THINGS THAT GO BUMP *Continued from Page 13*

gearbox. Now modern rubbers are remarkably oil resistant but after ten or eleven years they may well be getting tired. If you have ever heard that thump, its worth checking that the mounting is still doing it's stuff.

Similarly with the front mountings, although these are much less likely to have had an oil dose. If on starting, or on slow idle, the engine rocks sharply from side to side, consider changing the mountings. A rule of thumb of guide or indication is to remove the heater hose from the heater box and expose the inside of the bonnet panel. Then using a mirror have a look at the inside of the panel between the bonnet catches. If you find patches of mirror finished steel panel, from which the paint has gone.....then perhaps it's time you replaced the engine mountings.

The Rover part number for the gearbox mounting is TKC 1044. Try Mark Stokes or Dave Anstee for a good price (telephone numbers in your membership list) and I am pretty sure that either of these members can get the front rubbers too.

I obtained a pair of front rubbers from my local "Motorspares", telephone 01284 752931 and these have the part number MRM 256. (Morris Ital 1700 front engine mountings) When I last spoke to them they had four pairs left in stock.

I *suspect* that the units from "Motorspares" were manufactured by the same people who make the Rover parts. but of course they may be " a genuine pirate part" !! I did however pay much less for the front *pair* than I did for the single rear !

Even if you havn't got a problem.....consider putting these parts "in stock"...sooner or later you are going to need them.

A quick look at the job suggests the front pair will be easy to replace but the rear (gearbox) mounting might cause a few headaches. Perhaps we can get "Tin-Tin" to write this up in the next "Naylor News".

UNDER THE BONNET WITH TIN-TIN

Our Editor has been going on about unleaded petrol and our engines. Since it does seem likely that the leaded stuff will soon go the way of 5 Star, I thought perhaps something ought to be done. Having chosen a firm to convert the head, the next decision was whether to take the head off myself or pass the job to my local faithful mechanic. In the end, and to save cost I did the job myself.

If you too wish to do this, then I would counsel you obtain a copy of the WORKSHOP MANUAL (from Andy Rayner at Hutson) and or a copy of the Haynes manual for the Ital 1700. I used both. In the WORKSHOP MANUAL, the relevant section is A10. What follows is not a detailed blow by blow account of the job, rather is it a supplement to the MANUAL for the amateur mechanic. If "Tin-Tin" can do it, then anyone can !

To avoid later pumping old dirty oil through your "new" head, change the engine oil and filter. Halfords are now selling an aid for this job in the shape of a six litre plastic can (rather like an old 'jerry can') with a sloping tray embossed in one side with a plug....makes the job much easier (cost £3.99) Remember to grease the rubber seal on the new filter and fit it hand tight....it will self tighten ! Halfords also now supply a detergent to add to the oil before you drain.... keeps her innards a lot more clean. Having changed the oil let her stand for a few days for the head to drain down. you will have much less mess when you do take off the head.

The following are a few tips along the way. "Cleanliness is next to Godliness" they say and of this job it is certainly true. Do have a word with "her indoors" and obtain the vacuum cleaner with a long flexible hose. The cylinder head above the manifold appears to have been designed to catch old leaves, dead wasps, and lots of debris from the garden. Bless her she also provided a couple of old heavy lined curtains to act as wing protectors.....clothes pegs at each end hold quite well.

Take off the bonnet and mine went onto one of the beds (with a blanket under it) in the guest room.

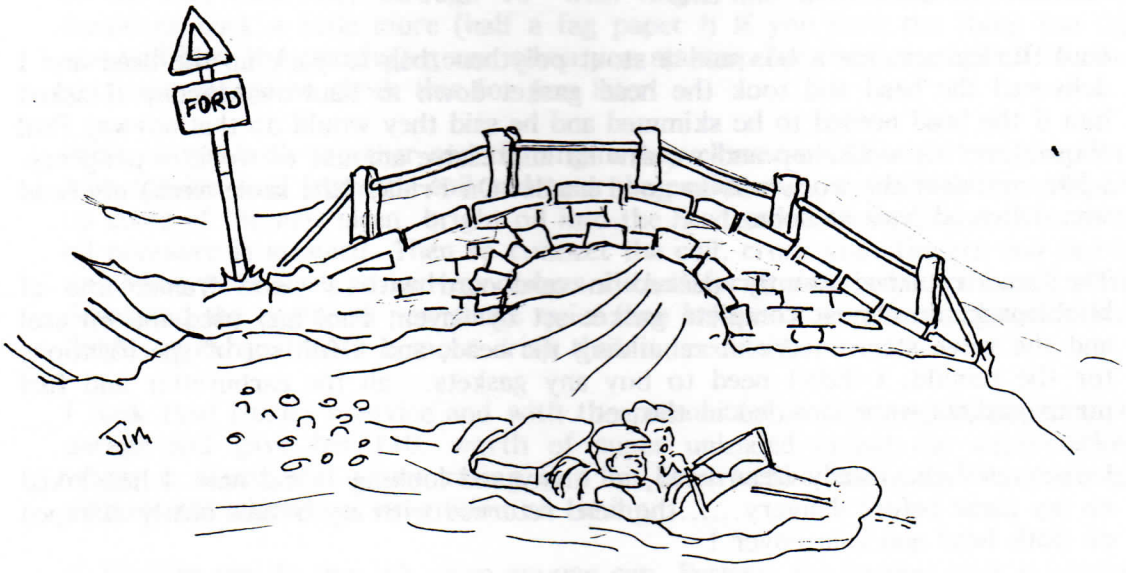
I disconnected the battery and pushed my lovely outside (the TF!) and let go the bottom hose and drained her. I didn't want to start her up because I wanted as much oil as possible drained from the head...it's less messy later on !

Then back into the motor house to disconnect all the wiring from the head but leave number two spark plug until later....its easier. Undo both the vacuum pipes. The larger one to the brake servo has two large washers...don't lose 'em.

At this stage I went and scrounged some old ice cream containers, laid them out across the bench and into them went the bits as I went along. Off with the air cleaner assembly and the tubes which supply the carburetter. Have a good look at the order of assembly behind the carb, insulator block, bracket then the heat shield. Take the cables from the carb and note the position of the springs....mine were assembled with two springs on the choke ! Wrong! they must be on the throttle cable. For the first time since I had the car the choke stays where I put it. Remove the fuel lines and CHECK THEM CAREFULLY. Any splits or cracks anywhere and throw them away. It cost me £2.50 for 2ft of braided hose and 6 hose clips.

Continue to follow the workshop manual instructions. When disconnecting the cables to the carburetter and the heater note the connecters are a slightly different pattern....at least mine were....keep 'em seperate....and when you pull out the cable the connecters will fall out, so don't drop them. I dropped several things on this job and my son, Clive, lent a hand on the later stages. He produced a tool which has so impressed me I am going to get one myself. It looks just like a telescopic radio ariel, but attached to the sharp end is a very powerful slim magnet. It's powerful enough to pick up a 13ml ring spanner. If you ever drop

Continued overleaf



For heavens sake, don't open the door !

anything down the side of the engine and can't find it, there is a cunning and evil trap which can swallow nuts bolts and even spanners, where you cannot see them ! There is a gap between the chassis and the bulkhead.....the magnetic wand conquered this !

You will need to remove the distributer. I scored a line across the back of mine so that I could get it back in the same place and marked the rotor arm position with indelible ink. With the distributer off you can easily remove No.2 spark plug. You will also need to remove the thermostat housing, just one screw and a *gentle tap* with a soft head mallet. Also undo the nuts and remove the fuel pump.

NOW SET UP THE ENGINE ON IT'S TIMING MARKS. DON'T ATTEMPT TO REMOVE THE HEAD UNTIL YOU HAVE DONE THIS. Read the manual carefully before you start this. You will need to turn the engine over, of course. Use a ring spanner on the bolt head on the face of the lower pulley. Turn the engine over until you are on the lower timing mark.....then have a look at the rear of the cam belt pulley....if the dimple isn't in the window....turn the crankshaft over one full revolution.

With all clear and disconnected you can now undo the head bolts. *DO NOT ATTEMPT TO REMOVE THE CAM COVER....LEAVE IT BOLTED TO THE HEAD.* Should you do so it will pop up and putting it back together needs a special tool. Let your "head" man do this bit, and satisfy yourself beforehand that your "head" man is thoroughly familiar with the "O Series" engine !

My (engine) head came off easily after two taps with a flannel hammer (soft head mallet) and it's best to get another pair of hands to lift it off.....at least for the first time.....its awkward rather than heavy. I was able to put it back without help. The gasket showed signs of leaking gas between the bores and there was a ring of carbon at the head of each bore, more at the rear.

I made a mistake with the temperature transmitter and tried to undo it.....it sheared off.....it's made of copper and in an alloy head is almost certain to sieze up...If you go this way lay the head on its side and give the thing a good soak with some penetrating oil and then try. I hope you are successful. I obtained a "Smiths Replica" (it was so labelled) but more of this later. Hurley Engine Services withdrew what was left.

Paul Hurley sent me a box and a stout polythene bag to pack up the head and I delivered the head and took the head gasket down to Paul on Monday. I asked him if the head needed to be skimmed and he said they would do that anyway.Paul showed me his workshop and we saw an impressive amount of work in progress. I left confident the work was in good hands. On Friday (the same week) my head was delivered here at home.

The head returned stoutly packed in cardboard with a wood frame, lots of bubblepack, an almost complete gasket set by Payen, Paul had used the oil seal and the valve stem covers in rebuilding the head, and a full set of specifications for the rebuild. I didn't need to buy any gaskets....all the carburetter and fuel pump gaskets were included in the set.

I uncovered the totally clean head, all shiny and looking brand new. I had inked on my name before delivery.....the head returned with my initials neatly stamped on both head and cam cover !

Payen are an old established and well regarded firm and the head gasket supplied differed from the one I took off. The water passages at the front end are much

differed from the one I took off. The water passages at the front end are much smaller than the original, but on each bore they increase in size towards the rear. On thinking about it with this engine the water is pumped in and leaves the block at the front end. Could the rear of the block have been running hot ? certainly there was more carbon in the rear bores.

Whilst waiting for the head I removed the carbon from the top of the bores. I made a loose fit cardboard disc with a 4BA nut and bolt for a handle and slipped this into a bore, then a thin strip of soft rag around the edge and removed the carbon with a piece of lime wood. *Never use metal or abrasives inside the bore or on any surface which has a gasket.*. I then carefully lifted out the cardboard disc, the other bores being covered with soft cotton cloth and finished off with the vacuum cleaner fitted with a plastic crevice nozzle. With luck no hard carbon goes past the piston head to the rings ! I then sprayed the whole head with WD40 and covered it with a clean cotton cloth.

Make sure the crankshaft is still on its timing mark 90º B.T.D.C. and with a ring spanner turn the camshaft pulley until the "dimple is in the window". Make sure the head is quite clean. You can fit the spark plugs at this stage (it's easier) and this time I fitted Champion double copper, but do gap them to 35 thou before you fit. With the head gasket in place, lower on the head.

Before you put in the head bolts put some thin oil on both faces of the washers and then follow the proceedure in the Haynes Manual. Don't attempt to tighten up the head without a torque set so buy, beg or scrounge one for this part of the job. You will need the tool too to put on the manifold, although there are a couple of bolts on the manifold that you will have to do by spanner (there just isn't room with the engine in the car).

Again oil the washers on the manifold bolts, this ensures that if washer and bolt bind together when tightening up you don't "confuse" the torque tool.

On the rebuild take your time and make sure all surfaces which have a gasket are quite clean and smooth. If you decide to paint your manifold make sure you have no paint runs on the gasket face.

I didn't have a spring balance when it came to setting up the new cam belt. A rule of thumb method is to tighten up the tensioner so that you can turn the long run of the belt (nearside) through 90º with finger and thumb and then slack the tensioner back a little more (half a fag paper !) If you have the thing too tight you will hear the camshaft groan when you start up for the first time. If in doubt get your garage to check this for you later.

With all put back together and the engine bay cleared of all tools !, uncouple the high tension lead from the coil and turn the engine over on the starter and pump up some of the new clean, bright oil into the head and keep turning over until full oil pressure is attained. Then re-connect the coil, cross your fingers and fire her up. Mine went first go and my valves clicked for a short while, then all settled down and the engine is now more quiet than before. It may be imagination but I think the exhaust note is more crisp than it used to be.

I took Paul Hurley's advice and with the petrol tank nearly empty, drove to the garage and gave her £10. worth of super unleaded (avoid the supermarkets, where it seems the octane rating is a bit lower). She starts and runs a treat, without any alteration to ignition or timing.

If Tin-Tin can do this job, then anyone can. Perhaps the hardest part is plucking up the courage to have a go ! Should any problems arise from all this I promise

(hand on heart, 'onest injun) to report 'em. and please note my only connection with Hurley Engine Services is that of a satisfied customer. Oh yes, my thanks to Sid Gibson (NAYLOR NEWS first Editor) who introduced me to them.

GOING UNLEADED BEING NOTES FROM PART OF A LETTER FROM PAUL HURLEY TO TIN-TIN.

"I have been concerned with the costing of this job in order for you to give your members an indication of cost before they send their head to us, as it does depend on what needs to be done over and above the lead free situation. The "O" Series engine has a habit of burning out exhaust valves, some engines were fitted with Nimonic exhaust valves from the factory, however quite a lot were fitted with the standard valve. The Nimonic valves stand up to the lead free situation with no problem, whereas the standard valves do not. As it happens your cylinder head had standard valves and we have changed them to Nimonic. The engines fitted with the Nimonic valves by the factory were mainly the later 2 litre version. It is not possible to tell which you have until we have removed them from the head.

We only change the valve seats in the exhaust, the inserts we use are described as chrome turbo and are made of several highly sophisticated materials to not only withstand lead free fuel, but petrol and diesel high speed turbo-charging. We have been modifying cylinder heads and engines to run lead free for quite a number of years now with 100% success. It must also be remembered your engine is 100% lead free, however you can use four star if you wish but I feel you do not get any advantage by so doing, the only thing is lead free from the supermarket pump may well lead to pinking, it doesn't happen in every case and I wouldn't want to be quoted on it, possibly the way forward would be to reccomend super unleaded, but I leave this to you.

I don't know that I can add much more. The cost of conversion to members of the NAYLOR CAR CLUB will be between £220/£290 plus V.A.T. which will include carriage both collection and delivery. I very much hope this is to your satisfaction."

Yours sincerely,

Paul Hurley.

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REGISTRAR'S NOTES BY FREDA

The last six months have shown more changes of ownership and new and enthusistic owners joining the club, than in any similar period since the inauguration at Gaydon. The membership list which we keep on floppy disc has seen so many updates I have lost count ! Later in the year when all the membership subscriptions have been paid I will send you all a copy of the new list.

Meantime here is an update :-