One of the most popular modifications to the Sprite and Midget range has been the fitting of uprated shock absorbers, especially to the front where they have great effect controlling the road undulations. It is essential for good roadholding that the shock absorbers are in good condition, you might note that they are also the top wishbone, so wear here can really upset your handling. We offer a choice of new units with a competition valve, reconditioned exchange units or, we can supply a new competition valve to uprate your own units.

The recon’ units are a budget solution and due to the age of the components will be unlikely to last as long as new ones. We also stock shock absorber fluids for those who wish to tinker with damping rates. Please note that an exchange shock absorber will be subject to a surcharge, which will be refunded when the old unit is returned to us. Note: Units sold individually, but should only be fitted in axle pairs.

**Uprated Front Lever Shock Absorbers**

New RH (Each) TMG30905RN
New LH (Each) TMG30905LN
(01) Reconditioned RH (Each) TMG30905R
Reconditioned LH (Each) TMG30905L
Competition Valve (2 Req’d) TMG30915

Penrite Shock Oil;
No.1 Light 500ml GGL9038X
No.2 Heavy 500ml GGL9039X

**Gaz Front Telescopic/Adjustable Shocks**

These units can only be used when the lever arm shock absorbers have already been replaced with a telescopic conversion. Gaz shock absorbers come with a 3 year warranty, and are specifically designed for fast road/sport applications. Features include: on-car adjustment, double lip piston seals and zinc plated bodies. These advanced adjustable dampers are supplied individually but should be fitted in balanced pairs.

(02) Sprite & Midget (Each) TMK30908G

**Front Shock Absorber Telescopic Conversion**

Our renowned telescopic shock absorber conversion, replaces the old lever shock absorber with a fixed wishbone. This conversion offers the ultimate in damping along with adjustability and reliability for fast road/sport use. However for competition use many regulations do not allow this conversion.

AVO Telescopic Conversion Kit;
(03) Sprite/Midget TMK30908

**Replacement Gaz Shock Absorber.**

Use these units if you have already fitted one of our Sprite/Midget telescopic conversion kits, but wish to replace the Avo units with a Gaz damper.

Sprite/Midget TMK30908G

**Front Road Springs**

The Sprite and Midget range will benefit from an increase in front spring rate and, from lowering. The Frogeye Sprite is a little lighter at the front and will sit slightly higher on the springs listed below than the other models.

We can supply an uprated spring for fast road use at approximately standard ride height, an uprated rally spring with an increase in ride height by 24mm and, a uprated road/competition spring with a reduction in ride height of 20mm. These measurements are based on the same car weight and can vary from car to car, especially on competition vehicles. The ride height can be adjusted up in increments of 5mm using 3mm spacer rings, or lowered using the lowering spacer set which can lower the car 12mm.

Front Road Springs;
Fast Road 340lbs/inch (2 Req’d) TMG40901
Rally 400lbs/inch (2 Req’d) MG40906
(04) Road/Competition 400lbs/inch (2 Req’d) TMG40906

Spring Spacer Rings;
Max 2 Per Side (Each) MG40904
Front Spacer Kit (Each) AJ J 3322
**Rear Leaf Spring**

**½ Elliptic, Sprite I, II & Midget I.**
These models are fitted with ½ elliptic rear springs - quite unlike the semi-elliptic units on the later disc brake cars. We supply heavy duty replacement springs as the original factory units are no longer available.

Rear Spring (Must Be Fitted In Pairs);
(05) Standard (Upated Original) AHA5468

**Rear Leaf Spring**

**Semi-Elliptic, Sprite III & Midget II.**
These models were fitted with the semi-elliptic full length rear spring suspension, we can offer 1” lowered springs to reduce the tendency for the car to oversteer and to help level the car when lowered front springs have been fitted. For the competition enthusiast we can supply a lowered and reversed rear spring dropping the car 2” although these cars are usually lighter than standard, reducing this effect. All new rear springs are supplied with a new standard front eye bush.

A much tighter feel for the handling can be achieved by replacing the standard suspension bushes with either polyurethane or nylatron. Nylatron has been used on competition cars for many years, it is hard and unforgiving, whereas the modern polyurethane bush has a softer edge and is more easily installed.

Road cars can benefit greatly from polyurethane bushes without the harsh ride associated with nylatron. The fitting of nylatron bushes is best left to someone with engineering experience.

Rear Spring (Must Be Fitted In Pairs);
(06) Road/Sport Lowered 1” MG40820
      Competition Lowered 2” MGS40821

**Note:** When carrying out any suspension modifications, it is vital to ensure that all other components are in good working order to handle the increased cornering speeds and to maximise the benefit of any modification.

**Rear Spring Lowering Kit**

**Sprite III & Midget II.**
Lower your car car with our lowering block kit. it fits between the spring and axle effectively lowering the car by 1 ½”.

(07) Lowering Block Kit (Car Set) TMG30920

**Rear Uprated Lever Shock Absorbers**
We supply reconditioned/uprated rear shock absorbers on exchange basis, although these can prove to be a little stiff for road use. We also stock shock absorber fluids for those who wish to tinker with damping rates.

Please note that an exchange shock absorber will be subject to a surcharge, which will be refunded when the old unit is returned to us. Note: Units are sold individually, but, should only be fitted in axle pairs.

Upated Shock Absorber;
New RH TMG30914RN
New LH TMG30914LN
(08) Reconditioned RH TMG30914R
      Reconditioned LH TMG30914L
      Competition Valve (2 Req) AH7218

**Rear Shock Absorber Telescopic Conversion**

Our renowned Spax adjustable telescopic shock absorber conversion replaces the lever unit and, with its inclined fit, it helps locate the rear axle. This conversion offers the ultimate in damping along with adjustability and reliability for fast road/sport use.

However for competition use many regulations do not allow this conversion.

Telescopic Spax Conversion Kit;
(09) Sprite I, II & Midget I SPCK5
      Sprite III & Midget II SPCK6
Gaz Rear Telescopic/Adjustable Replacement Shock Absorber

These units can only be used when the lever arm shock absorbers have already been replaced with a telescopic conversion. Gaz shock absorbers come with a 3 year warranty, and are specifically designed for fast road/sport applications. Features include, on-car adjustment, double lip piston seals and zinc plated bodies. These advanced adjustable dampers are supplied individually but should be fitted in balanced pairs.

Gaz Rear Telescopic Shock Absorbers;

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprite I, II &amp; Midget I (Each) (With quarter elliptic rear springs)</td>
<td>TM G30918</td>
</tr>
<tr>
<td>Sprite/Midget 1964-74 (Each) (With semi-elliptic rear springs)</td>
<td>TM G30916</td>
</tr>
<tr>
<td>Sprite/Midget 1975 On (Each) (With semi-elliptic rear springs)</td>
<td>TM G30917</td>
</tr>
</tbody>
</table>

Rear Suspension Bushes

**Sprite III & Midget II.**
A much tighter feel for the handling can be achieved by replacing the standard suspension bushes with either polyurethane or nylatron. Nylatron has been used on competition cars for many years, it is slightly harder than the modern polyurethane bush which has a softer edge and is more easily installed. The fitting of nylatron bushes is best left to someone with engineering experience.

Polyurethane Bushes;

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear Shackle (8 Req'd) Spring Locating Pad (4 Req'd)</td>
<td>AHA7182P ACA5138P</td>
</tr>
</tbody>
</table>

Nylatron Bushes;

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear Shackle (8 Req'd) Front Eye Half Bush (4 Req'd)</td>
<td>TT30765 TM G30967</td>
</tr>
</tbody>
</table>

An Introduction To Anti-Tramp Bars

The use of anti tramp bars is highly recommended for cars which have more than standard power available. They are fitted between the rear spring front eye bushes and the centre spring mountings on the axle by special brackets which are supplied as part of the conversion. When power is applied suddenly, usually from a standing start, the rear leaf springs tend to wind up into an ‘S’ shape, and then revert to normal in a series of hops, referred to as tramping. Anti tramp bars restrict flexing of the front half of the leaf spring when under extreme loadings, by allowing only vertical movement of the axle; thus deprived of its natural twisting motion the axle can no longer tramp.

Rear Anti-Tramp Bars

**Sprite III & Midget II.**
They can be used in conjunction with the Spax shock absorbers but some minor modification of the brackets will be necessary.

Rubber Bushed (Car Set);

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road/Sprint</td>
<td>TM G30930</td>
</tr>
</tbody>
</table>

Rose Jointed (Car Set);

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition Only</td>
<td>TM G30932</td>
</tr>
</tbody>
</table>

Up-rated Half Shafts And Quaife Limited Slip Differential

The weak spot on the back axle is the half shaft, we can supply up-rated EN408 nitrided steel half shafts, so broken shafts should be a thing of the past. There is a tendency for the inside rear wheel to spin during hard cornering or when pulling away from a greasy junction, so we supply the Quaife limited slip torque-sensing differential to control this. The smooth action of this unit spreads the torque between the rear wheels; optimising traction at all times. The unit fits in place of the standard differential cage and gears, the crown wheel bolts to it, then the unit must be very correctly assembled into the housing, this job is best left to a professional.

(04) Quaife Limited Slip Differential | TM G20820

Half Shafts (Fit In Pairs);

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Steel Wheels</td>
<td>BTA940</td>
</tr>
<tr>
<td>For Wire Wheels</td>
<td>BTA939</td>
</tr>
</tbody>
</table>

New And Rebuilt Differentials

We have remanufactured many of the different ratios, so you should be able to pick the right one for the job. We can only fit new crown wheel and pinions to the later diff case, the one with no drain/level plug. The new diff we offer is a rebuilt unit with new crown wheel and pinion. We will still need a suitable exchange unit but the crown wheel and pinion ratio and its condition is unimportant. We can build your 4.2 or 4.35 ratio if you can provide a later diff case.

<table>
<thead>
<tr>
<th>Ratio</th>
<th>C/W &amp; P</th>
<th>Ex Diff</th>
<th>New Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.55:1</td>
<td>B7129</td>
<td>BTA1345E</td>
<td>Own Unit</td>
</tr>
<tr>
<td>4.2:1</td>
<td>N/A</td>
<td>BTA550E</td>
<td>Own Unit</td>
</tr>
<tr>
<td>3.9:1</td>
<td>BTA1223</td>
<td>N/A</td>
<td>BTA1222EX</td>
</tr>
<tr>
<td>3.7:1</td>
<td>BTA535</td>
<td>N/A</td>
<td>BTA551EX</td>
</tr>
<tr>
<td>3.55:1</td>
<td>STR520</td>
<td>N/A</td>
<td>STR520EX</td>
</tr>
</tbody>
</table>
**Crankshaft Oil Seal Conversion Kit**

All modern engines use lip type crankshaft oil seals and generally have little trouble emanating from this area. Older engines often used scroll or oil thrower type seals which seem to be both difficult to fit and unpredictable in life span. There is now a range of lip seal conversions for these older engines, which are quite easy to fit and have reasonably long lives. If they ever fail in the future they are cheap and easy to replace. Fitting varies according to the engine type so instructions for each are included. All conversion kits require the scroll to be ground off the original crankshaft to a precise spigot size and there are no other special requirements. These really are one of those fit and forget conversions.

<table>
<thead>
<tr>
<th>Engine</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1098cc</td>
<td>MS108321</td>
</tr>
<tr>
<td>Replacement Oil Seal For M</td>
<td>MS108321S</td>
</tr>
<tr>
<td>948cc</td>
<td>MS108322</td>
</tr>
<tr>
<td>Replacement Oil Seal For M</td>
<td>MS108322S</td>
</tr>
</tbody>
</table>

**Flywheel And Clutch**

The same flywheel was used for all 948cc models up to the arrival of the 1098cc engine, it changed again when the 1098cc engine went to 2” main bearings. The flywheels cannot be interchanged. The flywheel can be lightened easily by 3lbs or more, this work is best left to an experienced engine builder. The four bolt flywheel can escape on high revving engines, so it is a good idea to have 2 dowels fitted, this will aid location too. With the original smooth case gearbox the 948cc engine coil spring clutch can easily be replaced with a diaphragm cover to give greater clamping pressure and improved reliability. For harder use the larger 1275cc clutch cover can be fitted to the flywheel if the lugs are ground back to clear the bell housing and the flywheel holes re-pitched for the cover. It will still be necessary to grind some material off the inside of the bell housing to clear the cover; this is best done with a trial fitting.

The front cover and fork from the ribbed box must be fitted to the early box as the clutch operating fork has a different pivot point. It is not a direct swap but will fit with a little light engineering, the 1275cc release bearing can then be used. If the ribbed case gearbox has been used you can use either of the above clutches and their operating mechanisms. We do not have any alternative clutch applications for the 1098cc engine although your best bet would be to utilise and modify components from the 1275cc clutch. We have listed the three release bearings to help you select the correct one if fitting an unusual clutch combination. It would be worth checking the geometry of the installation to ensure smooth clutch action, it is not uncommon for the operating arm to need tweaking a little to achieve concentricity. You should note that the 1275cc slave cylinder has a 1” bore diameter, not the earlier 1¼”, a different hydraulic connection and a 69mm push rod length.

**Gearbox Upgrades**

Gears for the 948cc smooth case gearbox are no longer available, the alternative is to machine the 948cc casing to utilise the internals from the 1098cc Morris Minor 1000 gearbox, this gives improved synchronesh on 2nd, 3rd and top gears. The individual internal components from the Morris Minor are not interchangeable with the Spridget parts. The gears for the 1098cc Spridget ribbed gearbox are also no longer available and it is common to replace the gearbox with the later 1275cc ribbed gearbox.

This will at least allow you to use the SCCR (straight cut/close ratio) gears for racing. Careful assembly and maintenance will keep this reliable. The SCCR set does not include 1st or reverse gear, as it works with the originals, we would recommend fitting a new 1st gear ring and reverse gear along with the set. It will require that you have a 1275cc box to work with, the components that you will require for this will be in our 1275/1500 Midget catalogue.

<table>
<thead>
<tr>
<th>Engine</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1275cc Gearbox Components;</td>
<td></td>
</tr>
<tr>
<td>SCCR Gear Set</td>
<td>C-AJ</td>
</tr>
<tr>
<td>1st Gear Ring</td>
<td>2G1119</td>
</tr>
<tr>
<td>Reverse Idler Gear</td>
<td>2G1114</td>
</tr>
</tbody>
</table>

**5 Speed Gearbox Conversions**

Our precision engineered 5 speed gearbox conversion kits include everything you need, including a gearbox unit to convert your classic to 5 speed. Designed to replace existing units without any body work modifications. For full specifications please contact your local Moss branch.

<table>
<thead>
<tr>
<th>Conversion</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Speed Gearbox Conversion 1098cc</td>
<td>TMK30920</td>
</tr>
<tr>
<td>5 Speed Gearbox Conversion 1275cc</td>
<td>TMK30921</td>
</tr>
</tbody>
</table>
### Performance Camshafts

All the Kent camshaft applications/part numbers below with the suffix ‘P’ are for the original pin drive oil pump/camshaft as used on 948cc and 1098cc models. If you have changed your camshaft and oil pump to either star drive or metro slot, use the suffix ‘S’ or ‘M’ on the part number. All Piper cams with the suffix ‘E’ are star drive unless otherwise stated.

To assist in selecting a suitable camshaft we have prepared a table showing their various characteristics, these will change from engine to engine and with other modifications such as carburettor or valve size. A scatter profile is where the cam timing on No.2 and 3 engine cylinders has been altered slightly to combat the poor scavenging of the siamese port design. This will benefit both the tickover and high end performance. The effect of a larger engine is to lower the camshaft’s power range slightly, the power range below is applicable to 948cc engines. 1098cc engines will tend to use one range ‘hotter’ than below for the same effect.

Care must be taken to ensure that installation is carried out correctly and that components all work together or you will not get the expected power output or reliability. It is essential that the new cam is fitted with new followers as they mate with the lobe that they run on and should never be used on another lobe.

Lightened and tuftrided followers wear more slowly and put less load on high lift cam lobes; they are also manufactured with a drainage hole. Another essential is the special lubricant that must be used with all new cams, it provides vital lubrication during initial starting and protects your cam from extreme wear in its first minute of use. (S/T = Special Tuning) Don’t forget the cam timing degree disc, TT2929, you will need this to set your cam timing, or, camshaft assembly lubricant.

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### Kent Camshafts

<table>
<thead>
<tr>
<th>Camshaft Type</th>
<th>Part No</th>
<th>Inlet</th>
<th>Exhaust</th>
<th>Duration Inl - Exh</th>
<th>Cam Lift</th>
<th>Hi Ratio Rockers?</th>
<th>Install Setting</th>
<th>948 Power Range</th>
<th>1098 Power Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Road</td>
<td>D266P</td>
<td>24/56</td>
<td>61/29</td>
<td>260-270°</td>
<td>0.263”-0.270”</td>
<td>Yes</td>
<td>-4</td>
<td>2000-7000</td>
<td>1500-6750</td>
</tr>
<tr>
<td>O1 / Road Rally</td>
<td>D270P</td>
<td>29/61</td>
<td>66/34</td>
<td>270-280°</td>
<td>0.293”-0.315”</td>
<td>Yes</td>
<td>-4</td>
<td>2500-7000</td>
<td>2000-6750</td>
</tr>
<tr>
<td>Rally</td>
<td>D286P</td>
<td>34/66</td>
<td>71/39</td>
<td>280-290°</td>
<td>0.315”-0.324”</td>
<td>Yes</td>
<td>-4</td>
<td>3000-7500</td>
<td>2500-7000</td>
</tr>
<tr>
<td>Race</td>
<td>D296P</td>
<td>39/71</td>
<td>76/44</td>
<td>296-300°</td>
<td>0.324”-0.340”</td>
<td>Yes</td>
<td>-4</td>
<td>4000-8000</td>
<td>3500-8000</td>
</tr>
<tr>
<td>S/T Road</td>
<td>STA605S*</td>
<td>33/65</td>
<td>63/31</td>
<td>278-274°</td>
<td>0.293”</td>
<td>No</td>
<td>-3</td>
<td>2500-7000</td>
<td>2000-6500</td>
</tr>
<tr>
<td>S/T Fast Road/Rally</td>
<td>STA805S*</td>
<td>24/64</td>
<td>59/29</td>
<td>268°</td>
<td>0.263”</td>
<td>No</td>
<td>0</td>
<td>3000-7500</td>
<td>2500-6500</td>
</tr>
</tbody>
</table>

### Piper Camshafts

<table>
<thead>
<tr>
<th>Camshaft Type</th>
<th>Part No</th>
<th>Inlet</th>
<th>Exhaust</th>
<th>Duration Inl - Exh</th>
<th>Cam Lift</th>
<th>Hi Ratio Rockers?</th>
<th>Install Setting</th>
<th>948 Power Range</th>
<th>1098 Power Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Road (St 2)</td>
<td>AHR2702E</td>
<td>39/73</td>
<td>73/39</td>
<td>292°</td>
<td>0.288”</td>
<td>No</td>
<td>-3</td>
<td>3000-7500</td>
<td>2200-7000</td>
</tr>
<tr>
<td>O2 / Fast Road</td>
<td>AHR270E</td>
<td>37/71</td>
<td>73/39</td>
<td>288°</td>
<td>0.277”</td>
<td>No</td>
<td>-3</td>
<td>3500-7500</td>
<td>2500-7000</td>
</tr>
<tr>
<td>Road Rally</td>
<td>AHR2852E</td>
<td>39/73</td>
<td>66/32</td>
<td>292-278°</td>
<td>0.299”</td>
<td>No</td>
<td>-3</td>
<td>3500-8000</td>
<td>3000-7500</td>
</tr>
<tr>
<td>Rally</td>
<td>AHR300E</td>
<td>46/74</td>
<td>74/46</td>
<td>300°</td>
<td>0.316”</td>
<td>No</td>
<td>-6</td>
<td>4000-8000</td>
<td>3200-8000</td>
</tr>
<tr>
<td>Race 2</td>
<td>AHR3202E</td>
<td>62/86</td>
<td>86/62</td>
<td>328°</td>
<td>0.322”</td>
<td>No</td>
<td>-8</td>
<td>4000-8000</td>
<td>4000-8000</td>
</tr>
</tbody>
</table>
Camshaft Drives

The correct cam timing is very important when fitting a high performance cam. There are several ways to ensure that the timing is as it should be. Offset keys allow adjustment of the standard cam gear and come either singly to size or in a set of three assorted sizes.

It would be preferable to convert to duplex gears rather than the standard single row as the duplex chain is less prone to stretching. The cam timing can also be easily adjusted using a duplex conversion with vernier cam gear, the outer gear ring is attached to the inner boss through slots with screws.

The timing can easily be adjusted and the screws then tightened up to lock the gear in position, we would recommend working around these again individually, applying a thread locking compound.

Duplex just means it features a double row timing chain which is much stronger and therefore more reliable than the single row chain system fitted as standard. Kit includes a timing disc which allows precise fitment of camshaft. Also available is a set of improved cam followers.

Timing Chain Kits:
(03) Duplex Vernier Conversion Kit TM G10828
Ultra Light Duplex Conversion Kit AJ J 3325

The Vernier gear kit allows precise timing and easy installation of high performance camshafts.

Offset Keys:
1 Degree Offset Key (Each) M GS108251
2 Degree Offset Key (Each) M GS108252
(04) 3 Degree Offset Key (Each) M GS108253
4 Degree Offset Key (Each) M GS108254
5 Degree Offset Key (Each) M GS108255
6 Degree Offset Key (Each) M GS108256
7 Degree Offset Key (Each) M GS108257
Offset Keys Assorted; 2, 4 & 7 Degree (Pack Of 3) M GS10725

Camshaft Belt Drive Conversion Kit

When increasing the performance of your engine it is wise to fit an improved system to drive the camshaft. Also, as the distributor is run off the camshaft it is important to ensure that the camshaft timing is kept very much under control. A worn chain and/or sprocket can cause both the ignition and the valve timing to vary, causing a reduction in power output.

brings the drive system up-to-date...

This kit replaces the timing chain with a toothed belt and brings the drive system up-to-date with what is currently used by most other car manufacturers. It offers quieter running and is able to reduce vibrations from the crankshaft.

(05) Belt Drive Conversion Kit CAJ J 3328
(06) Timing Degree Plate TT2929

Note: As the belt is much shorter than those fitted on modern engines it will require inspecting at 10,000 miles and should be replaced no later than 20,000 miles.

Camshaft Lubricant And Thread Lubricant

These few items will make all the difference when re-building your standard and/or modified engine. Especially important is the Kent camshaft build-up lubricant.

Kent Camshaft Lubricant 250ml KEN2
Thread Lube 1.69floz ARPL99
Thread Sealer 1.69floz ARPL903
(07) Graphogen Engine Building Lube GGL9122X

Lightened And Tuftrided Cam Followers

(08) Engine Set (Set Of 8) CAEG579
Individual Replacement TM G10709
Kent Camshaft Lubricant 250ml KEN2
Modified Cylinder Heads

The A series engine responds well to improvements to the cylinder head, both in porting and gas flow. It is possible to interchange heads from other models but check carefully the combustion chamber capacity for the compression ratio and the clearance between the fully open valves and the block. The best head to use is the 126940 casting with an 11 stud configuration, this is from the 1275cc Mini Cooper S. Engine reliability will benefit from fitting the extra two studs although the block will need drilling and tapping to suit.

The head gasket will need changing too for the extra studs, the traditional competition gasket needs soaking in water before use or we can highly recommend the Metro Turbo head gasket for all applications. When swapping components between models care should be taken to ensure compatibility. Fuel is predominantly lead free now and although you can use octane boosting additives all our heads are modified for lead free fuel. We would suggest that you keep compressions down to 9.5:1 for road use.

We supply Stage 2 and Stage 3 heads for road use. They both have fully worked ports, reshaped chambers, new guides and uprated valve springs. Valves are reprofiled on both heads, but Stage 3 units have larger inlet valves. The shortage of original heads will require that the work is carried out on your own unit. We will also need to know details of your engine cyl bore size and piston type, to enable us to arrive at the correct compression ratio when working on your own unit.

We can supply a new alloy replacement head, this is based on 1275cc spec and comes bare, or with 33.3mm inlet valves and 29.4mm exhaust valves, the chamber is 23cc and the head has a thick deck to allow room for skimming. Heads can be modified to a higher specification, please contact your local Moss branch for full details.

<table>
<thead>
<tr>
<th>948/1098 Cast Iron Cylinder Heads;</th>
<th>1098 Cast Iron Cylinder Heads;</th>
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<tbody>
<tr>
<td>Stage 2 Fast Road Lead Free</td>
<td>Stage 2 Fast Road Lead Free</td>
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<tr>
<td>Stage 3 Fast Road Lead Free</td>
<td>Stage 3 Fast Road Lead Free</td>
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<tr>
<td>MGS10802UL</td>
<td>MGS10803B</td>
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<tr>
<th>New 1275 Alloy Cylinder Head;</th>
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<tbody>
<tr>
<td>33.3mm inlet &amp; 29.4mm exhaust valves.</td>
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<tr>
<td>(01) Bare</td>
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<tr>
<td>With Valves &amp; Springs</td>
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<th>Head Gasket;</th>
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<tr>
<td>Competition</td>
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<td>M Metro Turbo</td>
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<td>AHT347</td>
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<tr>
<td>CAHT347LOAD</td>
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<tr>
<td>AHT188</td>
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<td>GUG702560HG</td>
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<tr>
<th>Manifold Gasket;</th>
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<tr>
<td>Competition Large Bore</td>
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<td>TMG10836</td>
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Aluminium Cylinder Heads

When fitting an aluminium head, you MUST run with 100% summer coolant which contains the correct inhibitors to prevent corrosion and electrolytic reaction. Note: See page 44 for coolant products. If in doubt, please contact your local Moss branch.

Torque Settings.
Please call your local Moss branch for full specifications.

Solid Copper Head Gasket

This 0.32" thick solid copper head gasket can be modified for overbored engines and have been a secret ingredient of many high performance racing engines.

| Solid Copper Head Gasket | 387-520 |
You will probably find yourself working on a 1275cc head to fit to your early engine; we have listed some components that will interest you for use with the 1275cc head. As we mentioned before, care must be taken when interchanging components, the 1275cc push rod is approximately 9mm longer than the earlier versions and the valves are 3mm longer with different collets and caps.

We can supply carbon fibre push rods for race applications but, extreme care must be taken when installing them. Please call your local Moss branch for details. Uprated valve springs will work well with all road camshafts with standard ratio rockers and are good to around 7000rpm. Competition valve springs are good with either high ratio rocker gear or race camshafts and, depending on specification, are good to 8000rpm. They must be used with our alloy caps and be shimmed to the correct fitted height. Alloy caps and 1275cc type valves and collets can be used with either set of springs, their light-weight will help minimise wear on the valve gear and cam.

The selection of valve size will depend upon the torque or high revs required, this must be considered along with the camshaft and rocker gear selected. In general, larger valves are not required unless high revs are needed. Larger inlet valves with suitable port mods can improve mid-range and upwards, power output by up to 8bhp.

All these valves improve the flow to increase performance and are made in 214N stainless steel for high strength and reliability. Bronze valve guides will help reduce wear and will resist sticking on high performance engines.

### Inlet Valve:
- 35.6mm (Each): CAEG544
- 37.7mm (Each): CAHT110

### Exhaust Valve:
- 29.4mm (Each): CAEG106
- 31mm (Each): CAEG107

### Push Rod (Fit in Sets Of 8):
- Standard 1275cc: AEG314
- Carbon Fibre 1275cc: MGS10843

### Valve Springs Double:
- Fast Road (Set Of 8): TMG10807
- Competition (Set Of 8): TMG10808

### Valve Caps (Fit in Sets Of 8):
- Alloy 1275cc Specification: TMG10816
- Valve Spring Spacers (Set Of 8): MGS108161

### Valve Collets:
- 1275cc Specification (16 Req’d): 8BG459
- Bronze Valve Guides (Set Of 8): TMG10819
- Valve Stem Oil Seals: AEG327

### Rimflo Inlet And Exhaust Valves

Rimflo valves are considered the ultimate design particularly enhancing power at the lower end of the RPM range compared with other types.

These reshaped valves offer greater gas flow than the standard design and run cooler as they are made from superior materials. Bronze valve guides are shaped to improve gas flow and improve heat dissipation from the valve stem into the cylinder head.

### Rimflo Valves:
- Inlet Valve 35.6mm: M ST2021
- Inlet Valve 36.57mm: M ST2022
- Exhaust Valve 29mm: M ST2011
- Exhaust Valve 31mm: M ST2012
- Bronze Valve Guides (Set Of 8): TMG10819
Uprated Head Studs And Engine Fasteners

You should consider the strength and reliability of the critical fasteners used on your engine. Increased reliability can be obtained for mild states of tune by replacing the head nuts with the uprated version, which incorporates a flange at its base for improved contact. More seriously modified engines should utilise a head stud kit; this comes with special grade washers and nuts. The greater strength of these studs will resist stretching under pressure keeping the head and gasket securely in place.

High revs greatly increase the strain on mains, big-ends and flywheel bolts; it is worth investing in your engine's future here as failure can be disastrous, not to mention expensive! All our stud kits come with special nuts, we recommend that the thread lube is used prior to torqueing to ensure accurate results; yes, it really is worth it! Where studs or bolts pass into water jackets we urge you to use thread sealer to avoid leaks see Workshop Tools & Fluids. We recommend fitting a strap to the centre main bearing, this is a weak spot when extending the engines power and rev range. Your local engine machinist should be able to handle this for you.

Note: All the following Parts MUST be fitted in complete vehicle sets. Figures in Brackets (4 Req’d) denote the quantity to order.

Uprated Flanged Head Nuts;
01 For Standard Studs (9/11 Req’d) 51K1193B

Competition Heads Stud Kit;
02 For 9 Stud Head (1 Req’d) TMG10864
For 11 Stud Head (1 Req’d) MGS10864

Competition Main Bearing Stud Kit;
03 With 1.75" Mains (1 Req’d) MGS10881
With 2" Mains (1 Req’d) TMG10881

Competition Big-End (Con-Rod) Bolts;
04 1098cc (8 Req’d) TMG10880
1275cc (8 Req’d) MGS10880

Upgraded Crank To Flywheel Bolt;
05 1098cc With 2" Mains (4 Req’d) MGS20823
1275cc With 2" Mains (6 Req’d) MGS20823

Manifold To Head Stud Set;
Stainless Steel (1 Req’d) AMS1

Thermostat Housing Stud Set;
Stainless Steel (1 Req’d) THS1

Ancillary Components

Vehicle performance can be enhanced in many different ways; sometimes absolute power is not the only goal, it must be tempered with reliability. High revving engines can overtax the alternator or dynamo; the larger pulley will slow things down nicely but will require a longer fan belt. Alternators can provide more power than dynamos but you will need the special bracket to attach the rear to the block, we also offer a heavy duty alloy version of this bracket.

Large Diameter Pulley;
For Dynamo/Alternator CAEA535

Alternator Conversion Bracket;
06 Steel 12G1053
Alloy CAHT32

Uprated Oil Pressure Relief Valve Spring 6K853C

05 Low Oil Pressure Switch 20psi TT2998
Low Oil Pressure Switch Adaptor T LUS1B748

Alloy Rocker Cover

An alloy rocker cover will not only brighten up your engine bay, but will also help muffle valve train noise. Note: always fit a new gasket when replacing your rocker cover, and do not overtighten rocker cover nuts.

Alloy Rocker Cover Kit;
Ribbed WPA9007X
Ribbed/Slanted WPA9008X (Kits include: Alloy cover, gasket, seals, chrome spacers, nuts, washers, and chrome filler cap).

Plain Rocker Cover Only GAC4068P
Alloy Rocker Cover Fitting Kit GAC4069FK (Kit includes: Seals and chrome spacers/nuts/washers).

Rocker Cover Knurled Nuts (Pair) WPA9029X
(Knurled thumb nuts replace the standard nut/studs).
Rocker Cover Gasket AJM401
Rubber Seals (2 Req’d) 12A1358

Oil Filler Caps;
07 Chrome 8G612CP
Matt Finish Steel 8G612

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Performance Information

This section will give you further information on tuning theories and rules for the Sprite & Midget.

Suspension Characteristics

Modifications to the suspension are aimed at improving handling and road holding. The primary way of changing these characteristics is to alter the car’s tendency to over steer or under steer. The latter two terms are defined thus:

Under Steer

The car still tends towards the straight ahead, even after the front wheels have been turned into a bend.

Over Steer

When the car is steered into a bend, the rear end of the car will increase the turn in angle by tending towards the outside of the bend. There are many reasons for these two situations and hopefully as many ways of changing them. The aim, certainly on a road car, is to produce a ‘neutral’ chassis, which is easy to drive quickly and safely.

Front Coil Springs

One car can vary considerably from the next: it may be found that on some cars the road springs do not reduce the height, because the originals have sagged to a lower ride height through old age or damage. For this reason, quoting ‘1” lowered’ springs has no real meaning unless the original factory specified ride height of the car is known.

The relationship between the new springs fitted length and the resulting ride height is a ratio of approximately 5:8; i.e: if the springs fitted length is 5 units shorter, the reduction in ride height will be 8 units, the amount increasing because the lower wishbones do not sit horizontally on the car.

Nylatron Bushes

Nylatron, a compound of nylon and molybdenum disulphide, is an extra tough material designed for high load conditions with low rotational movement. Its main advantage is that due to the molybdenum disulphide, it requires very little lubrication. The use of a copper based grease on the pivot pin inside the bush is all that is usually required.

What Problems Might Nylatron Cause?

As it is a great deal harder than standard rubber bushes, road noise and any harsh surface vibrations will be transmitted more readily into the car. A nylatron bush will alter the way a joint works; a rubber bush, gripping both the pivot within it and the sleeve around it, will allow its outer surface to twist over itself.

The nylatron equivalent, having no obvious elasticity must be given clearance between itself and the pivot to allow free rotation. The amount of clearance has to be judged while fitting the component; it must not be excessive, or the benefits of the bush will be lost. As an example, nylatron rear spring shackles buses should allow an otherwise unattached spring to swing easily under its own weight. In an instance when a pivot nut would normally be nipped up to hold a rubber bush tightly, but now gently secures a nylatron item instead, it is suggested that an extra lock nut may be required.

designed for competition use...

As the bushes are primarily designed for competition use, they may require slightly modifying to suit the customer’s own pivot pin or bolt. The bushes supplied by Moss Special Tuning are injection moulded for consistent quality; this therefore means that ‘adapt to fit’ operations should be kept to a minimum, but may still be occasionally needed to obtain the best results. Nylatron bushes should be checked over regularly and re-tensioned or replaced as necessary.
Wheels And Tyres

Even different makes of tyre, let alone different widths or profiles (aspect ratios), tend to affect road holding of the car much more than most owners realise; just by changing to another brand the handling of the car can be transformed.

13” Diameter

The standard car used 4” rims; for fast road use 5” is ideal, though wheels as large as 6” wide can be fitted, having carried out minor body modifications. When used purely for racing, the choice of width falls much more to the regulations of the class competed in.

Brakes

Remember, some, but not all brake pads and linings may still be made from asbestos; for personal safety do not use a brush or air line to remove brake dust, but instead use a vacuum cleaner or a damp cloth together with a can of brake cleaner. Make sure the dust or cloths are disposed of properly.

Brake Discs

Discs need bedding-in on low speed gentle braking for about 10 miles; gradually raise the speeds, but maintain the gentle braking application. Then make 2 to 3 heavy braking applications, which should complete the bedding in.

Engine

Here we shown some formulae which are useful when modifying an engine.

Swept Volume = \( \pi r^2 h = 3.142 \times \left( \frac{1}{2} \text{ bore diameter} \right)^2 \times \text{ stroke} \)

Cubic Capacity = swept volume x no. of cylinders

Compression Ratio = \( \frac{\text{swept volume} + \text{chamber volume}}{\text{chamber volume}} \)

Where chamber volume includes gasket, piston (if dished) and amount of deck height as well. All dimensions should be in centimetres.
Is Your Engine Standard?

Before you start installing modified engine parts please take a few moments and check to see if your engine unit is standard. It may be that the cylinder head has been skimmed and/or the cylinder block has been bored-out.

Cylinder Block

Cylinder block modifications nearly all take the form of normal engineering practices, the only exception being the work required to fit a longer throw crankshaft. Steel strengthening straps for the main bearings can be very worthwhile in an engine rebuild if it is envisaged that the unit will be used to the limit. It is suggested that all main studs and bolt threads should be bottom tapped; for the head studs, the top threads should be slightly countersunk to ensure that the head is secured flat to the block and all loads are spread through the block.

If an increase in the engine's capacity is sought, ensure that all of the new components are compatible with each other and specifically designed for the new capacity; this is especially important when matching the cylinder head and pistons.

Carbon Fibre Push Rods

When installing these push rods, it is of the utmost importance to ensure that the rods do not rub or touch the side of the cylinder head or block during the engine's rotation. Due to the production variations in the block castings, it is recommended that all the push rod apertures are elongated by at least one millimetre at right angles to the rocker shaft.

Then, with the camshaft and rocker gear in position, ensure that full clearance has been obtained. It is advised that all the push rod apertures are elongated by at least one millimetre at right angles to the rocker shaft.

Having cleaned the paint from the rods, they are then ready for final assembly. It is possible to go through the process described above and only open up those apertures that need modifying, but it is safer to assume that all holes will need to be opened out. Also remember if a camshaft profile is subsequently changed or high lift rockers are installed, the clearance checking will have to be repeated.

1098cc Cylinder Head

The compression ratio is best kept to 9.5:1 for fast road use; a slightly lower ratio may be necessary if 99 octane fuel is not available. If using larger exhaust valves, it is recommended that the exhaust guides are slightly offset to reduce the heat in the hot spot area between the valve seats. For road use, larger inlet valves will give better performance and a wider power range than that of the stage 2 head with standard valves. Bronze alloy valve guides are always recommended for improved reliability.

Valve spring rates depend on the camshaft and rocker ratio being used; for a road car using up to 1.5:1 ratio rockers, uprated springs are normally more than adequate. Competition springs are only required if higher lifts are used. If the copper AHT188 head gasket is used, remember that it should be soaked in water before fitting. The joint surfaces of both head and block must be checked for distortion and finely ground or lapped to ensure, using engineer's marking blue for final checking.

The tops of the cylinder head stud threaded holes in the block may be slightly countersunk, helping the head to pull down around the studs more effectively. Improved flanged head nuts (53K11938) help further by guaranteeing the clamping pressure on the head. Finally, competition head studs may be fitted if an increase in the torque setting is required; these studs may be tightened to 55lbs ft.

Camshafts

There are three types of oil pump drive and subsequently three oil pumps for the A Series engines:

Pin. Using a small slot in the rear of the cam; fitted originally to 948/1098cc engines.
Star. Fitted in all 1275cc Sprite and Midget engines as standard.
Metro. Using a slot drive cam; never originally fitted to Sprites or Midgets.

The standard oil pump is perfectly suitable, although for late 1098 models the late Metro Turbo unit (CAM 6614) has a substantially increased capacity and can be fitted if the camshaft is changed at the same time.

The range of profiles available for this engine is seemingly infinite and comes from many suppliers around the world. Moss has chosen several, which have proved to be competitive in terms of both performance and reliability, with profile working ranges producing a drivable car in road use, which is where most uprated engines will operate. For full race applications, special profiles are made on blank camshafts which offer much better power and range than re-profiled units.

Rocker Gear

The easy way of increasing performance on the 1098cc engine, once the head has been flowed, is to use high lift rocker gear which may be fitted easily as a bolt-on component. There are two versions, both at a ratio of 1.5:1, either with or without needle roller bearings, the former being recommended more for competition purposes. High lift rockers maintain the opening and closing details of the camshaft profile, but will open the valve further to improve breathing; this is especially effective when used with a flowed head and improved carburator.

Solid spacers ensure accurate alignment of the rocker arms and valves, while strengthened rocker pedestals are essential if a standard rocker shaft is used with stronger valve springs.

Timing Chain

The standard chain may either be single or duplex; whenever a performance camshaft is fitted, a duplex chain must be used, preferably with a vernier adjustable cam gear, which makes correct and accurate installation of a performance camshaft much easier.

The camshaft timing belt conversion kit will make the engine much quieter as well as reducing the power loss suffered when using a duplex chain. A timing belt must be checked religiously every 10,000 miles and replaced at 20,000 miles.

And There's More...

As well as lightened flywheels and other products, we also offer a full balancing service for crankshafts, con rods and flywheels, and tunbridging for crankshafts. Please phone your nearest branch for details.
Repair Manuals

Haynes Workshop Manuals.
Probably the most commonly found workshop manual in any home garage, the Haynes range provide useful information on stripping and rebuilding anything from a master cylinder to a complete differential assembly.

(01) Sprite & Midget All Models MGL2005X

Carburettor Maintenance.
This carburettor manual covers SU, Stromberg, Weber and Dellorto assemblies, giving an insight into the way they operate, how to maintain and tune them, plus detailed overhaul procedures.

(02) Carburettor Maintenance MGL0279

Workshop Manuals.
Reprints of genuine factory workshop manuals packed with essential information for all aspects of vehicle maintenance and repairs.

(03) Sprite MkI A KD4884
(04) Sprite MkII-III, Midget MkII-III A KD4021
(05) M G Midget 1500 To 1978 AKM 4071
(06) M G Midget 1500 1978 On AKM 4071

Glove Box Manuals.
Handy, compact versions of the genuine manuals, a must for the glove box.

(07) Lucas Manual GAC1029X

Original Parts Catalogues.
Reprints of original parts books, these books are an essential source of reference.

(08) Midget 1964-77 AKM 0036

Reference Library

Handbooks.
Originally available and supplied when the car was new, these reprints are essential for day-to-day maintenance of your classic.

(10) Midget 1275 (UK) 1967-74 AKD7596
(11) Midget 1500 1978 On AKM 3229
(12) Midget (USA) 1967-74 AKD7883
(13) Midget (USA) MkIII AKM 3436

Purchase & Restoration Guide Series.
By Lindsay Porter. Regarded by many as the authority on purchasing and maintaining an M.G. With clear and easy to follow instructions and photographs, there are also handy tips on how to look out for and how to approach certain jobs.

(15) Sprite & Midget AKL0079

Tuning BL's A-Series Engine.
By David Vizard. This is the Bible for anyone wanting to improve their A Series Engine, be it for performance or economy. Covering every area of the engine, from crank to valve guides, with examples of modifications and types of equipment to improve the output. 488 pages.

(16) Tuning BL's A-Series Engine AKL0063

Practical Classics Guide.
Practical Classics magazine have produced a book that consists of reprints of their step-by-step articles on M.G. sportscars. It also looks into the benefits of re-shelling using a Heritage shell. This book is packed with black and white photographs, along with hints and tips on how best to approach maintaining and restoring your Sprite or Midget.

(17) Sprite & Midget Restoration Guide AKL0203

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### Step By Step Guide.
Actual service guides, this book tells you what needs to be done, and how to do it, in well illustrated steps.

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### Restoring Sprite & Midgets.
By Grahame Bristow. Written with technical expertise and wit, this manual is packed with photos and illustrations covering all aspects of restoration.

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### Austin Healey.
By Bill Piggott. Austin Healey, commemorative edition.

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### Gold Portfolios.
By Brooklands Books. They contain in-depth reviews, and many examples of motoring press coverage.

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### How To Power Tune Midget & Sprite.
Details modifications to the whole car for better performance, handling and braking.

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<td>(21) How to Power Tune</td>
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Engine Analysis cont...

Emergency Fan Belt.
Easily adjusted to any length, this belt really can get you out of trouble. Just thread the open belt over the pulleys, remove the extra links and snap the ends together, and you are back on the road.

(01) Emergency Fan Belt GAC9979X

Battery Jump Leads - Keep a set in the boot, you never know!
These 8ft long high quality leads are manufactured from heavy duty copper core cable, with copper plated steel crocodile clips and rubber handle grips.

(02) Jump Leads DM R22413

Mini Jump Leads - Keep a set in the glovebox!
These ten foot long leads are more than adequate for occasional/emergency use. Supplied with nylon carry case.

(03) Mini Jump Leads 900-060

Solid Towing Brace.
This towing brace, which can pull up to 1800kg, is designed to link two vehicles together in the safest possible manner. Complete with storage case.

(04) Towing Brace DM R37432

Foot Pump.
This single piston foot pump with a pressure gauge has a range of 0-100psi or 0-7bar.

(05) Foot Pump DM R14172

General Purpose Jacks.
These scissor jacks are ideal for emergency lifts.

(06) Scissor Jack & Handle 212677Z
(Safety Note: Once the car has been jacked-up, it is advisable to support the vehicle before you start working beneath it).

Extendable Wheel Nut Wrench And Wheel Tools.
Extendable wheel nut wrench with a detachable socket end, enabling any size to be fitted, supplied with 19mm and 21mm sockets. Extends up to 21” long.

(07) Extendable Wheel Nut Wrench DM R19152
Spanner For Steel Wheel Nuts 21A2818
Tool Bag AHA5506
(08) Tyre Pressure Gauge Bar & PSI GAC8049X
Reflective Safety Jacket GAC2999

Engine Analysis

Spark Tester.
This tester can be safely placed in the HT circuit to establish if a high tension spark is present. By far the safest method of testing the spark strength.

(09) Spark Tester DM R38898

Gunosons Exhaust Gas Analyser.
Go on, do your bit for the environment. Checks your cars exhaust for emissions. This unit could save you an aborted trip to the MOT station.

(10) Gunsons Exhaust Gas Analyser MRD1207

Gunosons Colortune 500.
Colortune is basically a glass topped spark plug that allows you to see the colour of combustion in the cylinders, taking the guesswork out of the mixture setting/adjustment. Comes complete with angled viewing system for awkward places, tuning procedures and trouble shooting guide.

(11) Gunsons Colortune 500 MRD1005

Gunosons Flash Test.
Gunosons Flash test checks the condition of your car’s ignition high-tension circuit by measuring the strength of the voltage at the spark plug.

(12) Gunsons Flash Test MM 386-875

Digital Analyser.
This digital analyser is an essential piece of equipment to help keep your classic in good order. Packed with features including DC measurement, voltage, current, resistance and dwell angle. Supplied complete with leads, battery and case.

(13) Digital Analyser DM R50024

Battery Acid Neutralising Mat.
Made from special acid absorbent material that neutralises acids. Easily cut with scissors to match the shape of your battery or battery tray. Ideal for use when your battery is out of the car to prevent contamination.

(14) Battery Acid Mat GAC2029X

Battery Quick Bolts.
These quick bolts have a camming system to clamp down on the battery posts. Simply replace the bolts in your cable ends with quick bolts and you can connect or remove the cables without tools.

(15) Battery Quick Bolt (Pair) MM 900-015

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Battery Care cont...

**Multi XS 3600 Battery Conditioner/Charger.**
Automatically recharge used battery cells. Suitable for all vehicle types: cars, motor bikes etc.. L.E.D. monitoring display - battery status display. Permanent un-supervised use. No need to disconnect the battery. Polarity warning signal. Charges every 12V battery up to 14.7V maximum. Weight: 500g. 12 Month guarantee. Thermal cut off fuse. Safe on sealed gel batteries. Requires 240V supply.

- Careful rapid charging of all lead-acid batteries.
- Reverse polarity protected.
- Low current and Winter modes.
- Outdoor use.
- Safe to use with sensitive electronics.
- Maintenance charging with pulses.

(16) Battery Charger GBY9998
Connector Kit GAC9983
(This connector kit gives you the choice of using quick connectors rather than using crocodile clips).

**PriorityStart.**
PriorityStart automatic starting protector monitors battery voltage. If while the car is parked there is a drain from the battery, at a pre-determined level, it automatically disconnects the battery, preserving enough power to start the car. The unit senses the ignition key in the ON position, and again automatically, reconnects.

(17) PriorityStart M M 459-350

**Battery Isolator.**
This Dis-Car-Nect style battery isolator is easy to use, when leaving your car simply remove the knob to isolate the starter circuit. When storing your car the battery isolator will also prevent battery drain. A replacement knob is available.

Battery Isolator GAC3192X
Spare Knob GAC9981

Dis-Car-Nect Battery Isolator.
When leaving your car, simply remove the knob to isolate the starter circuit. The 16amp by-pass fuse will remain current to all other electrical circuits, radio memory, alarm etc... Because the starter draws more than 150amps, any attempt to connect (hot-wire), the starter motor will instantly cause the fuse to blow. This immobilises the car until the knob is replaced. Should this happen, simply replace the 16amp fuse at a convenient time. As an added advantage, if you unscrew the knob and remove the fuse, Dis-car-Nect will prevent battery drain if you intend to store your car. Supplied with nylon carry case.

(18) Dis-Car-Nect GAC9980X
Spare Knob GAC9981
Replacement Fuse GAC9982

Battery Isolator/Cut-out Switch;

**Battery Isolator Terminals;**
Ring Terminals (Each) LUCWB600
Rubber Cap, terminal (Each) 8G548

**Battery Isolator Switches.**
Obligatory on competition cars, battery cut-out switches are a good idea for all cars. Fitting one to the main battery cable, between the battery and the starter solenoid, enables you to quickly isolate the battery and immobilise the car. Ideal when working on the electrical and/or fuel system, especially if you intend to put your car into storage.

**Battery Isolator Cut-out Switches;**
(19) RAC Period Style Switch 1B2804
Removable Key Type Switch TT7964
(20) FIA Competition Specification TT7962
(Removable key type).
Cable For TT7962 TT79621
Spare Key For TT7964 And TT7962 TT79641
Battery Cut Off Isolator Switch GAC3192X
(Not suitable for cars fitted with an alarm, clock or coded radio).

**Battery Isolator Terminals;**
Ring Terminals (Each) LUCWB600
Rubber Cap, terminal (Each) 8G548

**General Use/Heavy Duty Battery Cable;**
Black (Sold Per Foot) CQB301
Red (Sold Per Foot) CQB304

- 12 Month guarantee.
- Thermal cut off fuse.
- Safe on sealed gel batteries.
- Reverse polarity protected.
- Low current and Winter modes.
- Outdoor use.
- Safe to use with sensitive electronics.
- Maintenance charging with pulses.

- Careful rapid charging of all lead-acid batteries.
- Reverse polarity protected.
- Low current and Winter modes.
- Outdoor use.
- Safe to use with sensitive electronics.
- Maintenance charging with pulses.

**Battery Care cont...**

**Battery Conditioner/Charger.**
Automatically recharge used battery cells. Suitable for all vehicle types: cars, motor bikes etc. L.E.D. monitoring display - battery status display. Permanent un-supervised use. No need to disconnect the battery. Polarity warning signal. Charges every 12V battery up to 14.7V maximum. Weight: 500g. 12 Month guarantee. Thermal cut off fuse. Safe on sealed gel batteries. Requires 240V supply.

- Careful rapid charging of all lead-acid batteries.
- Reverse polarity protected.
- Low current and Winter modes.
- Outdoor use.
- Safe to use with sensitive electronics.
- Maintenance charging with pulses.

(16) Battery Charger GBY9998
Connector Kit GAC9983
(This connector kit gives you the choice of using quick connectors rather than using crocodile clips).

**PriorityStart.**
PriorityStart automatic starting protector monitors battery voltage. If while the car is parked there is a drain from the battery, at a pre-determined level, it automatically disconnects the battery, preserving enough power to start the car. The unit senses the ignition key in the ON position, and again automatically, reconnects.

(17) PriorityStart M M 459-350

**Battery Isolator.**
This Dis-Car-Nect style battery isolator is easy to use, when leaving your car simply remove the knob to isolate the starter circuit. When storing your car the battery isolator will also prevent battery drain. A replacement knob is available.

Battery Isolator GAC3192X
Spare Knob GAC9981

**Battery Isolator/Cut-out Switch;**
(19) RAC Period Style Switch 1B2804
Removable Key Type Switch TT7964
(20) FIA Competition Specification TT7962
(Removable key type).
Cable For TT7962 TT79621
Spare Key For TT7964 And TT7962 TT79641
Battery Cut Off Isolator Switch GAC3192X
(Not suitable for cars fitted with an alarm, clock or coded radio).

**Battery Isolator Terminals;**
Ring Terminals (Each) LUCWB600
Rubber Cap, terminal (Each) 8G548

**General Use/Heavy Duty Battery Cable;**
Black (Sold Per Foot) CQB301
Red (Sold Per Foot) CQB304
### Specialist Tools

A selection of tools to help maintain and keep your car in top working order.

<table>
<thead>
<tr>
<th>Tool Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clutch Alignment Tool</td>
<td>GAC5053A</td>
</tr>
<tr>
<td>Piston Ring Compressor</td>
<td>DMR13890</td>
</tr>
<tr>
<td>Valve Spring Compressor</td>
<td>DMR13890</td>
</tr>
<tr>
<td>Points Gap Tool &amp; Screwdriver</td>
<td>500905</td>
</tr>
<tr>
<td>Timing Degree Plate</td>
<td>TT2929</td>
</tr>
<tr>
<td>Tyre Pressure Gauge Bar &amp; PSI</td>
<td>GAC8049X</td>
</tr>
<tr>
<td>Hood Fastener Durable Dot Tool Set</td>
<td>GAC5060X</td>
</tr>
<tr>
<td>Tenax Hood Fastener Key</td>
<td>GAC5063X</td>
</tr>
</tbody>
</table>

#### SU Carburettor Specialist Tools.

Here we list a range of tools that make life so much easier when overhauling and re-tuning your SU carburettors.

- **SU J et Centring Tool**: GAC6101X
- **Carburettor Synchroniser**: MM386-200
- **SU Carburettor Needle Chart**: ALT9501
- **SU J et Adjustment Spanner**: AUD2693

#### SU Carburettor Throttle Shaft Reamer.

This special reamer is designed to open up worn \( \frac{3}{16} \)" throttle shaft bushings to accept 0.010" oversize throttle shafts.

- **SU Carburettor Reamer**: 386-385

#### King Pin Reamer.

To install new King Pins, the bushes must be carefully reamed, in perfect alignment, after installation. **Note:** Not suitable for front drum brake models.

- **King Pin Reamer**: 18G1006A

### General Garage Equipment

#### Oil Can.

Our 200ml force fed oil can comes with both a rigid and a flexible spout.

- **(05) Oil Can**: DM R21717

#### Fold-Away Axle Stands.

These axle stands can support 2000kg. Height range is 235mm to 365mm.

- **(06) Axle Stands (Pair)**: DM R36524

#### Wheel Chocks.

Manufactured from very tough high density plastic, with rubber feet for a safe grip. Ideal for preventing your car from rolling when using axle stands or wheel ramps.

- **(07) Wheel Chocks (Pair)**: M M 900-150

#### Rhino Car Ramps.

These light, but heavy duty ramps, manufactured from strong high density plastic, have a gentle 17 degree incline, making them perfect for all cars, especially if you have lowered suspension and/or low profile wheels and tyres.

- **(08) Rhino Ramps (Pair)**: 400-800

#### Rolling Floor Jack.

Just slide the jack assembly under a wheel, press down on the pedal until the tyre clears the ground. Heavy duty castors allow easy movement of the car in confined spaces. Ideal when working on the car in your garage if space is limited.

- **(09) Rolling Floor Jack (Pair)**: 900-162

#### Oberg Tilt & Lift Engine Hoist.

Tilting an engine, to clear obstructions such as the bulkhead, when removing can be difficult. This handy device allows the engine to tilt and clear obstacles. Heavy duty construction will hold up to 2000 pounds and can tilt to 90°.

- **(10) Engine Hoist**: GAC9130X
**General Garage Equipment cont...**

**Mechanics Wing Covers With Logos.**
Our high quality wing covers are padded with foam rubber backing to protect your paintwork from those little accidents.

(11) With Austin-Healey Logo (Pair) 241-735
With MG Logo (Pair) GAC2008X

**Oil Spill Mat**
Keep working area surfaces clean when carrying out oil changes.

(12) Oil Spill Mat GAC2028X

**Workshop Apron.**
With MG logo, these are ideal for those quick, messy jobs, having adjustable straps and three large pockets.

Workshop Apron GAC9937X

**Disposable Mechanics Gloves.**
Bio-degradable natural latex gloves are ideal for any messy job. They provide natural grip and feel and, fit either right or left hand. 100 gloves per box.

(13) Disposable Latex Gloves 228-690

**Wiring Harness Tape.**
This tape is Not self adhesive. Examine your old tape carefully to see how ends and branches are accomplished.

(14) Wiring Harness Tape, Black GAC9906X
Wiring Harness Tape, Blue GAC9907X

**Boot Tool Organiser.**
No more loose items in the boot. Made from heavy duty vinyl with a velcro covered spanner section and a zipped pouch.

(15) Tool Organiser GAC9974X

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**Magnetic Tray.**
Ideal for placing and keeping safe small items such as; nuts, washers etc... This 145mm diameter tray is made from shatter proof plastic and, with its strong rubber coated magnetic base, it holds securely to body panels.

(16) Magnetic Tray DM R35384

**Inspection Lamp.**
This double insulated fluorescent inspection lamp comes with 16ft of cable. 240 volt Replacement tubes available.

(17) Inspection Lamp DM R13899
Replacement Tube DM R80319

**Compression Tester.**
A compression test is the most accurate way to gauge and check the condition of your engine. This tester features a 300mm flexible hose with threaded adaptors to suit 14mm spark plugs and a pressure release valve.

(18) Compression Tester DM R37442

**Lever Action Grease Gun.**
Easy to use lever grease gun delivers a pressure of over 4000psi with a cubic capacity of 130cc.

(19) Grease Gun DM R12681

**Classic Pump Action Grease Gun.**
An alternative to our lever action grease gun, especially if you want to keep that classic feel.

(20) Pump Action Grease Gun BHA4576

**Tool Caddy.**
This must be the handiest item in any garage. The tool caddy is a flat trolley with lipped edges that keeps your tools within arms reach.

(21) Tool Caddy M M 384-895

**Park Smart Parking Mat.**
No more guessing when putting you car in the garage. The flat tongue uses the cars weight to keep the mat from moving.

(22) Park Smart Mat (Each) 200-600

**Taps & Dies.**
We stock a complete selection of Whitworth taps & dies.

<table>
<thead>
<tr>
<th>Tap</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap Spanner</td>
<td>385-700</td>
</tr>
<tr>
<td>Tap 2BA</td>
<td>385-730</td>
</tr>
<tr>
<td>Tap ½ BSF x 26</td>
<td>385-735</td>
</tr>
<tr>
<td>Tap ⅛ BSF x 22</td>
<td>385-740</td>
</tr>
<tr>
<td>Tap ⅛ BSF x 20</td>
<td>385-745</td>
</tr>
<tr>
<td>Tap ⅛ BSF x 18</td>
<td>385-750</td>
</tr>
<tr>
<td>Tap ⅛ BSF x 16</td>
<td>385-755</td>
</tr>
<tr>
<td>Tap ⅛ UNC</td>
<td>385-727</td>
</tr>
<tr>
<td>Die 2BA</td>
<td>385-850</td>
</tr>
<tr>
<td>Die ½ BSF x 26</td>
<td>385-855</td>
</tr>
<tr>
<td>Die ½ BSF x 22</td>
<td>385-860</td>
</tr>
<tr>
<td>Die ½ BSF x 19</td>
<td>385-670</td>
</tr>
<tr>
<td>Die ½ BSF x 16</td>
<td>385-675</td>
</tr>
</tbody>
</table>

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Bristol 0117 923 2523, Darlington 01325 281 343, Manchester 0161 480 6402
<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Tools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 blade imperial feeler gauge set measures from 1.5 to 25 thousands of an inch.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(01) <strong>Feeler Gauge Set</strong></td>
<td>DM R13646</td>
<td></td>
</tr>
<tr>
<td>7 piece screwdriver has 3 flat, 2 cross point and 2 Pozi drive.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(02) <strong>Screwdriver Set</strong></td>
<td>DM R27031</td>
<td></td>
</tr>
<tr>
<td>This 14mm spark plug spanner has a plastic insert to protect the plugs and a universal joint for better access and grip.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(03) <strong>Spark Plug Spanner</strong></td>
<td>DM R13868</td>
<td></td>
</tr>
<tr>
<td><strong>Torque Wrench (C/W Case);</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(04) ½” drive (measures 7-60 ft/lbs)</td>
<td>DM R34570</td>
<td></td>
</tr>
<tr>
<td>(05) ⅜” drive (measures 30-154 ft/lbs)</td>
<td>DM R30357</td>
<td></td>
</tr>
<tr>
<td><strong>Terminal Crimp Set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assortment of colour coded crimp electrical connectors and terminals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(08) <strong>Terminal Crimp Set</strong></td>
<td>DM R18160</td>
<td></td>
</tr>
</tbody>
</table>

| **Tool Sets** | | |
| **Sockets And Socket Sets.** | This 75 piece 1/4” drive socket set contains both AF & Metric, standard and deep sockets. Also includes a range of hexagonal screwdrivers and TX Star drive inserts. | |
| (09) **75 Piece Socket Set** | DM R18966 |
| | A very handy 42 piece ½” drive socket set with AF, Metric and BA sockets. | |
| (10) **42 Piece Socket Set** | DM R18970 |
| | Some jobs, such as the crank pulley nut require special sockets, here are three you may need. | |
| (11) **1 ½” (⅜” Drive) Socket** | DM R19989 |
| | **Circlip Plier Set** | DM R19735 |
| | 1 ½” (⅜” Drive) Socket | DM R83953 |
| | 1 ⅜” (½” Drive) Socket | DM R76924 |
| **Plier Sets.** | 3 piece standard plier set includes; long nose, combination and diagonal pliers. | |
| (12) **Standard Plier Set** | DM R21722 |
| | Combination pliers for internal and external circlips. Includes two straight, one 45° and one 90° plier head. | |
| (13) **Circlip Plier Set** | DM R19735 |
| | Self grip pliers are ideal for those hard to budge nuts/screws. This 3 piece set ranges in length from 145mm to 225mm. | |
| (14) **Self Grip Plier Set** | DM R14040 |
| **Spanner Set.** | This 14 piece AF combination set ranges from ¼” to 1 ¼”. | |
| (15) **14 Piece Spanner Set** | DM R29548 |

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Frost Specialist Restoration Tools

Frost are a UK family firm established in 1905 that specialises in providing quality restoration tools and equipment to the classic car industry.

New products are constantly being added to their range. Here we have listed a small selection of the most popular items from their vast range that we currently hold in stock. Please contact your nearest branch for full details.

Specialist Ratchets.
These silent operation friction ratchets are virtually indestructible and respond to the smallest movement, making them very useful where movement is restricted.

- (16) 1/4" Drive Ratchet FROSTM215
- (17) 3/8" Drive Ratchet FROSTM216
- (18) 1/2" Drive Ratchet FROSTM217

Stud Puller Set.
Designed to remove studs without destroying them. This set of four stud pullers are operated by a 1/2" drive ratchet and grip the damaged stud on three sides - tightening more the harder you turn, to remove even the tightest of studs. Easier and safer than risking stripped threads by using locked nuts etc...

Note: Fits 6mm (1/4") to 12mm (1/2") studs.

- (18) Stud Puller Set FROSTM260

Metal Nibbler.
Fitted to an electric or air powered drill, this nibbler will make straight or curved cuts - burr free, with no distortion to the metal panel. Nibbles 1/2" wide chips in 14g aluminium, 16g steel or 20g stainless steel. Ideal for removing damaged or rusty panels. To cut from the centre of a panel just drill a 1/2" hole and insert the cutting head.

- (19) Metal Nibbler FROSTG190

Clean & Strip Discs.
Superb surface cleaning tool that will not grind or scratch the base metal, leaving a perfect surface finish for primer and paint or body soldering.

Can be used in any air or electric drill up to a maximum speed of 6000rpm. Shifts rust, paint, filler, old gaskets etc... with minimum effort.

- (20) Clean & Strip Discs FROSTC135

Shrinker/Stretcher Tool.
No more cutting and welding to create curvatures if you have this tool. The shrinker/stretcher will quickly and easily pull into shape steel up to 18g and aluminium up to 14g.

- (21) Shrinker/Stretcher Tool FROSTF400

Cutter And Shears.
Monodex Major Cutters.
Unlike conventional snips that can distort your workpiece, the unique cutting action of the monodex major cutter will easily cut through 20g steel and 18g aluminium without curling material away. Can be used to trim edges, cut circles and curves, or cut out material mid-panel starting from only a 1/4" hole.

- (22) Monodex Cutters FROSTG118

Offset Shears.
With all the features of conventional snips, these have the added benefit of offset handles to keep your hands above sharp edges, providing you with better visibility and manoeuvrability when working to a line. Forged steel blades stay sharp and make smooth cuts in up to 18g steel.

- (23) Offset Shears FROSTG240

Pipe Work Tools.
These tool pipes, ideal for restoration projects allow you complete control and ensure high quality pipe bending, cutting and flaring.

- (24) Pipe Cutter FROSTM300
- (25) Flaring Tool FROSTM250

BRISTOL 0117 923 2523 . DARLINGTON 01325 281 343 . MANCHESTER 0161 480 6402
Workshop Tools & Fluids

**Brake Fluids**

When Did You Last Change Your Brake Fluid?

If you have never replaced your brake fluid, we strongly recommend you inspect all seals and hoses and replace as necessary. Note: DOT 3 fluid should be completely discarded. The recommended minimum specification for Brake & Clutch Fluid is now DOT 4.

**Brake/Clutch Fluid.**

Unipart DOT4 Brake/Clutch Fluid.

<table>
<thead>
<tr>
<th>Volume</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>500ml</td>
<td>GBF4102</td>
</tr>
<tr>
<td>1 litre</td>
<td>GBF4103</td>
</tr>
<tr>
<td>5 litre</td>
<td>GBF4104</td>
</tr>
</tbody>
</table>

**Silicone Brake/Clutch Fluid.**

Silicone fluid DOT5 ABF, is non-hygroscopic, so it doesn’t promote rust problems in the hydraulic system and won’t damage your paintwork. When silicone is in use it will provide years of trouble free braking.

<table>
<thead>
<tr>
<th>Volume</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>500ml</td>
<td>ABF3</td>
</tr>
<tr>
<td>1 litre</td>
<td>ABF4</td>
</tr>
</tbody>
</table>

**Racing Brake/Clutch Fluid.**

Racing fluid DOT 5 GBF5, really is the ultimate in brake fluid. Its anti-boil properties mean that even when the brakes get hot the fluid will remain efficient, rather than boiling locally into useless vapour - such as in the calipers. Due to its high hygroscopic nature, racing fluid should be replaced annually otherwise the integrity and effectiveness will be drastically reduced.

<table>
<thead>
<tr>
<th>Volume</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>500ml</td>
<td>GBF5102</td>
</tr>
<tr>
<td>1 litre</td>
<td>GBF5103</td>
</tr>
</tbody>
</table>

**Brake System Tools**

When bleeding the brakes on any car it is very important to have the correct tools. We supply two very useful items as an alternative to a piece of rubber hose. Eezibleed is an excellent way to take away the fuss and mess from bleeding hydraulic systems. Fed by air pressure from the spare wheel, it provides 1/4lb of pressure to the fluid container.

As an alternative to Eezibleed, a one man bleed tool is a must. Using a one way valve, the fluid is allowed through the valve but the air is prevented from returning back into the system. The brake hose clamp is chrome plated and has a knurled securing nut, these clamps should not be used on stainless steel braided hoses.

<table>
<thead>
<tr>
<th>Product</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eezibleed Kit</td>
<td>MRD1001</td>
</tr>
<tr>
<td>Brake Adjuster Spanner</td>
<td>GAC5051</td>
</tr>
<tr>
<td>One Man Bleed Tool</td>
<td>GAC9378X</td>
</tr>
<tr>
<td>Wheel Cylinder Circlip Tool</td>
<td>17H7949T</td>
</tr>
<tr>
<td>Brake Hose Clamp</td>
<td>GAC8050X</td>
</tr>
</tbody>
</table>

**Cooling System**

Preserve And Maintain Your Cooling System.

Water is a most efficient liquid for cooling engines, but it has two distinctive drawbacks. Firstly it freezes in winter, and secondly it does nothing to stop corrosion. Classic cars can feature large amounts of aluminium, copper, brass and bronze, so it is imperative that a corrosion inhibitor be used to protect the engine’s cooling system.

<table>
<thead>
<tr>
<th>Product</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Wetter</td>
<td>355ml M M 220-115</td>
</tr>
</tbody>
</table>

**Anti-Freeze And Summer Coolant.**

It's not just during the winter that you need protection for your engine and radiator. The inclusion of a glycol based anti freeze not only stops the water from freezing during the winter, it also acts as an extra coolant during the summer by removing heat more efficiently from the block and dispersing it even in the worst traffic jam. It also helps to protect from corrosion.

<table>
<thead>
<tr>
<th>Product</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penrite Corrosion Inhibitor</td>
<td>GGL9041X</td>
</tr>
<tr>
<td>Bars Seal Pellet</td>
<td>GAC6073</td>
</tr>
<tr>
<td>Bars Leaks 135ml</td>
<td>M RD1031</td>
</tr>
<tr>
<td>Bars Flush 100gm</td>
<td>M RD1032</td>
</tr>
</tbody>
</table>

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### Workshop Tools & Fluids

<table>
<thead>
<tr>
<th>No.</th>
<th>Product Name</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Carburettor Cleaner</strong></td>
<td>MD1023</td>
</tr>
<tr>
<td></td>
<td><strong>Brake Cleaner</strong></td>
<td>MRD1090</td>
</tr>
<tr>
<td></td>
<td><strong>Graphite Grease Sachet</strong></td>
<td>GAC6033</td>
</tr>
<tr>
<td></td>
<td><strong>Graphogen Engine Assembly Lube</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Anti-Seize Compound</strong></td>
<td>GAC7993X</td>
</tr>
<tr>
<td></td>
<td><strong>Engine Degreaser</strong></td>
<td>GAC6043</td>
</tr>
<tr>
<td></td>
<td><strong>WD-40</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Small</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Large</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Wellseal Jointing Compound</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Hylomar Jointing Compound</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Gasket Remover</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Loctite Stud-Loc</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>White Grease</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Hammerite Rust Remover</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Slime Flat Tyre Eliminator</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Trim Adhesive</strong></td>
<td>GAC9993X</td>
</tr>
<tr>
<td></td>
<td><strong>Moss Hydraulic Shock Absorber</strong></td>
<td>AAA149M</td>
</tr>
</tbody>
</table>

### General Consumables

A selection of very useful garage consumables that should be on the shelf and in the car, that no enthusiast should be without.

(13) **Carburettor Cleaner Aerosol 400ml** M RD1023
(14) **Brake Cleaner Aerosol 400ml** M RD1090
(15) **Graphite Grease Sachet** AKF1457
(16) **Graphogen Engine Assembly Lube** GGL9122X
(17) **Anti-Seize Compound 10oz** 153317
(18) **Engine Degreaser Aerosol 400ml** GAC6033

**WD-40:**

(15) **Small 200ml** GAC110
(16) **Large 400ml** GAC111
(17) **5 litre Can & Spray Applicator** GAC381

**Exhaust Assembly Paste Tin** GAC9993X
**Exhaust Assembly Paste Tube** GAC9993X
**RTV Instant Gasket Silicone** GAC9993X

(19) **Wellseal Jointing Compound** 600569A
(20) **Hylomar Jointing Compound** GAC9993X
(21) **Hylomar Jointing Compound 25gm** GGC103
(22) **Gasket Remover Aerosol 400ml** GEM317

(23) **Loctite Stud-Loc** GAC100
(24) **White Grease Aerosol** GEM361
(25) **Hammerite Rust Remover** GAC100
(26) **Slime Flat Tyre Eliminator 250ml** M QC1003
(27) **Trim Adhesive Aerosol 500ml** UBS203
(28) **Trim Adhesive 1 litre** UBS110

**Moss Hydraulic Shock Absorber Oil 16 Floz.**
Custom blended specifically for all Girling & Armstrong lever arm shock absorbers. Convenient flip-open pouring spout helps to minimise spills.

(19) **Shock Absorber Oil** AAA149M

### General Consumables cont...

**Superblend Lead Substitute.**

We stock a lead substitute endorsed by the Federation of Historic Vehicle Clubs that enables unleaded fuel to be safely used in engines designed for leaded fuel.

(20) **Superblend Lead Substitute 500ml** GAC806

**Rain-X.**

Drive in rain without using your wipers. Will not smear or damage your wipers. Rain-X anti-fog treats windows, mirrors and even goggles.

(21) **Rain-X (Exterior) 200ml** GAC9995X
(22) **Rain-X Anti-Fog (Interior) 200ml** GAC9992X

**Dashpot Oil.**

For all SU/Zenith Carburettors.
Specifically designed for both SU and Zenith carburettors, this oil will ensure your carb's are working as they should be.

(23) **Dashpot Oil** GGL9035X

**Fuel Tank First Aid Cleaner, Etcher And Sealer.**

Use these products to either protect and extend the life of your fuel tank especially useful if you wish to retain the original tank, or use on your new tank prior to fitting.

The industrial cleaner allows you to clean, to professional standards, your original tank. If you are planning to seal it, then you will need to use the etching agent to ensure maximum bond. The Sealing (Slushing) compound puts a highly protective film on the inside of the tank that will prevent rust - it will even seal minor leaks/seals.

(24) **Cleaner 1 U.S. Gallon** GAC9858X
(25) **Etching Liquid 16 oz** GAC9859X
(26) **Sealer U.S. Quart** 608591A

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| BRISTOL 0117 923 2523 | DARLINGTON 01325 281 343 | MANCHESTER 0161 480 6402 |
Waxoyl

Waxoyl has long been the classic car owners best defence against creeping rust. Once applied, it forms a thick waxy coating that immediately stabilises existing rust and prevents any future corrosion. To protect your car simply apply Waxoyl liberally to inside and outside all box sections, chassis rails etc... Our starter kit contains everything you need for initial protection, including a 2.5 litre can of Waxoyl, pump and sprayer.

| Waxoyl Starter Kit | W0105 |
| Waxoyl Aerosol 400ml | W0101 |
| 5 litre Can | W0104 |
| 2.5 litre Can | W0102 |
| 2.5 litre Cartridge | W0103 |
| Jumbo Trigger Spray Gun | W0107 |
| High Pressure Spray Gun | W0108 |
| 1 Metre Extension Probe | W0109 |
| Underbody Seal 1 litre | W0113 |
| Underbody Seal 500ml | W0114 |

Gunk Cleaning Fluid

Gunk, the No.1 degreaser.

| Engine Cleaner; | MRD1040 |
| Spray-On 400ml Aerosol | MRD1187 |
| Concrete Cleaner 1 litre | MRD1257 |

Hammerite Underbody Seal & Smoothrite

Long proven products, that are easy to apply to those awkward corners. Helps to protect the underbody of your classic and give that quality professional finish.

| Hammerite Underbody Seal; | MRD1109 |
| Aerosol Sealer 600ml | MRD1109 |
| Hammerite Underbody Smoothrite; | MRD1216 |
| Aerosol Black 400ml | MRD1202 |
| Can 250ml | MRD1202 |

Classic Car Colours

Here is a selection of the general paints we stock. For specific car colour paints please contact your nearest branch. Aerosol paints are supplied in 400ml, the brush-on is 500ml and the touch-in paint is supplied in 125ml tin, with a brush in the lid.

| Engine Paint; | CCEP1 |
| Maroon | CCEP2 |
| Metallic Green | CCEP3 |
| Green | CCEP4 |
| Engine Black | CCEP6 |
| Gold | CCEP11 |
| Yellow | CCEP10 |
| Bright Red | N/A |
| Other Paints; | CCWP1 |
| Wheel Silver | MRD1048A |
| Crackle Black Paint | CCSB1 |
| Super Gloss Black | CCSB2 |
| Satin Black | CCMB1 |
| Matt Black | CCCB1 |
| Chassis Black | CCCB1 |

*These paints are supplied in 125ml touch-in tins.

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AutoGlym

AutoGlym car shampoo and polish are renowned for being the best all round car care products for body, bumpers, wheels and interior.

(21) Super Resin Polish AG001
Car Exterior Shampoo AG002
Car Interior Shampoo AG003
Glass Polish AG004
(22) Chrome & Metal Polish AG005
Vinyl & Rubber Cream AG006
Wheel Cleaner AG007
(23) Leather Care Cream AG008
Engine Cleaner AG009
Cutting Polish AG010
Extra Gloss Polish AG011
Plastic Restorer & Protector AG012
(24) Black Bumper Renovator AG014
Silicone Spray 450ml AG015
Silicone Free Spray 450ml AG016
(25) Leather Care Cream AG008
Engine Cleaner AG009
Cutting Polish AG010
Extra Gloss Polish AG011
Plastic Restorer & Protector AG012
(26) Leather Conditioner 250ml GAC2058X
Neutral Leather Cleaner 250ml GAC2059X
(27) Connolly Hide Food (11oz) GAC2057X
Lexol Vinyl & Leather Upholstery Care

The leather cleaner removes dulling grime from your seats, while the conditioner helps keep the leather soft and new. Vinylx is an all-in-one cleaner and protector for all vinyl and plastic surfaces.

Vinylex 220-185
Lexol Leather Cleaner 220-190
(28) Lexol Leather Conditioner 220-195
Lexol Conditioner Refill 220-200

Kozak Dry Wash Cloth

Kozak's specially treated long cotton fibres are woven into a thick plush Nap which draws the dust up and away from the paintwork.

Kozak Dry Wash Cloth 231-620
Penrite offers a complete range of high performance, quality oils and lubricants, specifically formulated for veteran, vintage and classic cars.

Founded in 1926, Penrite has a wealth of experience behind its products. Indeed, the company was lubricating many of today's vintage and classic cars, when they were new!

Modern engine lubricants do not necessarily suit older vehicles, the oils are often too thin and, the additive packages chosen suit today's advanced engineering and materials, not those employed in the design and manufacture of the vehicles of earlier years.

Penrite engine oils are blended from high quality base stocks, combined with selected compatible additives to give the best possible performance, increased engine protection, high oil pressure and, reduced oil consumption. These oils also help reduce gumming and sludge deposits.

The Penrite philosophy of meeting and exceeding original requirements using modern technology extends across a wide range of lubricants - from engine oils for vehicles of all ages, transmission and steering box oils, to specially formulated chassis greases for veterans. Penrite lubricants provide complete mechanical protection and help you care for your vehicle.

Penrite Engine Oils

Running-In Oil

Penrite Running-in oil is designed to promote and control the bedding-in process of newly built engines. It should be used for the first 300 miles and then replaced with the appropriate grade of HPR oil.

(01) 1 litre GGL9015X
5 litre GGL9014X

HPR 15W/60

A high viscosity semi-synthetic multigrade engine oil, specifically developed for multi-valve, multi-cam high performance engines requiring a 15W engine oil. This oil offers good all round protection, including good pumppability when cold, excellent viscosity characteristics when hot.

(02) 1 litre GGL9003X
5 litre GGL9002X

Classic 20W/50

Designed specifically for vehicles from the 1960's and '70's, this 20W/50 multi-grade meets the highest API SH/CD standards. Like the original 20W/50's of the 1960's, Classic 20W/50 is a full-bodied, hard-wearing oil giving excellent film strength under the heaviest loads.

(03) 5 litre GGL9044X

HPR 20W/60

Replaces SAE 30 and 20W/50. Formulated for most post-war classics, particularly high performance vehicles such as MG, Porsche, jaguar and Triumph. Suitable for cars running six volt electric systems, where starter motor cranking speeds require an engine to turn over with minimal drag.

(04) 1 litre GGL9005X
5 litre GGL9004X

Penrite Gearbox Oils

Gearbox Oil 30

Replaces EP 30 and 20W/50. Formulated for most post-war classics, particularly high performance vehicles such as MG, Porsche, jaguar and Triumph. Suitable for cars running six volt electric systems, where starter motor cranking speeds require an engine to turn over with minimal drag.

(05) 1 litre GGL9019X
5 litre GGL9018X
Penrite Gearbox Oils cont...

**Gearbox Oil 40.**
Replaces EP 90 and SAE 40.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 litre</td>
<td>GGL9021X</td>
</tr>
<tr>
<td>5 litre</td>
<td>GGL9020X</td>
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</tbody>
</table>

**Penrite Axle Oils**

**Hypoid Oils.**
The crown wheel and pinion teeth in a hypoid axle slide as well as rotate against each other, which requires the use of extreme pressure additives. Penrite hypoid oils are formulated to meet the specific requirements of older vehicles.

**Hypoid 80W/90.**
Replacing EP 80, this oil exceeds GL5 specifications, and is suitable for most post-1960 hypoid and spiral bevel gears.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
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<tbody>
<tr>
<td>1 litre</td>
<td>GGL9024X</td>
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</table>

**Hypoid 85W/140.**
Replacing EP 90, this oil is primarily for post-1960 cars requiring a higher viscosity than Hypoid 80W/90, and commercial vehicles. Exceeds GL5 specifications.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>1 litre</td>
<td>GGL9023X</td>
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</tbody>
</table>

**Limslip 85W/140.**
Formulated especially for vehicles where high off-set hypoid gear sets are used in combination with limited slip or spin resistant devices. Ideal for cars fitted with Salisbury and similar limited slip differentials including Jaguar and Aston Martin.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
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<tbody>
<tr>
<td>1 litre</td>
<td>GGL9025X</td>
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</table>

**Mild EP.**
A SAE 140 grade oil suitable for use in bevel, worm and pre-1960 hypoid gears. Rated GL4, this gear oil does not possess the additive package found in later GL5 gear oils.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>1 litre</td>
<td>GGL9017X</td>
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</table>

Penrite General Products

**Storage Protection Supplement.**
When added to either engine, gearbox and rear axle oils, it protects internals from acidic corrosion and seizure during long storage periods.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>0.5 litre</td>
<td>GGL9043X</td>
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</tbody>
</table>

**Graphite Grease.**
Suitable for general lubrication work, being highly water resistant. Recommended for shackle and spring leaf lubrication.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>500gm</td>
<td>GGL9030X</td>
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</tbody>
</table>

**High Melt Bearing Grease.**
Calcium complex base grease especially suitable for classic and vintage wheel bearings where exposure to water spray and therefore grease wash-out was a problem.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>500gm</td>
<td>GGL9040X</td>
</tr>
</tbody>
</table>

Cam Assembly Lube.
For lubricating engine components during assembly - not for use on pistons or in the ring area.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>40grm</td>
<td>GGL9031X</td>
</tr>
</tbody>
</table>

Pouring Jugs.
These handy jugs are designed to fit in with the feel of a classic garage, also making pouring a cleaner process. Available in black and bearing the Penrite logo they are essential garage equipment.

<table>
<thead>
<tr>
<th>Product</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pouring Jugs 1 litre</td>
<td>GAC8066X</td>
</tr>
<tr>
<td>Pouring Jugs 0.5 litre</td>
<td>GAC8065X</td>
</tr>
</tbody>
</table>

Cooling System Corrosion Inhibitor.
Protects metals in the cooling system from corrosion. Can be used to enhance the anti-corrosion properties of anti-freeze.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 litre</td>
<td>GGL9041X</td>
</tr>
</tbody>
</table>

Shock Absorber Oil.
Use this Penrite oil if you want to tinker with your lever arm shock absorber damping rates. No.1 Light is for most single and double acting dampers including lever arm. Ideal for J ackall systems. No.2 which is ideal for competition purposes is a heavier grade that increases the damping rate, also suitable for non-piston type dampers.

<table>
<thead>
<tr>
<th>Product</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.1 Light 500ml</td>
<td>GGL9038X</td>
</tr>
<tr>
<td>No.2 Heavy 500ml</td>
<td>GGL9039X</td>
</tr>
</tbody>
</table>

Steering Box Lube.
A self levelling, high viscosity lubricant containing non-corrosive extreme pressure additives. Ideal for veteran & vintage steering boxes. Not suitable for steering racks.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering Box Lube 500ml</td>
<td>GGL9028X</td>
</tr>
</tbody>
</table>

Water Pump Grease.
Specially formulated for water pumps that require regular greasing.

<table>
<thead>
<tr>
<th>Product</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Pump Grease 100gm</td>
<td>GGL9034X</td>
</tr>
</tbody>
</table>

Carburettor Damper Oil.
Specifically formulated for SU carburettors both damped and non damped of all ages and, some Strombergs.

<table>
<thead>
<tr>
<th>Product</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carburettor Damper Oil 125ml</td>
<td>GGL9035X</td>
</tr>
</tbody>
</table>

Lead Substitute.
We stock a Lead Substitute endorsed by the Federation of Historic Vehicle Clubs that enables unleaded fuel to be safely used in engines originally designed for Lead fuel.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superblend 500ml</td>
<td>GAC806</td>
</tr>
</tbody>
</table>

There are many other Penrite oils and lubricants that we stock but have not listed here - such as lubricants for Veteran, Vintage and/or modern high performance engines/transmissions.

If you require a specific oil/lubricant for your vehicle that we have not shown, please call your local Moss branch who will only be too pleased to help you.

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**Indoors**

**MG Logo Earrings**
Enamelled miniature marque logo earrings.

(01) MG Logo Earrings GAC940X

**MG Marque Lapel Pins**

These colourful, attractive enamel and chrome logo pins will look great on hats or jackets.

MG Octagon;
(02) M G Octagon - Black/White GAC947X
Austin Healey Wings GAC946X

**Factory Dealer & Service Signs**

These multi-coloured screen printed signs are perfect replicas of the originals.

(03) MG Service 12” x 16” 214-320
(04) BMC Genuine Parts 18” x 27” 214-230
(05) BMC Authorised Dealer 18” x 27” GAC9928X
Austin Healey Service 6” x 24” 214-210
(06) Austin M G Authorised Service 12” x 48” 214-210

**Sprite full colour pressed tin period style sign. Reproduced colour, embossed advertisements. Metal with rolled edges.**

Sprite Period Style Sign 12” x 16” 214-350

**Parking Signs**

Protect your territory and keep away unwanted and inferior cars from your parking space with these original U. S. style parking signs.

- With Austin Healey Logo GAC8033X
- With MG Logo GAC8032X

**MG & Austin Healey Official Dart Board**

The perfect gift for MG and Austin Healey darts enthusiasts. This 18” board is made to World Dart Federation regulations, and features the car company’s address across the bottom as well as the marque logo at the top.

(08) M G Dart Board GAC9962X
Austin Healey Dart Board GAC9964X

**Computer Mouse Mat**

(09) Sprite I Mouse Mat HM P 115012
Union Jack Mouse Mat GAC1045X

**Bar Stools With Marque Logos**

Ideal when you’re having a well earned respite during those long discussions in the garage whilst having a coffee. 14” easy clean vinyl seats with chrome plated legs 30” high.

- Austin Healey Bar Stool 231-810
- M G Bar Stool 231-800

**Outdoors**

**MG Service Sign**

**Signs**

**Bar Stool**

**MG Logo Watch**

Swiss quartz movements with chronograph movement, this watch is water resistant and features the MG logo. Presentation boxed.

(11) Black Face/Bracelet Strap MGR011

**MG Sonnet Pen & Pencil Collection**

This high quality Parker fountain pen and pencil with discreet MG logo make a perfect gift, whatever the time of year. Individually presentation boxed.

the perfect gift for enthusiasts...

(12) Fountain Pen MGR038
Pencil MGR041

**MG Through The Ages**

Over 25 years ago, British Leyland issued this poster, now a collectors item, from Abingdon announcing the 1981 auction of the MG factory. It depicts over 30 models from 1924 to 1965 with basic specification.

(13) M G Through The Ages MGL4001X

**Cut-Away Sprite Poster**

This highly detailed cut-away illustration of a M k Sprite by S.E Porter first appeared in the magazine ‘The Motor’ in May 1958. It measures 16” x 24”.

(14) Cut-Away Sprite Poster GAC9529X

**Union Jack Flag**

Made from light-weight polyester complete with metal eyelets.

(15) Union Jack Flag GAC9939X

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**Embroidered Patches**

Add that splash of colour to your jacket, etc... and show your loyalty.

- Austin Healey Round: GAC9952X
- Austin Healey Wings: GAC9953X
- Austin Healey Sprite: GAC9954X
- MG Octagon Large: 229-505
- MG Octagon Small: 229-500
- British Leyland: GAC9960X
- Union Jack: 229-510
- BMC: GAC9961X
- BM C: GAC9961X

**Embroidered Peak Caps**

This beige and navy peak cap is embroidered with the MG logo. The back features the Union Jack and Moss logo. One size fits all.

- Peak Cap With MG Logo - Beige/Navy: 219-822

**Embroidered Knitted Hat**

Perfect for top-down driving, these black and red hats, embroidered with an MG or Austin Healey logo, are serious cold weather gear. Made from heavy-weight acrylic with an anti-pill polar fleece lining that really makes a huge difference.

- Knitted Hat With MG Logo - Black/Red: 013-410
- Knitted Hat With AH Logo - Black/Red: 013-411

**Coffee Mug**

A very essential workshop item for all serious classic car owners.

- Coffee Mug: GAC8004X
  - Sprite I
  - Sprite & Midget
  - M GA
  - M GB Roadster
  - M GB GT
  - M GC

**Wine Glass Set**

Set of four wine glasses with MG Safety Fast logo.

- Wine Glass Set: GAC1056X

**MG Fleece**

Dress the part in an MG logo (Silver) fleece jacket! These embroidered zip-up fleeces, made from 100% polyester, are available in a choice of five colours and are ideal for those top down driving days.

**Picnic Blanket**

Ideal for that Sunday picnic, this rug has a waterproof base, folds away neatly and features handy carry-straps.

- Picnic Blanket: GAC8025X

**MG Umbrella**

These high quality 2 seater umbrellas come in traditional MG colours.

- Red/Black: GAC8010X
- Grey/Red: GAC8011X
- Brown/Cream: GAC8012X