

T-3221-TSA, TSB Anderson Timer

The Anderson Style Timer Installation, Adjustment, etc.

To remove the timer, loosen the bolt holding the spring clip and swing the clip out of the way. Remove the cotter pin from the spark advance rod at the timer and remove the timer housing with wires attached. Remove the nut on the end of the camshaft to remove the pin retainer, pin and rotor. We recommend you discard the original tin shield and felt ring seal and then install a modern oil seal. The tin shield may cause ignition problems when it becomes worn or damaged. The modern seal is a CR #9876 or equivalent. Note that all housings may not provide a tight fit for this seal, but a bit of RTV sealant or tapping the seal with a hammer to expand it will assure a good tight fit. The seal can be more easily installed if a piece of shim stock (or tin can) is rolled up, placed inside the seal and used as a guide to get the seal over the camshaft nut. Note that some early models do not have the proper sized hole to fit the modern seal. Move the wires to the new timer by 'cupping' it inside the old timer with both lever arms aligned and then moving the wires one at a time. Install the new timer by reversing the procedure above. After installing the rotor, check for free movement of the rotary contact by 'snapping the rotor contact' ...pressing it down and allowing it's spring to snap it back. See the 'tips' sheet if it does not move freely.

The timing must be checked every time a timer is changed to make sure the cylinder does not fire before top dead center when the spark is retarded. Push the spark advance lever all the way up, remove #1 spark plug (better yet, remove all 4, clean and re-gap to .025-.035" while you're at it). Connect the plug wires and lay the plugs on the head so you can see them fire. Watch the top of the piston with a flashlight while hand cranking the engine. With the ignition switch on "battery", the coil should fire only after the piston is just started on the way back down after it has reached the top of its stroke, with the spark fully retarded. Bend the 1/4" rod that moves the timer to achieve this adjustment. Note that the plug will fire every other revolution, so you may have to turn the crank several times.

Another good way to determine the piston position is to screw a plastic hose connector into the 1/2 inch NPT spark plug hole and use a piece of heavy plastic "wire" such as that used on weed trimmers to "feel" the piston position.

The proper setting for optimum high speed operation is a subject of much debate and is probably somewhere between 3/8 inch and 3/4 inch before top dead center. The best advice is to listen carefully to the engine and run as far advanced as possible to achieve smooth operation, maximum power, and cooler running. Note that too little spark advance can cause loss of power and overheating. Too much spark advance can also cause loss of power, and can be hard on the rod bearings.

Do not loosen the nuts and screws securing the contacts in the housing, as the timing will be affected. Please use the extra nuts and lock washers provided for making your connections.

Please get into the habit of fully retarding the spark before turning your ignition off. This will reduce the chances of accidental damage to starters (electric and manual).

It is advisable to occasionally blow the fine dust out of the case with an air nozzle. BE SURE TO USE EYE PROTECTION! We recommend that a small amount of lubricant be placed on the contacts of the Anderson Style Timer. CMD Extreme Pressure Grease, Vaseline or White Lithium Grease should be sparingly applied to the rotor and case contacts.

User assumes all risks and responsibility. Please work and drive carefully.

Tips and things to check if you have ignition problems:

Trouble shooting is simple if you remember that the job of the timer is to ground the coils at the proper time to fire the cylinders. The top terminals on the coil box are where the wires to the timer are connected, and each is grounded at the proper time by the timer.

Check the coils to make sure they buzz when grounded. Turn on the ignition to “battery” and touch a jumper wire from ground (engine block) to each top coil terminal on the firewall. If the coil does not fire, check the coil or connections. The bottom connections in the coil box supply power to the coils. Clean and make sure the connection “tabs” are bent up or out a bit to make connection with the coil. Sometimes the connections on the back are not in line with the coil connections and a coil may have to be shimmed to one side with cardboard to make proper connection.

If all coils are firing when grounded at the coil box, check the wiring to the timer by grounding each of the wires at the timer to assure that each coil buzzes. To be sure no wires are grounded at the timer or contacts in the timer are shorted, remove the timer case from the engine and with the wires attached, touch the case to the engine block. If a coil buzzes, one of the wires or contacts is grounded. Touch each terminal to ground and the proper coil should buzz.

Also, just because a coil buzzes is not proof that it is working properly. If a coil is drawing too much current, or if the coil produces a weak spark, the engine may not run properly. The Model T Ford Repair Manual gives excellent guidance on how to check and adjust the coils.

The old style seal with the tin or brass shield may also cause “false grounding” of the coils by touching some of the contacts in the timer. It is best to discard the old seal and shield and use the modern CR 9876 seal. Note that all housings may not provide a tight fit for this seal, but a bit of RTV sealant, or tapping the seal housing to expand it will assure a good tight fit. The seal can be more easily installed if a piece of shim stock (or tin can) is rolled up, placed inside the seal and used as a guide to get the seal over the cam gear nut.

Another common problem is that the hole in the camshaft that locates the rotor is drilled all the way through on some camshafts and so it is easy to get the timing off by 180 degrees. If the engine refuses to start and fires back through the carburetor, try re-positioning the rotor by 180 degrees. (This is the case on my 1912.)

Some older timing gears have a thicker web than the originals and the cam gear securing nut may protrude out past the camshaft boss on which the rotor seats. The rotor may then be forced into a recess under the cam gear nut and then bind the flapper. Try ‘snapping’ the spring-loaded rotary contact to check for binding. A simple shim made from 16 gage wire wound into a 9/16 inch diameter circle might work in an emergency. Proper spacer washers are available.

Another possible problem is that the camshaft may protrude out too far from the engine. An easy check is to see if the rotor is rubbing on the inside of the timer case. If this is the case, or if the rotor contact is not centered properly with the contacts in the case, a special “short” rotor is available. Please contact the factory (info below), and we’ll ship one right out to you. (see website for detailed info)

If you are re-assembling the front cover after changing a timing gear, be sure the cover casting is installed with the camshaft centered in the hole. A gauge is available from parts vendors and Frank’s Timer Service to check it. If the camshaft is not concentric with the timer case mounting ring, the timing will be affected.

Our Goal is Complete Customer Satisfaction and smooth running, dependable Model T Fords, so please do not hesitate to call with any problems. See the website below or contact the undersigned for additional useful publications and information.

User assumes all risks and responsibility. Please work and drive carefully.

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