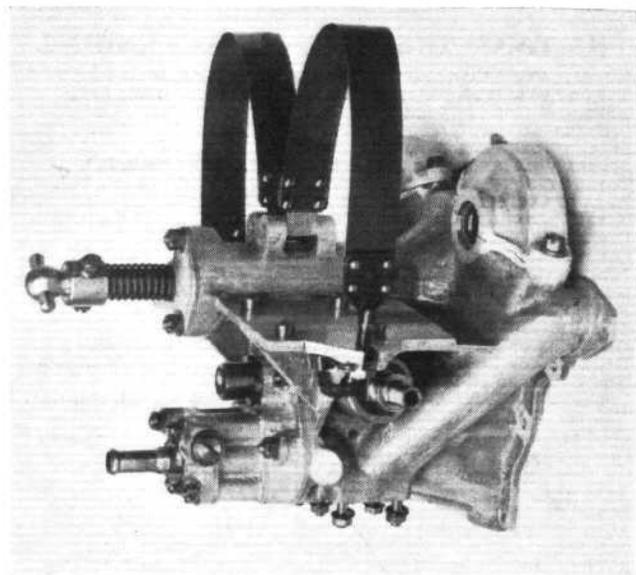


per b.h.p./hr. The second part was a final run of 1 hr. at full throttle with the r.p.m. increased to 2,100, the corrected b.h.p. then being 48.8. The oil consumption was 0.75 pt. per hr., the barometer reading 752 m., the air intake temperature 22 deg. C., and the oil pressure 55 lb. per sq. in., the oil temperature 75 deg. C. "in" and 52 deg. C. "out," the cylinder head temperature measured at the rear plug in No. 2 varying from 198 to 200 deg. C., the air speed over the cylinders being maintained from 95-100 m.p.h.

Following these five periods, which together with the preliminary power curve and throttle curve gave a running time of considerably over 50 hr., there was the slow running test, acceleration test, high speed test, high power test, the altitude control test, and a final power curve run. The slow running test consisted of a 10 min. run at 460 r.p.m., at which speed the engine was found to run perfectly evenly. The acceleration test was applied at the conclusion of the second 10 hr. period on the brake and the third 10 hr. period on the airscrew, and on each occasion the engine opened up perfectly satisfactorily. The high speed test was a 1 hr. run at 2,430 r.p.m., the b.h.p. being 41, the fuel consumption 0.61 pt. b.h.p./hr., and the oil consumption 1.25 pts. per hr. The high power test was also a run of 1 hr., but at the slightly lower r.p.m. of 2,310. The corrected b.h.p. was then found to be 53.6, with a fuel consumption of 0.625 pt. b.h.p./hr. and an oil consumption of 1.25 pt. per hr. The conditions for the final power curve were: barometer 769 m., air speed over cylinders 110-120 m.p.h., cylinder temperature 195-225 deg. C. measured at the rear plug of No. 9 cylinder. As is shown from the graph, the crankshaft r.p.m. was varied from 2,440 down to 1,600, and the corrected b.h.p. being from 56.2-37.6 throughout the whole period. The air intake temperature was steady at 17 deg. C. and the oil temperature at 75 deg. C. "in" and 50 deg. C. "out."

No part of the engine was touched during the whole of the type test excepting the sparking plugs, which were removed in order to change the thermo-couple to each cylinder at the end of each ten hour run. The carburation was perfectly satisfactory in every way, and particularly so



COMPACTNESS: The rear cover of the Salmson AD 9 engine, which carries the two magnetos together with the oil pumps. (FLIGHT Photo.)

during the acceleration tests. The behaviour of the engine was satisfactory, and it ran smoothly at all speeds both on the brake and on the torque-reaction stand. Moreover, there were no oil leaks, so that it remained perfectly clean to the end. All parts, such as the crankcase, crankshaft, master rod, wrist pins, auxiliary connecting rods, pistons, gudgeon pins, cylinder oil pump and magneto, were carefully examined when the engine was stripped down after the test, and in every case there was no sign of any cracks or flaws, nor could any appreciable wear be observed. Every part was in fact in practically new condition.

No. 39 (H.D.) Squad., R.A.F., Memorial

It has long been the desire of many of the former members of the old Squadron that a Memorial should be erected in the neighbourhood of North Weald, Essex, to those members who gave their lives for their country during the late war, and an appeal has therefore been made for donations towards the cost of the proposed Memorial. What form the Memorial will eventually take depends upon the amount of the donations received, but it is at least

hoped that it will be one worthy of the best traditions of No. 39 (H.D.) Squad., R.A.F. Cheques, money orders, etc., should be made payable to T. A. Lloyd, Esq., Hon. Secretary 39 (H.D.) Squad. Memorial Fund, c/o National Provincial Bank, Ltd., Newport, Isle of Wight, crossed, and forwarded to him at that address. Subscribers will be notified in due course when a sufficient sum has been raised as to what form the Memorial will take, date of unveiling, etc.



A GRAND NATIONAL AVIATION DASH: The Premier, Mr. Ramsay MacDonald, leaving Seaham for London in a "Moth," with a 6,000 majority in his pocket. In spite of the heavy load the machine made good progress.