

MARCH 1968

2/3d.

CAR

MECHANICS

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- ▶ **ANGLIA AUTO-ANALYSIS**
- ▶ **EXTRA! GO-ABROAD GUIDE**
- ▶ **SOLEX CARB OVERHAUL**
- ▶ **TIMING WITHOUT TEARS**

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WITH JOHN MILLS' MONTHLY CASH-SAVERS



RUN HOT—RUN COLD!

FOR some years past, I have been faithful to a gaggle of B.M.C. cars including a Minor 1000 Traveller, a brace of Minis and a fire-eating Cooper. All the cars have given splendid service but they have all suffered from the common complaint of running over-cool.

At first, this worried me but I eventually accepted it and preached the message that "all A-type engines run cool" until last week. B.M.C. lent me an automatic Mini (the one with the 998 c.c. engine) to play with and, among many other delightful features, I found that the engine warmed up to the point where the temperature gauge registered NORMAL in about half a mile.

The single reason for the factory car warming up so quickly and my fleet taking so long was that the thermostat in the factory car was working.

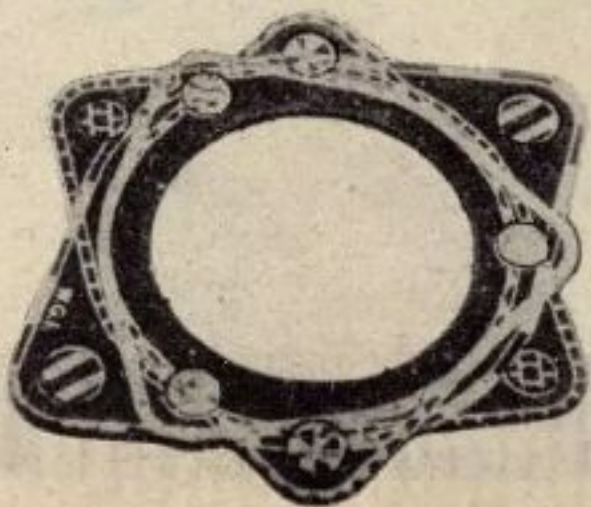
Fairly covered with confusion, I popped a new thermostat into my wife's 850 c.c. Mini and the temperature sailed up to the correct mark quite rapidly. If this sounds painfully obvious, bear with me. I am not very bright at times but, at least my little experience may help somebody else as slow off the mark as I!

UNIVERSAL GASKETS

Talking of thermostats, I must emphasise the point of fitting a new gasket when the thermostat is changed. It is not always possible to buy a new gasket and a line from Northwoods of 64/66 Newington Causeway, London, S.E.1 intrigues me immensely.

The line is a series of universal thermostat gaskets. One fits all Ford and B.M.C. cars; another all Rootes Group models and the third all Standard, Triumph and Vauxhall cars. Ingenious pop-out holes scored round the gasket perimeter enable you to press out the appropriate holes to fit the studs on your thermostat housing.

The gaskets cost 1s. each for callers. Post and packing takes a massive 9d.



extra which does upset Northwoods badly. But, as they point out, the gasket has to be rigidly packed to eliminate buckling.

DRY CARPETS

Nobody could call the carpets fitted to the average car de-luxe floor coverings. They need some form of protection and my favourite is the rubber link-mat which lasts for ever and keeps the original carpet like new.

But if you do not have any form of carpet-protector, try putting squares of corrugated cardboard on the floor in wet weather. The cardboard will offer protection against sharp heels and will also soak up water brought into the car.

When the cardboard eventually becomes soggy, it can be thrown away and new pieces put down. On the rare occasions my car goes into a garage, I make sure cardboard goes down. Garage mechanics seem to take an obscure delight in grinding their oily boots into the carpet and even link-mats can become fouled by dollops of grease.

SUPER CHARGE

A friend of mine was telling me that he always drives very slowly for the first few hundred yards after starting his car. The reason? He has noticed that, after a burst of the starter motor, the ammeter records a hefty 15-20 amps charge for a short while and he is worried in case this heavy charge damages the battery. By driving slowly, the charge is kept down to 10 amps and all is well.

There is an inkling of truth in what he says but it is really an academic point. Prolonged heavy charging of the 20 amps order would give the battery a beating but the initial charge following the use of the starter is of such short duration that no harm will occur.

On a Ford Executive I tried some time ago, a high initial charge from the alternator was a feature of driving away but the high charge was not sustained for more than 200 yards, after which distance the charge fell to 10 amps and then the usual trickle charge at intervals.

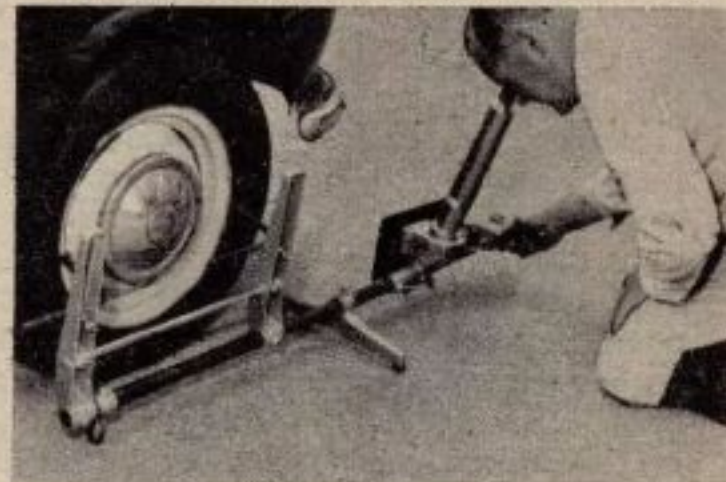
For most of the time, the ammeter needle stayed just a fraction past the 'N' line on the charge side.

Mind you, if an ammeter shows a consistently heavy charge over long distances, you should get your battery and charging system checked. It could be that the battery is failing and the generator has to pump vast quantities of amps into it to keep it going. Even more serious, the control-box setting may be incorrect and the battery is being over-charged.

BOOST YOUR COSTS!

Higher garage charges will make do-it-yourself maintenance even more attractive but there are many jobs which must go to a garage or you will lose heavily on the deal.

This little outburst is prompted by an



idea I heard the other day which made me go white with fear. The inventor of the idea was saying, quite correctly, how important it is to have the car's front wheels correctly aligned. And he had worked out a way of doing this job without paying the £1 asked by a garage.

Basically, the plot is to spray water over the drive or road and push the car across the wet patch. The marks left by the front tyres will show if they are toeing in or out and appropriate adjustments can be made.

Ugh! It is a hopeless idea. For a start, I very much doubt whether the tyres would leave anything like a clear impression over the damp patch but even if they did I cannot see how one could possibly make the vernier adjustments necessary. The idea is as daft as holding a piece of string across the front wheels to gauge the toe-in or toe-out and stands no more chance of success.

The only way to check alignment is at a garage equipped with the proper gauges. The cost of the service will soon be paid for by longer tyre life.

AUTO ANALYSIS No. 2



ANGLIA

WE TESTED THE 1200 BUT THE 997 IS THE SAME

CAR — EXCEPT FOR CAPACITY AND PERFORMANCE

FORDS have always earned their popularity. Their cars offer good performance, reasonable comfort, they are robust and, above all, very, very good value for money.

The current Anglia has all these advantages and in addition, at this moment in time, can be obtained at a substantial price reduction—even brand new. The reason is that its successor was announced a few weeks ago and the Anglia is now the year's bargain buy.

It's a very good car—as we said—and particularly good from the simplicity of overhaul and repair points of view. Almost everything is accessible, you can literally take the car apart with a few ring spanners!

There are one or two drawbacks but not many and the car is a sound family saloon which is a good d.i.y. proposition and worth every penny of its price.

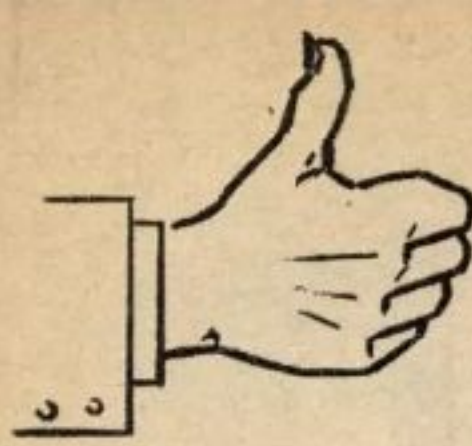
Basically the Ford service schedule recommends greasing every 1,000 miles and oil changes and filter changes every 5,000. The greasing side of things presents no problem. All the grease points can be reached with the ordinary amateur grease gun and, although useful, the addition of a flexible nozzle is not really necessary. But—grease the track control arms, with the wheels off the ground.

The forward opening bonnet and roomy engine compartment makes work for the amateur easy. There are a few snags but no worries

MARCH, 1968

CAR MECHANICS





AUTO ANALYSIS ANGLIA



If you have ever had trouble in removing a head that sticks, you'll appreciate the Ford idea of using bolts instead of studs and nuts. It eliminates all the difficulty of corrosion between head and stud



Clutch adjustment may be just one more chore but it is a good idea because it lets you know roughly how worn your clutch is. When there is no adjustment left, you'll know that you'll need a new one soon



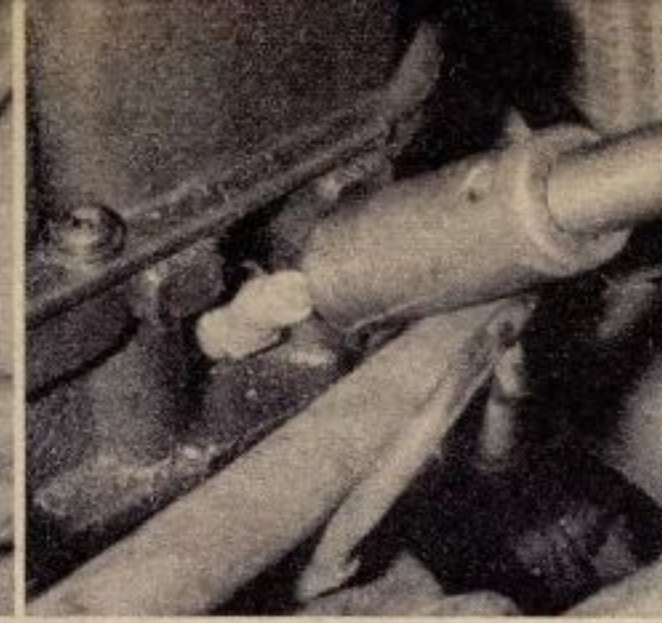
Two good points here. First the dash is thoughtfully laid out and everything is convenient. Second, the dash can be removed easily to provide access behind it for tracing wiring or renewing indicator bulbs



The petrol pump is conveniently positioned to allow the filter to be taken out for cleaning. This later type of transparent dome and clip can be fitted to models with older type of metal topped A.C. pump too



Ease of draining the sump is an advantage and also the fact that the sump contains only about 5½ pints of oil. With a small capacity like this it is economically possible to change the oil more frequently



Plug access is very good on this engine provided you have the right sort of plug spanner. This may sound a simple point, but there are engines where the job is diabolically difficult with any sort of spanner



This is a later modification on the Anglia to allow much finer adjustment of wheel bearings. Twelve different positions for the split pin are possible instead of a mere five with the castellated nut



The sump will not drop straight down because of the main front cross member in the way. This is a bit of a snag if you want to look at your big ends or timing chain. The solution is to jack up the front



The finer adjustment of ignition timing is a bit more difficult on this Ford because there is no vernier adjustment. The clamp nut has to be released and the whole distributor rotated and finally clamped



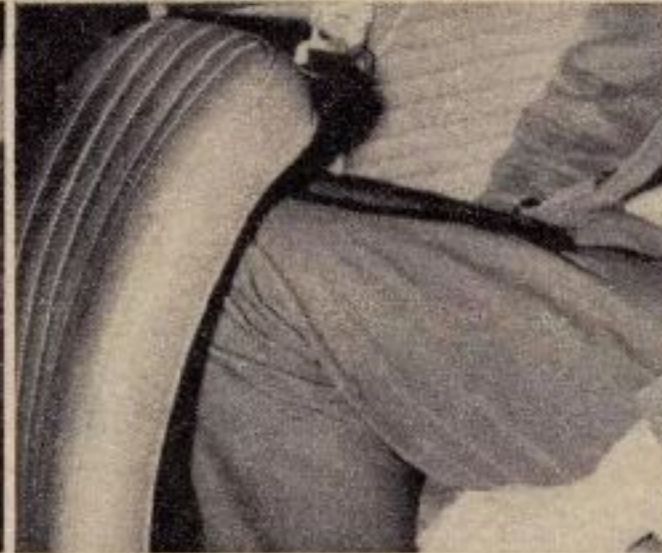
The steering box is a bit hidden which makes topping up with oil difficult without a long nozzle or tube. Also adjustment means taking off the top of the steering box and removing and replacing thin shims



Two snags at this point on the suspension. First these grease nipples are easier greased if the wheels are off the ground. Secondly wear eventually occurs at this point and track control arms need renewing



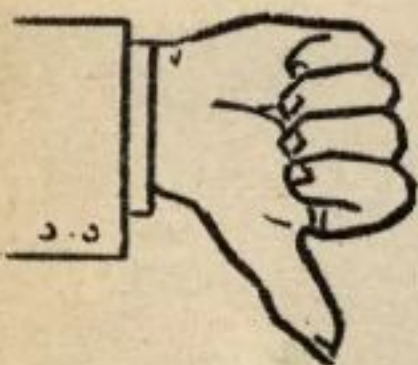
The top of the MacPherson strut suspension unit is mounted in thrust races in the top of wing. If the rubber bearing housing perishes, it breaks through the rubber and protrudes. Replace to cure it



This photograph speaks for itself. With the front seat at its furthest-back position, there is very little room in the rear for the knees of a tallish passenger. Thigh support is not good enough for a tall person



The spare wheel is not ideally placed in the boot. Getting it out means pulling out most of the luggage first. It makes adjusting the pressure when you do the others with a garage air-line difficult too



Checking the level of the gearbox oil and topping up does present a minor problem in that it is impossible to reach the level plug from underneath without jacking up the car—but the topping up must be done with the car level! The answer is either to put the car up on axle stands or to borrow the use of a pit.

To avoid butchering the corners of the gear box and rear axle drain and level plugs, it is a good idea to buy one spanner extra to the usual range of A/F spanners required. This is a 19/32in./11/16in. A.F. ring spanner.

The oil change routine is made easier by the small capacity of the sump. It holds only 5½ pints including the filter and this can be

drained easily into an old gallon can. The filter is changed every 5,000 miles with the oil and is a perfectly standard element type with a rubber sealing ring in the housing at the top. On the older Anglia, it was necessary to remove the splash tray to reach the filter.

Topping up the battery is extremely simple, this being right in the front and on top. Take care though to keep the terminal posts well coated with Vaseline to obviate corrosion.

Tappet adjustment is simple also, using the usual feeler gauges, screwdriver and ring spanner.

Brake adjustment is simple, particularly if you have the special Ford spanner. There are two snail cams on the fronts and a single adjuster on the rears. Rear brakes on older models had an additional snail cam.

Spark plugs are all easy to get at but they

do need the right sort of plug spanner. You need the box type with a thin wall and often the technique is not to press the spanner right down. This way it doesn't bind on the sides of the head recess around the plug.

Another job which comes in the servicing schedule is clutch adjustment. The clutch release arm should have a free movement of 1/16in. This is fully described in the handbook but what is not so generally known is that the thread on the adjustment needs greasing every 5,000 miles to prevent seizing.

A final point on the servicing side which is worth mentioning is that the shock absorbers must be kept topped up with the correct fluid. There is a level plug at the back of each front unit, which is not easy to reach but this job must be done with the car on level ground and not jacked up.

MAINTENANCE WORK

The distributor is easily reached as it is towards the top of the engine and changing the points is a routine operation. Ignition timing, however, is not such a simple proposition. This distributor has no vernier adjustment and ignition is advanced or retarded by loosening off the clamp and moving the distributor body.

Unlike many starter motors, the one on the Anglia is not too difficult to reach. The top bolt may give trouble but the best idea is to take out the bellhousing bolt immediately above it—unless you have a socket and extension.

Wheel bearings on the latest Anglia have been modified and now are fitted with a new nut with twelve, instead of five, castellations. Adjustment is advised with a torque wrench but many mechanics still use the old method of adjustment.

Getting the bearings out for cleaning is not difficult. The outer bearing comes out behind the split nut and washer. Then the drum and hub can be pulled off as one. The inner bearing can be extracted after levering out the grease retainer. You will, of course need a new grease retainer.

Water hoses are all accessible and changing them should present no problems. Also easily accessible is the fuel pump filter and the speedo cable. This can be renewed without removing the speedo head.

A job which could give trouble to the amateur is steering box adjustment. The top of the steering box has to come off and

the adjustment is affected with shims. You will need assistance on this one.

The throttle on the Anglia is the linkage type and while we think a cable linkage would be a much better bet, this one can be maintained reasonably if it is oiled regularly. If it is not, it seizes in the stabilisers in the bulkhead or else becomes very loose and produces a loud clattering noise.

Brake shoe replacement is a straightforward job, which is complicated a little by the wide flanges of the rear hubs. The trick is to assemble the shoes and the long spring, position them and then fit the yellow spring last.

Bulb replacement poses no problems. All of them are easily accessible, even those behind the dash panel. The dash can be released very easily and is secured by two nuts and two p.k. screws.

PUNCTURES

The jack supplied with the car is quite adequate. It is of the tripod type with a screw thread and ratchet with a bar fitting into the jacking brackets on each side of the car.

The wheel brace will unlock the wheels in most circumstances but probably would be useless if the wheels have been over-tightened by a strong-arm garage mechanic.

Not so handy is the spare wheel. Getting it out means removing all the luggage first. Not so funny if you're on holiday!

The Anglia is not a difficult car to wash, although there are a couple of awkward

spots. Washing behind the front bumper demands some care because it is close to the bodywork and the curved metal edges can be very sharp. Remember too some time during the washing routine to open the boot lid and clean muck from the drain channel.

MAJOR REPAIRS

There is little in the way of major repair that the amateur could not tackle and some of the jobs are much easier than average. A decoke for instance presents no problems and the head is simple to remove because it is held with bolts rather than studs and nuts.

The front suspension and steering are 'mixed blessings'. The use of the McPherson strut suspension unit, makes for a simple layout but it does mean that wheel balance is critical. Out-of-balance wheels can result in nasty wheel flutter but this can also be caused by worn track control arm bushes. These usually need renewing after about 45,000 miles. It will cost about a fiver if you do it yourself.

The suspension units themselves need changing eventually too. If you buy second-hand and there's something over 40,000 on the clock check these units carefully. Although replacement is not too complicated, you will need some form of spring clamp and the units do cost £6 5s. 6d. each. You could quite likely need new bearing assemblies at the top too. Both races and rubber housing deteriorate eventually.

Slight complications are introduced when

CHECK POINTS



If you are buying secondhand, it is a good idea to check the condition of the front suspension units. If they bounce more than 1½ times, they'll need renewing and at £6 5s. 6d. each, it could be an expensive job



Rust is the other bogey for the secondhand Anglia buyer although this car is not particularly prone to corrosion. Inspect the rear light cluster and along the top and down the rear edge of the front wings



A point to watch when servicing your own car is one which cannot be over emphasised. Change the filter sealing gasket and make sure the canister goes up to clamp it properly. A leak will empty the sump



This is the grease point which is often missed—even by skilled mechanics. It is in fact the idler on the opposite side of the steering to the steering box. Once seized freeing it off can be a difficult job

Cylinders 4-in line
Bore/Stroke 80.96 mm./58.17 mm.
Compression Ratio 8.7 to 1
Displacement 1198 c.c.
Gross b.h.p. 54 at 4,900 r.p.m.
Valve Gear o.h.v. push rod
Carburettor Autolite down-draught
Fuel Pump A.C. mechanical
Oil Filter Replaceable element
Clutch Single dry plate
Gearbox 4-speed all synchromesh

Rear Axle
Brakes
Wheels
CAPACITIES
Radiator
Oil-sump
Petrol tank

Semi-floating hypoid:
Ratio 4.125 to 1.
Hydraulic operated with
8-in. drums
Steel with wide based
rims with 5.20 x 13 tube-
less tyres
11½ pints with heater
5½ pints inc. filter
7 gallons



KERB WEIGHT—16 cwt. 14 lbs.

PRICES—NEW

This model was superseded by the Ford Escort on Jan. 17th 1968. Some were still available after this date. The list price was £645 including delivery charges. Standard 997 c.c. Anglia range from £535 to £658 for Estate version.

PRICES—SECONDHAND

Anglia Standard 997 c.c. £360 to £400
Anglia De-Luxe £385 to £430
Anglia Estate £485 to £530
Anglia Super 1200 c.c. £425 to £475
Prices based on cars 1 year old

EXCHANGE PARTS PRICES

Engine £51 0s. 0d.
Clutch driven plate £2 15s. 10d.
Gearbox £29 8s. 9d.
Clutch cover (NOT exchange) £4 11s. 5d.
Clutch bearing (NOT exchange) £1 3s. 9d.
Rear Axle (NOT exchange) £24 10s. 3d.
Shock absorber (rear) (NOT exchange) £2 13s. 0d.
Door (NOT exchange) £10 9s. 0d.
Bonnet panel (NOT exchange) £10 19s. 7d.
Fords in keeping with American practice have few service exchange parts. They can produce new components almost as cheaply as it would cost to overhaul existing parts.

PERFORMANCE

ACCELERATION FROM REST



STANDING ¼ MILE = 21 SEC.

PASSING TIMES

SPEED MPH	TIME (seconds)
	5 10 15
20-40	10 15 20
30-50	10 15 20
50-60	10 15 20

FUEL CONSUMPTION

SPEED MPH	MPG
	30 40 50
30	40 50 60
40	40 50 60
50	40 50 60
60	40 50 60

APPROVED ACCESSORIES

Radio (inc. tax) £21 9s. 5d.
Spot lamps each £3 2s. 6d.
Reversing lamps each £2 5s. 0d.
Wheel discs set of 4 £3 15s. 0d.
Locking petrol cap £1 4s. 11d.
Seat belts each £3 17s. 6d.
Over-riders £4 10s. 0d.
Wing mirrors from £1 5s. 0d.

OPTIONAL EXTRAS

Heater £17 16s. 6d.
White wall tyres £7 7s. 6d.
Two-tone paint (De-Luxe only) £6 2s. 11d.
Windscreen washer £2 9s. 2d.
Metallic paint (Super only) £6 2s. 11d.

TOOLS NEEDED

A comprehensive set of A/F ring, open ended and socket spanners is needed to maintain the Anglia. The range should be from 7/16 in.-to 15/16 in. with an extra 19/32 in. x 11/16 in. ring for the gearbox and back axle filler plugs. A 'thin-walled' box spanner is the best to use for sparking plug removal. The only likely special tools needed are a spring compressor for the front suspension springs and an impact hammer for half-shaft removal.

'not a rust box'

the sump has to be removed. There is a cross member which effectively stops this. The trick is to release the front mountings and jack up the engine end by about 5 in. You will obviously need to do this to gain access to the big ends and also for a timing chain job.

The older Fords were complicated when it came to any work on the back axle. The Anglia design, however, follows modern practice and the halfshafts can be withdrawn from the wheel ends of the axle without dismantling the diff. unit. This latter can be changed too without splitting the axle. One complication which does remain is fitting new oil seals. It is best to draw the halfshafts yourself and then take them to a dealer to have collar and seal renewed professionally. A press is required for this.

Almost every other job on this car can be tackled at home. You need the usual equipment of course including things like a good grease gun, squirt type filler for axle and gear box, axle stands, feeler gauges, etc. A full list is given on this page.

WILL IT RUST?

We don't think this car is a potential rust box but there are one or two suspect points. Around the rear lamp cluster is one and these are not cheap items to replace. More important though is the top of the wing. It can rust from underneath right along but look particularly at the front, just behind the headlamps and just in front of the screen. There is another spot lower down just in front of the door.

Potential leak points are the windscreen surround, the heater radiator and boot lid.

Should you be unlucky enough to be involved in an accident, it might be well to remember that replacement panels at the rear involve the whole of the rear metal work, including roof, complete boot and back to the sills underneath. The repairer will have to buy all of it whether he uses it or not.

Adults might find the back seats a little short of knee room and head room. The fussy tall driver might complain too about leg room in the driving seat but most people will find it adequate.

The all-synchro gearbox worked like a charm there being no possible grounds for criticism, except perhaps that the lever could have been a shade longer. Everything else was well within reach and just about in the position it should have been in.

There was no pronounced oversteer and on corners in the wet there was a tendency for the rear end to break away. In the dry, fast cornering would induce the car to slide on all four but at no time did this happen suddenly and correction was quick and easy.

We drove the car over some very rough surfaces without grounding the suspension at all and there was no difficulty in holding the car and restarting it on a 1 in 3 gradient.

We tried braking in varying conditions and the 8 in. drums responded very well, pulling the car up quickly and without bias.

Passenger comfort was good. At higher speeds there was little or no noise inside. The air conditioning ventilation which meant the windows could stay closed was a big help here. Very windy conditions incidentally did not affect the car's stability at all.

To summarise, the Anglia 1200 is a well equipped family saloon which is safe, lively and offering reasonable economy with a fair standard of comfort.

CAR MECHANICS

STOP SMOKING!

DON'T BURN OIL! PETE MERRITT SHOWS HOW TO CURE



BURNING oil? Well, this is not a bad thing, in fact it is a sign of a healthy engine, providing it is within reason. If, on the other hand, it is shoving smoke out of the exhaust like a destroyer laying a protective screen, then it's time

something was done about it. The usual cause of oil burning is worn piston and rings, but it may be something else. Excessive wear in the guides of the inlet valves can be a great oil waster, so the first thing to do is determine where the

oil is coming from. Without actually stripping the engine a compression test on each cylinder will give a good indication as to the condition of the respective bores. Low pressures can either be worn rings or badly seating valves.

Continued over