

# A-9758 SPARK ROD ADJUSTMENT INSTRUCTIONS

## INSTRUCTIONS FOR IGNITION TIMING ADJUSTMENT

With Engine Running  
(Spark Control Rod Adjuster)

It is most desirable to *change or adjust the spark timing* WHILE the "A" engine is running. A unique procedure and tools for measurement and adjustment of timing was described in ref. (1). It measured the crankshaft degrees of advance or retard while the engine was running. A #1 piston Top Dead Center (TDC) reference mark on the crankshaft pulley, a degree scale mounted on the timing case cover, and a timing, or "strobe", light "triggered" by a spark plug were the tools used.

To change the timing setting, the engine was stopped and the point cam was adjusted. A simple cam adjustment tool was described and illustrated in ref. (2). The tools are available by mail order from the leading Model "A" suppliers.

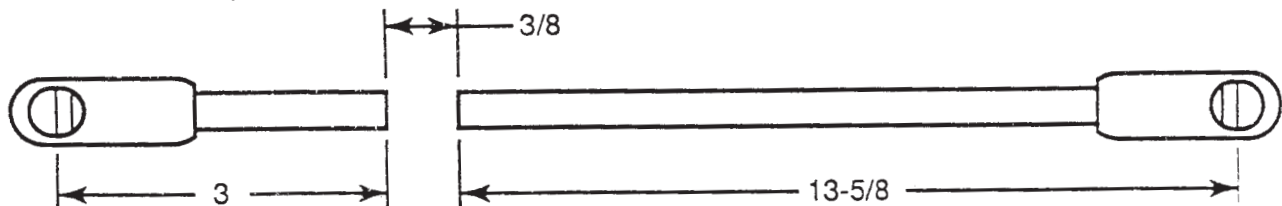
The "A" timing is changed by rotation of the distributor point plate under the control of the steering column spark lever. This lever moves the plate 20 degrees. This rotation is 40 degrees of crankshaft angle. The referenced article (1) describes why this range is desired, how it is used, and the tools to achieve inspection and measurement of the distributor reveals the point plate rotation is limited by the distributor cutout width. The limit corresponds to 40 degrees of crank angle.

Disconnecting the spark control rod at the distributor allows one to move the point plate (by hand) *while the engine runs*. Spark timing can now be adjusted anywhere within the range limited by the cutout.

Opening the cutout - by filing, grinding, or sawing - an additional width allows the plate to move through a greater range. But connection to the column spark control lever still limits change to the column quadrant range; 40-45 degrees of crankshaft rotation.

To change the spark timing (with engine running), the spark rod is cut, a short section is removed, and a coupling sleeve with rod clamping set screws is installed. The rod ends are then reconnected to their fittings. One set screw locks one end of the rod, the other set screw is left loose to allow that rod end to slide for timing adjustment.

1. With piston #1 at the desired maximum BTDC or AT DC degree setting, engine off, and the point plate in Full Retard Position (toward passenger side), the cam is adjusted to just "open" the points.
2. Remove the distributor head and file the 1 inch cutout opening 1/8 inch more on each side of opening. This adds an additional range of 20 degrees crankshaft adjustment; 10 degrees more retard and 10 degrees more advance. The total adjustment range at the distributor is now 60 degrees. Note the column spark lever still restricts the total range to 40-45 degrees.
3. Remove the spark control rod from the car and cut the rod as shown in figure. The nominal 17 inch long rod has now been shortened by 3/8 inches.



4. Slip the adjustment coupling between the two ends. Insert the long end 1/2 inch into the coupling and lock the set screw. The short end is left to slide freely within the adjuster.
5. Reinstall the assembly on the car between the steering column and distributor point plate.
6. Set the steering column spark lever to the full retard position (up) and move the point plate ball end toward the passenger side of the car (full retard position).
7. Start the engine, let it idle. The timing light shows the pulley 0 degree mark at the ~ crankshaft degrees of spark retard. The point plate can now be hand moved to obtain the desired degrees of retard. A suggested setting is 10-15 degrees retard. The loose set screw should now be tightened to clamp the control rod in position.
8. Move the steering column lever to the full advance position (down) and observe the timing at advance. The change should be 40 degrees or more from the measurement at full retard. Suggested setting is 30- 35 degrees advance. If the degree of advance is not that desired, readjust one rod position within the adjusting sleeve. Be sure that the rods do not rub on the cylinder head and that the point plate moves without undue friction in the distributor body.
9. The selected maximum (retard or advance) timing is now fixed. The total timing range of 40-45 degrees is under the control of the steering column lever and quadrant.

This method and simple implementation, together with tools described in the referenced articles, permits accurate, measurable, and reproducible ignition timing *with engine running*, just the way it is used in driving. So, "Happy Time Ahead! .

All tools described above were designed for and are being produced by Nu-Rex, Box 9332., Akron, OH 44305.

Ref. (1) B.W. Abrams, "Ignition Timing the A", MODEL A TRADER, Jan/Feb 1992, pgs 2-3.

Ref. (2) B. W. Abrams, "Timing the Model A Distributor", MODEL A TRADER, Sept-Dec 1992, pg. 4

Copies of the referenced articles may be ordered from MODEL A TRADER, 1247 Argonne Road, South Euclid, OH 44121. Include \$1.00 postage and handling for each article requested.