The Talbot Manual

Technical Resource

Servicing

Bill Barrott & Martin Bryant

TALBOT SERVICING

The Talbot service information as below (supplied by John Dodd) may help members when attending to their Talbot(s). Photocopy this page and keep it with the car or in the garage for easy reference.

1. Drain and refill engine with new oil, clean or renew filter. Note: 3 filters on late cars, use straight 40 oil, or 20/50 multi grade.
2. Lubricate all brake clevis pins.
3. Lubricate king pins and all steering and suspension parts.
4. Lubricate all engine controls and steering column controls and radiator shutters.
5. Check and top up if necessary the steering box with oil.
6. Lubricate bonnet fasteners, lock, door locks and all hinges etc.
7. Check and top up if necessary the rear axle with oil - SAE 120.
8. Check and top up front and rear shock absorbers with hydraulic oil.
9. Check and top up if applicable the gearbox - SAE 90.
10. Lubricate brake and clutch pedal mechanism.
11. Check all ball joints and lubricate.
12. Check all brakes and adjust.
13. Check condition of friction shock absorbers including rubber bushes.
14. Check level of electrolyte in battery and top up if necessary with distilled water.
15. Check, re-tighten the battery terminals, coat with Vaseline.
16. Check and adjust tyre pressures including spare tyre.
17. Remove wheels, lubricate with grease and re-tighten.
18. Clean or replace spark plugs, gap 20 and 25 thou. (25 for modern coil) and replace every 10,000 miles.
19. Clean and adjust distributor contact points, renew if necessary - 18 thou, Lubricate cam with small amount of grease oil down spindle.
20. Check fan belt tension and adjust if necessary (left hand thread).
21. Clean fuel filters where necessary.
22. Remove cover on dynostart, clean out dust, check movement of brushes and spray with solvent.
23. Check coolant level and anti-freeze content.
24. Clean and attend to air filter according to type fitted.
25. Check and re-set valve clearance.
26. Check and adjust clutch pedal 1-inch free movement.
27. Check lights, indicators, horn, wipers, wind screen washers and do a general inspection of the wiring.
28. Road test the vehicle.

A CORRECTION

The introduction of *LIGHTER* Patent Castrol makes necessary certain changes in the grades recommended for the Engine of this model. The correct grades for the Engine are now—

Patent CASTROL XXL in Summer
Patent CASTROL XL in Winter

C. C. WAKEFIELD & CO., LTD., Cheapside, LONDON, E.C.2

TALBOT

LUBRICATION GUIDE

For 65, 75, 90, 95 and 105 Models

On these Talbot models lubrication attentions have been reduced to a minimum, and every important point with exception of front wheel hubs and rear axle can be attended to whilst replenishing the engine.

This is made possible by an oil pump incorporated in the engine filling orifice which is connected by pipe lines to the various points on the chassis which require lubrication. The pump chamber is automatically filled with oil whenever oil is poured into the engine filler. At regular intervals the pump handle should be drawn up to its full extent. This will permit oil in the pump chamber to flow into the delivery chamber.

The return of the pump handle under spring pressure will force oil through the pipe lines to the lubrication points.

A further feature of the Talbot is the manner in which both engine and gearbox are kept replenished with oil through the same filler. This is made possible by a pipe which feeds the gear box under pressure. A suitable pipe returns the excess oil to the engine sump.

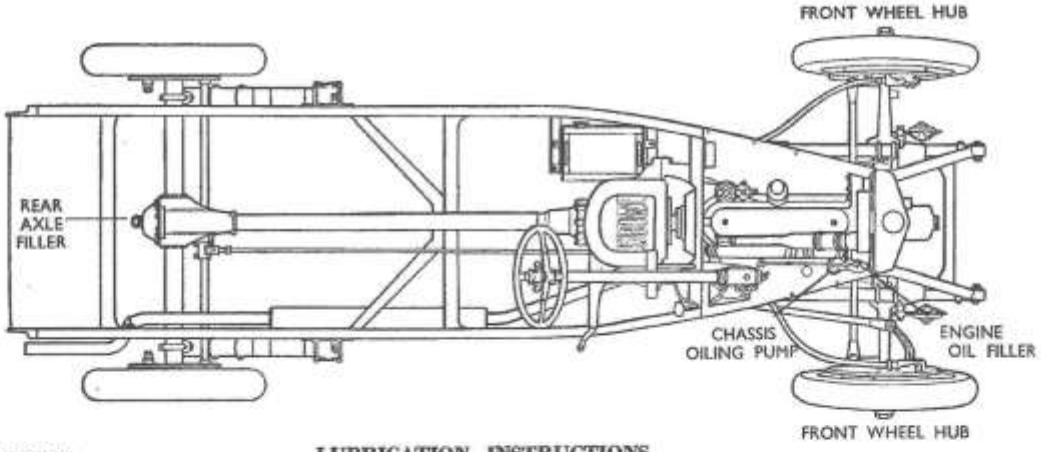
Supplementary to the dipstick is an oil level gauge on the 95 and 105 situated conveniently on the dash. This indicates by means of a coloured fluid the amount of oil present in the crankcase.

Oil Capacities

ENGINE.
All Models—2 gallons.

GEAR BOX. All Models.
Pre-Selector—1¼ gallons.

REAR AXLE.—1 quart.



LUBRICATION INSTRUCTIONS

DAILY, OR EVERY 250 MILES.

Engine

If found necessary, replenish the engine sump until oil registers correct level on the dipstick with CASTROL XXL in exceptionally hot weather, CASTROL XL for temperate conditions, or CASTROL AA for winter. It is advisable to wipe the dipstick with a clean cloth before inserting for a reading.

EVERY 500 MILES.

Steering Box, Brake Shoe Carriers, Front Axle Swivel Pins, Cross Coupling Tube, Steering Pull and Push Rod, Brake Cables and all Spring Leaves

These points are all lubricated by drawing up the pump handle situated just beside the engine oil filler (Fig. 1). This permits lubricant to enter the pump delivery chamber whence it is forced through pipe lines to the parts concerned. The pump is replenished every time you pour oil into the engine filler. A drain button (see sketch) is employed for the purpose of draining off sediment from the pump chamber and should be operated each time before pouring fresh oil into engine filler.

Fig. 1.

Carry out this process whilst the Engine is warm.

Ignition Distributor

Give one turn to greaser to lubricate shaft. Fill this with CASTROLEASE Heavy.

EVERY 2,000 MILES.

Engine and Gear Box

Drain off all the oil from the engine sump. To do this press down the dipstick instead of withdrawing it for a reading and give this a turn. This will open a valve at the base of the crankcase and permit oil to drain off. Afterwards flush out with light oil, drain this off, close the drain cock and refill with fresh oil of correct grade.

It is also advisable to unscrew the drain plug of the gear box which is situated underneath and towards the rear. By keeping the engine running slowly for a few minutes whilst filling it the gear box will be replenished automatically. Level of the engine should be checked after this operation.

Rear Axle

Remove the drain plug (Fig. 2) beneath this unit and allow all oil to drain off. This should be done whilst oil is warm and therefore more fluid. Then replace the drain plug and replenish until oil reaches the lip of the filler. Use CASTROL R for this purpose always.


Fig. 2.

Brake Linkage

Apply the oil can to joints in the brake system. These are few in number and this attention will take but a few moments.

EVERY 5,000 MILES.

Front Wheel Hubs

Unscrew the hub caps and refill these with CASTROLEASE Heavy. One of these caps is shown removed in Fig. 3, and the required amount of grease indicated.


Fig. 3.

Dynamotor

Give a turn to the greaser to lubricate front bearing. Fill this with CASTROLEASE Heavy.

EVERY 8,000 MILES.

Central Lubrication System

The tank should be drained by undoing the little nuts holding the hand pump flange underneath. The Pump should then be withdrawn from underneath the crankcase just sufficiently to drain any dirt or water which through condensation might have found its way in. There is no necessity to disconnect the pipes for this purpose. Where a drain cock is fitted (close to pump handle) it is only necessary to press and hold down cock to drain tank.

Water Pump.—Occasionally apply CASTROL Water Pump Grease to pump packing to obviate squeak. This is done by turning down the greaser. The pump shaft bearings do not require attention, being lubricated by the main engine lubrication system.

Oil Gauges

In order to gauge the amount of oil present in the sump a dipstick is provided which indicates the oil level when withdrawn. This dipstick is supplemented by a neat oil level gauge (on certain models) situated on the dash. This gauge indicates by means of coloured fluid the level of the oil in the sump. A special diaphragm plug is also incorporated which indicates by means of a blue light on the dash when pressure has fallen too low for effective lubrication. This blue light is always visible when the ignition is switched on and before the engine is started but is extinguished as soon as oil commences to circulate.

Upper Cylinder Lubrication

In order to lubricate more effectively the piston, piston rings, valve stems and guides, especially while the engine is being "run in" or when starting from cold, Wakefield CASTROLLO should be used.

Use the cap of the CASTROLLO tin as a measure, and add one cap full to every 4 gallons of fuel you put in your tank. CASTROLLO can also be obtained loose in small quantities at most filling stations, *i.e.*, sufficient to treat the amount of fuel purchased.

RECOMMENDED LUBRICANTS

ENGINE and GEARBOX

Wakefield CASTROL XXL in exceptionally hot weather
CASTROL XL for temperate conditions
CASTROL AA for winter

High quality oils recommended by Clement Talbot, Ltd., for the engine gearbox, and the central lubrication system.

REAR AXLE

Wakefield CASTROL R

A viscous heat-resisting oil for high speed requirements recommended by Clement Talbot Ltd., for the Rear Axle only.

FRONT WHEEL BEARINGS

Wakefield
CASTROLEASE Heavy

A high quality CASTROL grease of heavier grade recommended for lubrication of Talbot front wheel bearings.

C. C. WAKEFIELD & CO., LTD.

— ALL-BRITISH FIRM —

WAKEFIELD HOUSE, CHEAPSIDE —— LONDON, E.C.2.

L.C. 250-33 1-33 Gm.

CARE and MAINTENANCE OF WELL KNOWN CARS

No. 66

SIX-CYLINDER TALBOT

Part I

WHILE the present range of Talbot cars appeals strongly to owner-drivers by reason of the good appearance and excellent performance of the various models, it has an even stronger claim on account of the ease of maintenance of all models. The design is not only straightforward and simple, but it reduces the amount of attention that is required to the minimum.

For example, so far as ordinary running is concerned, there are but two major units requiring lubrication, the one being the engine and gear box, and the other the rear axle. This highly desirable state of affairs is made possible by arranging for the gear box to receive its supply of lubricant from the engine, and by providing on the engine a pump which also supplies with oil the steering box, and the various points on the front axle. The result is, of course, that an owner-driver with little time to spend on his car has practically nothing to do but to see that there is water in the radiator, oil in the sump, and petrol in the tank.

Attention that Will be Repaid

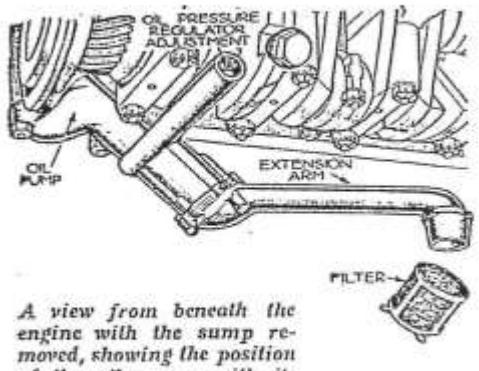
Nevertheless, those who wish to obtain the best results from their cars will do well to see that the few points requiring attention receive it regularly, and it is to help them that the following notes are written.

Assuming that the car is new, then it should be treated with consideration while it is being run in. It should not, for example, be driven fast for at least the first 500 miles, and if restraint is used for even a longer period the car will benefit by it. During this first 500 or 700 miles it is recommended that a small amount, say 2 per cent., of engine oil should be added to the petrol, and it should be noted that the best results will be obtained by using Ethyl petrol or benzole mixture as fuel, while the engine oil for winter running should be Castrol XL, Double Shell, Price's C de Luxe, or Mobiloil AF. For summer use the heavier grades of these oils are recommended, namely, Castrol XXL, Triple Shell, Price's B de Luxe, or Mobiloil BB.

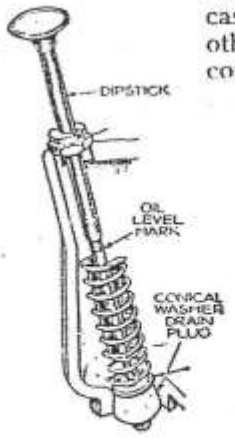
The Lubrication System

In view of the completeness of the engine lubrication system, which deals also with the gear box and steering, it is well to have a clear conception of its arrangement. In the lower half of the crank case there is a gear type pump which is situated towards the front of the engine on the near side, and driven from the crankshaft. From the base of the pump the oil intake pipe extends back to a point at the centre of the sump, where it ends in a small cylinder of coarse mesh gauze to guard against the ingress of large particles of foreign matter.

This pump delivers oil under pressure to a filter which consists of two large concentric cylinders of fine and coarse mesh gauze, which are located beneath the oil filler cap in the near side of the engine towards the front. The oil passes through this filter and all impurities are thus removed from it, and it then travels through galleries to the main bearings, camshaft bearings, through the drilled crankshaft to the big-end bearings, and also through suitable oil leads to the overhead-valve gear. A by-pass valve on the side of the oil pump casing allows the oil pressure to be regulated, and another small valve situated in the cylinder head casting controls the oil supply to the valve gear.

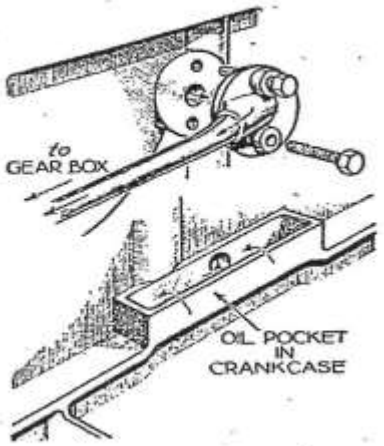


A view from beneath the engine with the sump removed, showing the position of the oil pump with its extension intake arm and filter, and the oil pressure regulator.



Showing the internal arrangement of the dipstick, which when pushed down moves a conical drain plug from its seat.

(Right) From a pocket in the crank case oil is taken through a pipe to the gear box.



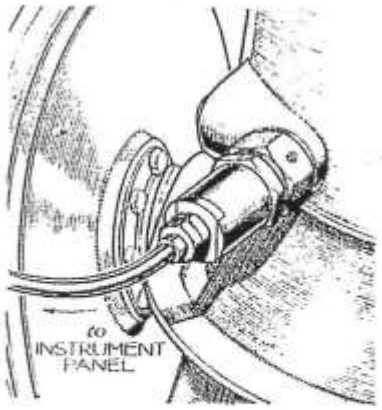
A 25

CARE AND MAINTENANCE OF WELL KNOWN CARS

On the near side of the crank case there is a copper pipe which conducts oil to the gear box, the supply being automatically maintained by means of a small pocket on the inside of the crank case surrounding the mouth of the copper pipe, the oil being caught in this pocket and flowing through the pipe to the gear box, so that the oil level therein is maintained.

There is also on the near side of the engine a small spring-loaded hand-operated oil pump. On the 14-45 h.p. models this is located to the rear of the oil filler cap, but on other models it is situated just in front of the cap. When this pump is pulled up by hand and allowed to return under spring pressure, it forces warm oil through small copper pipes to the steering box and to the various steering joints and spring shackles, flexible pipes being used where movement of the joints renders this necessary. Every six months the nuts holding this pump should be removed to allow the pump to drop slightly so that the oil tank may be drained.

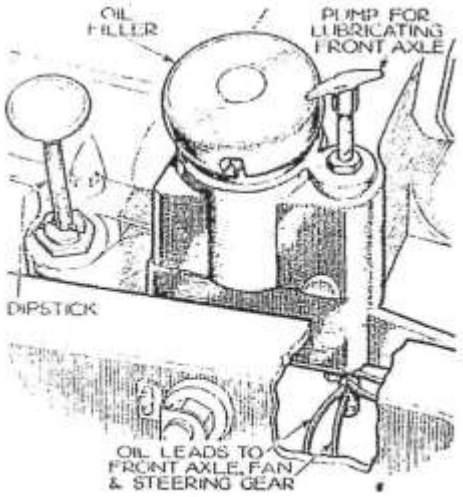
The crank case oil level is shown by a dipstick, which should be withdrawn, wiped on a clean rag, returned to its place, and again withdrawn in order to show clearly the depth of oil. This dipstick also operates the drain tap fitted in the base of the sump, it being pressed down and given a half-turn, when it will remain open and allow the oil to be run out.



At the rear of the engine on the off side is the oil-light contact plug.

Oil Pressure Indication

On the 14-45 h.p. model there is also an oil-pressure gauge on the instrument board, and on other models this takes the form of a blue light controlled by a switch operated by oil pressure. When the ignition is switched on this light also should appear, as well as the red warning light of the ignition system; but when the engine is started the blue light should go out, and the red light will, of course, also go out as the engine is speeded up and the dynamotor commences to charge.



On the near side of the engine are the oil filler, the dipstick and the pump which supplies warm engine oil to the fan, steering gear and front axle.

So long, therefore, as there is oil in the sump, and the oil filters are clean, there is no possibility of trouble with the lubrication system. The oil-pressure gauge on the 14-45 h.p. model should show a pressure of at least 25 lb. per sq. in. when the engine is running fast, and on other models the blue light should never appear when the engine is running above idling speed.

In the event of a failure of oil pressure the engine should be stopped and the cause investigated at once. The most likely causes are (1) lack of oil in the sump, (2) the filter is not screwed down tightly, (3) the oil filters need cleaning, (4) the plug in the oil-pressure release valve is not tight, (5) the pipe leading to the oil gauge on the 14-45 h.p. model is broken or choked, the oil gauge is damaged, or the oil contact unit on other models is not working properly.

In the case of (1) the remedy is obvious, but the driver should make a mental note that he himself is at fault in not verifying the oil level, and that by this omission he is jeopardising the well-being of the engine.

So far as (2) is concerned, on removing the oil-filter cap a hexagon nut will be seen, and this should be spanner-tight to prevent any possibility of leakage. If the filler cap is removed while the engine is running any leakage at this point can be seen. The joint washer for the filter may not be seated properly, and should be examined.

The oil filters should be cleaned every 2,000 miles, when the crank case is drained and replenished, and if this is done regularly there is little likelihood of the filters becoming choked at any time. It is very unlikely that the plug in the oil release valve will be loose, but access to this may be had through a screwed plug on the off side of the crank case. It should be emphasised that the release valve itself should not be altered, as this is set by the makers, and is so simple that trouble with it is most unlikely.

Where To Look

If the oil-gauge pipe on the 14-45 h.p. model is suspected it should be detached and thoroughly cleaned, and on other models the oil-light contact plug fitted on the side of the engine should be detached, when, if oil pours out, it will be known that the plug is defective and should be changed.

After a new car has done 500 miles the oil in the sump should be drained out and a fresh supply given, and thereafter the crank case should be emptied about every 2,000 miles.

When the engine is warm, either after a journey, or after having been run for some time with the car stationary, the oil will flow freely, and should be drained by depressing the dipstick and giving it half a turn. This should be done with the filter in position and not disturbed in any way.

When oil ceases to drip out, the drain tap should be closed, three pints of hot oil should be poured into the crank case through the oil filler and allowed to remain for a few minutes, when it should be drained out and should take with it any remaining impurities from the sump. It is definitely not advisable that either petrol or paraffin be put into the engine for flushing purposes. The engine should not be turned during the cleaning process. With regard to matters directly affecting engine lubrication one cannot be too careful.

(To be continued.)

CARE and MAINTENANCE OF WELL KNOWN CARS

No. 66

SIX-CYLINDER TALBOT

Part II

THE large plug in the centre of the bottom of the sump may then be unscrewed, and the pump inlet filter removed, washed in petrol and replaced, the plug also being replaced and screwed home tightly. The oil pressure filter should next be cleaned, and after removing the oil filler cap the hexagon nut should be slacked off and detached, when the complete assembly of the filter may be drawn out and washed in petrol. At the lower end of the filter there is a wire ring which can be detached with the fingers, so as to allow the inner gauze of the filter to be drawn out. It will be found that the dirt is deposited between the two gauzes.

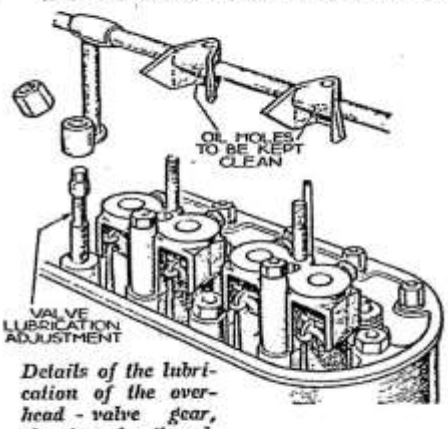
After cleaning, the filter should be reassembled and returned to its place, taking care that the fibre joint is properly seated and that the butterfly nut is tightened with a spanner. As this filter is very important, the gauzes must be in good condition. If they should be accidentally damaged when cleaning, a small puncture may be repaired by soldering, but in the case of any extensive damage new parts should be obtained and fitted.

When the filters have been cleaned and replaced, a . .h supply of oil should be poured into the crank case through the filler orifice. The quantity of oil required is just over one gallon for the 14-45 h.p. engine, and two gallons for other models. The car should be standing on level ground while refilling, and the oil level should reach to the maximum mark on the dip stick.

The pressure filter beneath the oil filler cap shown dismantled for easy cleaning.

When the sump is drained after the first 500 miles the opportunity may be taken to drain the gear box through the plug in the base of it. The lid of the box should be removed by undoing the securing studs, so that after the plug in the bottom has been replaced oil may be poured into the box until it reaches the level of the pipe which normally feeds oil from the engine. The lid of the box is then, of course, replaced.

After the first draining and replenishment of the gear box it will be sufficient to drain and replenish every 10,000 miles. The oil level meanwhile will be automatically maintained by the feed pipe from the engine, as already described.



Details of the lubrication of the overhead-valve gear, showing also the adjustment provided.

The only other point in the engine lubrication system which may need attention is the valve regulating the supply to the valve gear. This does not, however, apply to the 105 model. The oil should leave the holes in the pipe situated over the rockers in a fast drip when the engine is idling, and this should develop into a constant stream when the engine is running fast. When the valve cover is removed the regulating valve is seen as a screw in a boss between the eighth and ninth valves, counting from the front of the engine. Screwing this in, or clockwise, will reduce the oil flow. Occasionally see that the small holes in the oil pipe are clear, by poking a small piece of wire into them.

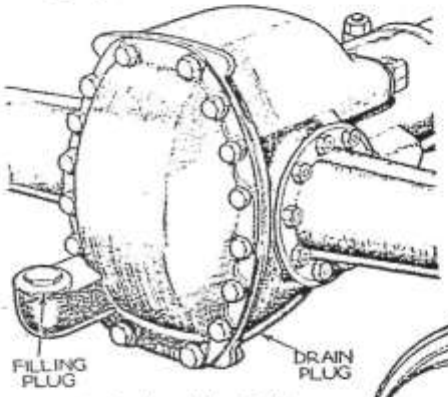
On account of the importance of the engine and gear-box lubrication system, it has been dealt with in detail, but it is not likely to give any trouble or need any adjustment, especially if given the periodical attention outlined. So far as other lubrication is concerned, there is little to do.

For the rear axle Castrol D, Shell-Mex gear oil, or Vacuum C is recommended for summer use, with engine oil mixed with it in equal quantities during the winter. With a new car the axle may be drained and replenished after the first 500 miles, the oil being drained out through the plug in the bottom of the final drive casing when it is warm after a run. While the oil

CARE AND MAINTENANCE OF WELL KNOWN CARS

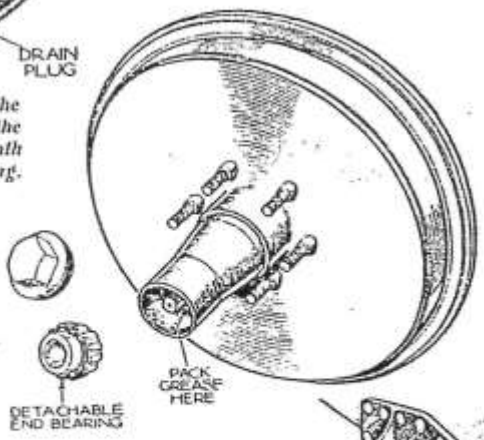
is draining out, the filler plug at the back of the casing may be removed. When the drain plug is replaced fresh lubricant should be inserted up to the level of the filler hole, and the plug then screwed in tightly.

After the first draining it will be sufficient to drain and replenish every 10,000 miles, but every 2,000 miles the filler plug should be removed and enough oil added to restore the level. On the double reduction axles two additional screw filler plugs will be found, one near each wheel. Oil should be inserted through these also up to the level of the hole.



On the back plate of the final drive casing is the filling plug, while beneath the casing is a drain plug.

The steering, front axle and fan are supplied with engine oil by the special hand pump already described, so that all the driver has to do is to pull this up once or twice occasionally, say, every 300 or 400 miles. There should just be visible signs of oil leakage from the various steering joints, and experience will soon tell how much lubrication is required. The front wheel bearings are lubricated by grease, and every 10,000 miles the hub caps should be taken off, the small bearing withdrawn by hand, the hub packed with grease, and the bearing and cap replaced. The rear wheel bearings are lubricated from the rear axle automatically.



When the hub cap of a front wheel is removed the end bearing can be taken out and the hub packed with grease.

Periodically, when the car feels "hard," the springs should be lubricated, the jack being placed under the frame so that the load can be taken off the springs. The leaves can then be separated slightly with a metal wedge, so that graphite grease can be spread between them with a knife blade.

Decarbonisation

We can now turn to the matter of adjustments. Decarbonising may be required at long intervals, 10,000 to 20,000 miles, and when it has to be done it must be with extreme care, attention and thoroughness. Avoid the use of force. The procedure is as follows: Disconnect the high-tension leads and remove the sparking plugs. Drain the radiator, a readily accessible tap will be found underneath it. Slacken the water outlet pipe by undoing the top and bottom nuts, and slide upwards the tube or the rubber connection on the 14-45 h.p. model. Remove the nuts holding the valve cover, and lift off the cover. Disconnect the carburetter controls and the joint of the exhaust manifold to the exhaust pipe.

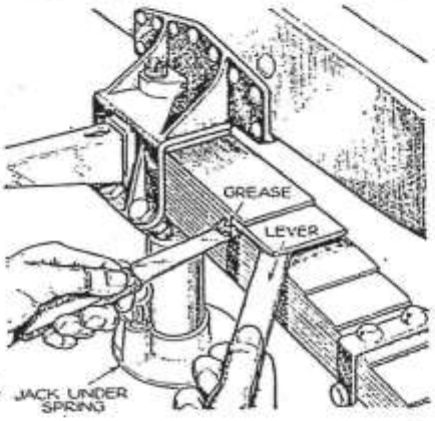
Finally, the nuts holding the cylinder head down may be unscrewed so that the head can be lifted clear of the studs in the cylinder block. If the head sticks at all, a screwdriver should be inserted in the joint at each end where the gasket has been cut away to allow this to be done without damaging the joint, so that gentle leverage on the screwdriver will start the head. Another method of starting the head is to replace the sparking plugs and to turn the engine by hand.

When Replacing

The push rods should be left in the cylinder block, or carefully placed in their order, as they may vary slightly in length and, if replaced in different positions, tappet adjustment may be necessary.

While the cylinder head is detached, the opportunity should be taken to examine the valves, and, if necessary, grind them in. As the head is lifted off, it should be placed on the bench on its side with the manifolds uppermost. The valve rockers can simply be lifted out, but due note should be taken of their respective positions in order that they may be returned in the same order. It is an easy matter to remove the valve springs by placing a packing under the valve head, pressing the spring down and withdrawing the two split collars which retain the spring cup on the valve stem, when the valve may be withdrawn.

It is important that each valve shall be returned to its original position, and it is therefore recommended that only one valve should be removed at a time, ground in, and replaced. A special tool is included in the tool kit, and this fits on to the valve stem to facilitate the grinding in process. A little grinding compound is smeared on the valve face, and it is then given a light semi-rotary movement by turning the special tool with the right hand, meanwhile pulling on it very gently to exert a slight pressure between the valve and its seat. If the pressure is too great the valve will deform. During the grinding-in process, the valve face and seat should be frequently examined, and as soon as all signs of pitting have been removed and the valve is seen to have an even seat all round, the process is complete.



Greasing a rear spring, with the jack under the butt end so as to take the load off the spring, the leaves of which can then be prised apart slightly so that grease may be inserted.

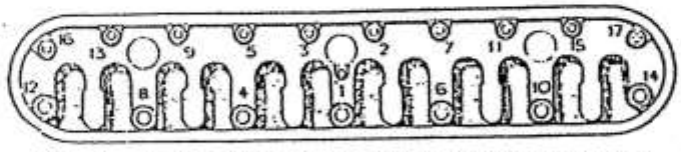
(To be continued.)

CARE and MAINTENANCE
OF WELL KNOWN CARS
No. 66
SIX-CYLINDER TALBOT
Part III

ON wiping the valve and its seat clean, a simple test may be made by blackening the valve seat in a candle flame, returning the valve and lightly pulling it on to its seat. On removing the valve the seat should show an even contact all the way round. Care should be taken to remove all traces of grinding compound from the valves, guides, and seats.

The removal of carbon from the cylinder head is a simple matter, and attention can then be turned to the pistons. The engine should be turned by hand until two of the pistons are at the top of their stroke, when the carbon should be scraped off, taking care that particles of it do not fall into the cylinder bores or water passages. It is important that the surfaces of the cylinder block, the head, and the gasket be perfectly clean, and if the gasket is damaged a new one should be used.

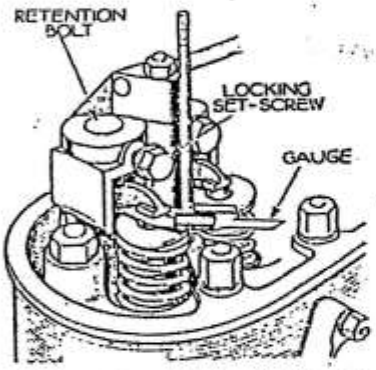
The jointing material known as L'Hermetical is recommended in replacing the gasket, and a little should be spread on both sides of it. In lowering the head on to the studs take care not to damage the ends of them, and in replacing the nuts on the studs see that they are free and do not tend to jam. The nuts should be tightened about one-third of a turn at a time in the order shown in the accompanying diagram in order that the head may be held evenly down on the block without distortion. The exhaust manifold should then be coupled up to the pipe, the carburetter controls reconnected, the water connection replaced, also the sparking plugs and high-tension wires.



After decarbonising the cylinder head nuts should be tightened down in the order indicated.

After grinding in the valves it will be necessary to check and reset the clearances between valve stems and rockers. These should be 0.006in. for the inlets and 0.008in. for the exhausts when the engine is at normal running temperature. For the moment, therefore, it is sufficient to see that all the rockers can clear the valve stems, so that the radiator may be refilled and the engine given a run to warm it up. The valve clearances should then be checked as follows:

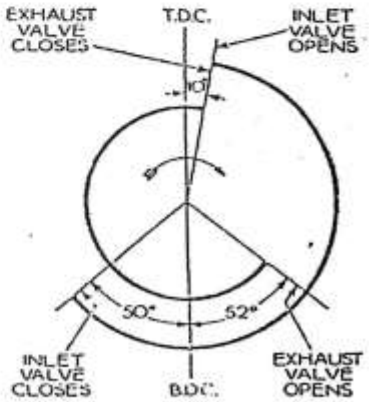
Make sure that each valve is on its seat, and then loosen the set screw which secures the retention bolt of the rocker. A feeler gauge of appropriate thickness should then be placed between the valve stem and rocker end, and the retention bolt pushed gently down so as just to touch the bottom of the swan neck of the rocker. While it is held in this position the locking screw should be tightened up. Each valve in turn should be checked in this manner.



Valve clearance is adjusted by moving the rocker retention bolt after loosening the locking set screw.

On the 105 model there is a slight difference in that the retention bolt, after being unlocked, should be screwed up or down in order to adjust the clearance.

A rocker can only come out of its position in the event of a valve spring breaking, or a valve sticking in its guide. If it is desired to replace a valve spring then the locking screw for the retention bolt should be removed, allowing the retention bolt to be partly withdrawn, so that, in turn, the rocker itself may be withdrawn. By inserting a bent rod through the sparking-plug hole the valve may be held in position while the broken spring is removed and a new one fitted, after which replace the rocker, push the retention bolt into position, and replace the locking screw, giving necessary valve clearance of course.



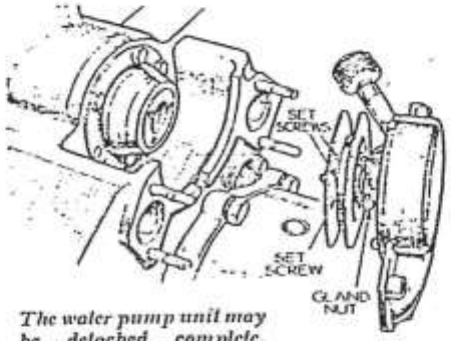
From the valve timing diagram it will be seen that there is no overlap, the inlet valve opening as the exhaust valve closes.

On the flywheel there is a mark and the figures 1 and 6, and at the end of the cylinder block there is a small pointer. When the marking on the flywheel is in line with this pointer the pistons of cylinders 1 and 6 are on top dead centre, and, for correct ignition timing, the points of the contact breaker should then just be separating.

CARE AND MAINTENANCE OF WELL KNOWN CARS

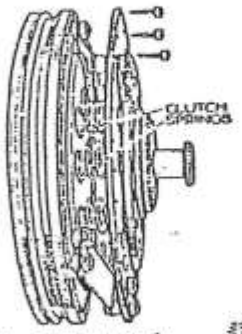
The Delco-Remy distributor is very accessibly placed on the near side of the engine, and requires little attention. A screw-down greaser lubricates its shaft, and should be given one turn every 500 miles. There is also a felt ring in the three-lobe cam which operates the contact points, and this ring should be kept moist with thin oil.

There are two contact-breaker arms carrying the moving points, and each has a fixed point carried in a plate in which there are two screws. To set the gap between the points, which should be 0.018in., the screw at the end of each plate should be loosened, and then turning the other screw slightly will open close the gap. When the correct setting is obtained the screw in the end of each plate should be tightened. There are also three other screws in the main base plate of the assembly, and these are provided for synchronising the movement of the two arms, but should never be touched except by the service station.



The water pump unit may be detached complete. The gland nut should be tightened if there is any leak at this point.

The points should be kept free from oil and grease, and should present a clean, greyish, frosted appearance. If they become pitted or burnt they must be carefully trimmed with a special very fine file and the gap should then be reset.



The clutch may be inspected after removing the twenty-four small bolts round the edge of the flywheel.

Carburetter Settings

Mixture is supplied by a Zenith U-type carburetter on the later models, fed with fuel from the main tank by a petrol pump. On the 14-45 h.p. A.G. model a Smith five-jet carburetter is used, however, fed by an Autovac tank on the dashboard. The best setting for this carburetter has been found to be pilot jet, 16; No. 1 jet, 20; No. 2 jet, 28; No. 3 jet, 17; No. 4 jet, 8, and this will give good results with any of the standard petrols or with a mixture of up to 75 per cent. petrol and 25 per cent. benzole.

The best settings for the Zenith carburetter on the later models are as follows—

	14-45 h.p.	"75"	"90"	"105"
Choke	22	26	20	30
Slow Running Jet	60	60	65 or 70	60
Compensator Jet ..	110	155	165	120
Main Jet	90	105	130	105
Economy Jet ..	None	115	165	None
Progression Jet .. .	None	None	None	2 mm.

The only adjustments likely to be required on this carburetter are (1) adjusting the strength of the mixture for idling by means of the air-regulating screw—turning it down will make the mixture richer—and (2) adjusting the idling speed by means of the throttle stop screw.

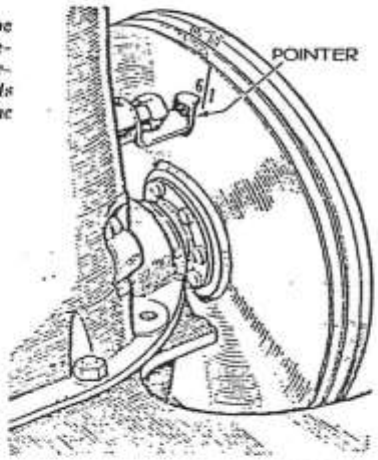
A filter gauze is fitted in the petrol union on the top of the float-chamber and is easily withdrawn for cleaning by unscrewing the nut which holds the union to the carburetter.

It should seldom be necessary to clean this filter, as a very efficient filter is incorporated in the petrol pump. The bowl of this should be removed from time to time for cleaning, and, apart from this, the pump should not need attention. Any leakage of fuel at the diaphragm of the pump will be an indication that the cover screws are not quite tight. These should be tightened alternately and securely, but the pump body should not be taken to pieces.

Water Circulation System

The cooling system requires little attention. On the 14-45 h.p. model the circulation is by thermo-syphonic action, and, therefore, the water level in the top tank of the radiator must not be allowed to fall below the normal. On other models the water is circulated by a centrifugal pump mounted on the front of the engine as a self-contained unit without any rubber connections. The spindle of the pump is carried in pressure-lubricated bearings, and the only point which may need occasional attention is the gland which prevents water leaking along the spindle. In the event of a leak the gland nut should be tightened slightly, by means of the special tool provided, after the locking plate which secures it has been undone. After adjustment the locking plate should be replaced. The water pump is cleverly designed so that it may be removed as a unit if it should ever be necessary.

Should the radiator shutters fail to open, the two main links seen from the rear of the radiator should be lifted off their pivot pins after taking out a small split pin. The two links can then be tied back, and the shutters can be pushed open and fixed by a wedge.



The figures 1 and 6 on the front face of the flywheel indicate top dead centre of those cylinders.

When draining the radiator the filler cap should be slightly undone to admit air.

From time to time the cooling system should be washed out and filled with a weak solution of caustic soda. The engine should be run until hot, the solution drained off, and the system thoroughly flushed with clean water.

To inspect the clutch the bolts all round the edge of the flywheel should be undone. It is then possible to see whether any oil or grease on the friction surfaces is the cause of slip; wash the clutch out with petrol.

(To be concluded.)

CARE and MAINTENANCE OF WELL KNOWN CARS

No. 66

SIX-CYLINDER TALBOT

Part IV

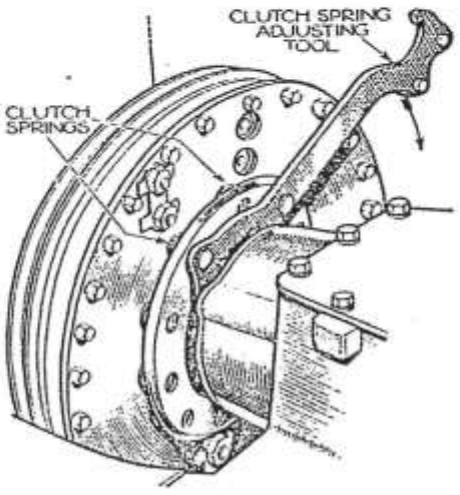
THE clutch should seldom need attention; it is of single-plate type, fabric lined, with twelve coil springs carried in a housing bolted to the flywheel face and applied by a movable plate connected to the flywheel flange by three flat springs. In the movable plate on the 14-45 h.p. A.G. model is the ball race through which the thrust of the pedal is transmitted when declutching. Occasionally a little oil or light grease should be applied to the ball race, but too much should not be given, or it may find its way on to the friction surfaces of the clutch plate. On later models the movable plate projects inside the gear box, and on its hub is mounted the clutch thrust ball race, which is, in turn, fitted to a sleeve operated by the clutch-pedal shaft. By this means the clutch-operating mechanism is automatically lubricated.

An adjustment allows the pressure of the springs to be varied. This adjustment is self-locking, and in the case of signs of clutch slip the plate retaining the springs should simply be turned in a clockwise direction sufficiently to prevent slip.

In the course of time, as wear takes place on the friction lining, the clutch pedal will need adjustment to prevent it coming in contact with the floorboards, so becoming a cause of clutch slip. The clutch pedal and its shaft are mounted eccentrically in an aluminium housing, and by slacking the nuts securing the flange of this housing the latter can be rotated to give clearance between the pedal and the floorboards. A stop-screw underneath the boss of the pedal should be so adjusted that the pedal cannot reach the limit of its travel.

When the clutch disc becomes so worn that relining is necessary the procedure is to withdraw the back axle from the car and then detach the gear box. To carry this out the small bolts fitted on the periphery of the flywheel must be undone, when the gear box can be withdrawn, complete with the clutch assembly, and the clutch disc will at once be accessible. In order to remove the clutch assembly from the gear box it is necessary to remove all pedals from the operating shaft. The clutch-operating shaft can then be turned round so as to miss the internal flange which it operates by its fork. Then, by undoing the six bolts of the gear box front housing, the clutch thrust can be completely withdrawn.

The brakes consist of two shoes in each of the four brake drums. The front shoes act on the self-wrapping principle, the two shoes being coupled together and anchored on a fixed pin at one end, and a cam operating on the other end. This cam is mounted on an eccentric bush, which is rotated by a worm, and the worm is, in turn, operated by a hexagon nut marked with an arrow to indicate the direction of rotation necessary to take up wear. It will be noted that the adjustment on the off side is clockwise to take up wear, and, on the near side, counter-clockwise. These hexagon nuts form the main adjustment, and are self-locking.



Adjustment of the clutch springs is easily effected by means of a special tool.

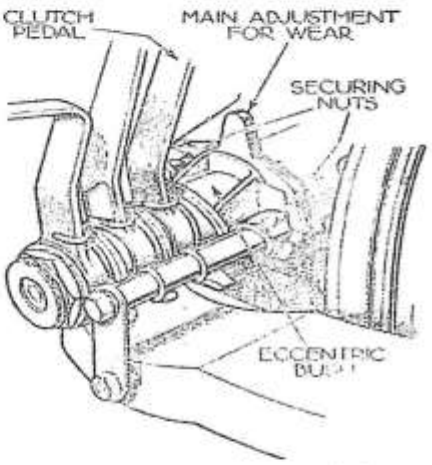
As no compensation of any kind is provided in the brake gear some care should be taken in adjusting the brakes, so that each one operates to the same extent as the others. The adjustment should be tightened until the shoes actually touch the drum. This can be ascertained by tapping the drum lightly with a small spanner, as it will ring clearly when the shoes are not touching it, but will give a dead sound when they touch. Then slack back the adjustment, one quarter turn at a time, until the shoes are just clear of the drum. When the hexagon nut is turned it should be tapped to make sure that the shoes have taken up their movement in response to the adjustment. If the wheel is jacked up before the adjustment is made, the freeness of it when turned will be an additional check as to whether the shoes are touching or are clear.

The rear brakes should be adjusted in a similar way, and then the effect of the adjustment may be tried on the road.

The car should be run a mile or two without using the brakes, so that the temperature of the brake drums can be felt; if they are hot it indicates that the shoes are rubbing slightly. If, when the brakes are applied, the car shows a tendency to pull to one side, then the front brake on that side should be slacked off a quarter-turn and the test repeated. The brakes should also

be tested, if possible, with the car running at about 10 m.p.h. on an even tarred road, so that when the brakes are applied violently the marks made by the tyres on the road can be seen. The marks made by the front wheels should be similar, and the marks made by the rear wheels should likewise be similar, but should be more pronounced than those of the front wheels.

A good method of brake adjustment is to adjust the front brakes and to test them alone, with the rear brakes slacked right off. When the front brakes are satisfactory the rear brakes may be adjusted, and may also be tested alone by utilising the brake lever, as this is interconnected with the brake gear to operate the rear shoes only.



The clutch pedal is carried by an eccentric bush which allows the pedal to be set as wear of the clutch lining takes place.

Not only is the steering lubricated automatically by the hand pump on the engine, as already described, but, owing to the very thorough lubrication it receives, wear at the various points is negligible. Adjustments, therefore, are not necessary, and no provision for them is made, the various joints being of the spring-loaded ball type, in which a small amount of wear is taken up automatically. The wheels are also carefully aligned, and, as wear in the joints is small, the steering tie-rod is also not provided with adjustment.

Shock Absorber Adjustment

Springing is assisted by Luvax hydraulic shock absorbers, which are carefully set by the manufacturers and should not require alteration except in exceptional conditions. The method of adjustment is, however, simple, as, when the filler plug in the top of the recuperator chamber is removed, it exposes the regulator screw, which is locked by a spring plate. To increase the amount of damping action the regulator screw must be turned to the right a quarter-turn at a time, and the result ascertained by a road test. If, for any reason, the original setting has been lost, it is desirable to screw the regulator right down and then to open it one and a half turns, which is the average setting.

The recuperator chamber must never be allowed to become empty, as air may find its way into the working chamber and so upset the working of the shock absorber. Every 8,000 to 10,000 miles the filler plug should be removed, therefore, and Luvax oil added to bring the level up to the base of the lock-nut securing the regulating screw.

It has been found by experience that the best tyre pressure is between 30 to 35 lb. per sq. in. for the 6in. tyres, and between 35 and 40 lb. for the 5.25in. tyres. When the wheels are provided with balance weights, to be seen on the rim, the wheels should be rebalanced every time that a tyre has to be changed.

So far as the electrical equipment is concerned there is little requiring attention, but the battery must be topped up regularly with distilled water to keep the acid level up above the plates. The terminals should be kept clean and should be coated with vaseline to prevent corrosion.

A feature of Talbot cars is a dynamotor in place of the usual starting motor and dynamo, and a small greaser for the front bearing of its armature will be found under the front apron, and should be given one turn every six months.

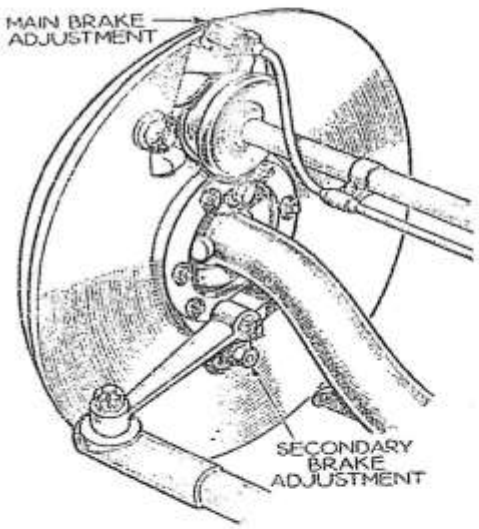
Care of the Dynamotor

Occasionally the brush gear should be inspected and, if necessary, cleaned, and access to it is had by removing the front shield and taking the cover off the dynamotor. The surface of the commutator should be kept clean and free from oil and carbon dust, and the grooves between the segments should be scraped clean by means of a broken hacksaw blade or similar instrument.

The brushes should slide freely in their holders, and should be replaced when they have worn so that they are about half-way down the holder. The position of the brushes should not be altered except at a Rotax service station.

On the near side of the dashboard is the junction box containing the fuses, which are 30 amps. for the main fuse, 15 amps. for the shunt fuse, and 15 amps. for the accessories fuse. Spare fuse wire is provided on each fuse holder, and the fuse clips must make clean, firm contact in their holders. The cover of the junction box is easily removed after undoing two nuts, and in replacing it care must be exercised not to touch any of the terminals, or a short-circuit may occur.

The head lamps have a spherical seating, which allows them to be set with exactness simply by loosening the securing bolt, rocking the lamp into the desired position, and then tightening the bolt. The correct bulbs are 12-volt 36-watt gas-filled standard B.A.S., and for the side, tail, and indicator lamps 12-volt 6 c.p. vacuum bulbs.



The main brake adjustments are very accessible and should normally be used. A secondary adjustment is provided but is seldom required.

When a new bulb is fitted to a head lamp its focus should be checked, an adjustment being provided inside the lamp. It is better not to touch the reflectors, but, should they be dusty, they may be wiped very carefully with a Selvyt cloth or soft chamois leather.

"FAILURE TO PROCEED"

by Martin Bryant

With this quaint phrase the service department of Rolls Royce spared the blushes of thei well heeled customers were they to suffer something so ignominiously common as a breakdown. Now our Talbots are renowned for proceeding under all conditions, but i would be a foolish virgin indeed who did not travel with a few spare parts for comfort. Ou cars are, after all, over three quarters of a century old. The purpose of this article is to share my own thoughts about what to carry in the dark recesses but, more importantly, to flush out contributions from our many long distance tourers and rallyists. They have tested Talbots to near destruction around the world and faced situations about which you and I can only have nightmares. I have deliberately avoided the topic of tools in the hope that Michael Marshall, he of the colour coded spanners, will delight us by lifting the lid on this cabinet of curiosities.

To begin at the rear, where the prime objective is to keep that precious fuel in the tank. In another life I once repaired the petrol tank of a Frogeye Sprite in the port of Brindisi using an Italian lira and Isopon. (For younger readers the lira was a quaint Italian currency that made even Brits feel rich and made excellent, cheap washers). Michael Strasoldo made do with soap on the top of the Grand Bernard pass, but petrol putty or Leakfix is a more reliable bet. A length of rubber petrol hose with jubilee clips will take care of any pipe leaks. At the sucking end AC mechanical pumpers might care to take a diaphragm and SU types a set of points – trickier to fit than you might think. The ultimate insurance policy is to cross James and Sue Weildon's palms with adequate silver and carry a Facet solid state pump. This matchbox sized beauty will get you out of trouble and still be merrily ticking away when you sell your car or pass it on to your heirs and successors. Fitting a paper cartridge filter is good sense, the cheap and easy to replace elements saving you from contaminated fuel. At the carburettor end one of Hilary's sewing needles suffices to dislodge gunge from the jets and proved its worth on the recent Le Mans trip. The ultra cautious might carry a spare needle valve and float.

In the good old days the AA used to tell its members that 80% of all breakdowns were due to ignition maladies. This is not surprising when you consider the amazing amalgam of copper, brass, steel, carbon, bakelite and fibre all separated by a few thousandths of an inch and all nearly 80 years old. The good news is that this is an area made for the spares junkie, as the parts are small, cheap, available and easy to fit. Spare plugs and leads go without saying. Better to fit them up in a spare distributor cap, particularly if you have one of the difficult to seal Delco-Remy spikey type. Condensers and points cost pennies and save pounds. The condenser is awkward to fit in situ, but see Michael Marshall's elegant solution in TOC Magazine 34, or wire in a spare to the negative side of the coil. Coils gave much trouble to the Talboteers on the 2008 Le Mans trip. Fix a spare to the bulk head and carry another to help your unprepared fellow travellers.

Lack of charging will rarely keep a Talbot from proceeding. It is not feasible to carry a spare dynamotor, but a can of switch cleaning fluid and cotton swabs will help at the front end. As will the set of three quarter worn brushes you thoughtfully kept after the last overhaul. Not much to be done on the cut out other than perfect your bad language – the ultra cautious may choose to carry a complete unit if they can find one. On the 24 volt cars the solenoid is nearly as impractical a spare to carry as the dynamotor. If the starting contacts fail, gravity and willing hands work wonders. If the charging contacts fail a flying lead from terminal six to the two positive battery terminals will distribute the precious

charge, **but only connect after the engine has been started.** Safest of all is to take an extension lead and small battery charger – an overnight boost will keep you going ad infinitum (it took me all round Scotland and the Alps without a murmur.)

Arthur Archer always says water is the most important fluid in a Talbot. A bottle of Radweld and rubber gaskets for radiator cap and top pipe are the least you can carry to honour the guru's advice. If you still drive the propeller fan a spare whittle belt makes sense and perhaps a pair of hand crafted wedges to hold your shutters open should the thermostat fail (Hugh Macintosh reminds me that two champagne corks do just as well!). I carry spare head and exhaust gaskets under the boot carpet and hope that Wellseal and instant gasket will suffice in other cases. A pair of 105 rockers and pushrods are there to show Johnny Foreigner just what a brilliant designer their Georges was. A pre-selector spring stares at me defying my ability to remember Cecil's erudite fitting instructions. On the wheel front a humble puncture repair outfit can get you out of trouble, but a spare inner tube is failsafe. Brake springs can break, as Fred Herzog found out in the Alps. Take a spare pair and remember the extractor bolts for removing the brake drum.

The cause of all the trouble - a mouse in the distributor!

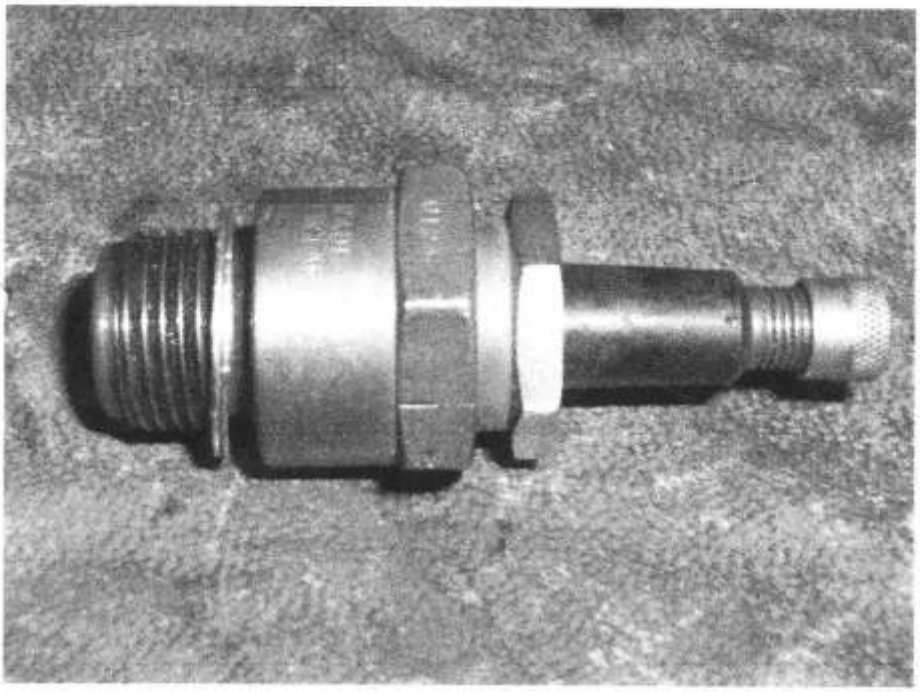
That about exhausts my list apart from the flotsam and jetsam of wire (electrical and binding), nuts, bolts, screws, gaffer tape, string, zip ties, Araldite, superglue, solder electrical connectors, bulbs, et al floating around at the bottom of the boot. I carry a slim file with copies of relevant Archer Archives, Marshall and Dodd articles, wiring diagrams and, most useful of all, the TOC Membership list. Help is never far away in such a fine club as ours.

May your Talbot always proceed.

CHECK YOUR TALBOT'S RESPIRATORY SYSTEM!

By Michael Marshall

These simple checks will provide a good indication of the health of your engine with regard to the condition of its piston rings, valves, head gasket and cooling system – and all without having undo anything except the three rocker cover nuts. Just as your doctor can use his stethoscope to get a good idea of your innards without having to open you up, so you can use the "air plug" described below to pressurise each cylinder in turn with compressed air and, by listening to the resulting hisses and gurgles, find a lot about your engine - hopefully not more than you want to know!



Above: The air plug complete.

Making an air plug, as in the photo left, is simplicity itself. As you can see from the photo, it comprises nothing more than an old 18mm detachable type spark plug with the electrode and ceramic insulator replaced by a standard modern tubeless tyre air valve. I discovered quite by chance a few years ago that the Type TR414 valve fits the plug and its retaining nut perfectly. You can obtain on old one from any friendly tyre fitter as these are routinely replaced when fitting new tyres. (He will have a box full and will be glad if you take one). You can then make your own air plug in less time than it takes to describe.

If you don't have access to an air line it is possible to pressurize the cylinders with a foot pump, provided its pipe is long enough to reach and that the engine, and you, are in reasonable condition. Doing it this way, it's best to enlist a willing helper to do the pumping, whilst you do the clever bit interpreting the hisses and gurgles. I would advise against using your spouse, as all may end in tears - yours, if you discover anything seriously amiss. Then: apply the handbrake firmly; select neutral; remove all spark plugs and the rocker cover; turn the engine until the inlet valve of No.1 just closes – plus a bit more to ensure both valves are closed (you can wiggle its rocker to make sure); engage top gear; screw your new pneumatic plug into cylinder No.1, and "inflate" it to about 30psi if inflating by foot, or 40 - 50psi if using an air line (so much easier).

Condition of piston rings

By removing the oil filler cap and applying your ear to the aperture you will hear the hiss of air sneaking past the piston rings of No.1 cylinder into the sump. Try to memorise the sound, as its intensity is a direct indication of the state of the rings (and bores). Then, inflating to the same pressure, repeat the process for cylinders 2 and 3 etc... These tests are purely comparative, but any markedly louder hiss will indicate significant blow-by in that cylinder. If there are no noticeable differences then all is in order. In very worn engines the pressure will soon decay, but if you ensure the initial pressures are the same in each cylinder you should obtain useful results.

Condition of exhaust valves

Repeat the above procedure, this time listening for the hiss at the end of the exhaust pipe to assess the relative condition of the exhaust valves in each of the cylinders. If, whilst you are on your knees doing this the car should suddenly, silently and mysteriously move backwards and run you over you will appreciate the importance of ensuring that the hand brake is firmly applied. If in any doubt, chock the wheels. Again, any significantly more intense hiss indicates that the valve (and/or its seat) requires attention. If there are no marked differences then well and good.

Condition of inlet valves

As above, but this time of course you listen at the carburettor inlet with a short length of rubber tube applied to your ear. In the case of the 14/45 which has its inlet tucked behind the radiator it may be more convenient, if of the SU type, to remove the dashpot and piston to do this. As with the exhaust valves, no big difference is good news.

Condition of head gasket

If low compression between adjacent cylinders makes you suspect that gasket failure is allowing communication between the cylinders, you can confirm this by "inflating" one or other of the cylinders in question and listening with the pipe for hissing in the cylinders to either side of it. If compressions seem all right, but you suspect the gasket may have failed by allowing explosions to communicate with the water passages, thereby over-pressurizing the cooling system and blowing water out via the overflow pipe, you should remove the radiator cap and apply your ear to the aperture. Any dreadful gurglings will either confirm the suspected gasket failure, or (though unlikely) indicate that the cylinder being tested is cracked allowing direct communication of the explosion with the surrounding water jacket.

Don't be tempted to carry out more than one check at each "inflation" as the initial pressure will soon decline and it is desirable that it should be the same in each case; also, it is only by doing all checks e.g. of exhaust valves, in an uninterrupted sequence, so that your becomes accustomed to the sounds, and attuned to spot significant differences.

Above: The components of the air plug .

TUNING TALBOTS

SOME NOTES
by
D. N. WILCOXON
(In an Interview)

Mr. Wilcoxon is works foreman of Messrs. Fox and Nicholl. He was responsible for preparing the "90s" which secured the Team award in the Irish Grand Prix and a Class award in the 1930 T.T., and the "105s" which, amongst other successes, finished 1-2-3 in their class in successive Double Twelve and 1,000-mile races.—ED.

However much motor-cars may vary in design, the same general principle applies to any sort of tuning which may be performed on them. For a small sum of money you can have a car brought to what might be called the best standard pitch of performance. Alternately, you can spend a substantial extra amount and embody a number of alterations which make all the difference if the machine is to appear in open competition. These two aspects are dealt with below as applied to the "90" and the "105" model Talbots. Incidentally it is worth recalling that the "90" differed from the "75" only by reason of the high-compression head, so anyone who has one of the later models can readily improve the performance to that of the sports model.

The term "Ninety" referred to the horse-power and not to the all-out speed of the car in question, the maximum with open four-seater body varying between 75 and 85 m.p.h. The engine is particularly sensitive to the ignition setting, and this is always the first point we check when seeking to improve the performance.

The Delco distributor is fitted with two cams and two contact-breakers, each serving three cylinders. This arrangement halves the speed at which the breakers operate and ensures a regular spark at high revs., but it is essential that they should break at even intervals. This is not at all easy to verify by normal methods. We keep a special apparatus for checking the adjustment The firing intervals can vary by as much as half-an-inch on the flywheel, and in order to obtain maximum efficiency, gaps and firing intervals ought to be checked every thousand miles.

The advance and retard is regulated by springs and balance-weights. The former tend to become weak in time and this gives advance too early and slows acceleration, while it is also necessary to make sure that the slot which regulates the amount of advance is of the correct length. 33 degrees of advance is allowed with the standard compression of 7.5 to 1, but only 27 is needed when running on the high compression of 9 to 1. In this case, of course, neat benzol must be used as the fuel.

The carburetter does not need much alteration, though we have occasionally used jets larger than standard, with an improvement in performance and no appreciable increase in petrol consumption. On this model the fuel is supplied by an A.C. petrol pump and, as the result of high revs., the return spring becomes weak or even breaks. Misfiring at high revs. then ensues and, as the springs only cost a few pence, it is worth while renewing them every 5,000 miles.

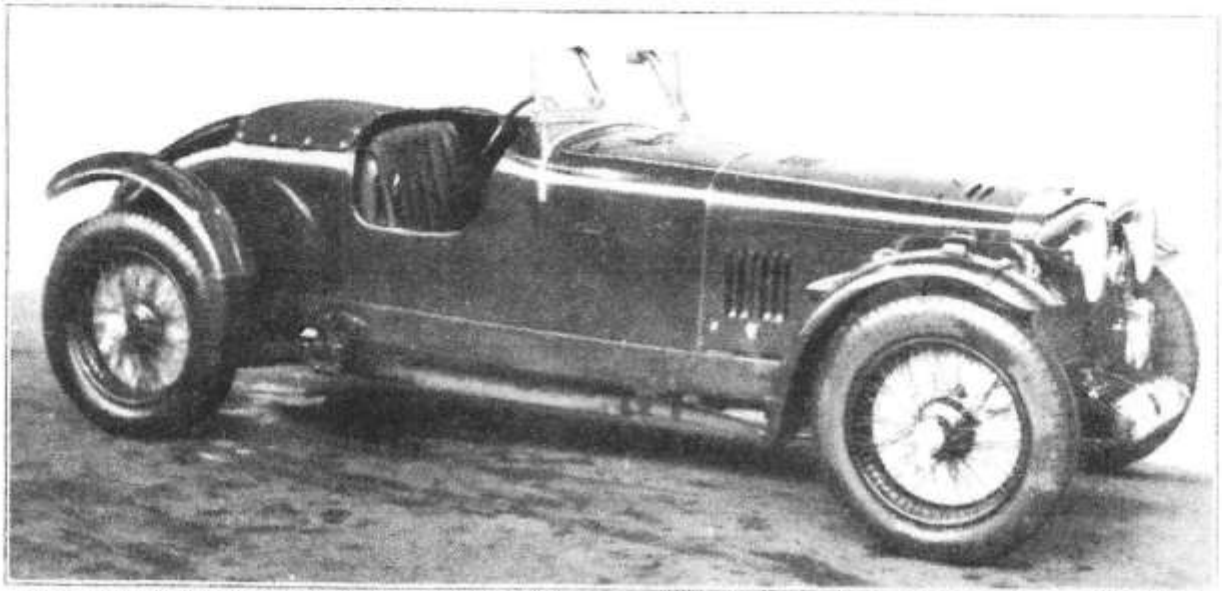
The valve clearance is not critical, but the six-thousandths advised in the instruction book is insufficient if the car is to be run at any speed. Eight-thousandths for normal running is about right, and possibly ten if continued high speeds are contemplated.

Champion R3 sparking plugs are fitted as standard, but some engines run much hotter than others, and in many cases the R12 type, which has a long body with the hexagon extending well clear of the plug recesses is to be preferred. Though these are virtually racing plugs, they do not seem to soot up in traffic, though they need occasional cleaning to ensure a ready start on a cold morning.

As to the "Nineties" which we used to race, they differed from the standard cars only in having the higher compression of 9 to 1, running on pure benzol. What really gave us the extra performance was in fitting light-weight bodies. The cars complete turned the scale at 25 cwt. as against 29 of the standard cars

Now as to the kind of car which can be evolved from the "90" chassis. The chassis in question belonged to the old white single-seater which was driven by the Hon. Brian Lewis at Brooklands in 1931 and also in the 1930 500-miles Race by the same driver and the Earl Howe when it averaged 104 m.p.h. for the full distance. It is now the property of Mr. Hebeler, who also used to perform consistently on the team cars.

The first step we took was to fit two horizontal S.U. carburetters in place of the vertical Zenith. This was far from easy, as the steering column came just where the rear carburetter was intended to go. We overcame the snag by reducing the height of the steering-box column. Then it was found possible to evolve an efficient two-carburetter manifold, with two U-shaped pipes joining in the centre to supply the double centre port. Two S.U. petrol pumps are used to supply the fuel,



The special two-seater Talbot "90" built to the order of Mr. W. Hebeler by Messrs. Fox and Nicholl.

as this ensures a full head of petrol in the carburetters before the dynamotor is put into operation. Incidentally, much weight has been saved by fitting a small Young battery in place of the standard fitment. Though of quite small capacity, no trouble has been experienced in getting an easy start.

A Scintilla vertex is fitted in place of the coil-ignition system. The Delco system is pre-eminently reliable, but we have always found that magneto ignition gives that little extra power.

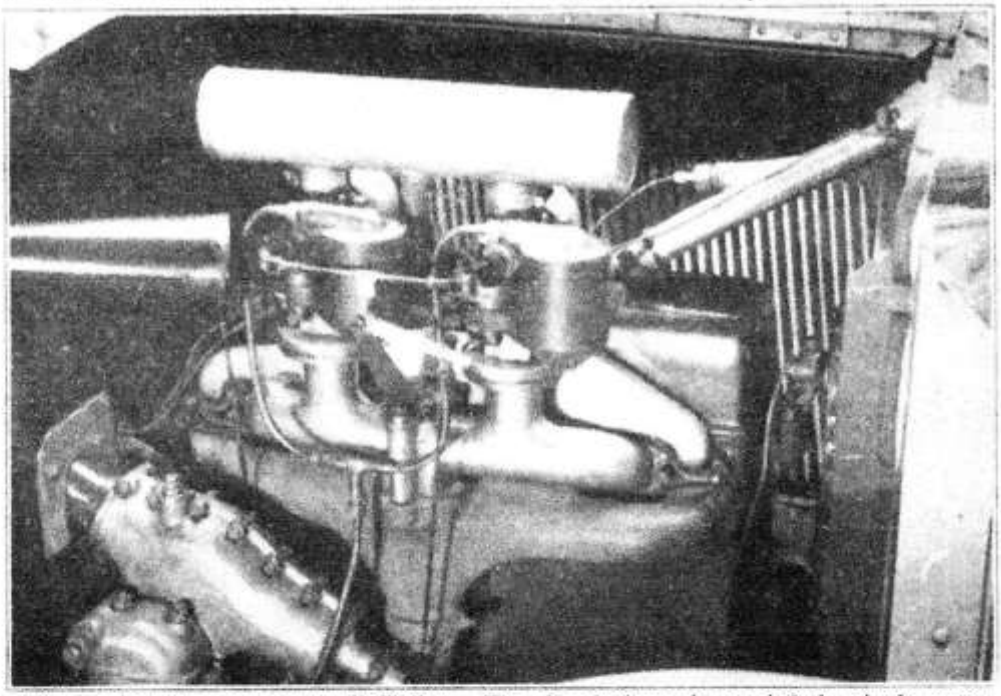
The compression has been raised to 8.5 to 1, but the car runs without a trace of pinking on Cleveland Discol. The high anti-knock value of the fuel partly accounts for this, but the better distribution which the two carburetters give is also an important factor.

In order to bring the appearance of the car into keeping with modern ideas and also incidentally to reduce the head resistance we fitted a special Serck radiator which is about eight inches lower than standard. Extra cooling capacity is secured by having the film six inches deep. The springs are now straight instead of being cambered, and a neat two-seater body is fitted. The part of the chassis behind the rear spring mounting has been cut away, and a 23-gallon petrol tank fitted just in front of the rear axle. The weight distribution is no longer affected by the amount of fuel in the tank, and there is a useful amount of luggage space between the seats and behind the seats.

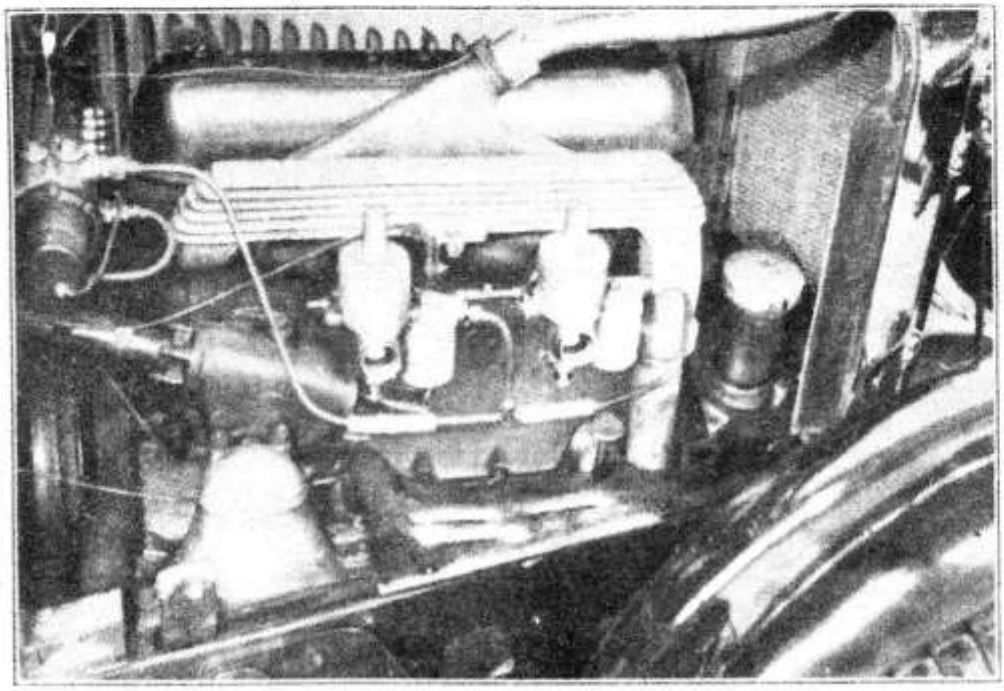
Special Holden and Hunt brake drums have been made for the car and Mr. Hebeler finds he can go for long periods without the need for adjustment.

tion. At present, this is about equal to that of a V8 Ford!

The "105" responds to the same treatment as the smaller car, particularly in respect of the ignition. The carburetion calls for little change from standard, though here again larger jet and chokes are sometimes of advantage. A peculiarity we have found is that often they do not develop their full power during the first 5,000 miles, the reason apparently being that the valves and seats take a good time to bed down. If the engine is taken down and the valves and seats tuned up with cutters, not ground-in in the ordinary way, the car will then go on with greatly increased power and for a long period. Early "105s" were fitted with rather a "slow" camshaft. On later ones the racing camshaft which provided considerable overlap was standardised.



Two carburetters on a "105" Talbot. The chassis formerly carried the single-seater which was second in the 1931 500-miles Race, apart from numerous other successes.



A revision of the steering lay-out has made it possible to mount two carburetters on the Talbot "90" engine.

The car complete only weighs 23 cwt. so its performance is quite striking. With a 4 to 1 back-axle ratio and 5-inch tyres, it reaches its rev.-limit of 4,500 r.p.m. very easily, giving a speed of 93 m.p.h. and, with larger tyres, could easily be got to go at an even higher speed with a slight sacrifice of acceleration.

With the engine in good condition, the three-litre engine will pull quite a high gear, and a standard saloon we prepared and fitted with 4 to 1 back axle lapped Brooklands at 86 m.p.h. with a maximum of about 92, which is not bad for a completely equipped motor-car of this capacity.

The racing "105s" differed from standard again, only in having the high compression and a light body, the car complete weighing 28 cwt. as against 32 of the standard sports job. In this trim they have lapped Brooklands at 113 m.p.h., while Brian Lewis's single-seater got round at 119.

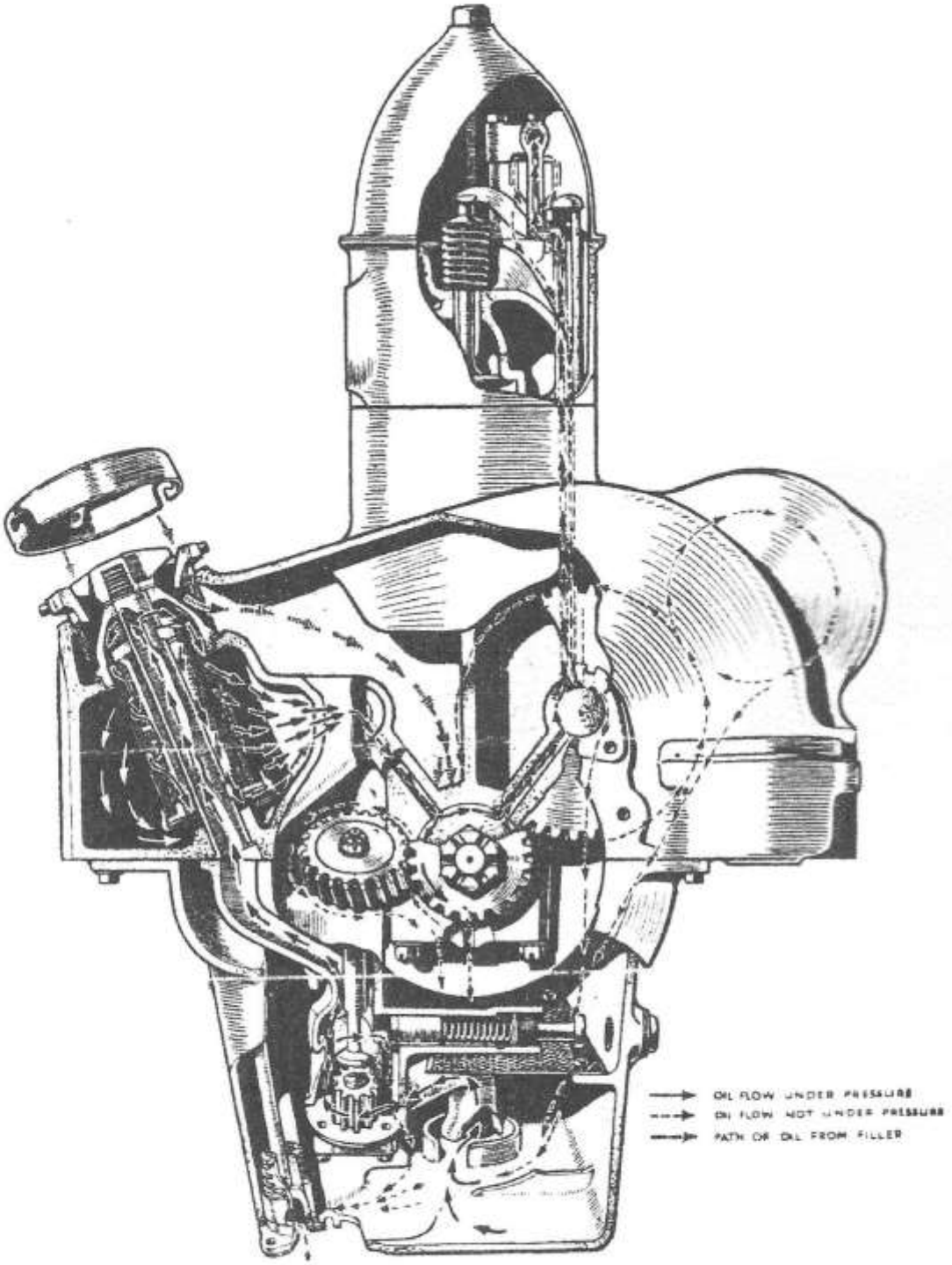
This latter car Mr. Fox retained and fitted the chassis with a substantial touring saloon. In this condition the car did its ninety, running on petrol and 20 per cent. benzol. Here again we experimented with twin carburetters, and evolved an induction pipe on which we fitted two down-draught S.U.s. Rather to our surprise, the car now runs perfectly smoothly on commercial benzol mixture, proving beyond doubt that better distribution is a powerful factor in preventing pinking. So much power was there, in fact, that besides the 4 to 1 back axle ratio, 6-inch rear tyres are fitted and the engine is only running at 3,800 r.p.m. at 90 m.p.h. Acceleration has not been sacrificed to obtain a high maximum, as may be gathered by the fact that Mr. Fox was able to average 60 m.p.h. for the 170 miles from Le Mans to Boulogne last year with four people up and a good load of luggage.

As an instance of how well the cars wear if properly looked after, it is worth recording that this car has done 30,000 miles of strenuous work with the original pistons. Apart from a trace of bell-mouthing at the top of the bores, which does not affect the oil consumption or power, the cylinders are still in perfect condition. The secret of long life is to change the oil regularly every 2,000 miles, while a graphite upper cylinder lubricant

CHANGING THE ENGINE OIL

By Michael Marshall

This is not difficult on a Roesch Talbot; indeed the combined dipstick and sump drain feature which avoids the need to clank about with a spanner underneath the car, makes it a relatively quick and clean operation.



Above: The Talbot 14-45 Oil Circulation - showing direction of oil flow

However, to change the oil *thoroughly* is not as straightforward as indicated in the overly simplistic Handbook of Instructions, as this, quite inexplicably, takes no account of the fact that every time the oil is drained from the sump a considerable amount of old dirty oil (nearly a pint) remains trapped in the chamber in which the filter is situated.

This is because the outlet from this chamber is some three inches above its floor. (See the oil circulation illustration for a 14-45 - later models being essentially similar). Furthermore, if this oil is not cleared out at every oil change, it becomes progressively more filthy and vile. I wonder how many Talbots currently in use have not had this chamber cleaned out in years!

This is quite easy to do through the crankcase aperture using a syphon (available at most autojumbles), once the oil filter has been removed. Those cars fitted with remote filters may require rather more to be removed to give adequate access, but not much.

Before refilling the crankcase, it is essential to refill this chamber with clean oil up to, say, half an inch from the filter seating ring before re-installing the filter, or remote filter connections: (I also fill up the delivery pipe from the pump as far as possible).

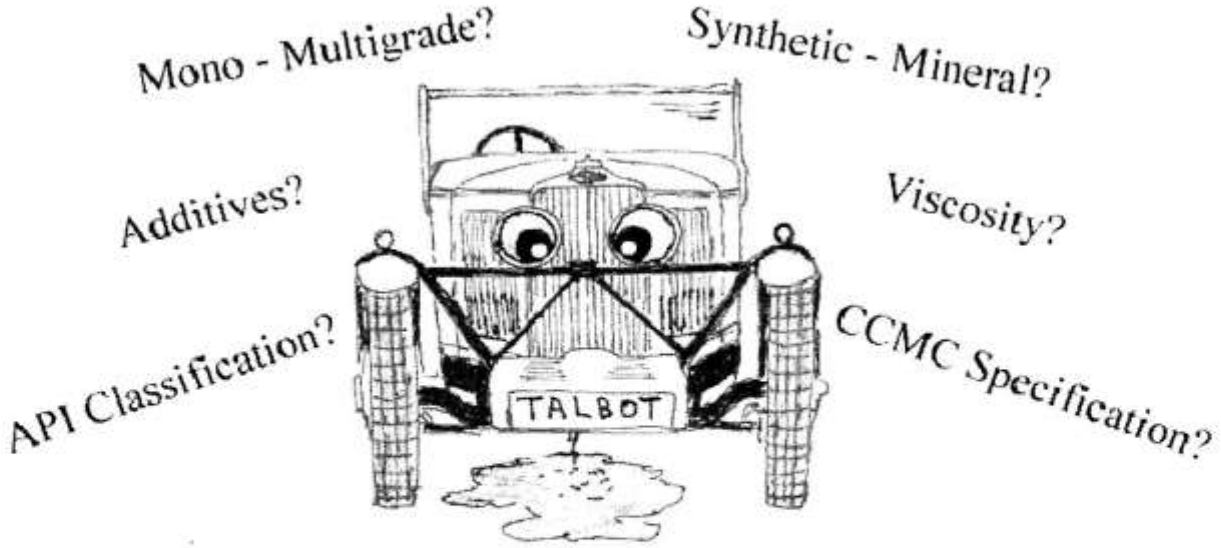
If this is not done then, when first restarting the engine, there will be no oil supply to the bearings for the first half minute or so that it takes the pump to raise the oil level to the delivery outlet and compress the air trapped above to generate the correct operating pressure!

This peculiar Talbot oil delivery arrangement in which a considerable volume of air is trapped above the oil in the delivery chamber, so acting as a spring, can also give rise to a somewhat disconcerting 'rumble' from the crankshaft when starting the car if it hasn't been used for a few weeks. This is because when the engine is switched off, the above mentioned trapped air continues to exert its pressure on the oil, forcing oil 'forwards' through the bearings and 'backwards' through the pump - even though bearings and pump are in very good condition - so expelling from the delivery system a quantity of oil which, on restarting, must be replaced before full oil pressure can be generated. I noticed this when first re-commissioning my 14-45, when I was using a 15/50 multigrade oil which is so much thinner when cold that the original monograde oils for which the engine was designed. A change to 20/50 oil seems to have cured the problem. Nevertheless, before starting after a month or so without use, I do like to remove the plugs and turn the engine over on the dynamotor for about half a minute until the needle of the pressure gauge swings up indicating that the system is primed.

Let me not excite any unnecessary concerns amongst those of you who have never experienced the 'rumble', or who have no pressure gauge to worry about, only a blue light. If you don't have the 'rumble' you don't have a problem. That said, I still think it good practice to prime the system on the dynamotor with the plugs out after any sustained period of disuse.

WHICH OIL??

By Ian Potts



The debate about which oil to use seems endless with internet forums and suppliers giving conflicting and often confusing advice. Should we pay a premium for a 'Classic Oil' or are we being taken for a ride? Finding answers to these questions seemed impossible until I chanced upon a little volume called simply 'Which Oil' and subtitled 'Choosing the right oils and greases for your antique, vintage, veteran, classic or collector car'. I immediately ordered a copy. Later, on being cross-examined in bed about what I was reading so avidly, I replied 'It's called 'Which Oil'. The eyes of 'she who must be obeyed' lit up until it was realised that it was yet another car related book; I draw a veil over the rest of the evening....

Richard Michell, the author, is a 64 year old Chemical Engineer. He developed through necessity a knowledge of the mechanical aspects of cars while at university, driving an MG TD and helping a fellow student race an MG-B. He put this knowledge to good use some years later when he joined an Australian petroleum company and took responsibility for the formulation, manufacture and sale of its full range of lubricants. In 1989 he joined a privately-owned company that specialises in the contract manufacture of lubricants. He still consults to that company. Richard has owned many cars in the years since that original TD. His current collection includes a Porsche 912, a Lancia Beta Spider and an Austin 7 Sports. He uses his cars daily, and does his own servicing and maintenance.

The author does not guide you to any one brand of oil, so I felt his advice was probably impartial.

The book attempts first to give you essential underlying information and an understanding of the lubrication of the various mechanical components of motorcars, whatever their vintage. It then gives a suggested approach to follow – including examples – in order to select suitable modern lubricants. It covers selecting engine oil dependent on the expected use, transmission oils and chassis and wheel bearing greases. The examples used include an Austin 7 and a Rolls-Royce 20.

The book explains, for example, the difference between synthetic and non-synthetic oils, what all the specification letters/numbers mean and that gear oil viscosity is measured on a different scale to engine oil viscosity (for example a SAE 90 gear oil has roughly the same viscosity as a SAE 50 engine oil).

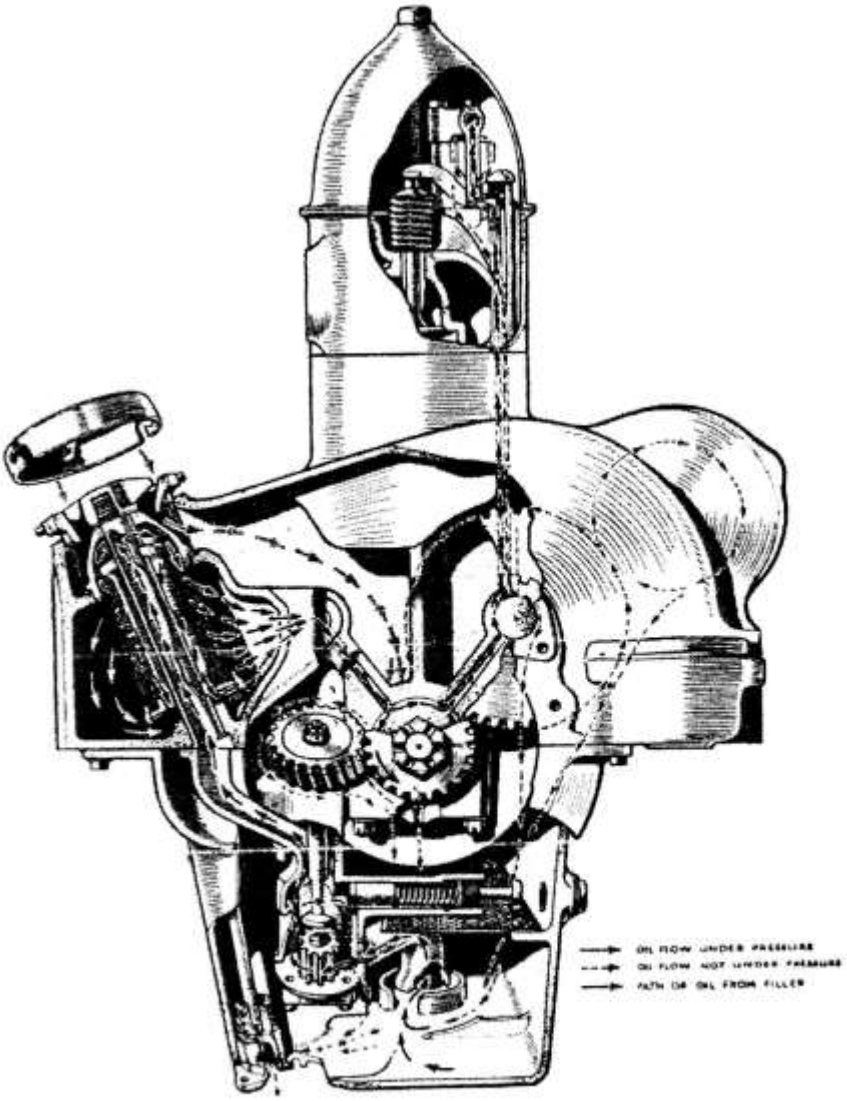
As a further example, it gives the following advice on oil changes:

All instructions on engine oil change advise you to warm the old oil thoroughly before draining. This is good advice. Given the way in which oxidation proceeds chemically – with the need for precursors or initiators to be generated – it is essential to remove as much as possible of the old oil before adding the new. Any oil left behind will already contain the precursors and so its presence will allow oxidation of the new oil to commence more rapidly than in the case of a complete drain. This will lead to a faster depletion of the antioxidant additives and, ultimately, a shorter oil life. The hotter the oil the lower its viscosity and the quicker and more complete the drain. For the same reason the oil filter should be preferably be changed at every oil drain or, at a minimum, drained of all old oil.

As a result of this when changing engine oil I now suck out all the old oil (using a turkey baster) that collects in the filter recess in the block.

Talbot engine oil recommendations in 1930 were Castrol XXL in hot conditions and Castrol XL in cold conditions, though by 1934 it had changed to Castrol AA in cold conditions. Castrol XXL is equivalent to SAE 40 and Castrol XL is SAE 30, while Castrol AA is thinner (was this change to do with the introduction of the pre-selector box?)

For years I had used 20W/50 in the engine but from the graphs in this book one can see that at 0°C a 10W/40 oil has the same viscosity as a SAE 30 oil. A 20W/50 has about 50% higher viscosity than a SAE 30 at 0°C (A 20W/50 has the same viscosity as a SAE 20 oil at 0°F which is about -18°C). The conclusion I came to was that to match the original viscosity specifications I should use a 10W/40. I have now used this oil for some years with no obvious ill effects, for example there was no drop in oil pressure on the recent very hot trip to Italy. One obvious advantage is that the oil pressure does not go completely off the scale when cold.



Please note that these are my own conclusions. Before doing anything rash, buy the book, read it (in bed!) and then make your own decisions. There are other factors to consider, such as shear stability (especially with a pre-selector box), how often you change your oil, what use the car has, what level of wear protection is required and so on.

If, like me, you prefer reasons about why you should do something rather than bald instructions, then this book is for you.

Which Oil? By Richard Michell is published by Veloce Publishing. ISBN 978-1-845843-65-6

NOTES