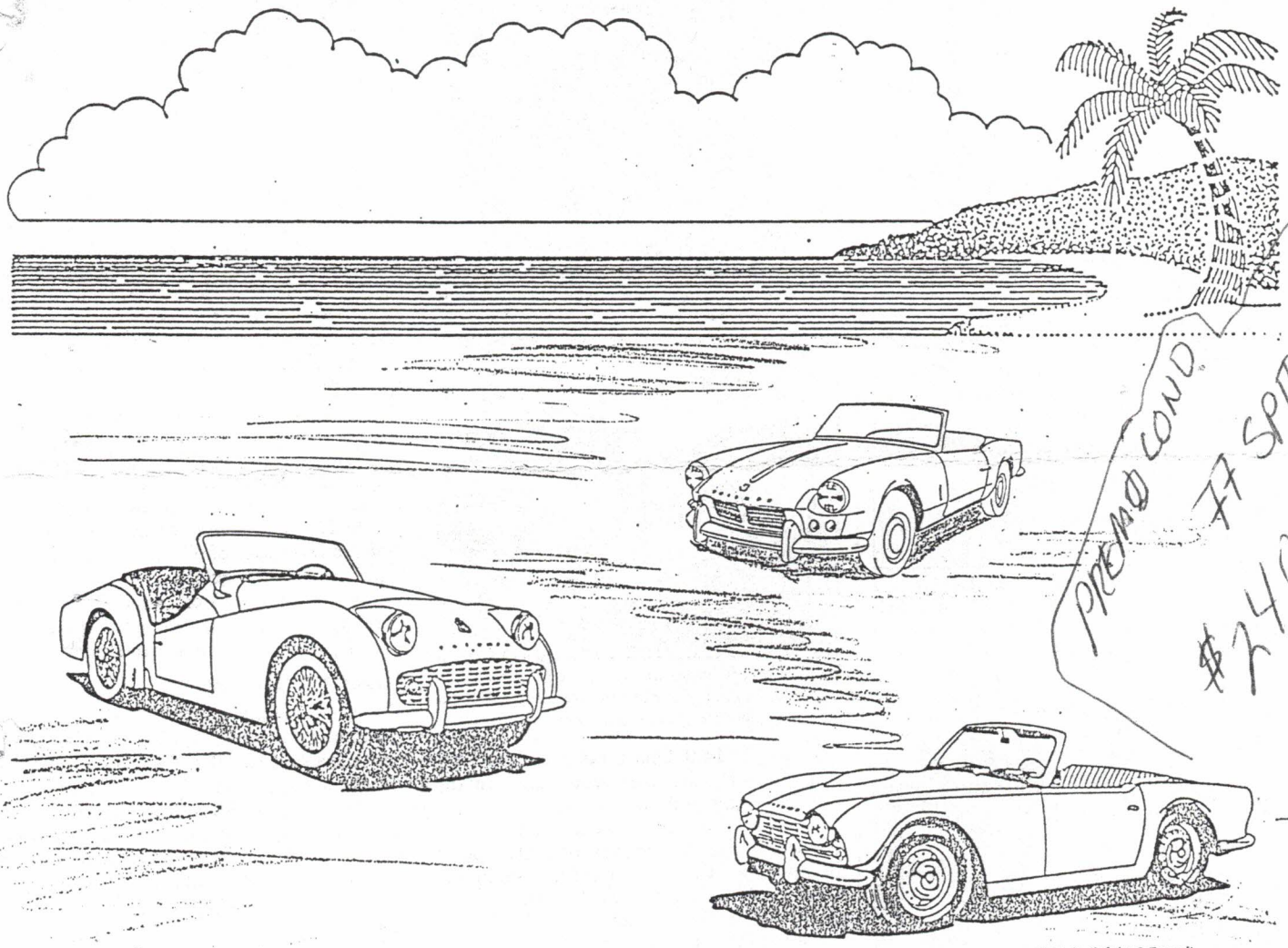
CENTRAL COAST TRIUMPHS



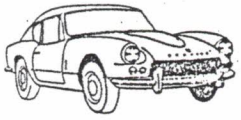
PRE-M.G. COND.
77 SPITFIRE
$2400

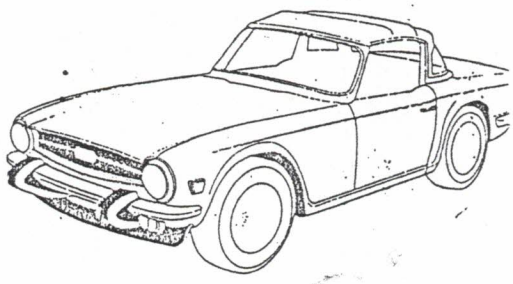
CENTRAL COAST TRIUMPHS
P. O. Box 1778
Goleta, CA
93116

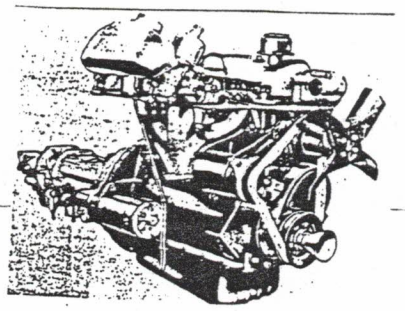
SANTA BARBARA, CA
JAN 31
PM
1986
93

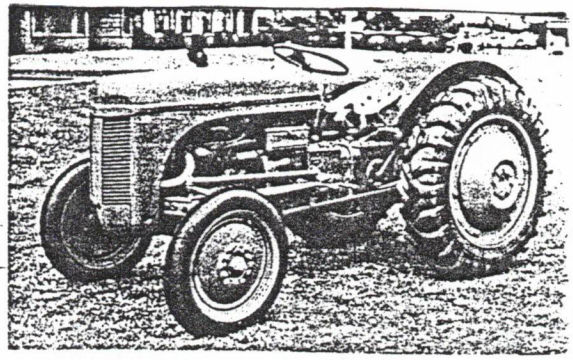
LOVE
USA 2

Ronald Kibbe
PO BOX 1381
Ventura, CA
93002









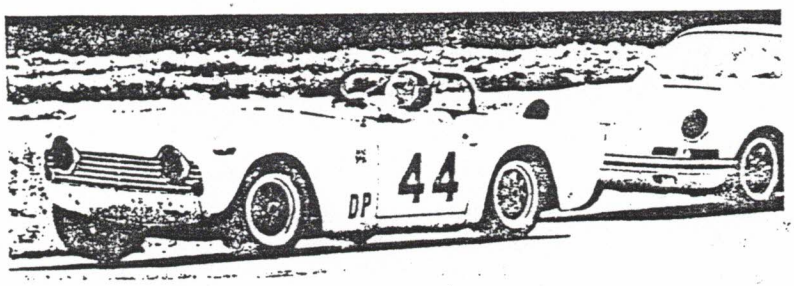
HEART OF A TRACTOR?

My wife, Lorrie, finally had to believe that I have flipped my mind that morning in New Zealand; when I abandoned our rental car in a rush to take pictures of a tractor with a FOR SALE sign hung onto its grill. Only after I have satisfied myself of what I had wanted to know and many frames of pictures later did I return and explained to my patient wife that the tractor I so admired was not just any tractor, but a Ferguson tractor and the opportunity to get a close look of a Ferguson tractor does not come very often. By that time Lorrie is absolutely sure that I have became an invalid until I excitedly explained to her that I just had to see for myself if that myth about tractor engined TRs were true.

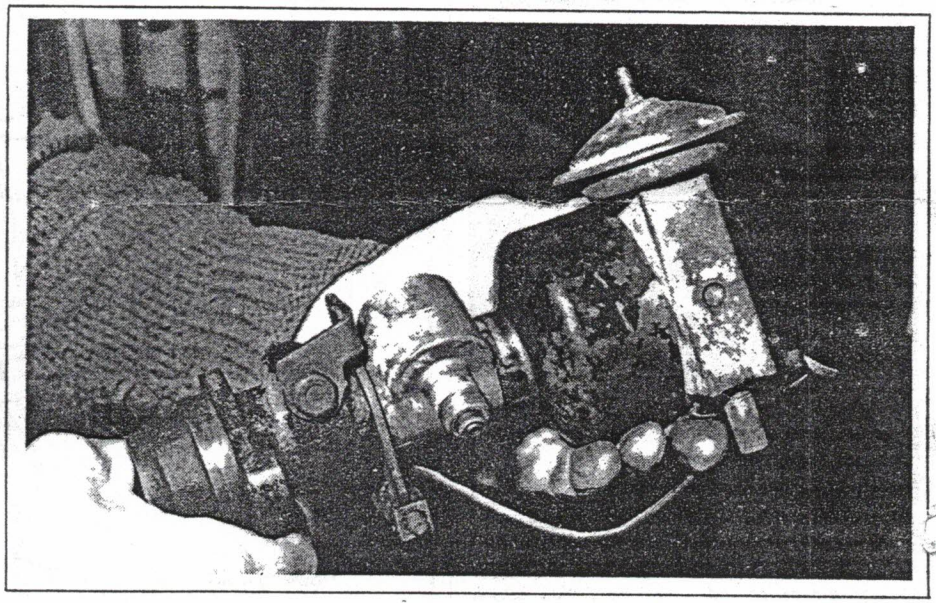
To end any suspense among readers, there was no doubt that Ferguson tractor engine's external impression is VERY recognizable by four cylindered TR2 through TR4A owners. This similarity drove me to do some reading in regard to the Standard Vanguard engine. What I learned was that the Vanguard engine was initially designed for road vehicle use but after Standard Motors signed an agreement to build tractors for Ferguson, Standard realized the engine it has on the drawing board, the Vanguard engine, had potential for agricultural use, therefore subsequently, the Vangard engine was further beefed up so it was dropped into the Ferguson tractors produced by Standard, and later this Vanguard engine was souped up for various TR models.

I conclude here that the four cylindered TRs were not powered by tractor motor, rather the Ferguson tractors were powered by a car engine. I wonder what Group 44 would have done with that tractor, very exciting no doubt.

Bob Tullius in the Group 44 TR4A which dominated SCCA D-Production racing, holding off a Porsche challenge.



Doing up a Delco



This is the complete lump as it came out of the car. Note the tachometer drive immediately under the distributor body.

Joss Joselyn starts our new engine ancillaries overhaul series with the Delco D200 distributor.

Delco distributors are fitted to most Vauxhalls, but not only to them. Although made by a General Motors company, they have also been used on Triumph, Ford and Chrysler, as well as on Bedford and Opel. There are two main ranges — the D200 and the D300, the principal difference between the two being that the D200 range has the centrifugal advance and retard fitted underneath the contact breaker, while on the D300 it's just underneath the rotor, on top of the contact breaker plate.

The example we chose to overhaul came out of a MkIII Triumph Spitfire, one of the D200 type, but fitted with a later type of contact breaker. This can be stripped down and overhauled but it is worthwhile first finding out just what replacement parts are available in your area. All the fast moving bits – cap, rotor, contact breaker set and condenser – are obtainable almost anywhere, but bob weight springs, shaft, bearings, etc., could be a very different story.

It is best to make an initial check by dismantling the top end of the unit and trying the shaft for lateral movement. If there is a lot of play, it means it's likely that the whole of the unit is worn and a factory replacement is the best remedy. The probability is that you won't be able to buy a new shaft/advance and retard unit, bearings, etc., but if you can, it's still worthwhile working out the cost of this and all the other parts and comparing it against a factory unit. With this sort of wear, an extensive home overhaul probably won't be worth while. If spindle and bearings seem sound, the more limited overhaul procedure shown in our photographs is the best answer.

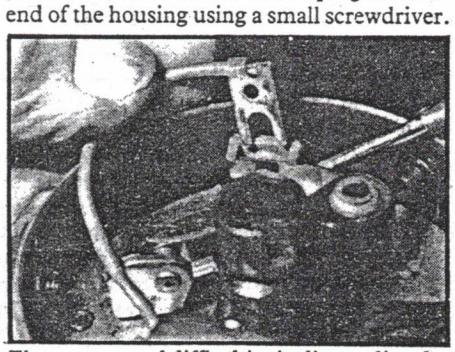
Dismantling

Working on the well known principle that any mug can take something apart, and that reassembly is the tricky part, we have only shown the latter in any detail. If you need more visual detail of dismantling, you could always follow the photographs in reverse.

After removing the cap, the rotor simply pulls off. The contact breaker comes out next; simply take out the locking screw, lift the assembly off its pivot pin and disconnect from the terminal assembly. Another single screw will then release the condenser.

Take off the vacuum advance unit next. It is held by two screws, but check just which screws hold what before taking them out. Three screws altogether hold the vacuum unit, the contact breaker base plate, the two pivoting cap clips and the earthing lead. The exact arrangement varies a little from model to model, but the general principle of dismantling is the same. Do not forget to unhook the vacuum control connecting arm from the contact breaker baseplate before withdrawing it through its slot in the housing.

Normally, the next step would be to remove the tachometer drive gear (where this is fitted); but, because on this unit it was not proposed to change the main shaft (there was nothing wrong with it or the bearings), we omitted this step. If you do want to take it off, you have to lever out the staked plug from the end of the housing using a small screwdriver.



There are no real difficulties in dismantling, but levering the points away does help release the two connections.

The gear can then be extracted, taking care not to lose the small thrust washer.

The final dismantling stage — should you want to do it — is to remove the mainshaft assembly, including the centrifugal advance and retard bobweights. It's done by driving out the pin fitted through the gear or coupling at the base of the shaft. If you plan to reassemble the coupling to the shaft, mark them before dismantling.

Knock the pin out carefully using a thin 'parallel' punch and check the shaft carefully for any burrs. If there are any, remove them before pulling the shaft up through the bearings. Retain the drive components because, should you be able to find a new shaft anywhere, it comes without a driving gear or coupling.

In these circumstances, the hole drilled for the pin in the old coupling can be used as a guide to drill the new shaft. The procedure is to fit the upper thrust washer first, and then slot the shaft into the housing. Put on the lower thrust washer and the coupling or gear, and drill the hole so that the shaft has an end

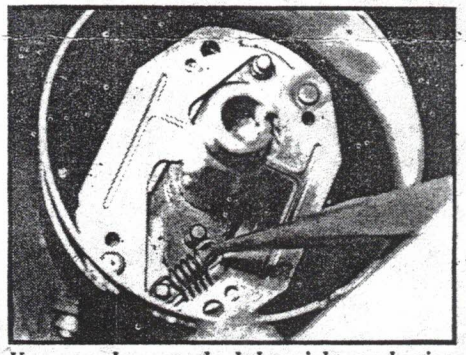
Doing up a Delco/continued

)at (measured between washer and housing) of between 0.002in. and 0.005in.

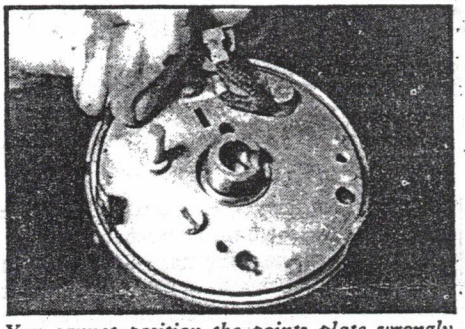
If you fit a new gear or coupling as well, you've got a problem. Drilling exactly at right angles through both coupling and shaft, centrally, and at the same time ensuring the correct end float, is not easy. Most people would settle for an exchange unit.

In theory it is also possible to fit new bearings — driving out the old ones and pressing in the new — theoretically, because you're unlikely to get the bearings. If it comes to fitting bushes and shaft, even if you could get them, it would almost certainly be cheaper to get a factory replacement.

Reassembly



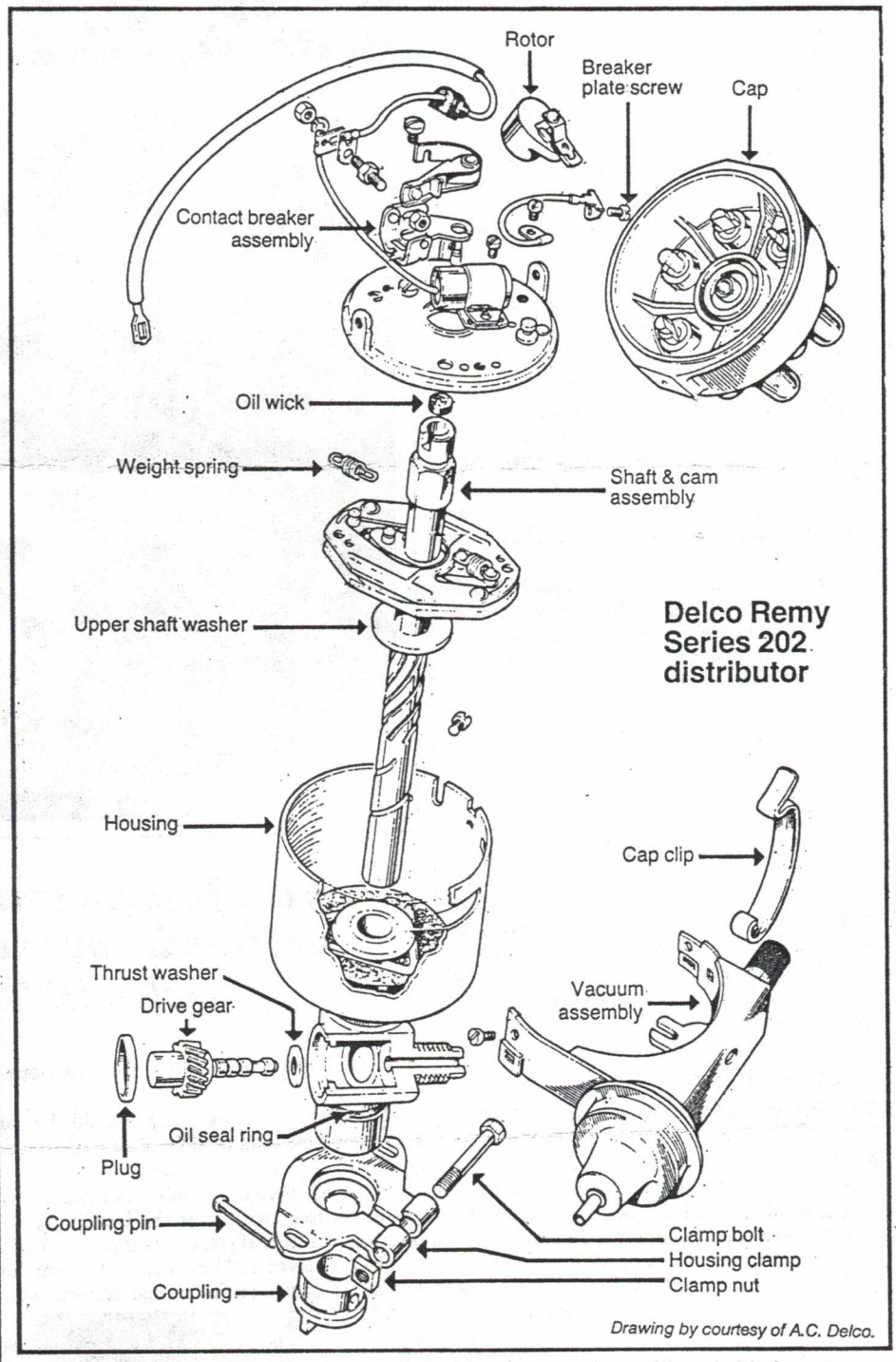
You can clean up the bob weight mechanism without actually removing it, using cleaning fluid and a paintbrush. Here the bobweight springs are re-located — an operation which requires some care.



You cannot position the points plate wrongly because the three fixing lugs are unevenly spaced.

After washing off all the bits in a bath of cleaning fluid, start putting it back together by inserting the bob weight springs. Getting these in and out is done with a pair of needle-nose pliers, but it isn't easy. If you're not very careful the spring will zap away across the workshop and be lost for ever. If you can get new ones, it's a good idea to fit them. Once they are installed, oil the mechanism and ensure it works smoothly.

If the tachometer drive gear has been removed, this goes back next. Officially, it should be liberally coated with 'Alvania' No. 2 grease or an equivalent; good quality high melting point grease should do the trick. A new plug is then press-fitted into the shoulder inside the housing and staked in six places.

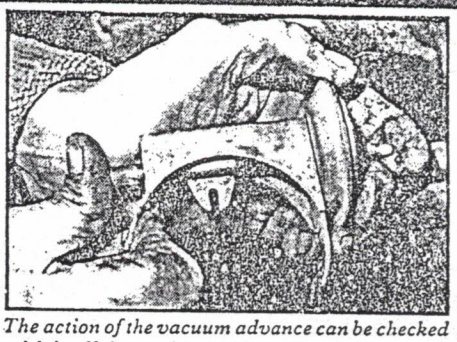


Drawing by courtesy of A.C. Delco.

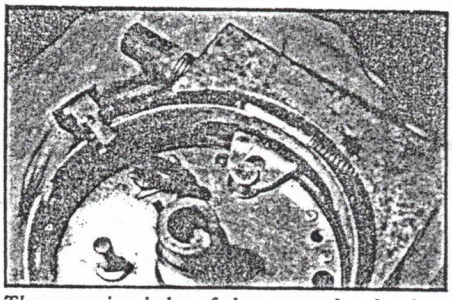
Tackle the contact breaker plate next. It can be checked quite easily to see that the plate is free to move but not 'wobbly.' Similarly a check should be made of the vacuum advance unit before refitting it. Depress the operating lever and block the inlet firmly with your thumb. If the operating lever stays put until the thumb is removed, it's working; and there should be a partial vacuum which you can hear when you take your thumb off. If either contact breaker plate or vacuum unit is defective, you'll need a replacement. Breakers yard bits are a possibility, of course, but once again you'll probably have to consider a replacement distributor.

Refitting these two components is not generally difficult and you can't get it wrong because the fixing holes in the body are unequally spaced. Don't forget that two of them also hold the cover clips and one takes the earth lead. One screw holds only the contact breaker baseplate.

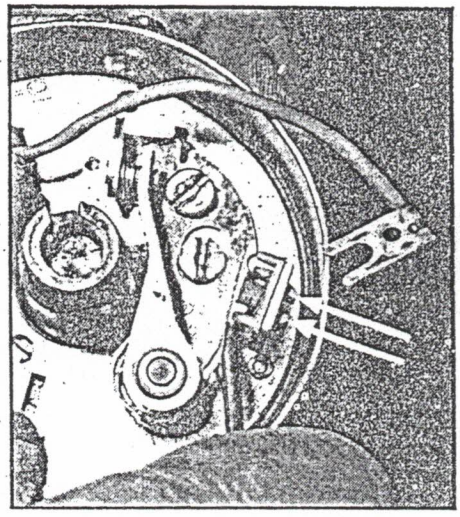
Fit the condenser next — a matter of one screw and two little 'pips' to locate it properly. This is followed by the new contact breaker set and, although earlier distributors



The action of the vacuum advance can be checked with it off the car (see text).

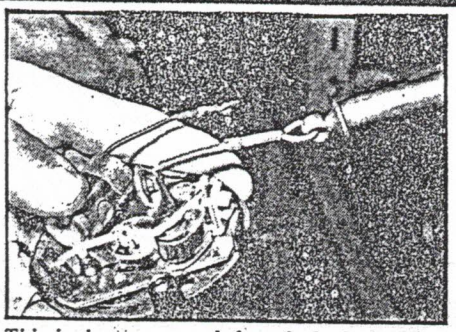


The mounting holes of the contact breaker base plate and vacuum unit all match up, and include the earth lead and two cap clips. Note how the vacuum operating arm connects to the contact breaker base plate.

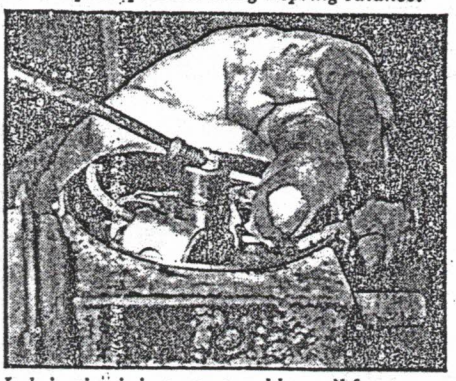


Here the plastic insulator has been fitted, the two ears pushed through the window (arrowed) in the fixed contact, and the condenser lead is poised ready to slot in. The points spring blade is levered away to allow the condenser lead and low tension lead to be slotted in to complete the terminal assembly.

Points adjustment is carried out in the normal way.



This is the recommended method of measuring contact point pressure using a spring balance.



Lubrication is important and here oil from a can is dribbled onto the wick in the centre spindle and a smear of grease goes onto the cam.

originally had a tedious arrangement of nuts, washers, etc., the later type shown in the drawing is the modern substitute.

First the two ears on the insulator (A) are pushed through the window of contact point (B), pinching them with the fingers if necessary. Install the fixed point (B) onto the pivot pin and fit the locking screw (C). Fit the terminals of the condenser lead (D) and the LT lead (E) onto the centre pin of (A). Fit the moving contact (F) edging it down over the pin and locating the spring carefully between the little pegs on the insulator.

The points gap is set in the usual way with the rubbing block on top of the cam, the gap measured with feeler gauges and adjustment carried out after slackening the locking screw. On the older types the fixed point is adjusted by levering a screwdriver blade in the slot provided; on later series, adjustment is carried out conveniently using the adjuster screw provided.

Delco recommend an extra check, this time of the pressure on the contact breaker points. It's important they say, because if it is too strong, there will be excessive wear of the rubbing block, cam and contact points. If too weak, high speed points bounce will result and this, in turn, will cause arcing and burning at the points and a consequent misfire.

A spring balance is used for the check, hooked over the moving contact arm as near the contact as possible. It is pulled at an angle of 90 deg. to the points surface and, just as the points separate, the scale reading should be between 17 and 21oz. If the pressure is excessive, carefully pinching the spring will reduce it. If it is insufficient, it can be increased by taking the points out of the distributor and bending the spring away from the arm. Even new points can have the wrong spring pressure.

Before refitting rotor and cap, lubrication can be carried out. This consists of lightly greasing the cam surfaces with petroleum jelly. Add a few drops of light engine oil to the felt wick in the top of the breaker cam. On the 200 Series there's a small hole through which a few drops of oil should go, while all types have a ¼ in. hole through which about a teaspoonful of thin oil should be trickled. Finally, a few drops should go into the fibre bush in the contact breaker arm pivot.

Rotor and cap

These two items both need cleaning and checking before refitting. Clean off any thick and encrusted oily dirt from the outside of the cap with petrol, polishing off finally with a clean dry rag inside and out. Look for any signs of damage — chips or cracks — and for any traces of 'tracking'. This appears as an etched line which follows the path of a scratch or pattern of dirt, allowing leakage of high tension current to earth. If any is found it means changing the part (cap or rotor).

If the aluminium contacts inside the cap need cleaning, use a petrol soaked rag; don't scrape them or use abrasives as this will increase the gap. If these contacts, or the centre contact are worn, fit a new cap.

Clean dirt off the edge of the rotor segment by rubbing it on the side of a tyre; don't scrape it or use emery cloth. Check also the height of the spring contact. From the top face of the rotor to the top of the domed contact should be 13/32in. (1.0 cm.)

Check the HT cable sockets in the 'towers' on the cap. Bad burning from a past faulty contact means fitting a new cap. Check also that the sleeves on the cable ends have the fingers to engage the grooves in the sockets. Clean up with cleaning fluid before refitting. □