MGA Twin Cam Specifications



Production Period

1958/60

Chassis

Steel box section, welded. Cross braced, suspension mounts integral.

Wheelbase: 7ft 10in
Track Front: 3ft 11.91in
Rear: 4 ft 0.0875in

Steering

Gam Gears rack & pinion system.

Turning circle: Approx. 32ft
Castor angle: 4 degrees
Camber angle: 1 degree at full bump
Kingpin angle: 9.75 degrees at full bump
Toe in: Zero
Grade of oil: SAE 90

Brakes

Disc brakes all four wheels.

Disk size front: 11in
Disk size rear: 11in
Method of operation - Hydraulic, Dunlop system: handbrake operating on rear caliper by cable

Wheels

Ventilated disc wheel, centre locked.

Rim size: 4J * 15
Tyre Size: 5.90 * 15
Tyre pressure 22psi front, 24 psi rear

Engine

4 cylinder in line, twin ohv

For 1500, 1600, 1600MkII

Bore: 75.41mm
Stroke: 89mm
Cubic capacity: 1588cc
Power output: 108
@rpm: 6700
Compression ratio: 9.9:1

Valve timing:
IO 20deg BTDC
IC 50deg ABDC
EO 50deg BBDC
EC 20deg ATDC

Valve lift: 0.375in
Rocker Clearance: 0.014/0.015in
Valve seat angle: 45 degrees
Valve spring type: Double coil
Seat Tension: 84lb
Installed length: 1.78in
Free length: 2.54in
Connecting rods: H section forged steel
Length: 6.5 in centres
Bigend type: Steel backed Lead/Indium shell
Smallend type: Bronze bush
Gudgeon pin diameter: 0.875in
Pistons: Aluminium alloy, solid skirt, domed crown
Number of rings: 3
Oil pressure: 50/60psi. Idle at 15psi
Grade of oil: SAE 30
Sump Capacity: 13 pints including filter
Firing order: 1 3 4 2

Ignition Timing

TDC

Distributor points gap: 0.015in
Sparking plugs: N7YC
Gap: 0.025in

Carburetter Type

Twin SU H6

Jet size, main: 0.100
Needle recommendation: OA6

Clutch

Borg & Beck Single dry plate

Material: Ferodo
Number of springs: 6

Gearbox

Four speed manual, synchromesh on top three ratios.

Ratios:

Top: 1.00
Third: 1.374
Second: 2.214
First: 3.64
Reverse: 4.76

Grade of oil: SAE 30
Capacity: 4.5 pints

Propellor Shaft

Hardy Spicer open shaft, needle bearing u/j at each end.

Final Drive

Live axle, hypoid bevel gears.

Ratio: 10/43
MPH/1000rpm: 17.3
Grade of oil: SAE 90
Capacity: 2.25 pints

Cooling System

Pressurised, thermostatic control, pump assisted. Capacity: 13.5 pints.

Fuel Tank Capacity

10 gallons. Tank located at rear of car under boot floor.

Body Styles

Open 2 seat Coupé.
Numbers built: 2111

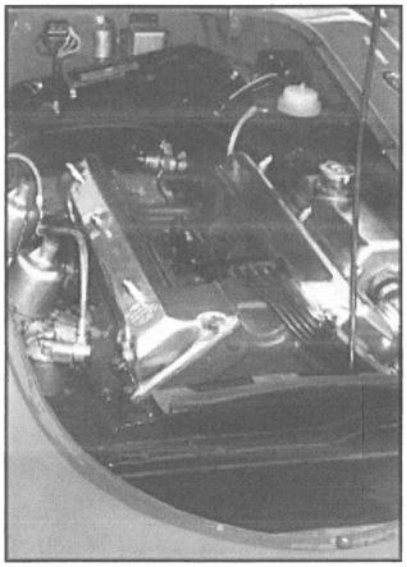
See also Twin-Cam Engine history and Twin-Cam Production database



Made in England

MGA Twin-cam

MGA Twin Cam Engine



The original twin-cam engine was the idea of Gerald Palmer, the designer of the 1953 MG ZA Magnette, it's sister the 1952 Wolseley 4/44; the 1955 Riley Pathfinder and Wolseley 6/90. The ZA Magnette was offered to the public using the then new 1489cc BMC 'B' series four cylinder ohv engine. This engine produced 60bhp, later improved to 68bhp. The ZA was a fine sports saloon of its day, but Palmer tried to convince the new BMC bosses to build a twin-camshaft engine of his design, so as to be able to offer a 'GT' version of the ZA as well. MG were being starved of cash, as BMC would not even sanction the MGA at first, let alone another engine. Things did not lay idle for long though, as both the Austin Design Office,(ADO) and Morris Engines Branch, were permitted to design their own 'Twin Cam' engine.

Meanwhile the MGA was introduced to an excited public in 1955, using the ZA 68bhp ohv engine. This was improved to 72bhp in 1956 in the MGA, but the following 1956 ZB Magnette kept to the 68bhp unit.

Palmer had penned an outline of the engine he saw as suitable, but the two halves of BMC set about their own designs. The unit from the Austin office had been designed from first principles, on a clean sheet of paper. That from the Morris Branch was more relevant, in that it used the cylinder block of the MGA/ZB 1489cc. MGA cars with both the Austin and Morris Twin Cam engines were entered in the 1955 Tourist Trophy event. After this time the Austin engine was not seen again. This would easily fit the current MGA 1500 gearbox and engine bay. Breathing was always the limit on any engine's power output, so the double overhead camshaft (dohc) cylinder head was ideal. It was an aluminium alloy casting, of the cross-flow design.

To fit the DOHC head to the 'B' series cylinder block, the heads studs were slightly repositioned and of a larger diameter. So successful was the design in improving the engine, it would rev quicker than some people could take their foot off the throttle pedal. The engine was easy to over-rev, and hence damage the internals, such as a piston hitting a valve. A cure that MG never used, existed even in those days, a rev-limiting rotor arm. The BMC recommended that fuels of at least 95 octane be used with N3 spark plugs for road use and 100 octane and N58R for competition. Oil fouling of spark plugs was often blamed on the spark plugs, but after the oil consumption problem was cured by later changes to the piston rings this was not a problem. The unit got itself a bad name for melting piston crowns and the company mistakenly attributed this to over advanced ignition timing. The distributor was changed to a positive stop mechanical advance type without vacuum advance. This did not solve the problem and so it was decided to reduce the compression ratio to 8.3:1 which prevented the pistons from melting, but had not solved the problem, only masked it. The problem was actually caused by the SU carburettors becoming lean due to the effects of engine vibration at certain RPM. This problem was already well known to other engine manufacturers e.g. Coventry Climax. It

was even documented by BMC themselves in the Special Tuning booklet for the pushrod MGA if 10:1 compression was used. The 8.3:1 ratio dropped the power figures from 108bhp to 100bhp @ 6700rpm.

Zero to 60mph was in 11.5 seconds (factory figure,) and in 1958 that was fantastic in a car of the MGA Twin Cam's price range. Zero to 100mph took just 30 seconds. Motor magazine testers said 0-60 was in 9.1 seconds; Autocar magazine said 13.3 seconds. The car prepared for the Autocar testers was obviously a poor one. The Twin Cam did an official 21mpg of petrol.

MG issued a small pink leaflet entitled 'Getting the best from your MGA Twin Cam'. It has, in large letters, " PLEASE READ BEFORE DRIVING". No doubt this was because the car was being used by owners who did not understand the requirements of, what after all, was a road-going racing car.(Leaflet is BMC publication ADK1412.)

The engine used a normal 1489cc cylinder block but with a bore of 75.414mm. With the 88.9mm stroke this gave 1588cc capacity. Originally the engine was intended to be a 1500cc unit but was changed just before production to 1588cc to take advantage of the new 1600cc engine class for competition. It was fitted with a ribbed, cast aluminium alloy sump, cylinder head, and front casing carrying the new position for the distributor. The 'camshaft' of the old block now fulfilled the use of a jack-shaft, (called a half-speed-shaft by MG,) to drive the oil pump and tachometer. It also carries the sprocket for the timing chain. This shaft is gear driven, not chain driven as on the ohv engines, so rotates in the opposite direction to the old camshaft. The engine has fully floating gudgeon pins, (wrist pins,) in solid skirt pistons with a compression ratio of 9.9 to 1. The head carries two cast-iron camshafts, with 20;50;50;20 valve timings, and 0.375" lift. The inlet valves are 1.6" diameter, and the exhaust 1.44" dia. Both are set at a 40 degree angle in the head (80 degree included angle) giving a hemispherical combustion chamber, (hemi-head.) Double valve springs are fitted. For racing use, the exhaust valves are filled with sodium inside the stems. This leads the heat away from the head quicker, and was a common fitting to WW2 piston engined figher aircraft. Both cams are identical, apart from the timing slots; and both have hexagons cast in to enable them to be turned when timing.

The cylinder head, with steel valve seat inserts, although these are cast in position, was of efficient cross-flow configuration. The exhaust manifold was on the normal 'B' series side, but with two huge SU H6 1 3/4" carberetters, (carberetors,) with pancake air filters and a cold air feed duct, on the other side. On cars meant for racing, the SU's grew to H8 2" carbs. Interestingly, on the SU inlet manifolds, one securing nut is in the INSIDE of the port. Owners would Locktite and peen the threads, so as to not lose this nut into the engine. On cars fitted with after-market Webers and relevant manifolds, for racing, did not have any nuts inside their manifolds. To feed fuel to the two carbs, there was a high capacity, high pressure LCS single ended SU electric pump fitted, similar to that fitted to the Jaguar XK's.

To hold the solid skirt aluminium alloy, convexed head pistons to the crankshaft, 'H' section forged 55 ton, alloy-steel connecting rods were fitted. These were the normal angled split big ends type, but without the pinch-bolt little end arrangement of the normal ohv unit. No oil spray hole was drilled in the rod end either, for bore lubrication. The fan was of five blades, not the normal two or four of the other cars. The engine was originally a BC16G numbered type but was later changed during production to BC16GB to differentiate it from the upcoming pushrod MGA 1600. Later cars had the inner wing splash panels capable of being removed, (inner fender panels,) to give better access to those hidden components, with a front wheel off. Also 5 holes were made in the front chassis crossmember to facilitate removal of the engine sump. All you could see under the open bonnet was two massive, polished alloy camshaft covers, it must have been a swine to work on in situ.

Early cars used the MGA/ZB Magnette's 4psi cooling system, but later this rose to 7psi. Again, the distributors had a vacuum advance from the MGA/ZB, (type 40510B,) but this was later deleted and replaced by distributor, (type 40718A,) with no vacuum advance. It was often retrofitted to many earlier cars. From engine number 1523 the ignition markings were stamped on the distributor, (22-26 degrees advance at 3000rpm.) Distributor drive gears would wear rapidly if the distributor was not fitted in position exactly as described in the Workshop Manual.

Some engines suffered from fracture of the tappets. This would normally lead to follow-on engine destruction. It was mistakenly believed that this was due to the tappets tilting and locking in their bores and the length of the tappet was increased from 1.25" to 1.50" at engine 1087. However this did not cure the

problem and a second incorrect diagnosis was that the tappets were picking up aluminium from their bores and seizing, and so cast iron sleeves were fitted to the tappet bores at engine 1587. The fractures continued until it was finally realised that the tappet material composition was incorrect. At engine 2211 molybdenum was added to the tappet material. All fractures ceased and many engines were retrofitted with the new tappets. These can be recognised by a large 45 degree chamfer on the top edge. This chamfer was to allow BMC service mechanics to check if the change had been carried out by merely removing the camshaft covers. The camshafts were chain driven off the half speed shaft, itself driven by a gear on the crankshaft nose. This was a long chain, and needed to be tensioned/timed correctly. The chain could stretch in use and adjustment was very important. The tensioners were aluminium and the threads could be pulled out by the constant whipping of the chain, after high mileage. This can be cured using a helicoil thread insert, or fitting aftermarket steel tensioners

At engine number 315, the number of teeth on the gears on the half speed shaft and matching oil pump drive spindle were changed to reduce wear.

The oil consumption on early Twin Cam engines was extremely excessive. This also caused fouled spark plugs. The piston rings were changed on several occasions with the latest changes being late in the production period at engine 2057. The main changes were the replacement of the top chrome ring with a cast iron type and a new scraper ring with an expansion ring. This resulted in a normal oil consumption.

There were quite a few niggly things with the Twin Cam engine, other than the above problems. On early cars, numbers 504 to 531, the starting handle dog on the front of the crankshaft could foul the steering rack. Dynamo brackets would crack, so MG issued stronger cast-iron items. The gearbox ran very hot, and if its breather blocked up, the expansion of the oil could cause leaks.

If, after suffering too much, MG would fit a normal ohv 1600 (1588cc) engine for you. The Twin Cam production ended in April 1960, after 2111 cars. Over 1000 were exported to the USA. A 1588cc developement Twin Cam MGA beat a 2639cc 'C' series engined prototype Austin Healey 100/6 in the USA, in August 1956, in a record attempt. The MG, EX179, did 170mph, the Healey just managed 152mph.

Experience with racing the Twin Cams over the years has led to the possible cause of the piston problems. After all it was not the timing or plugs, but simply fuel starvation at certain rpm, giving a very hot, weak mixture. The cause was fuel frothing that leaned out the mixture, and then burnt out the pistons, the fault the engine became notorious for. This occurred at two specific engine resonant frequencies that coincided with about 2500 and 5500rpm. The first would pass by quickly, but the second was within the rpm range often used. All SU cars had this problem, but those fitted with Webers did not. The solution, use Webers, or have the SU manifold machined to take the Weber rubber 'O' ring from the 45 DCOE. This fits the SU H6 bolt pattern. The slightly flexible joint that results cures the vibrations.

The engine was still fantastic for its day, and like many highly strung machinery, demanded constant attention. It was not a car to pose in, but to drive.

Originally written by Neil Cairns, with lots of help from Bob Seymour's brother, (and editor of "Morris Bull Nose Engines" book ,) Peter Seymour; and Bill 'S' who races MGA Twin Cams in the USA. Updated January 2012 by Mick Anderson.

More MGA information | Twin-cam production data



Made in England

AA2887ATC

MGA Ford Sierra Gearbox Conversion

Fitting Instructions

This gearbox conversion kit is designed for adapting the ford Type 9 gearbox, 5 speed as fitted to the Ford Sierra 1983-1987 to the MGA. This gearbox is referred to as 'N' type in Haynes Owner's Workshop Manual for Ford Sierra.

Safety

There is considerable work required underneath the MGA when fitting this conversion. Consequently the use of a vehicle inspection pit or vehicle lift is recommended. If these are not available the car will need raising front and back to give sufficient space to work safely and comfortably under the engine/gearbox/propshaft areas. To accomplish this support the car front and rear with properly sized and located axle stands. Do not use vehicle or trolley jacks for permanent support, only for raising and lowering the car.

The conversion kit comprises the following parts.

1. Cast Aluminium Alloy Bell Housing. Four fixing bolts/washers.
2. Machined aluminium alloy clutch release lever pivot. 2 fixing bolts/washers.
3. Clutch release lever pivot bolt, nut and washer.
4. Gasket. Bell housing to gearbox.
5. Spigot bush (extended).
6. Rear mounting bracket/ 2 distance pieces/ 2 bolts/ spring washers.
7. Rear mounting / 2 fixing bolts/washers/nuts. 1 central fixing bolt/ spring washer.
8. Rear mounting support cross member.
9. Cross member spacer (2)
10. Cross member tapped securing plate (2). 4 securing bolts/washers.
11. Modified gear lever assembly. 3 securing screws/plate.
12. Clutch plate.
13. Propshaft c/w Sierra gearbox nose piece.
14. Speedo cable / circlip / grommet.
15. LOCTITE
16. Set of bolts & nuts to fasten bell housing to engine.

General Philosophy

The cast aluminium alloy bell housing replaces the Ford cast iron bell housing from the Sierra application. The MGA Clutch release lever and clutch slave cylinders are re-used on the new bell housing.

An extended spigot bush is a force fit into the rear of the crankshaft and this bush supports the shorter Sierra gearbox primary shaft in the correct position.

The MGA Clutch cover assembly is re-used with the new driven plate supplied unless an MGB clutch is to be fitted.

A new gearbox mounting / attachment bracket and cross member is used to support the gearbox. The supporting crossmember is fixed to the 'C section gearbox tunnel and floorboard support rails which run longitudinally at the side of the gearbox. Fixing is by a tapped plate, spacer each side and four bolts.

A new, balanced propeller shaft complete with Sierra gearbox splined nosepiece is supplied which replaces original shaft.

A new speedometer cable is supplied which adapts the Sierra gearbox speedo drive to the MGA instrument, which must be re-calibrated to suit the new gearbox speedo drive ratios.

A modified, extended gear lever is supplied, which puts a new MG replica chrome gear lever into the exact position as originally, using the same gear lever gaiter

Sierra gearbox preparation

1. Remove the Sierra bell housing and clutch release mechanism from gearbox and discard.
2. At the front of the gearbox remove the four bolts and withdraw the clutch release bearing guide sleeve, note the orientation of the guide sleeve base. The small protuberance on the base points towards the bottom of the gearbox.
3. Carefully, using a hacksaw, saw off the parallel sleeve from the base leaving approximately 1 cm of sleeve on the base. De- burr and remove filings, clean oil seal thoroughly. The sleeve is not required.
4. Lubricate oil seal and shaft and replace base in correct position on gearbox. Replace cork gasket if damaged, again noting orientation, with the gasket cut out at the bottom. Replace and tighten bolts. 7-8 lb ft. 9-11 Nm.
5. At the rear of the gearbox is the extension housing, in aluminium alloy. Just forwards of the speedometer drive housing is a vertical downwards projection in the form of a narrow 'V which engages into the rear gearbox mounting (Sierra).
6. This projection needs to be removed to clear the MGA chassis. Using a hacksaw, cut off this projection horizontally, just above the lower threaded area of the projection - see diagram. De burr and file edges smooth, round off.

Vehicle Preparation.

1. Remove MGA Engine, gearbox and propeller shaft from the car as per the MGA workshop manual, observing relevant safety precautions.
2. Remove gearbox tunnel turret. This will need modifying later.
3. Separate engine and gearbox (if removed as a unit)
4. Remove the clutch slave cylinder from MGA gearbox.
5. Remove the clutch release lever and carbon thrust bearing from the MGA gearbox.
6. Remove the MGA speedometer drive cable from car.
7. Remove the MGA clutch cover and driven plate. If cover plate is to be re-used mark flywheel and cover plate before removal and re-use in the same position to preserve engine balance.

8. Examine the 'C' section gearbox tunnel and floorboard support rails which run alongside gearbox and bell housing. If not in excellent condition with welding in good state- replace and re-weld, as these take the load of gearbox mounting.

Assembling the new bell housing

1. Clean the four 12 mm bell housing attachment bolts in solvent to remove oil/grease. Similarly clean the four 12 mm threaded attachment holes on the Sierra gearbox. Assemble the bell housing and gearbox together, with supplied gasket between. Apply LOCTITE (supplied) to the threads of the attachment bolts and gearbox attachment hole threads. Using the spring washers with the 12 mm bolts torque them to 55 lb ft each (75 Nm)..
2. Bolt the aluminium alloy clutch release lever pivot into position using the M8 bolts and spring washers supplied, clean all threads and apply LOCTITE as in (1) above, torque the bolts to 15 lb ft.(20 Nm)
3. Assemble the original MGA clutch release lever and carbon thrust bearing into position, secure the release lever with the pivot bolt supplied, fit washer, locknut and tighten. Apply a little engine oil to the pivot bolt/ bearing.
4. Remove the original spigot bush from the rear of crankshaft, ensure that the vacated hole is smooth and without damage.
5. Apply bearing LOCTITE to the new spigot bush and drive it into the rear of the crankshaft as far as it will go. This is an interference fit into the crankshaft. Use an aluminium or copper drift to drive it in without damage.
6. Apply a little grease to the centre hole of the spigot bush to lubricate.
7. Assemble the clutch cover plate/ new driven plate in the normal way. (use a Sierra clutch alignment tool if available.)
8. At this point it is a good idea to assemble the gearbox/ bell housing to the engine to see if all is well. Bolt gearbox/ bell housing to the engine using bolts supplied.
9. Fit gear lever assembly with attachment bolts.
10. Remove engine sparking plugs, rotate engine and verify that all gears can be obtained and everything rotates freely and easily.
11. Remove bell housing / gearbox assembly from engine, remove gear lever assembly.

Fitting Gearbox to Car

1. Remove the two lower 10 mm gearbox extension housing retaining bolts and loosely assemble the new gearbox mounting bracket to the gearbox using the 10 mm bolts and distance collars supplied. The distance collars are positioned between the mounting bracket and the casing, one on each side, the longer 10 mm bolts hold the bracket to the casing.
2. Place a support under the car below the position of the gearbox and place the gearbox / bell housing in position as far back as possible with the rear extension resting between the cheeks of the original MGA rear mounting bracket.
3. Insert the two top bell housing to engine bolts into the bell housing. It is not possible to fit them with engine in position.
4. Replace the engine in position, and carefully guide the gearbox input shaft into the clutch assembly on the engine. When engaged, bring engine / bell

10. Refit gear lever. At this point it is worth while taking the car on the road (with transmission turret off) to ensure all gears can be engaged and the gearbox is working correctly under all load conditions and does not jump out of gear.

ENSURE THAT THERE IS ADEQUATE VENTILATION IN THE VEHICLE TO PREVENT THE BUILD UP OF ANY POSSIBLE EXHAUST FUMES.

11. Offer up the turret to the transmission cover. It will be necessary to substantially reform the top surface close to the hole forward of the gear lever to prevent contact between the turret and the gear lever horizontal plate. It may be necessary to remove a small amount of metal from around the hole to obtain adequate clearance.

12. When satisfactory clearance has been achieved, for all gear positions, check on the road again, that good clearance exists under all road conditions of acceleration and deceleration and that the gearbox stays in gear.

13. Fit gear lever gaiter. Check all gears can be engaged and stay in gear under all road conditions. It may be necessary to use a clip or TYRAP to prevent the gaiter riding up the gear lever and pulling it out of gear. The Ford gearbox needs less force to pull out of gear that the MG gearbox.

14. If satisfactory gear operation cannot be achieved with the standard gaiter. (Currently available gaiters are stiffer than original) then a satisfactory solution is to use an MGB 4 Synchro gear lever gaiter screwed on the top of the turret hole. This gaiter is designed to be mounted onto the top of the hole and not <u>through</u> the hole. This arrangement gives greater clearance and is not so restrictive as the original gaiter.

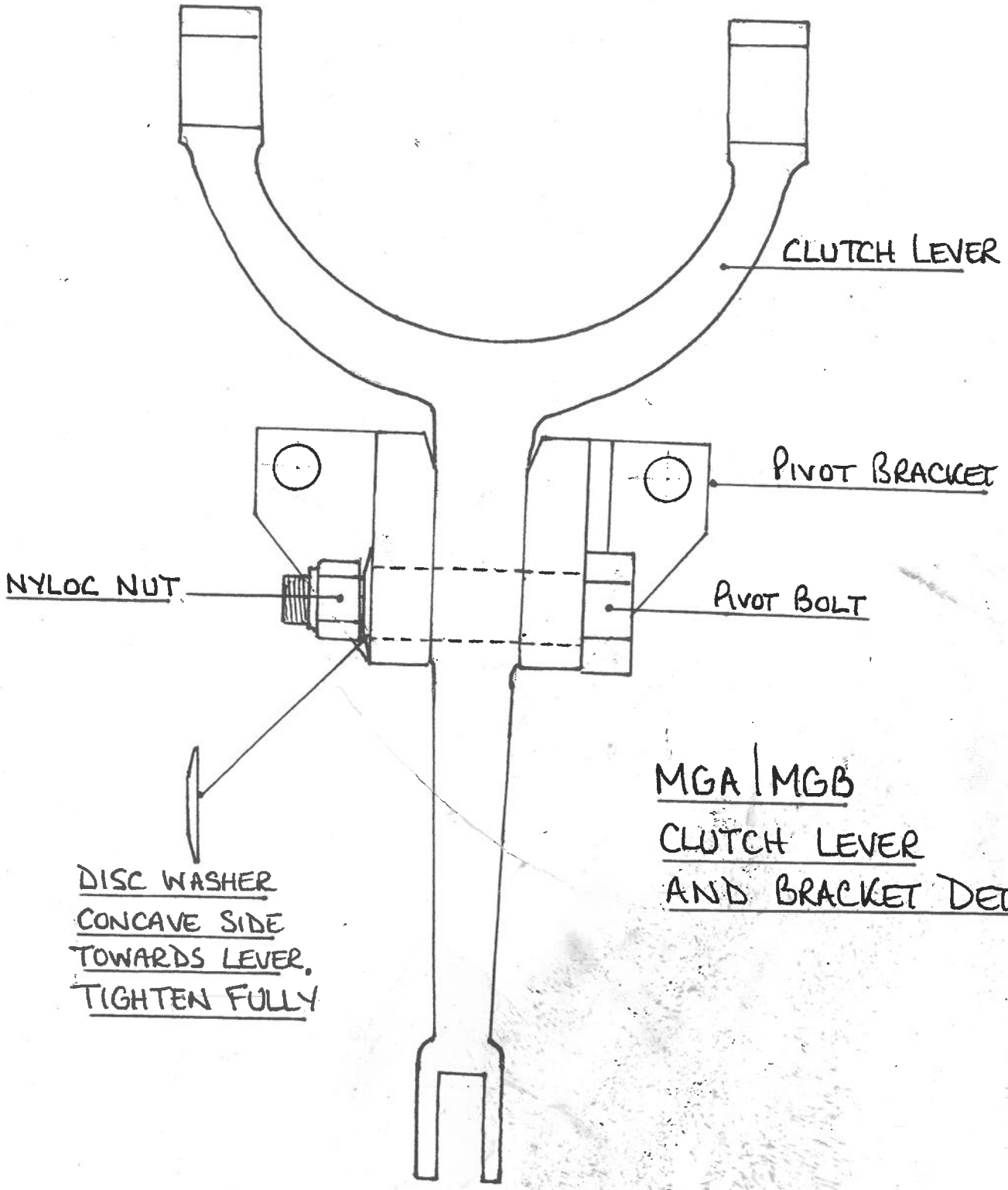
Hi-Gear Engineering Ltd.

Registered Office
82 Chestnut Ave
Mickleover
Derby DE3 9FS
Tel/Fax 01332 514503

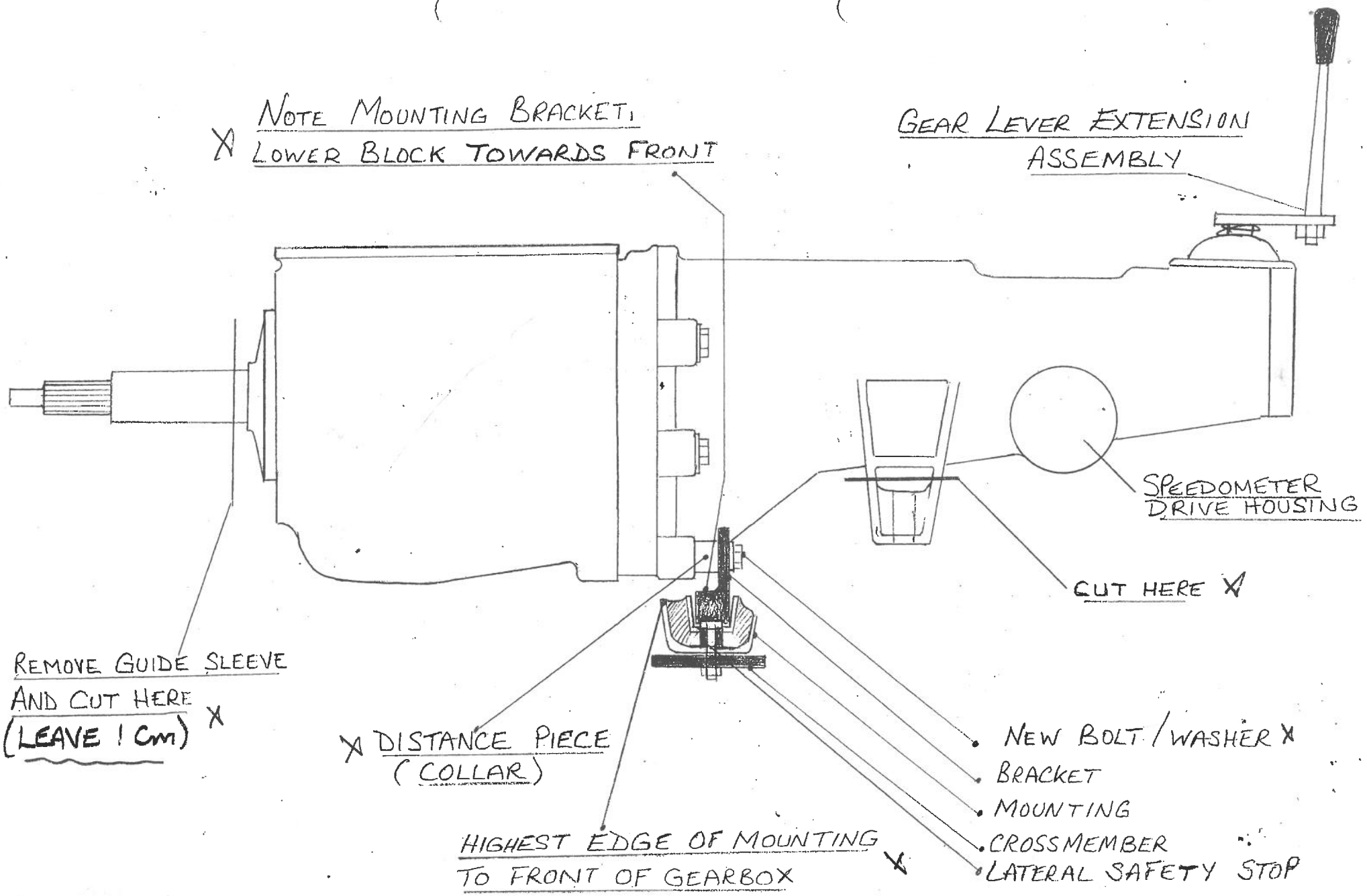
Registered in England
No 3503082

Director
P.D. Gamble

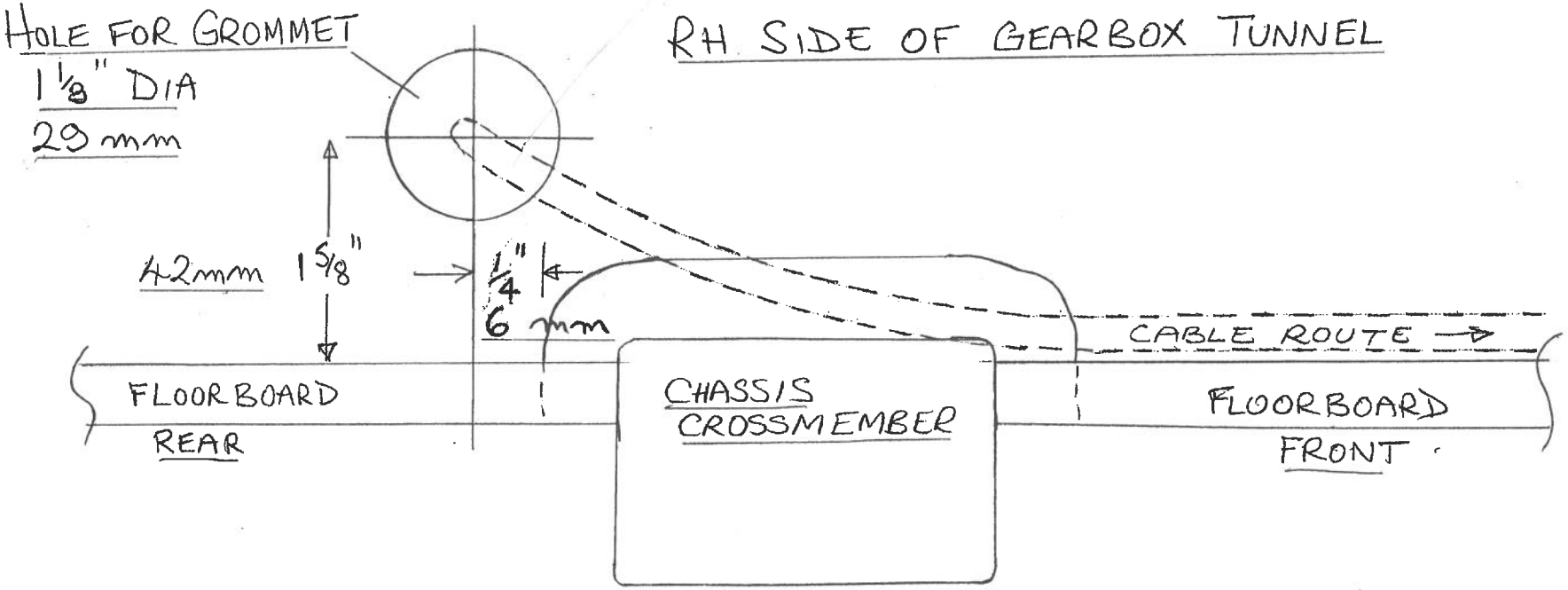
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MGA | MGB
CLUTCH LEVER
AND BRACKET DETAIL



GEARBOX PREPARATION DETAILS



DETAILS OF SPEEDO CABLE INSTALLATION

Hi-Gear Engineering Ltd.

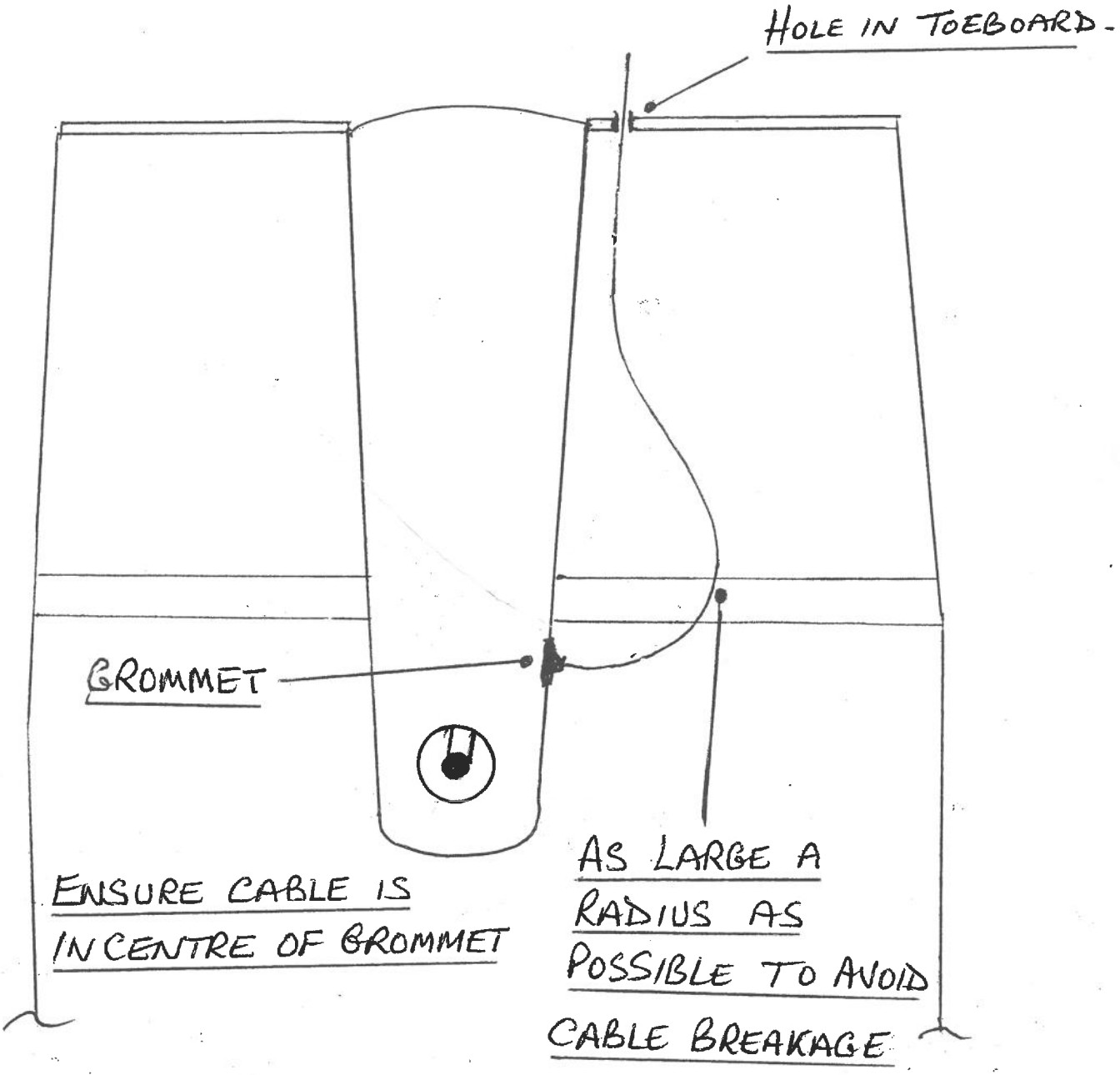
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Date

MGA SPEEDO CABLE ROUTING



CABLE LIES UNDER CARPET SATISFACTORILY

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P.D.Gamble
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OILS FOR TYPE 9 GEARBOXES

Specification 75w90 Gear Oil to API GL4

Examples

Comma SX 75w90 API GL4
Redline MT 75w90 APIGL4

DO NOT RUN ON AXLE STANDS. (STARVES REAR BEARING OF OIL)

DO NOT USE GL5 The extra antifriction additives* will cause irreversible damage to the gearbox bearings.This will invalidate guarantee.

DO NOT USE ATF FLUID (Automatic transmission fluid)

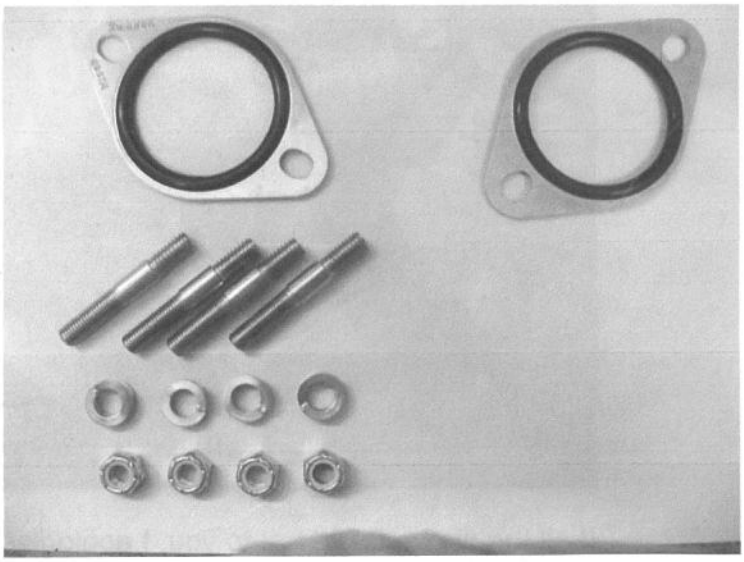
DO NOT crank,start or run the engine without the correct grade of oil IN THE GEARBOX, otherwise damage to gearbox will occur.

*current API GL5 formulations contain more antifriction additives than earlier API GL5 formulations.

March 2010

Anyway, and living through evenings of despair when I stood in the garage contemplating a partly empty engine bay and thinking I'd never get it done, it was finally all back together again. To my delight the engine fired up almost straightaway – but to my horror the oil pressure needle refused to rise. I 'phoned Peter Wood, who told me to put another gallon of oil in the sump. Obviously the pump needed full immersion to prime, for Peter's advice did the trick. Of course, I immediately released the extra gallon! Since the rebuild I've completed around 2,000 trouble-free miles – with engine revs not exceeding 2,500 for the first 500 miles and gradually increasing to 4,000 or so. You may think this is the end of the story. It isn't.

John Tofts had suggested using Thackery washers when refitting the carbs to the manifold. *Thackery-Schmackery*, I thought, because I wanted to get on with it and see if the engine fired. As I said earlier, it did, and I thought nothing further of John's advice. (I should here note that John's Twin Cam is fitted with twin Webers, which helped me to think nothing further). And then I read the Twin Cam Group's book "The First 50 Years". In particular, I read Bill Spohn's article on page 74. I then re-read it – twice. I implore you all to do likewise, if you haven't already done so and acted appropriately. I'm not saying that badly timed ignition doesn't matter, but I am saying that what Bill writes about carb floats sticking on the central post and causing a lean mixture seems far more likely to be the cause of piston failure.

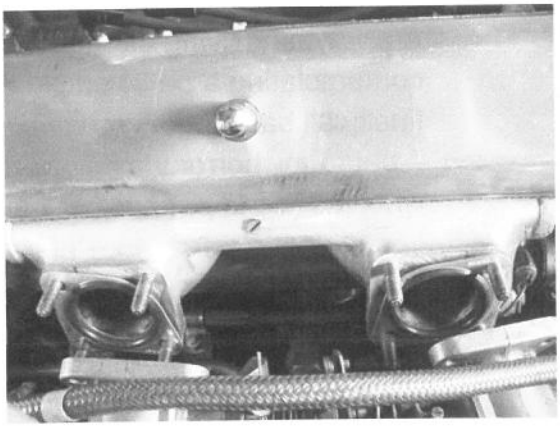


The remedy is unbelievably simple – and unbelievably cheap. For about £14+ VAT you can get the complete kit to cure the potential problem. Order the parts from Eurocarb of Reading (0118-943-1180 or www.dellorto.com). As the website suggests, Eurocarb are Dellorto (and Weber) specialists, but the carb mounting kit adapts for SUs. You can order on-line for next day delivery. You need 2 Misab 47mm. Spacers (these are thin alloy plates surrounding a lightly protruding O-ring; you'll need to elongate the fixing holes a fraction to fit the wider spacing of the manifold studs); 8 Thackery washers (these are the double wound type); and 8 nyloc nuts. (The photo shows only four nuts and washers, but you'll need eight).

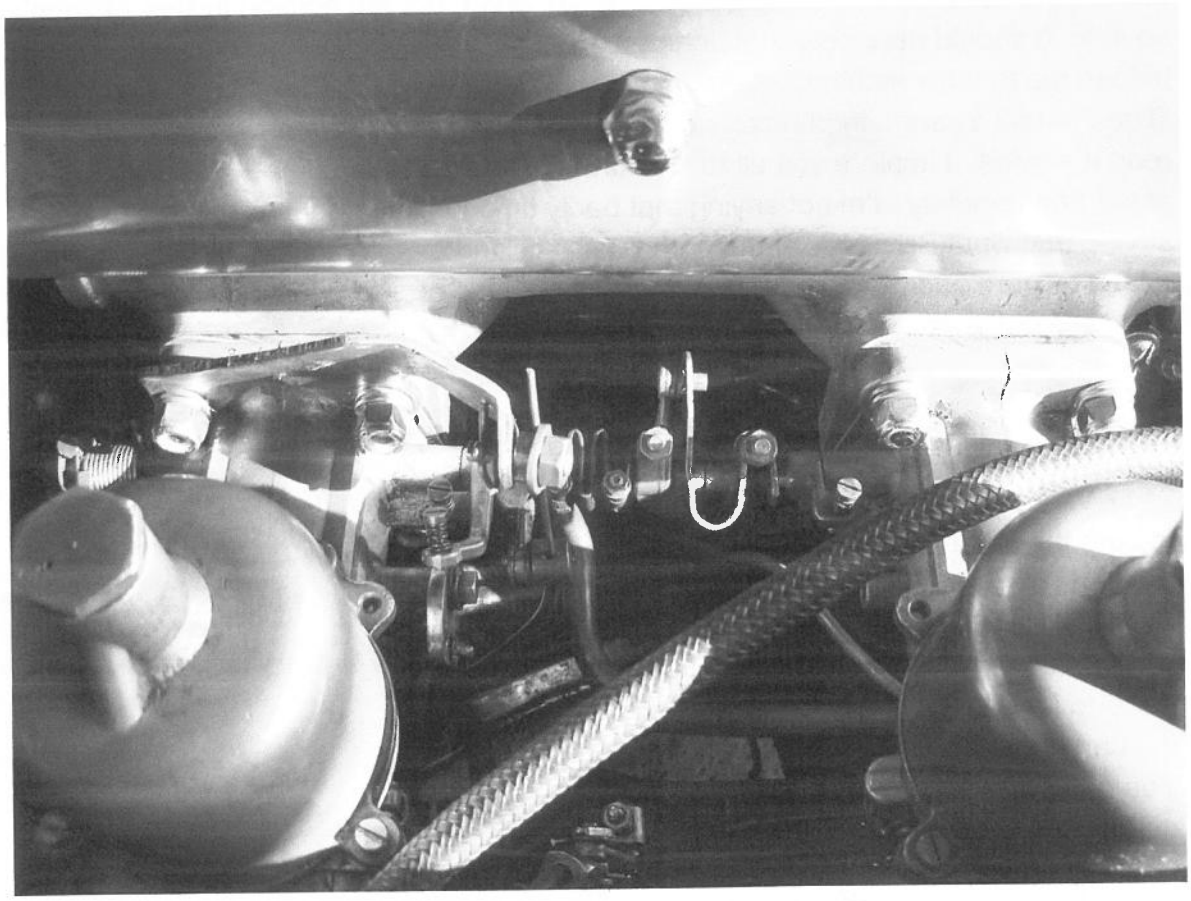
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(twin cam spec. USA)

When you fit them, first discard the original carb to manifold gaskets as the O-rings in the new spacers will replace these. The nuts must not be overtightened; the recommended gap between the coils on the washers should be .035 in.-.040 in. This will work well on the front carb but, because the studs on the rear one have to carry the accelerator cable bracket and the throttle return spring bracket, you can't wind the nut on far enough for the nylon insert to grip.



Longer manifold studs would solve the problem (shorter nyloc nuts seem no longer available), but I think I've managed satisfactorily by using a drop of Loctite on the three studs affected.



If all the above is old hat to you, I apologise – but for the sake of those who may still be "unconverted", I hope you'll see my story as the work of a missionary.