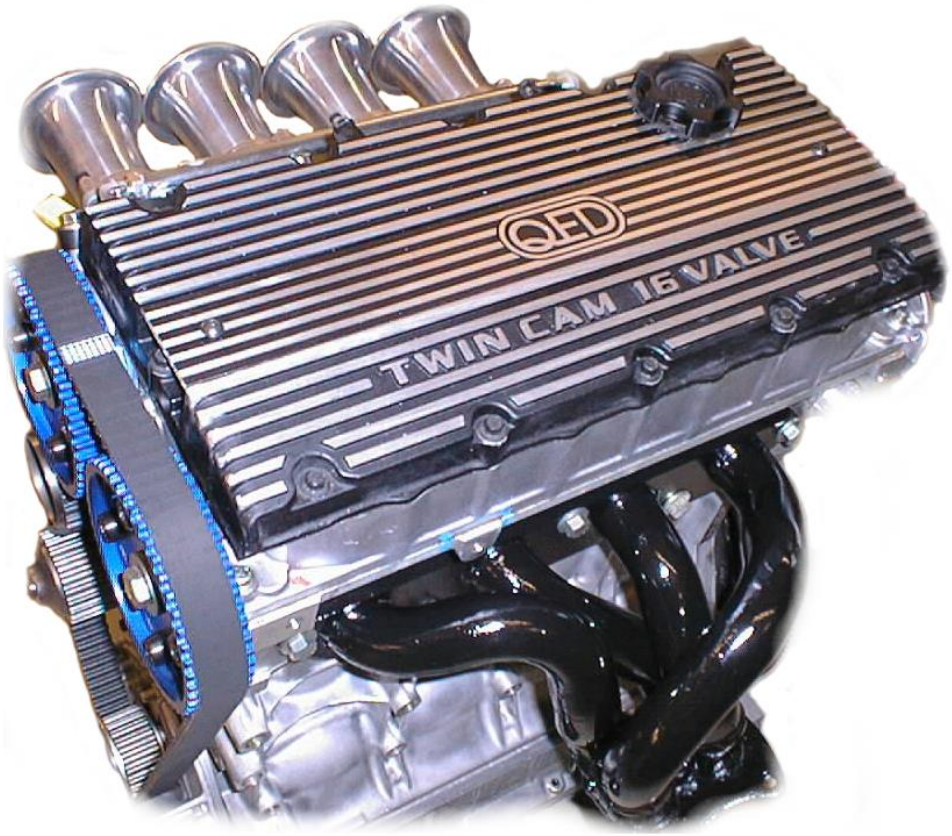
QED Motorsport Ltd
Order online: http://qedmotorsport.co.uk
Tel : +44 (0) 1509 412317 | Fax : +44 (0) 1509 416555
4 Soar Road. Quorn. Leicestershire. LE12 8BN. UK

Rover K-Series



PRODUCT CATALOGUE

FEBRUARY 2018

- All major credit and debit cards accepted –

- Worldwide parts dispatch via Royal Mail and DHL -

- Orders received before 2pm are processed same day, subject to availability -

All prices shown are in pounds sterling.
UK and EC customers who are not VAT registered must add 20% VAT
Our price list is frequently updated but please check the website for current pricing

Our range of products has been developed for professional use in motorsport applications. It is expected that anyone using our products will have experience of working on engines and will follow normal engine workshop practice. It is the responsibility of the fitter to ensure that all components are sized, assembled, and fastened correctly to perform without future failure. We accept no responsibility for damage caused either to or by our products as a result of incorrect or inappropriate assembly or fitment.

We accept payment by cash, cheque, direct bank credit transfer (details available by request), credit card (Access or Visa), or by debit card (Switch/Solo). Cheques should be made payable to 'QED MotorSport Ltd'. For credit card transactions we will require the cardholder's name and address, the card type, card number, expiry date, and start or issue date if applicable. Goods will only be dispatched to the cardholder's address except by prior arrangement and solely at our discretion.

All goods remain the sole property of QED MotorSport Ltd until full and complete payment has been made.

All of the prices herein are quoted in pounds sterling and do not include VAT. Customers within the UK will be charged VAT at the prevailing UK rate. Customers outside of the UK but within the EEC will be charged VAT at the prevailing UK rate unless the customer provides a valid VAT registration number and accepts liability for the VAT payment. Customers from outside of the EEC will not be charged VAT.

A charge will be made for packaging and delivery. Unless specifically requested choice of courier will be at our discretion.

If goods that we have supplied are no longer required and are returned to us within 14 days of receipt in an unused, undamaged condition, we will refund the value of the goods less a 10% handling charge. If an order is cancelled subsequent to it's dispatch the same handling charge will apply.

Due to the varied nature of the applications for our products customers may wish to carry out mechanical modifications. If the product is permanently altered by any such procedure then QED will be unable to refund based on full price in the unlikely event that the product is later returned.

Any other notes included herein are suggested guidelines only; if you are in any doubt about any aspect of your engine work then please consult a professional workshop.

K SERIES COMPONENTS INFORMATION

CAMSHAFTS

We offer a wide range of cams both as hydraulic and mechanical profiles and after our extensive development work can recommend the following combinations.

Q375H (HYDRAULIC)

Using a Q375HK inlet cam with a matching exhaust cam this first stage cam combination is an ideal combination for fast road or occasional track use. These cams are easily fitted without extensive engine modifications. When fitted to an engine with throttle body induction system (but otherwise standard) these cams give approx. 150* bhp before 7000 rpm. In a fully race prepared engine this cam can achieve it's full potential, delivering over 175* bhp.

Q425H (HYDRAULIC)

Using a Q425HK inlet cam with a matching exhaust cam this second stage cam combination is for more dedicated motorsport use. Although this is a hydraulic profile the 0.425" lift requires the uprated VHPD type valve springs. To fit at optimum timing these cams also require pistons with deeper valve pockets. Using a standard cylinder head, 160* bhp is achieved and in a fully race prepared engine peak power should be approximately 170-180* bhp.

Q425M/Q395M (MECHANICAL)

Using a Q425MK inlet cam with a Q395MK exhaust cam this mechanical cam combination sees considerable torque gains at mid range rpm making this cam combination very useful for rally style applications. As a mechanical profile these cams obviously require solid cam followers but also need pistons with deeper valve pockets and uprated valve springs. With a suitable cylinder head, throttle bodies, and an appropriate exhaust system these cams give in excess of 200* bhp.

Q455M/Q425M (MECHANICAL)

Using a Q455MK inlet cam with a Q425MK exhaust cam this combination is our current racing specification. Suitable for use only in fully race prepared engines where this cam can easily achieve 210* bhp and in excess of 160* ftlb of peak torque. Our development engine when fitted with these cams has produced 227* bhp.

VVC CONVERSION CAMS

The VVC in its standard form has three cams, with the two inlet cams geared together.
Competition profiles for this unusual arrangement are not yet available. Instead we offer a traditional one-piece cam as a direct replacement. Our VVC replacement cams are available as any of the motorsport profiles mentioned above.
In this way the VVC head is no longer using variable valve control and customers are free to exploit the larger valve and port sizes of the VVC head casting.

* The power figures quoted above are from dyno tests conducted by QED using the 1.8L K series

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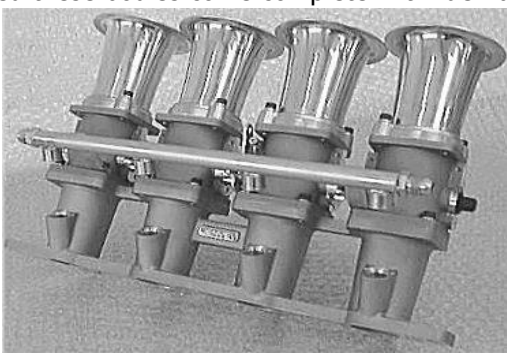
K SERIES COMPONENTS INFORMATION

THROTTLE BODY INDUCTION SYSTEMS

The standard induction system for the K series engines can become a major limiting factor when building a high performance engine.
Our preferred method of engine induction is to use throttle bodies. A well-established technology, throttle bodies have proven time and again to show a significant advantage in terns of engine breathing at high rpm. Hence why the VHPD engine comes with Rover's own design of throttle bodies as standard.

DCOE STYLE

Our first option is a set of paired, parallel, 45mm bodies, which we refer to as DCOE type. The reason for the name, is that these throttle bodies are designed to be fitted to an inlet manifold suitable for Weber DCOE carbs. Available in red, black or unpainted these bodies come complete with fuel rail and other fittings. Short or long trumpets available



TAPERED SINGLE BODIES

Our next option is a group of four single 45mm bodies that fit to a tapered inlet manifold. Designed specifically for the K series, these offer unrestricted high rpm breathing as well as maximising mid range torque. The kit includes four bodies, inlet manifold, fuel rail and fitments.

DIRECT TO HEAD

The ultimate in throttle body evolution, these bodies, as their name suggests, are designed to fit directly to the cylinder head, disposing of the need for an inlet manifold. 42mm parallel bodies offer equivalent performance to the tapered type bodies but obviously fitment is simpler, and overall weight, as well as required space is reduced. Available with short trumpets for easy fitment where available space is limited e.g. Lotus Elise.

Also Available

Aeroquip fuel lines and fittings, competition fuel pumps, injectors, and variable uprated pressure regulators.

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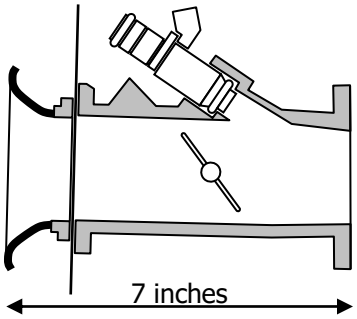
K SERIES COMPONENTS INFORMATION

DIRECT TO HEAD THROTTLE BODIES

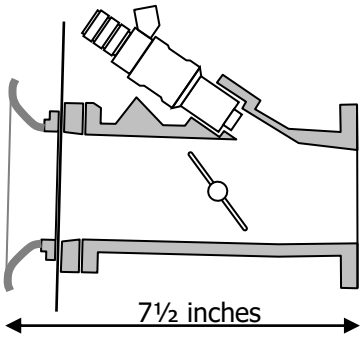
Our direct to head throttle bodies can be fitted in two different configurations to suit constraints of budget or space.

COMPACT FITMENT, 42MM BORE



This configuration was the originally intention when the throttle bodies were designed and is the most compact and lightweight system available on the market today.
As well as the inherent space saving of direct to head throttle bodies this configuration uses a more compact, 'Pico' design of injector, which allows the fuel rail to be positioned further back than would be possible with standard injectors. In this configuration the air trumpets are made from carbon fibre and with the shortest of these trumpets the fitted length from the face of the cylinder head to the ends of the trumpets is less than 7 inches
To fit throttle bodies in this configuration will require (as a minimum)
Direct to head throttle bodies, Fuel rail, Fuel pressure regulator, Weber pico injectors, Carbon fibre trumpets, Hose end finishers, Fuel rail fitment, Air filter backplate, Air filter, Throttle bracket
Typical budget for this type of fitment is £1050*, depending on the size of trumpets, the size and style of air filter, etc.

BUDGET FITMENT, 45MM BORE



It is also possible to use direct to head throttle bodies with the standard type of injectors. This obviously makes the system as a whole slightly cheaper. However because the standard injectors are longer than the Pico variety the fuel rail is now further forward and will foul on the air filter backplate.
To get around this problem a spacer is fitted between the throttle bodies and the trumpets. To further reduce the cost of this system the spacers have a tapered bore which enables the fitment of a less expensive, 45mm, alloy trumpet. When fitted with the shortest alloy trumpets available the fitted length from the face of the cylinder head to the ends of the trumpets is about 7½ inches
To fit throttle bodies in this configuration will require (as a minimum)
Direct to head throttle bodies, Fuel rail, Fuel pressure regulator, Tapered spacers and mounting studs, Alloy trumpets, Hose end finishers, Fuel rail fitment, Air filter backplate, Air filter, Throttle bracket
Typical budget for this type of fitment is £850*, depending on the size of trumpets, the size and style of air filter, etc.

* These figures are to provide a guideline for typical installations, we are always happy to quote more specifically for your individual application.

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K SERIES COMPONENTS INFORMATION

VALVES

Improving the induction system, e.g. fitting throttle bodies, can greatly increase the airflow into the engine, but beyond a certain level of engine tuning this is no longer enough. As an engine is more highly tuned, and particularly as the CR is raised, it becomes increasingly important to improve gas flow *through* the head. As well as work on the inlet and exhaust ports this also means changing the valves.

The standard K series cylinder head

The K series engine was first developed with a 1400cc capacity and very few changes have been made to the cylinder head since then, even as the engine capacity has increased to 1600/1800cc. *Mathematics suggests that if a 1400cc engine has 27.7 and 24.0mm valves that an 1800cc engine should have 31.4 and 27.2mm valves. Unfortunately as standard there isn't enough room.

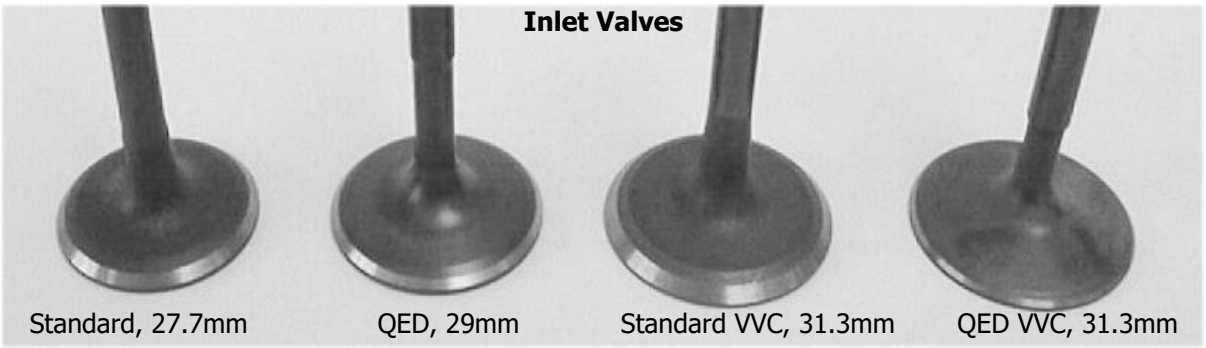
Our larger than standard (29mm inlet, 26.4mm exhaust) valves are the largest that can usefully be fitted on standard seats in front of a standard shaped port. As a result of experience, and development on our in house dyno, the QED inlet valves have the further benefit of a wasted stem. This reduces the diameter of the valve stem where it would normally interfere with the gas flow and incidentally makes the valve slightly lighter.

The VVC/VHPD K series cylinder head

There are obviously differences between these two cylinder heads but for the purposes of discussing valve sizes they are the same. In both cases Rover presumably realised that for a high performance engine they would need a different head casting and so the heads for these engines have larger port sizes and come with larger valves as standard.

Since the standard VVC sized valve is already big enough* our valves are no bigger, just a different design. As with our 29mm valves the last portion of the inlet valve stem has a reduced diameter to improve gas flow, but since these valves are larger, and with consideration of the stresses on the valve train at high rpm, we have also worked to reduce the valve weight. In the case of the inlet valves the QED valve is almost 10% lighter than the standard valve.

Inlet Valves



Standard, 27.7mm | QED, 29mm | Standard VVC, 31.3mm | QED VVC, 31.3mm

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K SERIES COMPONENTS INFORMATION

ENGINE MANAGEMENT SYSTEMS

The standard engine management system used on the K series engines is not designed for easy reprogramming, and so is of limited use for an uprated engine. For competition use we would recommend the DTAfast engine management system, and in nearly all cases for the K series engine we recommend the EXP48 ECU.

DTA COMPETITION ENGINE MANAGEMENT SYSTEMS

Our involvement with DTA management systems goes back many years and when building a motorsport engine we wouldn't think of using any other system.

The DTA ECU represents the state of the art in engine management systems. Full 3d mapping of both fuel and ignition, two stage rev limiter, shift light output, fuel pump control, transient fuel compensation (acceleration boost), closed loop fuel mapping, and a three minute data log are amongst (but not all of) the features available.

Despite the wide capabilities of the DTA ECU the control software is straightforward and simple to use. All of the settings are explained in the comprehensive manual supplied with the software.

For motorsport engines (and especially for engines that will develop with each racing season as part of an ongoing project) the DTA system is without doubt the management system of choice. Although capable of dealing with most of the sensors fitted to the K series engines as standard, the DTA systems do require their own wiring loom.

DTA 4 CYLINDER INJECTION ECU – pre-programmed to customer requirements, supplied with software and manual **£500.00**

DTA 4 CYLINDER INJECTION LOOM – standard loom, suitable for most applications **£250.00**

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K SERIES COMPONENTS INFORMATION

ENGINE CAPACITY – CRANK, PISTONS AND LINERS

The original award winning design of the 16 valve, Rover K series engine was as a 1400cc engine with 79mm stroke and 75mm bore. However the block can comfortably accommodate both larger bore and stroke size for increased capacity

To take the K series engines to 1.6 litre (1589cc) is a relatively simple procedure. The bore size needs to be increased to 80mm, but the stroke remains at 79mm (the 1.6L uses the same crank as a 1.4L). Our 1.6 kits include a set of 'damp' liners, con rods, and forged race pistons giving a higher than standard compression ratio but deeper valve pockets.

To increase engine capacity to 1.8L is a rather more involved process. Bore size is taken out to 80mm just as with the 1.6L conversion, and so to make the additional capacity a change of crank is required.

Since we only expect this level of modification when building a committed motorsport unit the 1.8L upgrade kit that we offer is comprised of race quality components. Forged 80mm pistons (with liners), Carillo type steel con rods, a steel crankshaft and a steel flywheel combine for the basis of a fully race prepared engine.

DAMP CYLINDER LINERS

A concept that seems to have caused some early confusion with the 16 valve K series engines is the idea of 'damp' liners.

Quite simply the cylinder liners in the K16 engines are neither 'wet' nor 'dry' and hence the term 'damp'. The outer diameter is stepped, dividing the liner into two sections. The upper, thicker part forms the 'wet' liner whilst the lower, thinner part of the liner is a sliding fit into the lower section of the cylinder block - the 'dry' liner.

This idea was developed by Rover engineers in 1991 for the very purpose of adapting the K series for engine capacities greater than the 1400cc allowed by the original, top hung, wet liners.

BANDED REINFORCED LINERS

The standard cylinder liners have been seen to fatigue and crack when re-used in more developed engines, obviously this a major problem. A sensible way to strengthen the engine internally is to fit our banded cylinder liners. For a lightly tuned, fast road, engine the standard liners should be adequate but as the engine is more highly tuned and especially as it's use gets more aggressive banded liners go from being highly recommended to essential.

BANDED REINFORCED LINER

80mm cylinder liner, strengthened for racing applications. (SET OF 4) £340.00

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Rover K-Series Components Listing

Camshafts and Followers

Q375HK - An hydraulic profile camshaft	501004	(each)	
Q395MK - A mechanical profile camshaft	501006	(each)	£245.00
Q425HK - An hydraulic profile camshaft	501008	(each)	£245.00
Q425MK - A mechanical profile camshaft	501010	(each)	£245.00
Q455MK - A mechanical profile camshaft	501016	(each)	£255.00
Q375HKV - An hydraulic single piece VVC inlet cam, cast billet	501003	(each)	£255.00
Q425HKV - An hydraulic single piece VVC inlet cam, cast billet	501007	(each)	£245.00
Q425MKV - A mechanical single piece VVC inlet cam, cast billet	501009	(each)	£245.00
Q455MKV - A mechanical single piece VVC inlet cam, cast billet	501015	(each)	£245.00
Cam follower, standard hydraulic, not OE	501053	(each)	£9.20
Cam follower, solid	501055	(each)	£24.00
Solid lifter insert	501056	(each)	£4.00
Top hat shims, 3-6mm			
3mm	501244	(each)	£4.20
4mm	501246	(each)	£4.20
5mm	501252	(each)	£4.20
6mm	501256	(each)	£4.20
Flat shims, 0.118" - 0.135"			
0.123" – 0.135" (order by size, eg Flat shim, 0.**123**" - 501**123**)		(from)	£5.00

Valve Train

Inlet valve, various types			
Standard OE	502001	(each)	£14.90
Standard 27.7mm not OE	502002	(each)	£9.50
QED 29mm	502003	(each)	£16.50
OE VVC 31.3mm	502004	(each)	£29.50
QED VVC 31.3mm	502004A	(each)	£18.00
Exhaust valve, various types			
Standard OE	502011	(each)	£21.00
Standard 24.0mm not OE	502012	(each)	£13.50
QED 26.4mm	502013	(each)	£16.50
VVC 27.4mm	502014	(each)	£21.00
QED 27.4mm	502014A	(each)	£18.00
Valve guide, Colsibro	502020	(each)	£7.00
Valve spring, heavy duty			
Heavy Duty	502033	(each)	£8.25
Valve collet	502048	(each)	£1.20
Valve springs, race, double	502035	(set)	£181.00

Cylinder Head Components

VVC blanking kit	503030	(each)	£133.00
Head bolt, OE/Not OE			
OE	503060	(each)	£6.25
Not OE	503061	(each)	£5.75
Head/Exhaust manifold stud	503066	(each)	£1.80
Head/Exhaust manifold nut	503067	(each)	£1.85
Thermostat 82Â°/78Â°			
82Â°	503080	(each)	£16.15
78Â°	503081	(each)	£16.15

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Belt Train

Crank Pulley, Toothed	509009	piece	£37.75
Vernier cam pulleys	509006	(pair)	£205.00
Cam belt, standard, various types			
Auto tensioning (OE)	509010	(each)	£25.75
Not auto tensioning (OE)	509010A	(each)	£46.25
Not OE	509011	(each)	£20.85
Cam belt, heavy duty, for steel/plastic tensioner			
Steel Tensioner	509012A	(each)	£47.50
Plastic Tensioner	509013	(each)	£47.50
Cam belt, OE, VVC front/rear			
Front	509014	(each)	£46.75
Rear	509015	(each)	£31.38
Tensioner roller, steel/plastic			
Steel	509020	(each)	£38.00
Plastic	509021	(each)	£26.50
Timing Disc	109004	(each)	£6.00

Cylinder Block Components

Main bearing, plain, OE			
Red	504011R	(each)	£7.80
Green	504011G	(each)	£7.80
Blue	504011B	(each)	£7.80
Main bearings, standard, not OE	504012	(set)	£35.00
Main bearing, grooved, OE			
Red	504013R	(each)	£7.80
Green	504013G	(each)	£7.80
Blue	504013B	(each)	£7.80
Thrust washer, standard, OE	504016	(each)	£6.50
Water pump, OE	504040	(each)	£47.50
Block to gearbox dowel	504057	(each)	£2.60

Pistons

Forged pistons, Omega, 80mm, 11.2:1, VHPD	505011	(each)	£106.25
Forged pistons, Accralite, various types			
80mm (11.3:1)	505010A	(each)	£106.25
80mm (12:1)	505012	(each)	£106.25
Forged pistons, Accralite, 9:1 compression (for supercharged/turbo engines)	505020	(each)	£131.25
Piston rings, Accralite, 80mm, various types			
XG-Z Pistons (1.0/1.0/2.0mm)	505201	(per piston)	£22.50
XD-S Pistons (1.0/1.2/2.0mm)	505202	(per piston)	£22.50
Low Compression Pistons (1.5/1.5/2.0mm)	505203	(per piston)	£22.50
Gudgeon pin circlip for forged pistons	505150	(each)	£2.00
Cylinder liners, standard, 1600cc/1800cc	505301	(each)	£40.00
Cylinder liners, QED banded, 1600cc/1800cc	505305	(each)	£65.00
Piston rings, standard, non OE	505205	(engine set)	£99.50
Piston rings, Omega, 80mm (1.0/1.0/2.0mm)	505208	(per piston)	£22.50

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Rover K-Series Components Listing

Crankshafts

Crankshaft, standard/steel			
Standard	506001	(each)	£650.00
Steel	506003	(each)	£1,300.00
Crankshaft to flywheel dowel	506009	(each)	£7.75
Crank poly vee pulley, small diameter, race			
Crank pulley bolt	506024	(each)	£9.25
Crank pulley washer	506025	(each)	£5.25
Spigot bearing bush, to take Ford gearbox	506083	(each)	£12.00
Crank spigot bearing for Ford gearbox	106080	(each	£6.00

Con Rods

Con rods, forged steel, 1800cc	506032	(set)	£625.00
Con rods, forged steel, for use with turbo / supercharge pistons	506034	(set)	£720.00
Con rod bolt, standard, OE	506050	(each)	£3.55
End bearings, standard, 1800cc, not OE	506042	(set)	£26.50
End bearings, heavy duty (VP2), 1800cc			
VP2	506044	(set)	£135.00
VP2 (0.25mm undersize)	506045	(set)	£98.00
Con rod bolt, for steel rods	106051	(each)	£10.25

Flywheels

1.4/1.6/Caterham Ultralight Flywheel, various types			
Suits 184mm Clutch	507013	(each)	£240.00
Suits 140mm Clutch (no ring gear)	507018	(each)	£225.00
1.8 Ultralight Flywheel, various types			
For 184mm clutch (no ring gear)	507014	(each)	£225.00
For 140mm clutch (no ring gear)	507019	(each)	£225.00
For 184mm clutch (integrated ring gear)	507014a	(each)	£265.00
1.8 Lightweight Flywheel, 3.7kg, Standard Clutch	507017	(each)	£225.00
1.4/1.6/Caterham Lightweight Flywheel	507015	(each)	£225.00
Flywheel bolt, standard/heavy duty			
Standard	507030	(each)	£2.05
Heavy duty (ARP)	507035	(each)	£8.75
Clutch to flywheel bolt, standard/early/1.8			
Standard (M7 E-Torx)	507031	(each)	£1.25
Early (M7 Hex)	507032	(each)	£1.25
1.8 (M8 Hex)	507033	(each)	£1.25
Flywheel/clutch bolts, for twin plate clutch	207032	(set)	£5.00

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Clutches

Clutch plate, for 1.4 flywheel, 1"x23T (Ford/Caterham), heavy duty, organic, Helix	508001	(each)	£71.63
Clutch plate, for 1.4 flywheel, Rover spline, heavy duty, organic, Helix	508002	(each)	£91.95
Clutch plate, for 1.8 flywheel, Rover spline, heavy duty, organic, Helix	508004	(each)	£96.26
1.8 Clutch kit, heavy duty organic, Helix	508010	(each)	£256.17
Clutch cover, Heavy Duty, 1.4/1.8, Helix			
1.4 Ford/Caterham Heavy Duty	508011	(each)	£149.24
1.4 Rover Heavy Duty	508011A	(each)	£138.93
1.8 Elise (PG1) Heavy Duty	508012	(each)	£176.83
5 1/2" (140mm) Twin Plate Clutch Assembly, Helix	508020	(each)	£489.61
Clutch Plate, Sintered, 5 1/2 (140mm), 1"x23T	508025	(each)	£71.35
Clutch release bearing, for 5 1/2" clutch	508030	(each)	£24.43
Spacer, for 5 1/2" clutch release bearing (when fitted to Elise)	508031	(each)	£13.75
Clutch plate, 7.25" (184mm), 7/8"x20T	108015	(each)	£72.73
Sintered clutch plate, for 7.25" (184mm) twin plate assembly, 1	108016	(each)	£72.73
Clutch Plate, Sintered, 7 1/4 (184mm), PG1	508015	(each)	£72.73
Spacer, for 7 1/4" clutch release bearing (when fitted to Elise)	508032	(each)	£11.75
Elise 4 paddle sprung plate	508008	(each)	£181.30
Twin plate clutch assembly, 7 1/4" (184mm)			
For sintered plates	108030	(each)	£401.82
For cerametallic plates	108030a	(each)	£485.16
Single plate assembly, 7 1/4" (184mm), lug drive, Helix			
For sintered plates	108032	(each)	£313.50
For cerametallic plates	108032a	(each)	£330.00

Lubrication

Oil filter, standard/Elise fitment			
Standard fitment	510001	(each)	£5.25
Elise OE	510003	(each)	£8.20
MGF type dry sump system	510041	(each)	£895.00
Oil pump, OE	510114	(each)	£72.50
Dry sump system, Elise	510200	(each)	£1,195.00
Dry sump system, Elise, including tanks	510201	(each)	£1,650.00
Windage plate	510205	(each)	£47.00
Power steering / dry sump tensioner	510199	(each)	£84.96

Gaskets

Head gasket set, with/without heavy duty head gasket			
Without head gasket	511002	(set)	£45.00
Includes heavy duty head gasket	511003	(set)	£85.00
Head gasket, heavy duty	511006	(each)	£47.50
Bottom gasket set	511010	(set)	£35.00
Cam cover gasket	511015	(each)	£14.75
Cam seal, front/rear			
Front	511021F	(each)	£4.95
Rear	511021R	(each)	£4.95
Oil pump gasket	511028	(each)	£5.00
Oil filter housing gasket	511028A	(each)	£2.50
Front/Rear oil seal			
Front	511031	(each)	£20.30
Rear	511033	(each)	£18.75
Valve stem seal	511041	(each)	£2.00
Elise down pipe gasket	511100	(each)	£4.20
Elise down pipe/cat gasket	511101	(each)	£1.20
Thermostat Seal	511025	(each)	£2.70
Manifold gasket set, all varients	511018	(each)	£13.50

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Rover K-Series Components Listing

Ignition

Plug leads, Magnecor, for GM twin coil pack, standard/VVC			
Standard head	513018	(set)	£66.00
VVC head	513020	(set)	£70.00
Spigot rotor arm	514025	(each)	£36.00
Sagem/Valeo twin coil mounting bracket	514111	(each)	£25.00
Twin coil unit	214111	(each)	£78.50
Spark plug, various types			
Standard	213001	(each)	£4.00
Fast road	213002	(each)	£4.50

Engine Management

DTA full engine wiring loom			
Coil pack type	514083	(each)	£265.00
Distributor type	514084	(each)	£265.00
Elise 111S	514085	(each)	£265.00
Crank speed pick up sensor, OE/Not OE			
OE (JPT Connector)	514120	(each)	£75.52
Not OE (Oval Connector)	514120A	(each)	£24.95
Not OE (JPT Connector)	514120B	(each)	£24.95
DTA S40, full engine management ECU	214021	(each)	£495.00
Air temperature sensor	214116	(each)	£17.50
Throttle position sensor	214119	(each)	£52.50
Comms lead, DTA	214109	(each)	£45.00

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Rover K-Series Components Listing

Fuel Injection

Air trumpets, alloy, 42mm x 90mm	514144	(each)	£26.00
Weber 'Pico 480' injector	214154A	(each)	£89.00
High pressure rubber fuel line, 5/16	214173	(metre)	£14.00
Hose end finishers, - 6 / - 4	214174	(each)	£4.75
Fuel rail fitment - 6, various types			
Straight	214205	(each)	£6.50
45Â° angle	214206	(each)	£17.05
90Â° angle	214207	(each)	£16.50
Jenvey throttle bodies, to fit DCOE manifold, 45mm	214136	(pair)	£405.00
Throttle bodies, 42mm/45mm, Jenvey direct to head			
42mm	514131	(pair)	£525.00
45mm	514132	(pair)	£525.00
Air trumpets, carbon fibre, 42mm x 50/100mm			
42x50mm	514141	(each)	£51.00
42x60mm	514143	(each)	£51.00
42x100mm	514142	(each)	£58.00
Tapered spacer, fits 45mm trumpets to 42mm bodies	514146	(each)	£22.50
Tapered spacer mounting studs	514147	(each)	£0.75
Throttle bracket, for DTH throttle bodies, various types			
Not suitable for VVC head	514187	(each)	£12.50
Elise fitment	514189	(each)	£24.95
Spacer for use with DTH throttle cable/linkage bracket	514188	(each)	£0.50
Injector, race, Bosch 803 (381cc @ 3bar)	214152	(each)	£106.00
Injector, pico 330, Weber	214154	(each)	£75.00
Fuel pump, Bosch	214164	(each)	£85.00
Fuel line clip	112070	(each)	£0.36
Injector, competition, Weber	214153	(each)	£75.00
Aeroquip fuel line, - 6 / - 4			
- 6	214070	(metre)	£15.00
- 4	214071	(metre)	£15.00
Throttle cable kit, QED/Jenvey bodies, single/double cable			
Single cable	214181	(each)	£92.00
Double cable	214182	(each)	£130.00
Mounting bracket, O/H cable, engine end	214187	(each)	£17.00
Mounting bracket, U/S cable, engine end	214188	(each)	£17.00
Mounting bracket, U/S cable, intake end	214189	(each)	£17.00
Swirl / Collector Pot	214177	(each)	£145.00
Fuel pressure regulator, various types			
Fast road (8mm push on)	214115	(each)	£78.13
Fast road (-6 fittings)	214115A	(each)	£84.25
Race (8mm push on)	214115B	(each)	£95.26
Race (-6 fittings)	214115C	(each)	£98.66

Filters and Backplates

ITG filter backplate, for various QED/Jenvey throttle bodies			
Jenvey individual throttle bodies	517020	(each)	£38.00
QED/Jenvey direct fitment throttle bodies	517021	(each)	£26.00
QED/Jenvey D2H bodies Caterham	517022	(each)	£26.00
Air filter, single piece, standard type, 65-160mm deep			
65mm deep	910002	(each)	£75.00
100mm deep	910003	(each)	£75.00
120mm deep	910004	(each)	£75.00
140mm deep	910005	(each)	£80.00
160mm deep	910006	(each)	£85.00
Air filter, single piece, sausage type, 65-160mm deep			
65mm deep	910010	(each)	£97.00
100mm deep	910011	(each)	£97.00
120mm deep	910012	(each)	£97.00
140mm deep	910013	(each)	£102.00
160mm deep	910014	(each)	£107.00

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Rover K-Series Components Listing

Alternator

Alternator belt, standard			
Standard	512015	(each)	£6.48
For small pulley & small alternator	512012	(each)	£8.50
For small pulley & standard alternator	512013	(each)	£11.50
For standard pulley & small alternator	512014	(each)	£9.50

Misc

QED Remote Thermostat Housing			
75Â°, 22mm (Elise)	520201/75/22	(each)	£131.00
82Â°, 22mm (Elise)	520201/82/22	(each)	£131.00
88Â°, 22mm (Elise)	520201/88/22	(each)	£131.00
75Â°, 16mm (Caterham)	520201/75/16	(each)	£131.00
82Â°, 16mm (Caterham)	520201/82/16	(each)	£131.00
88Â°, 16mm (Caterham)	520201/88/16	(each)	£131.00
Elise oil cooler kit	520260	(each)	£222.50
Oil to water heat exchanger	520250	(each)	£208.00
Coaxial clutch cylinder	218020	(each)	£101.95
Coaxial release bearing	218022	(each)	£27.50
Coaxial adaptor, Sierra 5 speed	218025	(each)	£59.50
Grey engine paint, tin	710002	(250ml)	£8.00
Engine preservative, pumpasol	710011	(130ml)	£3.00
Engine flush	710012	(300ml)	£4.00
Crackle/Wrinkle finish paint, VHT, black, aerosol	710001	(400ml)	£8.45
Millers Rad Hib Extracool	702103	(1L)	£21.50
Blue hylomar	710013	(each)	£3.50

Elise Exhaust

Silencer, stainless steel	520042	(each)	£455.00
Lambda boss	220060	(each)	£7.60
Lambda plug	200061	(each)	£7.60

Specials

Fast road / trackday kit - 175BHP			
Fast road/trackday kit		(each)	£2,100.00
Fast road/trackday kit (distributorless)		(each)	£2,045.00
Club motorsport kit - 205BHP	ks	(each)	£4,450.00
Throttle Body Kit	ks	(each)	£1,650.00

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K SERIES ENGINE UPGRADE KITS

FAST ROAD / TRACKDAY KIT – 175 BHP

This is our basic upgrade kit for the standard K series engines, and an engine fitted with this kit should produce 175* bhp at around 7000 rpm with peak torque in excess of 140* ftlb from 5000 to 6000 rpm.

To achieve this level of performance the kit uses our direct to head throttle bodies to replace the standard induction system, our Q375HK profile camshafts to replace the standard items, and also involves changing the engine management system. The result is an engine that delivers dramatically improved performance without an unreasonable loss of road manners.

The 175 bhp kit includes –

- Q375HK profile camshafts (with cam seals)
- QED direct to head throttle bodies (with throttle position sensor)
- Tapered spacers to allow the re-use of existing injectors (with extended studs)
- 40mm long aluminium air trumpets
- DTA full engine management ECU (with engine bay wiring loom)
- Variable fuel pressure regulator (pre-set)
- Fuel rail, with injector clips, –6 Aeroquip fittings and hose
- Single throttle cable kit with bracket and spacers

£2100.00

DISTRIBUTORLESS OPTION

The fast road/trackday kit can also be supplied with a distributorless ignition system, taking full advantage of the capabilities of the DTA engine management package.

With this option there is an improvement in the spark energy delivered to ignite the air/fuel charge and it is therefore recommended for engines that are going to be consistently used at high rpm.

£2045.00

*The power figures quoted above are from dyno tests conducted by QED using the 1.8L K series

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K SERIES ENGINE UPGRADE KITS

CLUB MOTORSPORT KIT – 205 BHP

This kit is intended purely for motorsport use. A standard K series engine, when fitted with this kit, should produce 205* bhp at around 8000 rpm with peak torque of up to 150* ftlb from 5000 to 6000 rpm.

The 205 bhp kit uses our direct to head throttle bodies to replace the standard induction system, our Q425MK (inlet) and Q395MK (exhaust) profile camshafts to replace the standard items, and also involves changing the engine management system. Because of the more aggressive cam profile it is also necessary to upgrade the valve springs and to fit pistons with deeper valve pockets. Included as a part of the kit is a certain amount of porting work to be carried out on your existing cylinder head. Rods are also re-bushed to accommodate the new pistons, again on your own components.

The 205bhp kit includes –

- Q425MK profile inlet cam and Q395MK profile exhaust cam (with cam seals)
- Cam follower inserts to convert the existing hydraulic followers into solid followers
- Uprated valve springs to accommodate the higher rate of valve acceleration
- Forged pistons with deeper than standard valve pockets
- Vernier cam pulleys for more accurate cam timing
- QED direct to head throttle bodies (fitted with throttle position sensor)
- Pico injectors for a higher fuel flow and more compact fitment
- 50mm long carbon fibre air trumpets
- DTA full engine management ECU (with engine bay wiring loom)
- Crank speed sensor
- Valeo twin coil unit, for distributorless wasted spark ignition (with mounting bracket)
- Magnicor spark plug leads
- Variable fuel pressure regulator (pre-set)
- Fuel rail, with injector clips, –6 Aeroquip fittings and hose
- Single throttle cable kit with bracket and spacers
- Oversized inlet and exhaust valves
- Porting work to your cylinder head

£4100.00

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Lubrication

As well as the engine upgrades that improve performance it is also important, when building a high performance engine, to consider any potential weaknesses or areas where the newly improved performance will be exceeding the limits of the original engine design.

To create an engine that will hold together as well as giving improved power output there are a few upgrades that we recommend for the oil system.

Steel oil pump inner gear £NLA

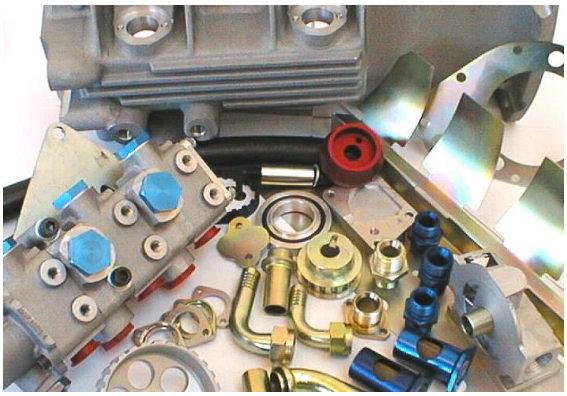
The standard gears, which are mass-produced in a sintered material, have been seen to fatigue and eventually break up when subjected to the greater speed and vibration encountered in a race engine.
Our gears, which are formed by spark erosion from heat-treated carbon steel, are a sensible precaution even for a lightly modified K series engine if it will be used aggressively. For a race engine they are an essential.

Dry Sump System £1195.00

The K series engine is found in a wide range of vehicles and so our dry sump system has been developed to be adaptable for almost any installation. We supply the system as a kit, including…

Our three stage pump

- Compact design - fits close to the engine (essential for the Lotus Elise)
- Twin scavenge stages creates sump vacuum very effectively
- Single pressure stage - a race worthy replacement for the standard pump
- Multiple choice of port position enabling use in a wide range of installations
- Adjustable pressure relief valve for different levels of engine tune and application



Sump pan and baffle

Again developed exclusively our cast dry sump pan, fitted with an efficient windage plate, can be adapted for any application and is particularly suited for the Lotus Elise. A further sump pan especially for Sevens, single seaters, etc is also in development.

... and of course, hoses, mounting brackets, etc

In response to public demand we can also supply our windage plate as an individual component, for fitment to a standard wet sump.

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Cooling

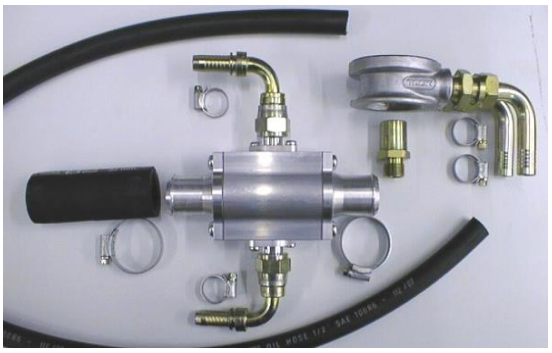
The more power that an engine produces the more waste heat it will also generate. In some applications this is easily dealt with but in most cases some additional modifications are required

Top hose thermostat holder £125.00

The K series engines have the thermostat mounted in the flow of the coolant as it enters the engine, as opposed to the more traditional positioning in the flow of coolant leaving the engine.
With the thermostat positioned on the inlet side of the coolant flow the engine will tend to heat up quickly and maintain a fairly high running temperature.
This happens because as the thermostat opens low temperature coolant from the radiator runs through the thermostat cooling it, and causing it to close. In this way the thermostat is reacting as much to the temperature of the radiator as it is to the temperature of the engine.
Removing the original thermostat, and fitting our thermostat holder in the top hose, relocates the thermostat into the flow of high temperature coolant coming from the engine. This means that the thermostat, and thus the flow of coolant, is being controlled in response to engine temperature, as it should be.
Our thermostat holder is available with a range of pre-fitted thermostats to give opening temperatures more suited for competition use.

Oil cooling – For the Lotus Elise £222.50

With the more highly tuned Lotus Elises we have seen the potential for problems with engine oil overheating. To overcome this problem we have developed a compact, lightweight, oil cooler system for racing applications.
A more traditional oil-to-air heat exchanger mounted in the front of the car is not really practical because of the need for oil lines running the length of the car, potentially causing a loss of oil pressure. Instead we offer an oil-to-water heat exchanger mounted in the engine bay. As well as being a relatively simple fitment the oil-to-water heat exchanger makes use of the waste heat from the oil for rapid engine warm up.



A sandwich plate is fitted to divert oil flow from the filter to a laminar flow heat exchanger. The heat exchanger itself locates neatly inline with the return hose from the radiator.

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