



49th article of a series
on care and maintenance
of popular car models

THE 1¼-litre MG "Y" saloon and tourer first appeared in Australia in 1947 and continued without modifications until 1951.

This article deals primarily with the saloon; but as the tourer differed mechanically from it, mainly by having twin carburation (with modified head and manifold), a different dynamo and starter system, lighter rear springs and better instrumentation, most of the information will apply to both models.

Engine and serial numbers cannot be relied on to determine the car's age, as many cars with high engine numbers were actually sold before others with lower figures. You must find out when the car was first registered, or else ask the MG distributors to date it for you from their delivery records.

Engine Removal

It is best to take the engine and gearbox out, as a unit. Drain the cooling system, remove bonnet and radiator ties, followed by battery leads and radiator. Take out front seats, carpets, floorboards and foot ramp, remove the gear lever and gearbox extension cover, and place a piece of cardboard over the gearbox to

prevent dirt falling in.

Remove the exhaust system complete, and uncouple the front end of the driveshaft from the gearbox, driving flange. It may be necessary to rock the car backwards and forwards a little to ease the coupling bolts,

Disconnect the reverse light switch and speedo cable at rear of gearbox. Remove engine vent pipe and disconnect the throttle and mixture controls, also the fuel hose at the petrol pump; disconnect starter cable and wires running to generator; unscrew the oil gauge pipe at the twin-necked banjo fitting.

Remove the distributor cover and high-tension leads to the plugs, disconnect generator, distributor and starter-wires, also high-tension lead from coil. Disconnect oil-gauge pipe, then re-move the steering column complete. Unscrew the bolt which secures the earth cable clip to the flywheel housing; disconnect the front end of the clutch cable, and remove the cable from its stop (bolted to the sump). Remove engine steadying rod from the bracket to the chassis, and disconnect the controls, then remove the air-cleaner, branch pipe, carburettor and petrol pipe.

Place a lifting sling around the engine and remove the two bolts which secure the engine

to the front mounting, and the split-pin, nut, washer and rubber bush underneath the rear engine mounting. Lift the rear of the gearbox slightly with a jack, and take out the clevis pin in the forked bolt. The engine can now be lifted and hauled clear of the chassis, then placed on a stand.

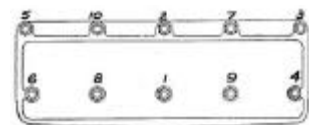
Replacement of the engine is in the reverse order to the above.

Gearbox Removal

If removing the gearbox to gain access to the clutch, note the following point:

Two stops are provided in the gearbox, for the 3rd speed selector shaft. One is of the hall-and-socket type, the other a boss inside the gearbox housing. If this housing is removed, extreme care must be taken not to draw the selector shaft past the first stop, otherwise the synchromesh mechanism will slide apart and the whole box will have to be dismantled.

To get at the gearbox, remove seats, roll back the carpet, take out the bolts



TIGHTEN head nuts in this order.

and screws that hold the gearbox cover to the ramp plate and floorboards, then remove cover. Now lift out floorboards and ramp plate, disconnect speedo cable from gearbox, also the reverse light switch, and remove the two set bolts securing the set bracket to the gearbox casing.

Slacken off the nuts securing the front exhaust pipe at the manifold flange, to avoid straining the exhaust system. Remove the split-pin, nut, washer and rubber hush underneath the rear engine mounting, then lift the rear of the gearbox slightly and remove the clevis pin in the forked bolt. Remove the split-pin and clevis which secure the clutch rod to the clutch operating lever; uncouple the front end of the driveshaft and the gearbox flange — but first mark the two flanges so that they can be reassembled in their original positions. The car should be moved back-and-forth to bring the coupling bolts into position for easier removal jack up the rear of the engine, just taking the weight, and remove the ten set-screws which connect the gearbox to the flywheel housing, then take out the two bolts securing the clutch inspection cover and take out the gear-box.

Replacing the gearbox is done in the reverse order. Make sure the clutch inspection cover is replaced with the air vent to the right-hand side of the chassis frame.

When replacing the gearbox (on gearbox and engine) in the frame, see that the rubber mountings and the engine steadying rod (called engine control link in the factory manual) are set correctly, otherwise the engine is likely to vibrate badly.

The exhaust system is also rubber-cushioned and will vibrate unless properly installed. The procedure with all these mountings is too lengthy to be described here, but it is extremely important to get everything right. If you cannot get the help of a friend who is familiar with MG "Y" mountings, we suggest you borrow a workshop manual for the car before attempting the job.

Dropping the Sump

To drop the sump, raise the car with a suitable hydraulic jack or place it over a pit. The one-piece exhaust system will need to be removed. Start undoing it from the tail end and keep the whole assembly supported, to prevent damage, until all fastenings are undone.

After withdrawing the exhaust system, drain the sump, then take out the dipstick and release the clutch pedal by removing the pull-off spring from the return

spring bracket.

Remove the split-pin and clevis securing the intermediate lever to the clutch-operating rod, then take out the bolts holding the clutch cable bracket to the sump, remove split-pin, and slide off the intermediate clutch lever. The sump can now be unbolted and taken off.

When replacing the sump, make sure the cork seal and oil

base gasket are fitted correctly, as illustrated on page 62.

Pistons and Rings
Pistons and rods are taken out from below, so you must first drop the sump, as described earlier. Remove the nuts and split-pins from the big-end bolts, take off the conrod bearing caps and withdraw the rods from the crankshaft (caps, bearing shells

FAULT-FINDING CHART

- If engine will not start and starter will not crank engine, check for:
 - (a) Run-down battery
 - (b) Cable corroded or disconnected
 - (c) Faulty starter switch
 - (d) Dirty starter-drive assembly
 - (e) Broken drive spring
 - (f) Defective starter motor
- If the starter cranks the engine slowly but the engine will not start, check for:
 - (a) Loose terminals
 - (b) Dirty connections
 - (c) Battery charge low
 - (d) Faulty starter motor
- If the engine will not start and there is no spark at the plug gaps, check for oiled-up plugs or cracked porcelain.
 - If there is no spark at the distributor plug leads, check for:
 - (a) Cracked rotor
 - (b) Loose low-tension wires
 - (c) Faulty cap
 - (d) Worn or dirty breaker points
 - (e) Faulty carbon-brush contact
 - (f) Defective condenser or connections
 - If the ignition system is in order, check the fuel system; if there is no fuel in the carburettor, test for:
 - (a) Aim leaks as the petrol line
 - (b) Blocked vent in petrol-tank cap
 - (c) Choked filters
 - (d) Blockage in the fuel pipe
 - (e) A faulty fuel pump
 - If petrol is present but the trouble still seems to be due to a fuel fault, check for:
 - (a) Choked jets
 - (b) Defective starting control (choke)
 - (c) Air leak in induction manifold
 - (d) Water or dirt in the fuel
 - If the engine misfires or runs imperfectly, it may be due to ignition defects as follows:
 - (a) High-tension lead shorting
 - (b) Distributor points not properly adjusted
 - (c) Defective or damp distributor cap
- (d) Ignition timing incorrect
- (e) Faulty condenser
- (f) Cracked spark plug porcelain, dirty or improperly gapped spark plugs
- (g) Loose battery connection
- If ignition is not the cause of misfiring, check the fuel system for:
 - (a) Partly blocked fuel line or pump filter
 - (b) Float needle valve dirty or faulty
 - (c) Water in the carburettor
 - (d) Low pump pressure
 - (e) Carburettor flooding
 - (f) Weak mixture
 - (g) Blocked vent in petrol-tank cap
- Some mechanical factors' which can cause misfiring or faulty running are:
 - (a) Excessive carbon deposit
 - (b) sticking, burnt or broken valves
 - (c) Broken or weak valve springs
 - (d) Improper valve clearances
- If the engine starts and stops, check for:
 - (a) Loose connections in the low-tension circuit
 - (b) Faulty contact in the ignition switch
 - (c) Dirty contact points
 - (d) Defective condenser
- If this trouble is not due to faulty ignition, check for:
 - (a) Blocked fuel line
 - (b) Water or dirt in the fuel
 - (c) Lack of petrol
 - (d) Faulty fuel pump
 - (e) Air leaks in manifold system
 - (f) Sticking needle valve
- If the engine will not give full power, check for:
 - (a) Valves burnt or not seating properly
 - (b) Ignition retarded
 - (c) Automatic advance defective
 - (d) Defective high-tension leads or spark plugs
 - (e) Faulty distributor cap
 - (f) Insufficient fuel supply
 - (g) Air leaks in manifold system
 - (h) Jets partly blocked

and rods should be marked to ensure correct reassembly).

The piston-and-rod assemblies are withdrawn on the right-hand side of the engine, and you may have to turn the crankshaft slightly to clear them.

When replacing the assemblies, return them to their original cylinders and make sure the gudgeon-pin bolt is towards the right side of the engine

Each gudgeon-pin is a two-thumb push fit in its piston, and is locked in position by the small-end clamp bolt, the time diameter of which "picks up" a small groove in the gudgeon-pin, and so prevents it from moving and scoring the cylinder wall.

Before a gudgeon-pin and its connecting rod can be dismantled, it is necessary to remove tiny clamp bolt. The best way to hold the gudgeon-pin is to insert a plug in each end, and secure this in the vice to prevent distortion of the connecting-rod web.

The clamp bolt should screw in readily. If the thread seems tight, it may be that the gudgeon is wrongly positioned in relation to the groove in the bolt; this must be corrected as otherwise the thread in the conrod may be stripped.

Before fitting a new piston ring the grooves and the pistons must be scraped clean of any carbon deposit: but make sure you do not scrape away any metal, as this will widen the grooves.

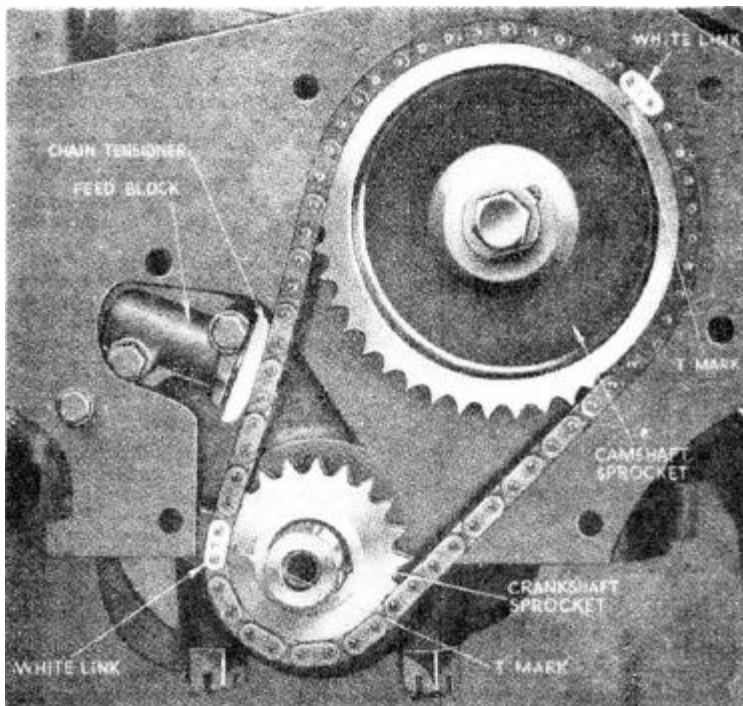
New rings should be tested in the cylinder bore to make sure that the ends do not butt together - a clearance of 6 to 10 thou is correct. To ensure that the rings are square with the bore when measured, hold them firmly on top of the piston, which is temporarily inserted in the bore. The rings must move round freely in tine grooves, but there must be no vertical movement.

The oil-control or scraper ring must always be fitted in the third groove counting from the top. Also, the rings should be rotated so that the gaps are evenly spaced around the circumference of the piston and not directly in line with each other; otherwise the oil could travel up into the combustion chamber and cause excessive oil consumption.

Adjusting Tappets

On refitting the head after a decoke or valve-grind, make sure the gasket is placed with time oblong water-passage hole towards the rear of the block and tighten the nuts a little at a time following the correct sequence.

Refit the rocker assembly, adjust the tappets roughly, then run the engine briskly until the water temperature reaches 160 to 175 deg. F. The valves can now



CORRECT position of MG "Y" timing-chain and sprockets for reassembly.

be adjusted, to give a clearance of .019in. for both inlet and exhaust.

If, at any time, you adjust the valves in a cold engine, increase the clearance to .020 in.

The tappet of the valve which is being adjusted should have contact with the heel of the cam, and is not on the rise of ramp. To reduce the number of times the engine need be rotated, follow this sequence:

Adjust No. 1 rocker with No. 8 valve fully open; No. 3 with No. 6 ditto, No. 5 with No. 4; No. 2 with No. 7; No. 8 with No. 1; No. 6 with No. 3; No 4 with No. 5; No 7 with No. 2.

Timing Chain

When replacing the timing chain, give due care to the tensioner unit, which is hydraulically-damped and spring-loaded. The spring should have a tension of 1¼lb when compressed to 48mm. and must be replaced if weakened.

The hydraulic plunger is fed by oil from the crankshaft front bearing via a system of oilways: these must be kept clean to prevent blockage, and the plunger diameter must not show more than 0.3mm. wear from its original diameter of 11mm — otherwise the tensioner will not do its job properly.

The tensioner feed block is held to the cylinder block by two set-screws; these are wired together, and must be rewired on reassembly.

The correct timing-chain position is shown in the photo

above. The two sprockets are keyed to the crankshaft and camshaft, so they cannot be fitted wrongly — all you need do is slip the chain over them as shown, manoeuvre the keyways of the two shafts into the correct position, and push the sprockets-and-chain assembly into place.

Replace the chain tensioner, checking the paper gasket, then replace the bolt securing the camshaft sprocket to the camshaft and knock over the lock-washer. With everything assembled correctly, the No. 1 inlet valve will open at 11 deg.

Ignition Timing

You will find a pointer riveted to the timing case at the front of the engine, and a hole drilled in the fan pulley. When these two indicators are in line, the engine is at top dead centre on cylinders 1 and 4.

This T.D.C. indication is necessary to obtain the correct ignition timing, which occurs when the distributor points are just breaking at T.D.C.

Of course, the distributor rotor must be pointing to the plug lead corresponding to the cylinder which is on its firing stroke. This will be either No. 1 or No. 4 cylinder; the correct one can be ascertained by seeing which of these two cylinders has both its inlet and exhaust valves closed.

If the points do not open in the correct position, the distributor' clamp must be released and the body of the distributor turned until the desired ignition timing point is obtained

TUNING DATA

Bore: 66.5mm.
Stroke: 90mm.
Capacity: 1250 c-c.
Compression ratio: 7.2/7.4 to 1.
B.H.P.: 46 at 4800 r.p.m.
Firing order: 1, 3, 4, 2.
Plug gap: .020 - .022in.
Contact-breaker gap: .012in.
Oil pressure: 50-70lb. psi.

VALVES

Inlet opens 11 deg. B.T.D.C.
Exhaust closes 24 deg. A.T.D.C.
Seat angle: 30 deg.
Tappet clearance (hot): .019in.

CARBURETTOR

Standard needle: F.I.
Richer needle: D.K.
Leaner needle: E.F.

FRONT END

Camber: Nil.
Caster 1 deg., plus or minus ½ deg.
Kingpin angle: 10 deg.
Toe-in: 0 to 1/32in.

Carburettor

Two different needles are fitted to the carburettor dashpot; one has a set shoulder, the other is tapered. The needles are installed correctly when the step of time shoulder, or the smallest portion of the tapered shoulder, is level with the face of the pistons (checked with a straight-edge held across the piston, with the chamber inverted).

If unable to install the needle correctly by hand, tap it home gently with a bit of wood.

When replacing the piston in its housing, make sure that the keyway at the side registers with the key in the body of the carburettor top.

The bore of the standard jet is .090in., and the needles recommended are as follows: standard needle, type F.I.; richer, D.K.; weaker, E.F. On no account should the jet itself be changed to alter the mixture.

If you suspect water or dirt in the carburettor, lift the piston with a finger or pencil so you can see the jet, then flood the carb by depressing the "tickler pin" on top. If petrol doesn't flow freely, there is a blockage.

To clear this, start the engine, open the throttle, block up the air inlet with your hand, and keep the throttle open until the engine starts to race. If this doesn't cure the trouble, the jet must be removed for cleaning; but don't do this unless absolutely necessary, as it is practically impossible for the amateur to centre it properly to the needle afterwards.

Oil Pump

The gear-type oil pump

should operate at a pressure of 50 to 70 lb. p.s.i., and this pressure is regulated by a spring-loaded ball type valve. The valve is non-adjustable, and owners are warned against increasing its spring tension in an effort to raise oil pressure.

Low pressure is usually due to worn bearings or pump, or a blockage in the filters, and must be remedied accordingly.

A second relief valve is provided in the line leading to the oil filter, to prevent the latter bursting if a blockage occurs. If the filter is kept clean, this second relief valve should remain permanently closed (it is located in the cylinder block, behind the pump).

To remove the oil pump the radiator must be drained, both water hoses slackened off and the front engine mounting bolts removed, so the engine can be jacked up slightly at the front: this allows the pump to clear the frame member.

Remove the pipe leading from filter to pump and the 8 bolts securing pump to engine, then tap the pump gently on the side and withdraw it downwards. Screw a suitable extractor into the end of the driven gear shaft and withdraw it from the engine.

Clutch Adjustment

The single dry-plate clutch consists of a driven plate assembly, a cover assembly, and a graphite release bearing. The only adjustment necessary throughout the life of the driven plate facings is for free movement of the clutch pedal.

This should be maintained at ¾in., and adjustment is simply a matter of releasing a lock-nut at the forward end of the clutch cable, turning the adjusting nut until the required free travel is obtained, and tightening the lock-nut again.

If the clutch must come out, remove the gearbox, then undo the screws holding clutch to flywheel one turn at a time until spring pressure is relieved. Mark the position of the various parts in relations to each other so they can be reassembled exactly as before.

Resetting clutch finger height calls for a special gauge plate; if this isn't available, - proceed as follows:

Set the clutch plate in position, bolt the housing to the flywheel, then alter the finger height adjustment until the distance between the flywheel plate and the tip of each finger is 1 22/32in.

Brake Adjustments

The correct amount of free travel between brake pedal pushrod and piston is set at the factory and normally should not be altered. However, if it has been disturbed, you can adjust the length of the rod until the pedal can be depressed approximately ½in before the piston starts moving. You should be able to feel this when working the pedal by hand.

To adjust the brake shoes, jack up the car until the wheels are off the ground (and don't forget to release the handbrake before you start adjusting the rear wheels).

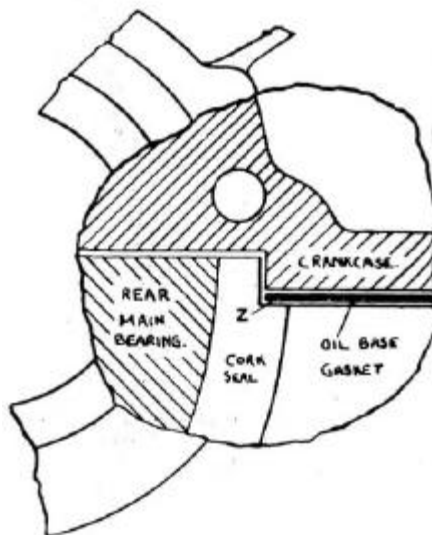
Each shoe has its own adjusting cam, and the adjusting nuts will be found on the backing plate, about 3in down from the hydraulic cylinder. Working under the car and facing the backing plate, turn the right-hand adjuster clockwise and the left-hand one anti-clockwise until the linings contact the drums - then back off slightly until the wheel turns freely.

The handbrake is adjusted by a nut on the end of the cable, where it butts against the crosspin on the handbrake lever. Adjust it just enough to take up any stretch in the cable, and make sure it doesn't cause the rear brakes to bind when in the "off" position.

Hubs and Seals

To remove rear hub, jack up the rear axle and remove the hub cover and road wheel. Now take out the three set-screws which secure the brake drums to the hub, turn the two adjustment nuts inwards to release the brake shoes, then withdraw the brake drum.

Each axle drive shaft is provided with two threaded holes, in a flange on the outer



DETAIL showing the correct placing of sump gasket and cork seal.

end of the shaft. Two of the countersunk-headed screws which normally secure the brake drums can be screwed into these holes and used as extractors; the shaft can then be readily withdrawn, exposing the hub retaining nut.

Tap back the tabs of the locking washer and remove the nut: the hub, complete with bearing and oil seal can now be withdrawn with a suitable claw extractor (or extractor tool No. TII9).

Check the hub oil seal for damage or wear and replace if necessary: also make sure the ball bearing is in good condition (it is a Ransome and Marles. No. L.J.40).

Replace the hub complete with bearing and oil seal, remembering that the lipped edge of the seal must face towards the bearing.

The bearing is normally a tight sliding fit on the axle extension and must be gently tapped into position with a tither that's large enough to slide over the centre tube of the axle. Place the lock washer and nut into position, tighten the nut, then tap the lock tabs into the slots.

The hub retaining nuts have both right- and left-hand threads,

the right-hand threads being fitted to the right-hand side of the car, and the left-hand threads to the left-hand side.

Replace the driving shaft and drum, then reset the shoe adjusters (before replacing the shaft, examine the paper gasket and replace it if necessary).

More on Seals

Synthetic rubber or leather — lip type oil-seals are fitted in a number of different positions on the MG "Y." These seals consist of a spring-loaded cupped washer, which is used with the lip of the cup engaging with a rotating member. It is imperative that the seals be fitted in the proper way round on assembly, otherwise they will allow oil to pass.

The correct method of fitting this type of seal is with the lip facing the lubricant or source of supply. Before fitting, carefully examine the seal, removing all traces of dirt or grit. This is done by cleaning the part in a light lubricating oil, then wiping it off carefully with an oil-moistened cloth. In some instances washing in kerosene is more suitable; but this method should only be adopted when recommended by the manufacturer.

Leather seals should be soaked in clean, lukewarm oil for about 15 minutes. However, Gibseal type seals must NOT be soaked in oil, so be sure to identify each seal carefully.

Smear the sealing lips with clean grease, and note that any seals used as dust-excluders should be heavily greased in the cavity between sealing elements. If a spring is provided, see that it is correctly located.

When the seal is ready for fitting, check once more to see that the sealing lip is not damaged - even the slightest scratch will be enough to interfere with its efficiency. Make sure, too, that the seal is a neat pressed fit in the housing recess, and examine the shaft to which the seal will eventually be fitted.

Finally, see that there is no roughness present in any sharp edges of keyways, screw-threads, blind shoulders, etc., over which the sealing lip may have to pass. The lip should press against a portion of the shaft which is smooth and has no splines or sharp edges - otherwise you can expect trouble, even after fitting a brand new seal.