodation fees of the aircraft, referred to below.

It is not proposed to discuss depreciation, but a mention may be made of housing and parking, and here the aircraft is almost always at a disadvantage unless the owner happens to be a farmer—as is not infrequent in the case of *Austers*—with a good barn and meadow available. A light aircraft costs at least £1 per week for hangarage, and landing fees vary between free and 7s. 6d. for the weight of machine in mind. Season landing tickets are available for groups of home airfields at £5 p.a. each (two would cover most needs). Incidentally, Service or ex-Service pilots may land a private aircraft free of charge at R.A.F. airfields so long as prior permission has been obtained. For the hangarage cost a pilot should receive considerably more free service and facilities than would be expected from a garage. Flying control, navigation and met. services are available free of charge. In addition, one's aircraft is pushed out, started up and the engine warmed and checked in answer to a preliminary telephone call.

In large cities, and in particular in London, the garaging of a high-powered car may cost as much as £1 a week, while in the country it may be as little as 5s. There is a similar though not so pronounced difference in costs for aircraft housing, hangars at main airports generally being more expensive than those on small and remote airfields. It may be mentioned in passing that landing and housing fees abroad, particularly in France, tend to be considerably lower than in this country.

The foregoing discussion is not intended to put a case for owning an aircraft instead of a car, for the two are complementary forms of transport. Rather is it intended to indicate the remarkable similarity in cost and, to some extent, performance of the two. For those fortunate enough to be in a position to consider the ownership of two cars, or for the quite large number of people who have the use of car in connection with their business, the possibility of owning a light aircraft rather than a second (sports) car is worth serious consideration. M.J.

A Trip to Cairo

MR. F. FRANCIS, who has a business at Mill Hill, London, N.W. 7, recently made a trip to Cairo and back in an *Auster* series J.4. The fuel supply was supplemented by rather an ingenious jerrycan arrangement, which has been previously employed for similar long-distance flights.

We have received a letter from Mr. Francis, concerning his trip, as follows :—

"I returned from my trip to Cairo on 12th February, and had quite an uneventful journey—the J.4 having behaved perfectly under, at many times, adverse conditions.

"The trip out took six days, and the return five ; the journey in both directions being mainly against very considerable head winds.

"Please accept my thanks for your assistance in the pump, etc., the refuelling arrangements were quite satisfactory, although inadequate on some occasions.

"If you wish, I will give you a more detailed description of the trip, giving stopping points and times at airfields, and the assistance, or otherwise, which we received *en route*."

We have accordingly asked Mr. Francis to forward us a more detailed account of his flight, and hope to publish this in due course.

Incidentally, we have a vivid recollection that Mr. Francis came very close to winning the Ragosine Trophy last year. This is the trophy awarded annually after a local navigation test. Perhaps this year Mr. Francis will keep Mr. Ewans, the one pilot who seems to like the Ragosine Trophy on his mantle-piece, out of the picture. Still, that is another subject on which we will be giving full details at the appropriate time.

ANOTHER CONTINENTAL TRIP

Since we are on the subject of flights by *Auster* from England, it is also interesting to note that Mr. G. Chandra has recently returned from a 17-day trip to France, Spain and Italy with a friend. The journey extended to Naples, but did not include Belgium or Switzerland as was originally intended. Bad weather prevented this. The aircraft was

an *Autocrat* belonging to Marshall's Flying School, Cambridge, and the flying time occupied 40 hours.

We hope to be receiving further details from Mr. Chandra in due course, which we are sure will provide very interesting reading.

AUSTER PERSONALITIES

This feature, not included in this issue, has been held over until next month. If there is an Auster Personality in *your* district, and who you think should be included in this series, please forward a photograph, with interesting details, to the Editor.

How Austers Get Around

AUSTERS HAVE REGULARLY left our Works for all parts of the world since the end of the war. Many of these have flown to their destination, but those for operation in far distant countries are partially dismantled and crated for shipment.

These photographs, recently received from Brazil, were taken when two aircraft had arrived there for Mr. Frank Miloye Milenkovich of Marilia, Est Sao Paulo.

The crates are here being discharged at Marilia station.

The next stage is to remove the dismantled aircraft from the crates ready for assembly and final rigging.

Finally, another Auster is ready for duty, some 5,000 miles away from its place of manufacture.

HONG KONG A.A.F.

REPORTS RECEIVED from Hong Kong show that the Hong Kong Auxiliary Air Force now have four Auster Mark 5 aircraft, which have been given to them by the British Government. The commander of this unit is Sq-Ldr. A. W. Wood.

Operation Rumour

H. E. WEIHMILLER, who operates an aircraft consulting service in Washington, uncovers a new problem for aircraft designers that makes run-of-the-mill supersonic objectives look easy.

"Having now gone well beyond the speed of sound, the next goal of aviation should be the production of a plane that will exceed the speed of rumours. This may not be too difficult for it is known that rumours have reached fantastic speeds propelled only by a very small amount of hot air.

"Some experts think the 'Flying Saucers' that recently aroused such fascination may have been late model rumours going places. For they had many of the same characteristics : origins unknown, shape and substance difficult to define, speeds fantastic, and no pursuer ever caught up with one."—*American Aviation Weekly*

Miscellaneous Jottings

THE AUTOCAR

MR. POCHANA SNITWONGSE, from Thailand, recently visited our Works and, after flying in the Autocar, very kindly forwarded us his reactions a few days later. He writes—

"I am certainly impressed by the performance and general utility of the Autocar, and in my opinion it is the ideal plane for the private owner. The ease of take-off, very short landing run, with good handling characteristics and manœuvrability. These qualities make it a first-class light aeroplane suitable for many purposes and all pilots."

ROCKET-RANGE SPOTTING

IN WOOMERA, SOUTH AUSTRALIA, there is a research station of the British Commonwealth Long Range Weapons Organisation. Some two years ago Woomera was just an arid stretch of desert, but now this rocket village is a self-contained locality housing some 3,000 people, in addition to laboratories, a power station, aircraft hangars and a weather station.

Before any rocket trial is made, an Auster makes a

security patrol of the range area. Then, before a missile is fired, an "all-clear" is given by each of the recording points. All movements of men and vehicles are stopped in the vicinity so that the scientific instruments can make a clear sound record of the missile in flight.

AERIAL CROWD CONTROL AT THE GRAND NATIONAL

A SURE WAY in which to get over all the fences in the Grand National, Britain's classic and most formidable steeplechasing event, is to fly over them in an Auster.

The Chief Constable of Lancashire, Sir Archibald Hordern, realises this, and he also realises that the same method can be used to get over the crowds of people who always flock to Aintree for the occasion. This year the King, Queen and Princess Elizabeth were in attendance, which made efficient traffic control even more necessary.

So, in order to ensure that everything went as smoothly as possible, a police superintendent flew over the locality in an Auster fitted with radio. He was thus able to keep a close watch on the proceedings and, as necessary, to transmit instructions to police patrol cars below, and to policemen equipped with walkie-talkie apparatus at strategic points.

SEED SOWING FROM THE AIR

AT THE END OF LAST MONTH our Chief Test Pilot, Ranald Porteous, took an Auster to Bryn Arthur, Denbighshire, N. Wales, and proceeded to sow grass seeds on the mountain slopes.

This was carried out at the invitation of Captain Rowley-Williams who has done much work in ploughing up and improving the mountain land between 1000 and 1200 feet on the western slopes of the Clwyd Range.

After the seeds had been sown, using our crop-dusting equipment, Captain Williams remarked on the even distribution of the seed—far better than could have been achieved by the painfully slow process of hand sowing. The area concerned was apparently inaccessible to ground mechanical seeding equipment. He now hopes that much more marginal land can be re-seeded, and that many thousands of acres of mountain land can be changed into fertile usefulness.

Lycoming Engines

THE FOLLOWING IS OF INTEREST to owners and operators of converted military *Auster* Mks. 4 and 5 fitted with a Lycoming 0-290-3 engine :

Auster Aircraft Ltd. now have a number of Lycoming engines, with low hours, for disposal, and furthermore, have full facilities for the major overhaul of this type of engine. In the very near future an exchange scheme will be available whereby owners and operators can take advantage of these facilities. Meanwhile, our Service Department will welcome enquiries from anyone, anywhere in the world, whose Lycoming engine is nearing its life expiry date, and a quotation for a replacement engine, or overhaul, will be gladly given by return.

THE NEW HYDRA-STATIC TWO LEADING SHOE AIRCRAFT BRAKE

THIS brake consists of two self-aligning shoes operated by two wheel cylinders spaced diametrically opposite.

Each wheel cylinder has two pistons of a different form: one having a slot at right angles to the axis of the bore, which operates the shoe when the brake is used in forward rotation, and the other with the slot inclined at an angle to the bore which forms the abutment for the other shoe in similar condition.

This inclined slot has a predetermined angle which allows the shoe to accurately align itself to the drum as well as forming the abutment. The total shoe reaction is transmitted via a shoulder on the piston to the cylinder body.

By this arrangement, two-leading shoe operation is obtained in either direction, and greater power for a given input and greater stability is obtained.

TYPICAL FIGURES

$5\frac{7}{8}'' \times 1\frac{1}{2}''$ Approximate maximum dynamic torque 2,950 lbs. inches, at 60 lbs. per sq inch lining drag. Two $\frac{5}{8}$ ins. diameter cylinders.

$7'' \times 1\frac{1}{2}''$ Approximate maximum dynamic torque 4,200 lbs. inches, at 60 lbs. per sq. inch lining drag. Two $\frac{3}{4}$ ins. diameter cylinders.

Master cylinder for use with the above brakes is a 15/32 ins. diameter x $1\frac{1}{2}$ ins. stroke design.

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