

PRICES AND FITTING CHARGES

B.M.C. Series "A" Alloy Head, completely built up, valves ground in, valve springs, inlet manifold, crackle-black rocker cover, twin 1½" S.U.'s, centre exhaust port adaptor	£85 0 0
Fitting charge	£10 0 0
B.M.C. Series "B" Alloy Head completely built up with valves ground in, valve springs, inlet manifold, crackle-black alloy rocker cover and plug spanner	£73 0 0
or if supplied with two 1½" S.U. carburettors	£93 0 0
Fitting charge: According to vehicle and under-bonnet accessories already fitted.	
Series "A" High compression pistons	£7 10 0
Fitting charge (if fitted same time as conversion)	£5 0 0
Series "B" High compression pistons	£9 9 0
Fitting charge (if fitted same time as conversion)	£5 0 0

PROVING THE ALLOY HEADS

Notable racing successes of cars fitted with Alexander Alloy heads and driven by Geoff Williamson in the 1959 season:

Whit Monday, Crystal Palace, National Touring Car Race, outright **FIRST** (beating all 1300 c.c. and 1500 c.c. class)—A.40.

August Bank Holiday, Brands Hatch, National Touring Car Race, **FIRST** and **LAP RECORD**—A.40.

August 29th, Brands Hatch, International 1000 c.c. Touring Car Race, **FIRST** and **LAP RECORD**.

Coupe de Salon, Montlhery, International Grand Touring Car Race, **FIRST** 1000 c.c. class (against Works D.B.'s and Renaults)—Sprite (timed maximum speed on many laps 118 m.p.h.)

Not only does this provide very exhaustive testing, but was also a brave thing to do with a conversion in its infancy. Its first race was Brands Hatch, Easter Monday (Sprite) result: third place 1600 c.c. G.T. race, only beaten by Alfa Giulietta Sprint Veloce and M.G.A.

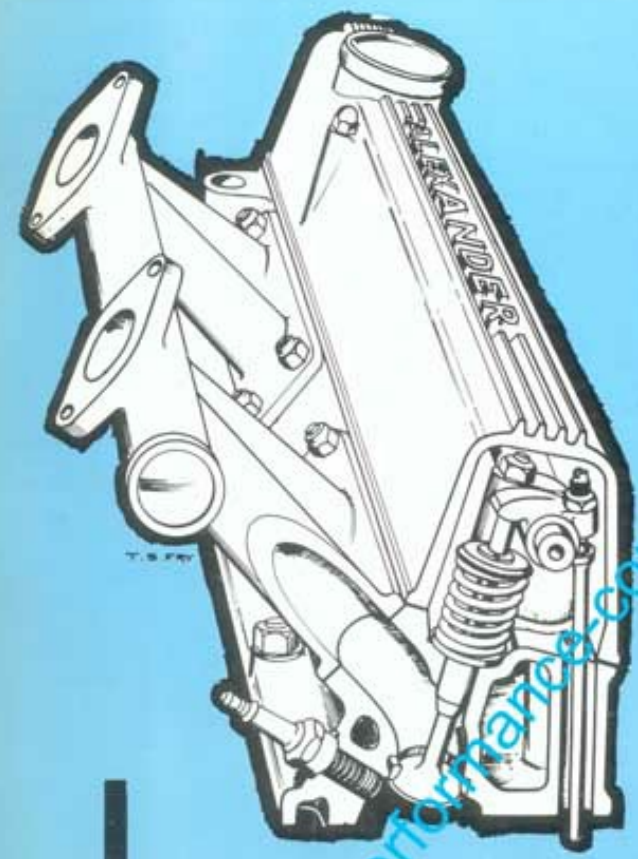
Alexander have been able to produce conversions of such power and reliability as a result of the alloy heads, that in racing specification the Alexander "A" Series engines have been unique in working and winning at over 8,000 r.p.m.

While Alexander Conversions are taken to this stage of tuning only at special request, it does indicate the reserve of strength and reliability that even a normally Alexander converted or alloy-headed engine possesses.



This is Alexander's racing A.40 driven so successfully by Geoff Williamson to prove Alexander's two recent major developments, the alloy head and added performance camshafts.

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Alloy Cylinder Heads

for B.M.C. series
A and B engines

Cylinder heads of production cars are designed as the best possible compromise for a wide variety of drivers and motoring conditions. These heads can be specially modified for added performance, but basic design shapes invariably limit the extent to which this work can go.

So to take performance improvement beyond these limitations, Alexander have produced alternative cylinder heads of completely new design.

These light, aluminium alloy, cross-flow heads for B.M.C.'s "A" and "B" series engines give much higher average speeds with considerably increased safety for overtaking, on ordinary premium grade fuel, and without detriment to consumption. Pre-production race-testing of Alexander's alloy heads have brought in one season, three international wins, several class successes, Brands Hatch class Lap Record and a demonstration of power with reliability of Alexander performance conversions under the most strenuous competition conditions.

Alloy cylinder heads for B.M.C. series A & B engines

"A" series

To suit all "A" Series B.M.C. engines in 803 c.c. and 950 c.c. forms.

Main features of this cylinder head are:

Four separate inlet ports moved to the other side of the head to avoid excessive exhaust heat; this improves volumetric efficiency and provides a crossflow head. Wedge-shaped full machined combustion chambers to provide good squish for full and part throttle operation. Compact valve gear of unusual design for higher r.p.m. to be reached without valve bounce. Larger inlet and exhaust valves—inlets by $\frac{5}{8}$ " to 1.25" and exhausts by $\frac{1}{2}$ " to 1.06". Exhaust porting, not as vital as the inlet, has been left more or less standard, but with improved flow, to enable the normal exhaust manifold and system to be retained if desired; alternatively, a three branch system may be used. Emphasis throughout has been on efficiency, and for this reason, aluminium alloy having a high thermal conductivity has been used, enabling it to run satisfactorily on ordinary premium grade fuel at 9.5:1 compression ratio.

While the basic conversion may be expensive it avoids high fitting cost of changing pistons and camshafts to obtain similar performance and retains the flexibility, silence and economy of the standard car. For enthusiasts prepared to sacrifice some refinement and economy to obtain optimum performance it is still possible to fit an alternative camshaft and flat top pistons, giving a 10.5:1 C.R. It then provides a measure of performance unrivalled by any siamesed inlet-port conversions. Careful attention has been paid to water-flow around sparking plugs, exhaust valve seats and combustion chambers. Provision has been made for fitting heater off-takes in the normal position, and for fitting of a cylinder head thermometer if required.

Table of performance—"A" series

Example Performance figures for the "A" Series Head as fitted on the Morris Minor 1000:

"Motor" Road Test

	UNCONVERTED	ALLOY HEAD
0-30 m.p.h.	6.2 secs.	5.1 secs.
0-40 "	10.5 "	7.7 "
0-50 "	16.0 "	12.5 "
0-60 "	25.9 "	15.5 "
0-70 "	—	20.5 "
0-80 "	—	35.9 "
	Max. speed 85-90 m.p.h.	

Price of the complete head with all valve gear, rocker cover, pushrods, inlet manifold etc.—£85.

"B" series

To suit "B" Series B.M.C. engines.

This new cylinder head has been developed as a partner to the new "A" Series crossflow head. The same basic principles apply of having four inlet ports on one side and on the other, three exhaust ports which line up with any standard "B" Series exhaust manifold, although a special manifold can be provided. The head is fitted with two high efficiency air-flowed inlet manifolds joined by a balance pipe which takes two $1\frac{1}{4}$ " H.4 S.U. carburettors. These carburettors are standard equipment on some "B" Series engines such as Riley and M.G., so the owner merely uses his existing carburettors when fitting the head.

This crossflow head has been tested on the new 1600 M.G.A. engine and shows a remarkable improvement of 25% at 5,000 R.P.M. with standard pistons and camshaft.

Performance of the car is greatly improved as the following table show. High compression pistons can be provided together with special camshafts for still further performance improvement.

The price of the head completely built up with valves ground in, valve springs, inlet manifold, crackle black alloy rocker cover and plug spanner is £73, or with two $1\frac{1}{4}$ " H.4 S.U. carburettors £93.

A set of high compression (9.1:1) pistons in various grades is £9 9s. 0d. per set.

Table of performance—"B" series

On a Series V Van or Morris Oxford:

	STANDARD	ALLOY HEAD
0-30 m.p.h.	8.6 secs.	5.2 secs.
0-40 "	11.3 "	7.3 "
0-50 "	19.4 "	11.4 "
0-60 "	27.7 "	15.2 "
0-70 "	44.3 "	21.8 "
0-80 "	—	32.8 "
Maximum speed	79 m.p.h.	94 m.p.h.

Acceleration from rest through gears:

	UNCONVERTED	ALEXANDER
	M.G.A. 1500 c.c.	ALLOY HEAD
0-60 m.p.h.	15.6 secs.	12.5 secs.
0-70 "	21.4 "	18.1 "
0-80 "	32.1 "	23.9 "
0-90 "	50.1 "	33.5 "
Maximum speed	94.8 m.p.h.	104 m.p.h.
	30.3 m.p.g.	27.0 m.p.g.



Alexander light-alloy cross-flow head and rocker cover for B.M.C. "A" series.

"B" series alloy head installed. Also visible, the flexible rubber mounting of the S.U. carburettors to manifold.

