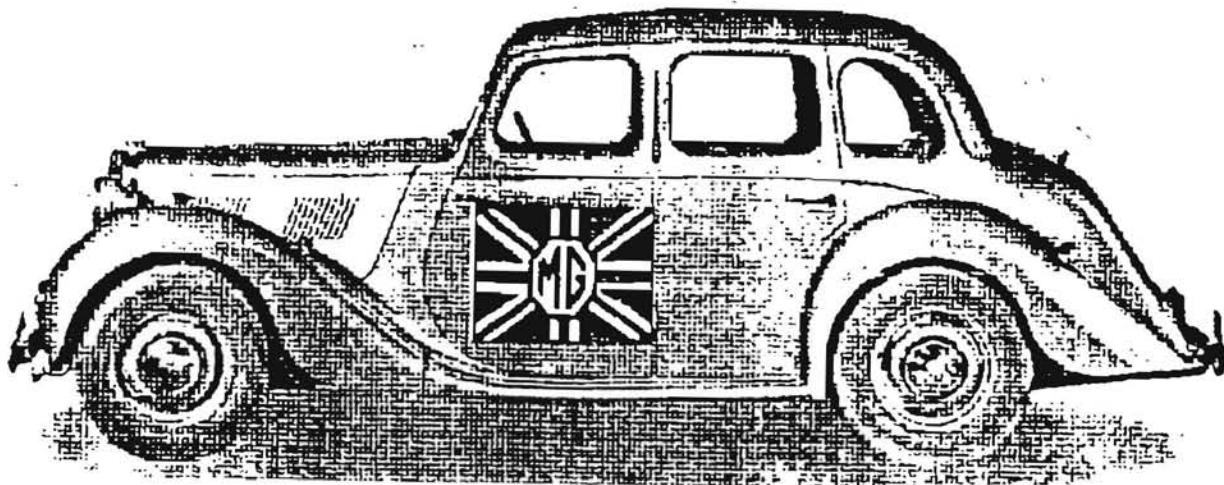




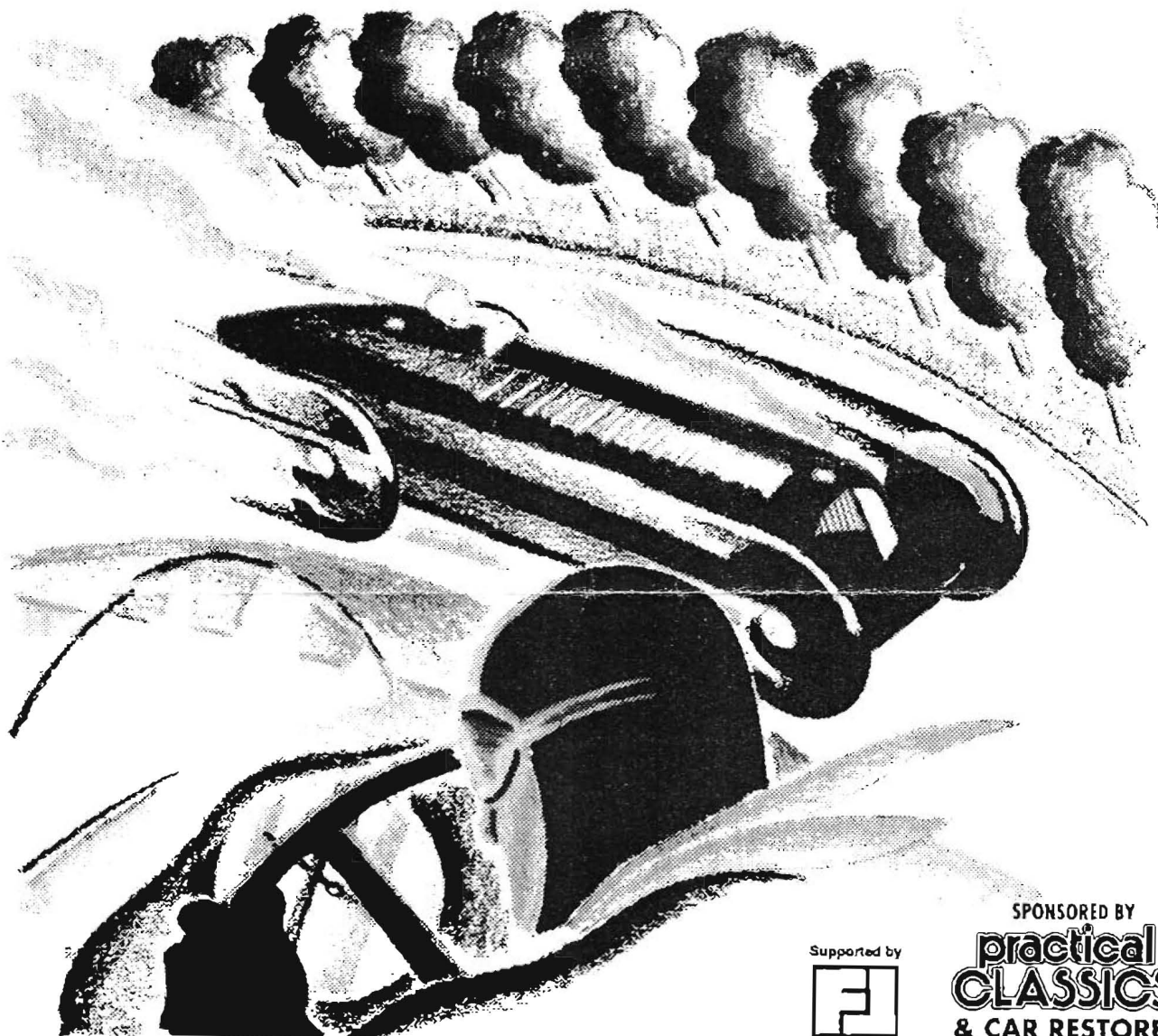
THE CLASSIC 'Y'

The Newsletter of the M.G. 'Y' Type Register.
Volume 17. No. 123.

June 1994.

Register Movements

Just one this month, and one from Australia which Tony Slattery cannot lay claim to having found! Y0840 has been owned by Mr. Allan.J.Trenerry of [REDACTED] South Australia, for the past ten years. This 1947 car has engine number SC/X10646 and body number 682/689. It has taken part in the Bay to Birdwood run but has only done 1,000 miles in current ownership: total mileage is thought to be 96,178. The interior is due for restoration shortly, together with a general tidying up prior to more extensive use. The car has never been fully restored but is still running quite well.



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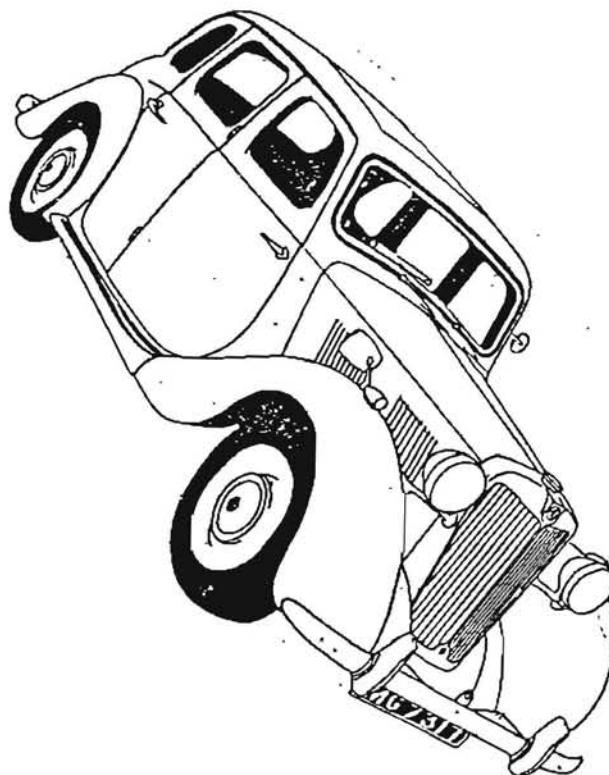
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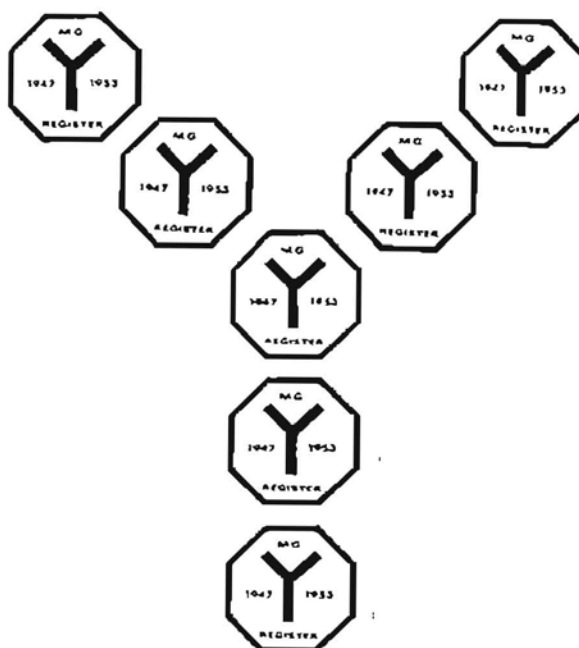
1951 "Y"s KNOWN STILL TO EXIST

Y 6315	?	England
Y 6323	Victoria	Australia
Y 6325	Surrey	England
Y 6326	Victoria	Australia
Y 6332	Clwyd	Wales
Y 6378	Cheshire	England
Y 6381	Victoria	Australia
Y 6389	Stoholm	Denmark
Y 6403	Sir Lowry's Pass	RSA
Y 6407	California	USA
Y 6420	Hampshire	England
Y 6421	Fife	Scotland
Y 6426	?	RSA
Y 6429	Lancashire	England
Y 6446	Yorkshire	England
Y 6448	NSW	Australia
Y 6454	Dorset	England
Y 6459	Cambridgeshire	England
Y 6471	Benoni	RSA
Y 6474	Perthshire	Scotland
Y 6479	Bloemfontein	RSA
Y 6488	Tyne & Wear	England
Y 6490	East London	RSA
Y 6503	W.Midlands	England
Y 6506	NSW	Australia
Y 6522	?	Neth ?
Y 6527	Staffordshire	England
Y 6528	N.Humberside	England
Y 6531	Victoria	Australia
Y 6545	Tyne & Wear	England
Y 6546	Victoria	Australia
Y 6554	Hampshire	England
Y 6557	Middlesex	England
Y 6564	?	RSA
Y 6566	Surrey	England
Y 6582	Hampshire	England
Y 6594	S.Australia	Australia
Y 6600	Co. Galway	Eire
Y 6604	Co.Dublin	Eire
Y 6610	Hertfordshire	England
Y 6615	N.Humberside	England
Y 6628	Essex	England
Y 6630	Northumberland	England
Y 6640	Co.Dublin	Eire
Y 6646	Franschhoek	RSA
Y 6660	Middlesex	England
Y 6675	Yorkshire	England
Y 6686	Yorkshire	England
Y 6698	Victoria	Australia
Y 6701	Fife	Scotland
Y 6726	Warwickshire	England

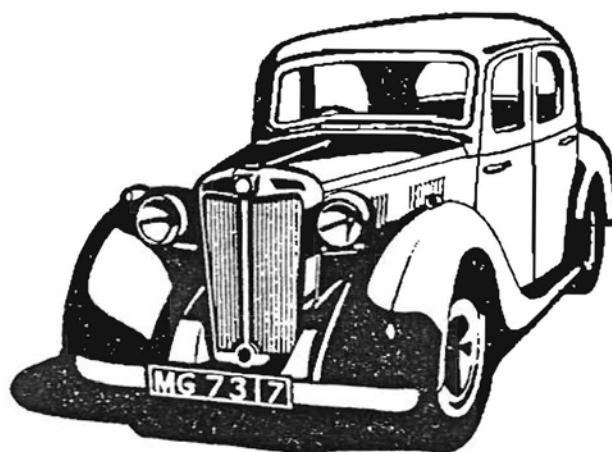


cont'd....

Y 6739	Queensland	Australia
Y 6765	NSW	Australia
Y 6768	Merseyside	England
Y 6769	Fife	Scotland
Y 6774	NSW	Australia
Y 6783	Leicestershire	England
Y 6785	Oxfordshire	England
Y 6791	Gloucestershire	England
Y 6799	Kent	England
Y 6814	London	England
Y 6828	Tyne & Wear	England
Y 6852	Yorkshire	England
Y 6882	Derbyshire	England
Y 6906	Co.Durham	England
Y 6914	California	USA
Y 6918	Guernsey	C.I.
Y 6969	Yorkshire	England
Y 7004	Avon	England
Y 7005	Essex	England
Y 7011	Sussex	England
Y 7012	Sussex	England
Y 7015	Hampshire	England
Y 7028	Sussex	England
Y 7036	N.Humberside	England
Y 7051	Surrey	England
Y 7056	Cumbria	England
Y 7063	Avon	England
Y 7066	Cheshire	England
Y 7076	Dorset	England
Y 7093	?	N.Ireland
Y 7116	Norfolk	England
Y 7117	Lancashire	England
Y 7122	Sussex	England
Y 7163	?	England
Y 7166	?	England
Y 7171	Essex	England
Y 7193	Cambridgeshire	England
Y 7195	Surrey	England
Y 7207	W.Midlands	England
Y 7225	Avon	England
Y 7243	Cornwall	England
Y 7277L	New York	USA
Y 7281	W.Midlands	England



a LHD "YA" Y7277/EXL/NA





The above photo was sent in by Frank Neumann of the Danish Register. It was taken in 1950 in Copenhagen and depicts (apart from the "Y" Type, that is) a French policeman showing the Danes how to direct traffic (!)

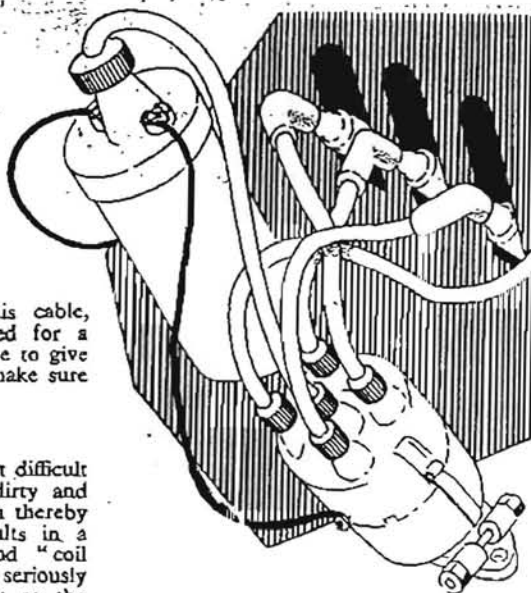


A Y-Type recently restored for a customer by Nick Murray of Ireland.

Maintaining the IGNITION SYSTEM

OVERHAULING THE DISTRIBUTOR

By L. T. SMITH



THE purpose of the distributor is to provide a mechanical make and break for the low tension current flowing through the primary windings of the coil, and to collect and distribute the H.T. current in the correct firing sequence to the sparking plugs in each cylinder. These two functions are quite separate from each other in the electrical sense, the lower half of the distributor containing the L.T. unit, while the cap contains the H.T. electrodes which are connected to sparking plugs by heavily insulated leads. The cam serves the dual purpose of actuating the contact-breaker points and revolving the rotor arm, the latter collecting the H.T. current from a small brush in the centre of the cap and distributing it to each electrode in turn.

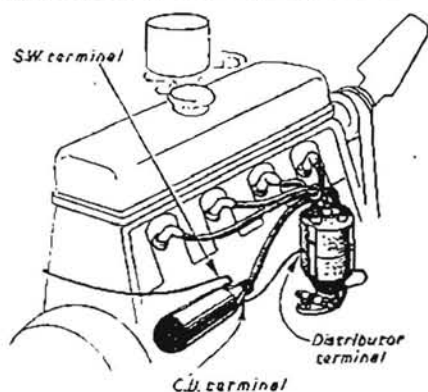


Fig. 1.—The arrows indicate probable points of resistance.

In dealing first with the L.T. side of the distributor, it should be explained that the contact breaker terminal is connected to the C.B. terminal of the coil, and the circuit is completed and the primary coils excited when the contact breaker points are in the closed position with the ignition switched on. When, however, the points are separated by the cam, the circuit is broken and the magnetic field within the primary windings and its core abruptly collapses. This sudden cessation of the magnetic field induces an extremely high voltage potential within the secondary windings which jumps the sparking plug gaps and so ignites the charge within the cylinders.

Any undue resistance in the external primary circuit is reflected by a drop in the H.T. current which invariably results in difficult starting and severe misfiring. Points to look for are the lead tags beneath the coil terminals S.W. and C.B. and also beneath the distributor terminal (Fig. 1). If necessary, these should be cleaned with fine emery paper, and care should be taken not to overtighten or strain the terminals when replacing.

In order to ensure a good earth connection, a practice is often made of providing a flexible earthing cable beneath the distributor clamping bolt and one of the two bolts which secure the distributor to the crankcase (Fig. 2). Although the distributor will in all probability function

perfectly satisfactorily without this cable, nevertheless the cable is provided for a definite purpose, and it is advisable to give an occasional glance at same to make sure that it is intact.

Corrosion

It should be mentioned here that difficult starting is often caused through dirty and corroded battery connections which thereby cause a voltage drop. This results in a sluggish starter motor action and "coil robbing"; the latter, of course, seriously affects the intensity of the spark at the plug points.

The most common trouble in this respect, is poor earthing strap connections—either to the terminal of the battery or where it is earthed to a metal part of the car. Many cars nowadays use the positive form of earth return, i.e., the positive terminal of the battery is connected to earth. The positive terminal, however, is the more prone of the two to sulphation, and if this occurs between the battery terminal and the strap connector, a high degree of resistance can ensue. Particular attention should always be given to ensure that this terminal is kept clean and well covered with petroleum jelly. It is also a sound idea to install an anti-corrosion washer on the terminal and beneath the connector, for these inexpensive fittings are really effective in checking the creeping action of the acid.

Very often, a film of rust builds up beneath that part of the strap which is bolted to the car to provide an earthing

connection, and in consequence a voltage drop occurs. The strap should be disconnected by removing the bolt, all contacting surfaces cleaned up with emery paper, a light smear of petroleum jelly applied, and the strap reinstalled.

Servicing C.B. Points

The contact breaker points are, of course, another form of connector in the primary windings external circuit, and if these are oily or oxidised, a point of resistance is thereby established. The movable part of the contact breaker should be gently opened with a thumb in order to inspect the condition of the points (Fig. 3). Do not open the points more than necessary, otherwise the spring may be strained. Oil upon

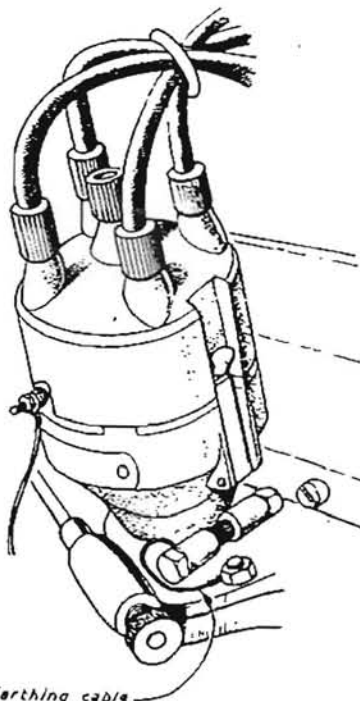


Fig. 2.—Where an earthing cable is provided on the distributor, it should be secure and intact.

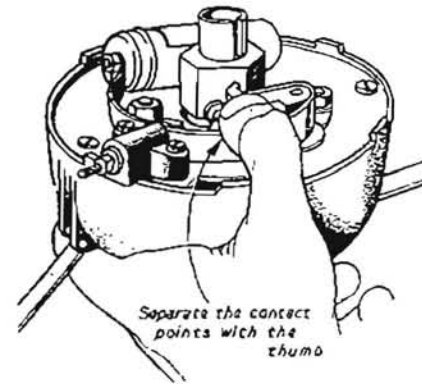


Fig. 3.—The points are inspected by gently opening with the thumb.

the points is usually due to too generous a lubrication of the cam spindle and advance mechanism, and although the oil is usually easily removed from the surfaces of the points with a petrol dampened cloth, it is far better to dismantle the assembly for cleaning purposes. When a surfeit of oil results from over lubrication, it does not usually confine itself to the points, but is deposited all over the entire assembly and the interior of the distributor body, and unless this is removed, a recurrence of the trouble is highly probable.

Most contact breaker points nowadays are of a tungsten alloy, and any oxidation of the contacting surfaces creates a resistance to the passage of the current. This oxidation takes the form of a black film which must be removed with fine emery

paper or a special carborundum file which is made for the purpose.

The correct clearance between the contact breaker gaps is of the first importance to ensure ignition efficiency. The gap for most pre-war and post-war cars up to about 1951/52 was within the limits of .010in. to

"Pip" on point makes accurate adjustment impossible

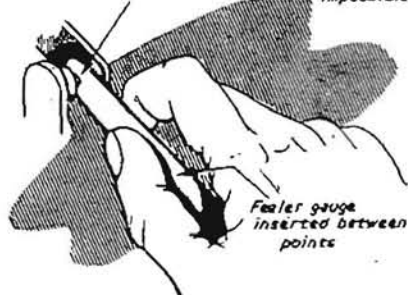


Fig. 4.—A "pip" formation on the points makes it impossible to obtain an accurate gap setting.

.012in. while for cars later than that date, the clearance is usually between .014in. to .016in. It must be emphasised that these figures are quoted as a guide; obviously it is best to adhere to makers' recommendations for particular cars.

The Gap Settings

The effect of variations of the advised gap settings is usually quite evident, for most ignition systems are sensitive in regard to this. A wide gap usually has the effect of slightly advancing the ignition, and if this has already been adjusted to the optimum setting, slight roughness in running and knocking may occur. Misfiring may also occur in the upper speed ranges as the reduced time that the contact points are together correspondingly reduces the build-up of the magnetic field in the primary windings core. A certain minimum time is necessary for this cycle of events, and when it is below this, the H.T. potential becomes weakened to a point when it will not jump the sparking plug gaps, with the result that the ignition partially or completely cuts out.

A gap that is too small often results in poor idling and misfiring at low speeds together with a slight retardation of the ignition. Also, points that are set too close are inclined to burning and excessive cratering and pitting, so it will be seen from the foregoing that it is essential to check the setting of the points at periodical intervals.

It is a good plan to give attention to the points every 2,000 miles or so. This is done by turning the engine until the points are open on the highest part of the cam and inserting a feeler gauge of the correct size between the two points. This should just slide through; any adjustment that is called for is made by slackening the screws or mounting of the fixed point, and carefully moving same in the indicated direction until the adjustment is correct. The securing screws are then retightened and the gap checked again with the gauge to ensure that it has not altered during the tightening of the screws.

When checking the contact breaker gaps it is of the utmost importance to make certain that there are no "pips" present on the working surface of the points. If there are such "pips" present, it will, of course, be impossible to obtain an accurate setting, for the protuberance will ride over the feeler gauge and result in a larger gap setting (Fig. 4). When the points are in this condition the contact breaker assembly should

be removed from the distributor body and the points refaced on a fine carborundum or oil stone, holding them absolutely parallel to the face of the stone and working gently in a rotary motion. The points are then cleaned of any abrasive matter with a petrol dampened cloth and held close together to ensure that both points meet fair and square. When replacing the contact breaker assembly care should be taken to see that the small fibre insulating washer is in position on the pivot pin (Fig. 5), otherwise a short circuit will occur and so put the ignition out of action.

Renewing the Contact Set

If the points are worn down to any extent by repeated refacing, it will, of course, be necessary to fit a replacement contact set. Very often these are covered with a fine film of light oil to protect the parts from the effects of the atmosphere, and before assembling this should be removed with a cloth dampened in petrol. Also supplied with the replacement sets is a fibre insulating washer which is intended to renew the old one from the pivot pin. When renewing the contact set apply a thin smear of petroleum jelly around the pivot pin and on the lobes of the cam and set the gap to the recommended clearance. This should be rechecked after 500 miles to allow for the

Insulating washer in position on pivot pin

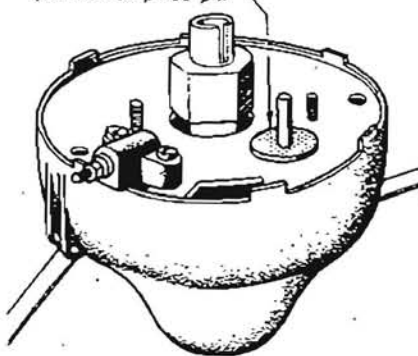


Fig. 5.—When replacing or renewing the contact breaker assembly, the insulating washer must be first in position on the pivot pin.

settling down of the heel upon the movable arm.

On pre-war contact breaker assemblies the block which comprised the cam heel and pivot pin bush was often constructed of fibre, and was consequently susceptible to variations in the humidity of the atmosphere. An undue humidity caused the heel to expand slightly and so disarrange the setting of the points. The swelling of the block under these conditions was also a frequent cause of the bush binding upon the pivot pin, which kept the contact points permanently open and so resulted in ignition failure.

This block in most present-day contact sets consists of a special synthesised material which is unaffected by changes in climatic conditions, thus obviating much of the trouble that was formerly experienced. The cam lobes should, however, receive a light smear of petroleum jelly at the time of checking the clearance of the points, and one drop only of oil applied to the top of the pivot pin; after waiting a few seconds for it to make its way down between the bush and pivot pin, wipe any trace of oil away from the top of the bush with a rag.

If the bush is stiff upon the pivot pin, do not attempt to rectify matters by reducing the diameter of the pin by filing, etc., as this will then make the pin non-standard in size, and any subsequent contact sets that

may be fitted will in all probability be a loose and sloppy fit. The correct procedure is to increase very slightly the diameter of the bush by carefully and gently reaming until it is a free fit upon the pivot pin.

Removing Rust

The only exception to this is in those circumstances where rust has formed upon the surface of the pivot pin through non-lubrication or excessive dampness. This rust will, of course, cause binding to occur, and it should be removed with fine emery paper having previously dismantled the movable arm. Only apply the emery paper sufficiently to remove the rust; then clean both the pin and the interior of the bush with a rag dampened in petrol and apply a smear of petroleum jelly to the pin before reassembling.

The Condenser

The purpose of the condenser is to prevent destructive sparking at the contact points and to also greatly intensify the H.T. potential. Although condensers are extremely reliable, nevertheless occasional trouble is experienced through them, the most likely faults being an open circuit or a dead short between the interleaving foil and dielectric. The latter fault is unmistakable, for the contact points are virtually by-passed, thus resulting in a complete ignition breakdown and engine stoppage. This trouble is, however, greatly reduced on many present-day condensers, for the foil takes the form of a metallic film which is deposited either by printing or spraying upon the dielectric, and in the event of a short developing the film is "flushed" away in the immediate vicinity of the damage, and is thus to all intents and purposes self-sealing.

A method that may be adopted to test for a suspected total breakdown in the insulation of the condenser which has resulted in a short to earth, is to turn the engine until the points are open, then to isolate the coil by disconnecting the switch wire from the S.W. terminal on this and also the C.B. wire from the distributor contact breaker terminal. Switch the ignition on and test the switch wire for continuity by a test lamp or voltmeter which is earthed against a clean part of the cylinder block or chassis. Continuity is confirmed if the test lamp lights or the voltmeter needle deflects. Next apply the voltmeter or test lamp to the switch wire,

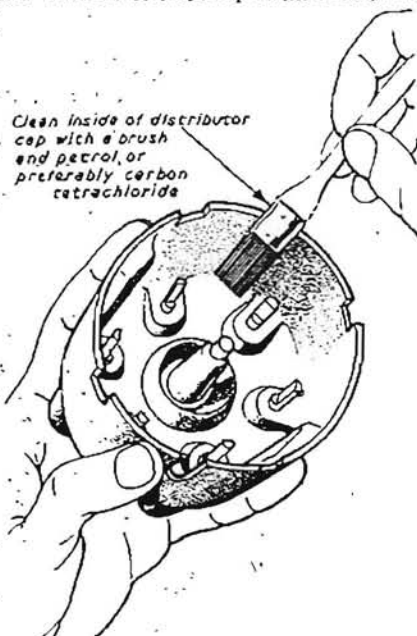


Fig. 6.—The interior of the distributor cap is effectively cleansed with a brush (see text).

and the distributor contact-breaker terminal. If a positive indication is given, the trouble is probably confined to the condenser, a faulty contact-breaker terminal, or the insulating washer on the pivot pin is damaged or broken. Disconnect the condenser and repeat the test; if the results are now negative, then undoubtedly the fault lies with the condenser.

An open circuit in the condenser may or may not result in a complete stoppage of the engine. It will, however, give rise to difficult starting and continual misfiring due to the attenuated and weak discharge at the plug points. A certain and unmistakable sign of this is in the rapid burning of the contact breaker points, which necessitates frequent refacing. A test is to switch the ignition on with the contact breaker points in the closed position, then snap them open with a thumb. Heavy sparking at the points is a sure indication of condenser trouble, which will necessitate an immediate replacement. When checking up on the condenser do not overlook the external connections. These should not be above suspicion, for if they are oily or loose, it will result in a high resistance in the condenser circuit.

Although a complete condenser breakdown is relatively easy to confirm by the foregoing tests, partial trouble is often difficult to detect with the means at the disposal of the average motorist. The intensity of the H.T. spark discharge and the frequency with which the contact-breaker points require attention, are however, fairly reliable indications as to the condition of the condenser. In these circumstances, and at any time when in doubt, the best procedure to adopt is to replace the suspect condenser with a new one, for the cost is only a few shillings and it will ensure the satisfaction of knowing that the unit is sound.

"Tracking"

In dealing with the H.T. section of the distributor, it must be remembered that the voltage is of very high value, usually between 8 to 10,000 volts, and that the greatest potential source of trouble is dust and moisture. Dust within the distributor cap eventually causes "tracking" between the electrodes which results in severe misfiring. Usually, when tracing has occurred, it will continue to do so even if the dust is removed, and the only alternative is to renew the distributor cap. In an emergency, the "tracking" between the electrodes can be scraped clean with a scissor point or something similar, but the weakness in the insulation still remains, and in a very short while the trouble will again reassert itself.

It is a good plan to remove the distributor cap periodically, say, every 5,000 miles or so, and to clean out the interior thoroughly with a soft brush and petrol, or preferably carbon tetrachloride (Fig. 6). With petrol, there may be left a slight oily residue when dry, which will attract further dust, and if possible, the latter fluid should be used. This is available as a dry cleaning fluid under various proprietary names, and is obtainable at most stores, etc. A brush is preferable for cleaning to a cloth, as it is possible to reach more thoroughly around each electrode. Clean the interior of the cap thoroughly with the fluid, wipe the surplus away with a clean rag, then leave for a few minutes to dry out before assembling.

The rotor arm should be removed at the same time as the cap and similarly cleaned. The rotor arm is particularly susceptible to shorting or "tracking" due to fine carbon dust being deposited from the small brush with which it makes contact. This "tracking" dead shorts to earth via the cam assembly (Fig. 7), and when this occurs the H.T. ignition system completely fails. In

this eventuality, the rotor arm must be replaced.

The Rotor Arm

The rotor arm does not make actual physical contact with the electrodes within the distributor cap, but comes into close proximity with them so that the H.T. current jumps the small air-gap that exists between the electrodes and the blade of the rotor arm. In due course, the blade becomes slightly burnt with the spark discharge, but if this is not excessive, it will have no adverse effect upon the ignition system. Where this is, however, badly burnt (and also probably the cap electrodes) the increased gap across which the spark has to travel may strain the coil, and it is advisable to renew the rotor arm and also possibly the distributor cap.

The Distributor Cap Brush

The small brush within the distributor cap, by which the rotor arm picks up the H.T. current, very rarely gives trouble. It may, however, become worn or the light tension spring beneath same slightly flattened, in which case it no longer makes contact with the blade of the rotor arm. The ignition will still continue to function in these circumstances as the current will jump the slight gap existing between the end of the brush and the rotor arm blade. To make sure that the brush is making contact, the blade should be examined, and that part immediately below the brush

"Tracking" on rotor arm shorting to earth via cam assembly

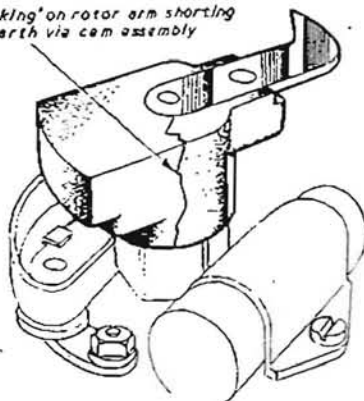


Fig. 7.—"Tracking" on the rotor arm puts the entire H.T. system out of action.

should have a small circular polished mark upon it. If this is black and pitted, which indicates that sparking is occurring, the rotor arm should be removed, the area of contact cleaned up with fine emery paper and the brush gently pulled away from its housing to increase the effective length of the spring. If, however, the brush is considerably worn, it should be removed and replaced with a new one. Do not forget to refit the rotor arm before replacing the cap, otherwise the engine will not, of course, start.

Sparkling Plugs

The sparking plugs should be of the type advised and particular attention should be given as regards the correct gap setting. With normal coils and most pre-war cars this varied between .020 to .022 in., but with high voltage coils the correct setting is approximately .30 to .035 in. The interior of the plugs should be regularly cleaned—especially if the engine is worn and is passing oil. With the detachable type of plug this presents no problem, but with the one-piece non-detachable plugs, the only really effective way is by a special sand blasting machine such as is possessed by most service stations. The cost is only a few pence per

plug, and it effectively removes any carbon or oily matter that may be present.

Insulator Care

No less important in cleanliness is the exterior of the insulators. These are often covered with an oil-impregnated dust which provides a path of least resistance for the current, which is thereby shorted to earth with the result that that particular plug or plugs are out of commission. These insulators should be occasionally wiped clean with a soft cloth to prevent trouble of this nature occurring.

The H.T. lead connecting from the coil to the distributor cap and the leads to the sparking plugs should occasionally be inspected for chafing and perishing. Repairing such damage with insulating tape is of little use as the current will easily short through this. Replacing the defective leads with new is the only satisfactory alternative.

As previously mentioned, moisture upon any part of the H.T. system will inevitably result in trouble through short-circuiting. When atmospheric conditions are particularly damp and humid, condensation is apt to form upon the sparking plugs, leads, and the interior of the distributor cap, etc., particularly when the car has stood overnight, with the result that it is impossible to obtain a start the next morning. The moisture should be removed with a soft absorbent cloth, or a hair-drier, if available. The drier should be switched on to the heat position and the warm air directed over the affected parts, which will quickly and effectively remove the dampness and moisture.

BOOKS Received

"Motor Cycles," Part II, by C. J. Caunter. 80 pages. Prices 7s. 6d. Published by H.M. Stationery Office, London.

THIS second part of the Science Museum's handbook illustrating the development of the motor cycle, comprises a catalogue of all the items in the National Collection of Motor Cycles and Accessories at the Science Museum with descriptive notes. There are eleven sections in all: motor cycles; motor cycle engines; lubrication systems; carburettors; ignition systems; lighting systems; frames and accessories; gear and transmissions; tyres, wheels and brakes; instruments and accessories; and miscellaneous. The descriptions given with each item mentioned and the technical summaries at the beginning of each section supplement the brief references to items mentioned in Part I, the History and Development of Motor Cycles.

Readers requiring authoritative reference to any particular motor cycle or aspect of motor cycling would do well to refer to this publication. The items are arranged in chronological order and the book is indexed. A number of photographic illustrations of the exhibits are included. Copies are available from the Science Museum, South Kensington, London, S.W.7, from sales offices of H.M. Stationery Office in London, Edinburgh, Manchester, Birmingham, Cardiff, Bristol and Belfast, or through any bookseller.

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