

TECH TIPS No 14a

THE IGNITION SYSTEM ON A FIAT 500 AND 126

Looking at the distributors on some of our members 500's they are the original distributor that came with car when it was manufactured and most likely never been stripped down.

In writing this tech tips, I went into the garage and stripped down three 126 and five 500 distributors and what I found was that the majority were at the point of seizing.

TECH TIPS No 14a

HOW TO FIT A NEW CONTACT BREAKER POINTS IN A 500

If we start with the distributor, which has been on a running engine and requires a service.

TOOLS REQUIRED.

A flat screw driver with a 6mm wide blade.

Two 8mm across flat spanners.

One 10mm and 13mm across the flat spanners.

A set of feeler gauges either imperial or metric.

Metric sizes 0.47mm to 0.53mm

Inches 0.019 to 0.021

Check to see whether your set is metric or imperial.

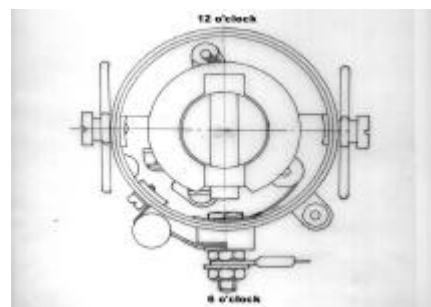
A test lamp with a 12volt bulb

SET UP THE ENGINE AND DISTRIBUTOR.

1. Release the two "S" clips and remove the distributor cap, (see sketch) and put it to one side. Disconnect LT lead, remove the first 5mm (8mm) nut off the terminal bolt (5).
2. Put the car into top gear (4th), and let-off the hand brake. Make sure there is sufficient room to push the car forward.
3. Push the car forward until the following has been achieved. The marks on the chain-case and the pulley are aligned the rotor arm is pointing down at 6 o'clock. (see sketches) This now sets the number one cylinder at 10deg.



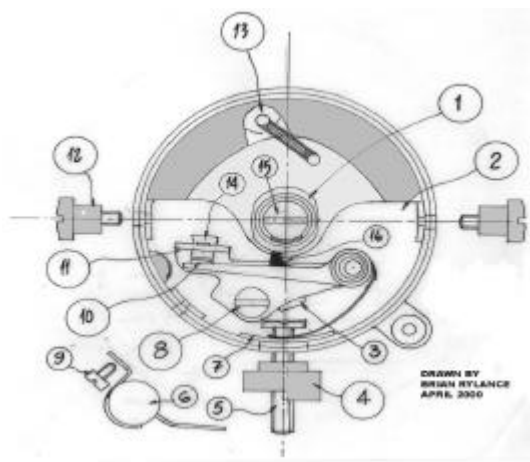
Before top dead centre (10BTDC).



4. Put the hand brake on, gearbox in neutral.
5. The distributor is held to crankcase by an 8mm nut (13mm), make sure this is tight. Now go to the down facing nut which is a 6mm (10mm), remove the nut and pull the distributor out of the body.
6. Look at the distributor, the rotor arm is still at 6 o'clock and the offset drive dog on the under side of the distributor is set to the left-hand side. Because of the offset drive dog, the distributor cannot be put back wrong.

STRIP DOWN THE DISTRIBUTOR TO CHANGE THE POINTS

7. Remove the second 5mm (8mm) nut off the terminal bolt, which will release the condenser wire. Then remove the screw (9) this will now release the



condenser (6). IF THE WIRE IS STIFF NEVER BEND THE WIRE ON THE CONDENSER.

8. Lift out cam follower (10)(part of the points). The spring has a slot, which slips off the bolt (5).
9. On the original set up so the cam follower would not lift, the contact breaker brass post was fitted with a circ-clip. Over the years because the circ-clip kept getting lost, it is rare to see one when dismantling.
10. Pull out the bolt (5) passing through a thin insulators (7) on the inside and an insulator block (4) on the outside. This has a spigot that is seat in a hole on the outside of the distributor.
11. With a 6mm-blade screwdriver, remove the screw (8) that holds the fixed part of the contact breaker points (11). Slip contact breaker point off the brass post. Note when you take the points out check their condition, if they are badly burnt. You will need new points and may need a new condenser.
12. Clean inside the distributor, mounting plate (2) and cam (1) and make sure it is free from rust and is smooth.

NOW REBUILD THE DISTRIBUTOR.

13. Fit new contact breaker points (11) and insert 3.5mm-screw (8) through slot in the points and screw into mounting plate (2). The screw should be nipped but not tight.

14. Check the thin insulator for any splitting, if there is a split it has to be replaced. The insulator is Mica, if you have none. I use an IKEA chopping board it is very easy to cut and shape and it is a good insulator and is strong. Now pass the terminal bolt through the thin insulator and insulator block.

15. Fasten the condenser (6) onto the side of the distributor with the screw (9) and fit the wire on to the terminal bolt (5)

16. Slip the cam follower points over the brass post and slot the spring behind the head of terminal bolt (5). Slip a 5mm washer on to terminal bolt and follow with a 5mm nut and tighten, making sure that the spigot on the insulating block is seated in the hole and don't over tighten.

17. Now to set the points. Set the cam follower (16) so it is sitting on a high point on the cam (1).

18. In the mounting plate there are two slots (3) and (14) they are just over 6mm wide, if you put the blade of the screwdriver (6mm) into slot (3) and twist this will open the points then into (14) this will close the points.

19. If you are using Imperial feeler gauges find the 0.020in feeler.

20. Adjust the screw (8) so that when you move the points with the screwdriver there is a resistance to movement.

21. Open the points greater than 0.020in. Put the feelers between the points and with the screwdriver in slot (14) close the point until there is a slight resistance on the feeler. You may have to open and close the points a number of times until it is right.

22. Tighten screw (8) then check the points again it may have moved. Put a smear of grease on the cam.

SET THE TIMING.

23. Replace the distributor into its lower body, turning the rotor arm until it drops into place in the offset drive dog.

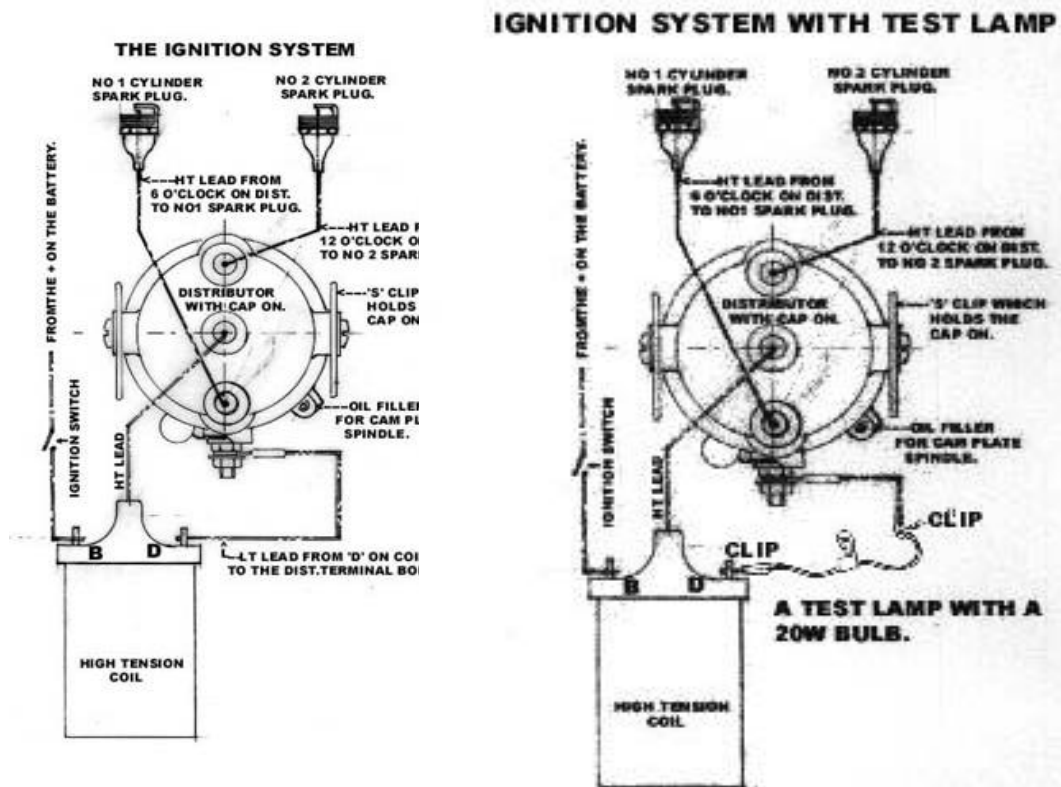
24. Replace the washer and 6mm nut on the down pointing stud, but do not tighten.

25. Check the engine is still set at 10BTDC and the rotor arm should be at 6 o'clock. This is the setting for a static timing.

26. The LT wire from the coil connect the wire from your test lamp and the other wire from the test lamp connects to the terminal bolt (5). See sketch.

27. The rotor arm turns in a clockwise direction. If the barrel of the distributor is turned clock-wise it will retard the engine. If the barrel of the distributor is turned anti-clock wise, that is against rotation of the rotor arm it will advance the engine.

28. The light is connected. Switch on your ignition now turn the barrel of the distributor in a clock-wise direction until the light comes on. Turn the barrel of the distributor slowly in an anti-clock-wise direction until the light goes out.
29. Tighten the 6mm stud on the under side of the distributor.
30. The system is now ready. Fit the distributor cap make sure that no 1 cylinder goes to 6 o'clock and no 2 cylinder goes to 12 o'clock.



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OTHER TECHNICAL TIPS ON THE DISTRIBUTOR

- Tech Tips No 1 How to release a sticking bob weights.
- Tech Tips No 6 Stripping down a 126 Distributor.
- Tech Tips No 7 Stripping down a 500 Distributor.
- Tech Tips No 9 Changing bob weight springs.
- Tech Tips No 14 Changing the contact breaker points on a 500.