FUN WITH

Once a tourer, the machine was later to become a supercharged "racer," capable of over 100 m.p.h. solo and more than 80 m.p.h. sidecar

AT first sight one would hardly consider a touring side-valve twin as a suitable basis for a competition machine. Yet from such beginnings a machine capable of over 100 m.p.h. was produced; it even gained one or two awards in Centre events and provided enormous fun and experience.

It was on the day of the 1935 General Election that I decided, after some fascinating trial trips, to change my almost new 350 o.h.v. for a 1934 990 c.c. A.J.S. twin and sidecar. The ostensible purpose of the outfit was to take myself and a pal to work every morning, but before long I was bitten by the competition bug, and something had to be done about it. My particular ambition was short-distance speed events and my inspiration the late Eric Fernihough, whom I had seen put up so many fastest times at speed trials.

I had the advantage of working for a famous firm of research engineers and having, albeit, not always lawfully, considerable facilities at my disposal and also the advice of experienced colleagues. During 1936 I was getting the hang of the outfit and giving it a hard life on the road. At the '36 Show I seized on George Rowley and told him of certain troubles I had with the con-rod assembly of my machine. He seemed somewhat appalled at my choice of machine for speed work, but through his good offices Messrs. A.J.S. rebuilt my engine, using the crankpin, forked con-rods and pistons of a 1936 model.

New Cylinder Heads

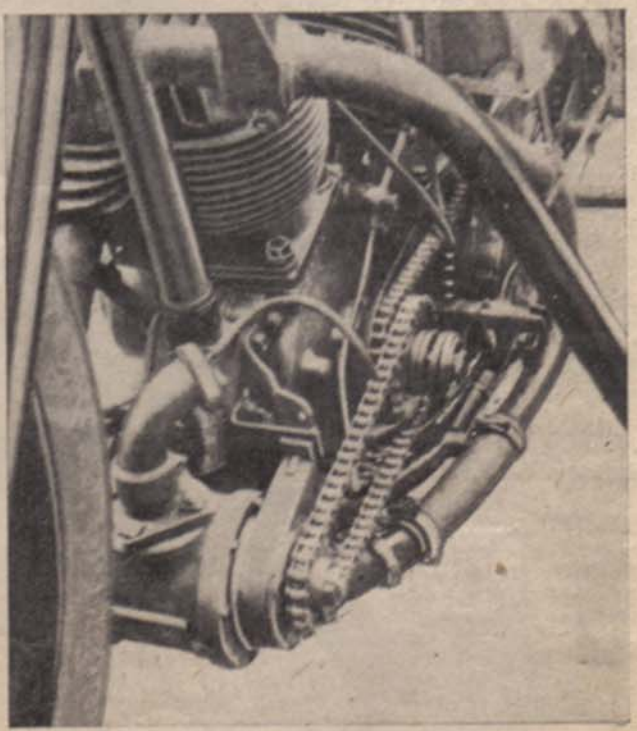
My next job was patterns for casting high-compression, alloy cylinder heads with 14 mm. plugs, replacing the cast-iron ones of compression ratio 4.8/1 and saving about 18 lb. in weight. These turbulent heads required modified pistons with flat crowns. The ports were enlarged and streamlined, inlet guides shortened, and stronger valve springs fitted. A special open exhaust system was made and a small petrol tank fitted; weight was pared off every possible place—solo it was not a lot over 300 lb., and as I weigh little over 8 stone this contributed quite a lot to its sprint capabilities; weight saving is equally as important as engine power. The sidecar body weighed under 20 lb. and could take either passenger or ballast.

During all this work the machine was on the road almost all the time, and many illicit trials were made on lonely roads in the evenings. It was entered for the first Gatwick Speed Trials of 1937, at which Eric was competing. The machine was ridden to the meeting, ready except for removing the sketchy silencer and mudguards and fitting the light brakeless front wheel. I had the advantage of a light passenger, that remarkable sprint rider Basil Keys, who consented to trust his life with me.

We had trouble-free practice runs, but I was nervous when the timed runs commenced. The first run seemed quite O.K., and during the return trip over the bumpy field I was very anxious to know what sort of a time we had put up. We were delighted to hear we had done under 17 secs., and entered the Experts category at the first shot; the actual time was 16.94 secs. for the Gatwick quarter-mile, which is 10 yards rolling start, then timed over the following 440 yards.

Why Not a Blower?

That day alone was worth all the work, especially when Eric came up and had a look round the machine and remarked: "Why not put a blower on it?" That suggestion stuck. For the next meeting a two-carburettor induction system and alcohol fuel improved the time a bit and gained an ashtray. In different trim the machine was seen in one or two local scrambles, and even a trial for a bit of a change, but going quickly for short distances was the principal object. It was ridden solo at Gatwick by my friend J. Henry, but suffered from misfiring on the front cylinder, later traced to excess oil being thrown straight on to the plug, but even so it managed to average over 60 m.p.h. In spite of the long wheel-base, it handled well as a solo and was good for over 90 m.p.h. in sports trim

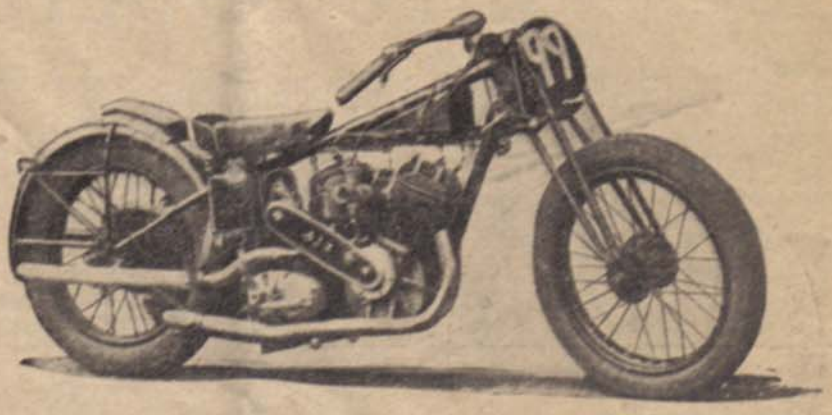


How the blower was installed. The carburettor has been removed to show the general arrangement. Note how the feed pipe, from blower to engine, is carried backwards along the bottom frame member as far as the gear box

A SIDE-VALVE

The Story of a Transformation : How a Touring 990 c.c. A.J.S. was Modified, Fitted with a Blower and Made to Top the 100 m.p.h. mark

By J. G. G. HEMPSON



Stripped, fitted with two carburettors and a small tank, the A.J.S. was good for over 90 m.p.h.

and about 85 with full touring equipment and normal riding position.

Towards the end of 1938 Eric's remarks re blower bore fruit, and a small Arnott blower was fitted. This belonged to Henry, and was really intended for a 500 c.c. machine. Due to its small size it was necessary to run it at 1½× engine speed to feed the 1,000 c.c. engine, and although

A rear view of the engine unit showing the very long, sinuous induction pipe

this meant a blower speed of 8,500-9,000 r.p.m., it never gave any trouble.

The installation was rather hasty, but functioned well from the start, apart from making a noise like a con-rod coming through the crankcase. The machine was even used blown on the road, having a fuel consumption of 15 m.p.g. on P.M.S.2—Shades of Fuel Rationing! The performance was stepped up to over 100 m.p.h. solo and over 80 m.p.h. with chair, and the engine, curiously enough, was much smoother than when unblown.

Vibration !

Previously one knew when to change gear by the vibration becoming as much as one could stand, now there was no such warning, the revs would roar up and up. J. Henry rode it at Brighton Speed Trials, both solo and sidecar, and although handicapped by a second gear which flew out of engagement on both runs, and too high a gear ratio for the short distance, we got second place in the sidecar event, a fraction of a second behind the redoubtable Francis Beart, and but for the second-gear episode, I think we should have pipped him.

Two incidents at that meeting will always be remembered. Baragwanath, who was A.C.U. Steward, would not believe we were carrying the necessary nine stone in the chair and made us unpack our carefully stowed ballast and carry it down under the Brighton Aquarium and weigh it on the penny-in-the-slot weighing machine—luckily we were 2 lb. over, so all was well and Barry even supplied the penny! The other was the violent thunder-showers which blessed the meeting; as competitors started we covered the precious engine with our coats, lest they should "sprint" water into its vitals.

At no time was there any serious mechanical trouble with the engine, but the clutch and gear box were obviously near their limit, sorely tried by numerous sprint starts and gear changing. Shortly afterwards the machine was sold and its sporting career came to an end, although it has since been rebuilt by another owner and is still doing Spartan service.

To sum up, it has all been well worth while, and when the present spot of bother is over, I hope it will have a worthy successor.

INSURANCE ON LEAVE

THE advice the R.A.C. gives members of the Forces who want insurance for a car or motor cycle when on leave is that they approach their insurance companies and obtain a special quotation to cover the leave period. The experience of the Club, it is stated, is that such a quotation is lower than any flat rate could possibly be. It is added that the charge made by the company issuing the R.A.C. motor cycle policy, to any member who, previous to joining the Forces, was insured with them, is only 7s. 6d. to 10s.