



## Specialists Components Twin Cam Conversion- BL 'A' Series Engine

### Frequently Asked Questions:-

#### **1. What is it?**

By changing the cylinder head and retaining the 'A' series block, a reliable and tractable 'fast road' engine can be achieved for a relatively low outlay.

#### **2. Tell me about the cylinder head that is used.**

The head is that used on the BMW 'K' series (K100 onwards) motorcycles that were introduced in 1982 and produced until around early 2000. It is an all alloy twin cam construction and both 8v and 16v versions are useable – the conversion being the same whichever option is taken.

#### **3. What sort of power increase can be expected from the conversion?**

This depends on a number of factors but based on a standard 1275cc block expect at least 105+bhp from an 8v conversion (as shown in the pictures) and 120+ from the 16v. A good guide being that a 1000cc 'K' BMW engine in a bike produces approx 100bhp – hence a 1275cc 'A' series built "correctly" could be expected to produce:  $100/1000 = 0.1(\text{bhp/cc}) \times 1.275(\text{A series engine cc in litres}) = 127.5\text{bhp}$  – this is just a basic estimate. If ported cylinder heads and custom cams are used these figures will increase dramatically.

#### **4. What do you mean by a 'relatively low outlay'?**

This again depends on what level of power you want to ultimately achieve! Our basic conversion kit has been used on the 8v 'fast road demo' Clubman with no serious upgrades to the block or basic BMW head – all standard parts reconditioned. However our 16v 1380 'drag racer' has required some quite costly additional strengthening and development in many aspects to produce 163bhp and run to nearly 9000rpm!!

#### **5. Where can I get the 'K' heads from?**

Many thousands of these 'bikes' were produced by BMW and searches around motorcycle breakers and the internet should produce more information. Look for the K100, K1100, K1200. Expect to pay between £250-£400 (head & cams only) depending on age and condition. High mileages are not usually a problem, they are, after all, BMW 'quality'. You will need the complete head to include the camshafts, throttle bodies (including position sensor & mounting rubbers), fuel injectors (and supply rail) and the water outlet from the head. There are numerous specialists who can supply all consumables and spares for these heads via mail order.

#### **6. How much work is needed to the block?**

This is covered in our 'build guide' but it is mainly basic machining work.

#### **7. Does the head require any modification work?**

Similar answer to number '6'. This work is mainly to accommodate our conversion kit to change it to a 'dry' toothed belt drive.

#### **8. Will the head fit my 'bored' block?**

Yes, but you will still need to undertake the machining work described in the 'build guide'.

#### **9. Are any subframe modifications needed?**

No. but removal of the engine from the car is needed to undertake the work.

#### **10. Are any bodywork modifications needed?**

Not on a 'Clubman'. A small part of the bracing on the 'round nose' model bonnets needs modifying to avoid fouling the head on one corner only but fibreglass/composite bonnets will clear it ok. The 'A' series head is approx. 185mm high from the block face and 100mm wide (rocker box width) compared with the 'K' series head approx. 195mm high and 200mm wide at its widest point.



**11. What exhaust will I need?**

Our manifold has been designed so that any performance exhaust designed to fit onto a conventional LCB will fit ours also.

**12. What other parts are required?**

We suggest that you now consider purchasing our 'build guide' as you are now very keen to take matters further!

**13. Will this conversion work in other cars?**

Whilst we have not undertaken conversions in other types of vehicle too date, we can see no reason why it would not work in say an MG Midget, AH Sprite, Austin A35/A40, Austin Allegro, Austin 1300, Marina, Minor, Metro in fact anything with an 'A' series engine! We would be pleased to discuss this with you.

We believe the above covers most of the questions that you will want covered but inevitably there are some people wanting greater technical information. Our build guide should answer such questions but after studying this please contact us if you are still not sure of anything.

*Thank you for your interest, from all at Specialist Components.*

A copy of our 8v Clubman Dyno Chart 18/05/07

