

TUNE UP

&

IGNITION

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DISTRIBUTOR REBUILD

Skill Level C

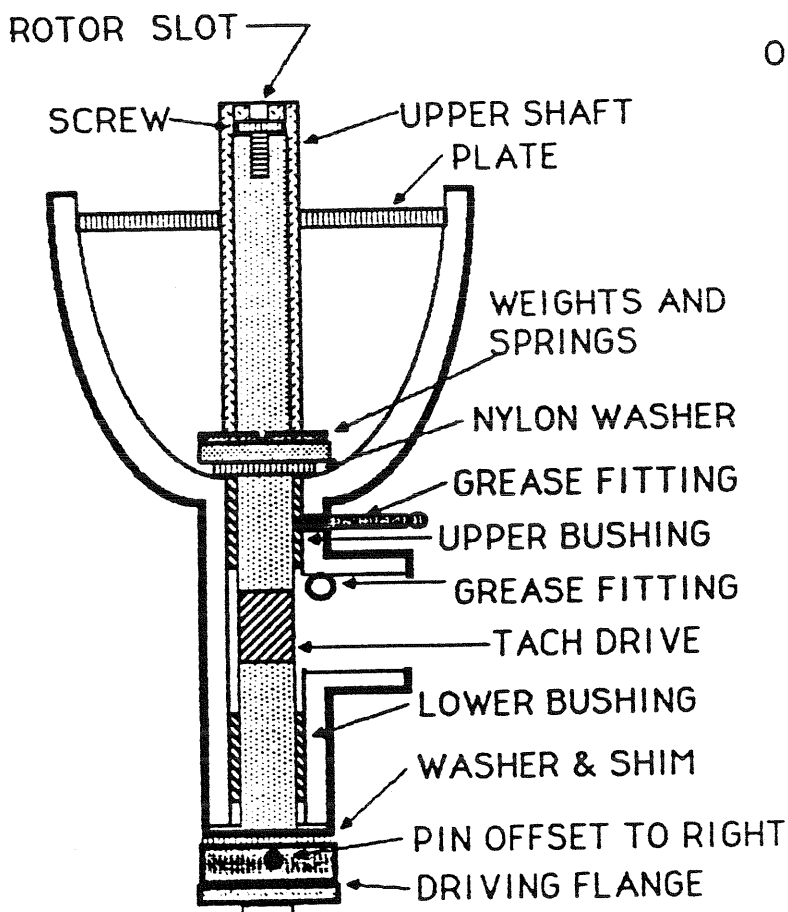
The lowly distributor is largely forgotten except for changing or setting points and the condensor. With cars that lead a normal 5 to 10 year life before crushing that is about all the distributor needs - even a Lucas unit. With many of our cars nearing the end of their second normal life of 100,000 miles, some of those distributors are getting pretty well had. There are basically three things that happen with high mileage that cause trouble in a TR distributor - (1) Wear in the bushings, especially the upper one, due to lack of lubrication, (2) binding of the upper shaft to the lower shaft, thus keeping the advance weights from working, again due to lack of lubrication, (3) the tach drive gear freezes up and strips due to -yep, Charlie, you guessed it, lack of lube. The weights will almost always be good. One spring will be larger and loose. It is supposed to be.

Now it seems easy enough to solve these problems. Just clean and oil the upper shaft and put in new bushings. After all, bushings are bushings and they come in all sizes (almost). However, the Joe Lucas factor enters into it. It is hard to believe that a manufacturer, even a British one, would go to the trouble to make special bushings that are a weird size - not normal inch or metric - but that is just what they've done. Additionally, you can't buy the bushings from Lucas. This leaves you to pay an outrageous price for a rebuilt distributor. Or, to have bushings custom machined. The latter makes sense since oilite bushings are about \$2 or less each. You will need two 3/4" x 3/8" bushings x 3/4" long. However, for the tach gear, you're out of luck for now since they are not available.

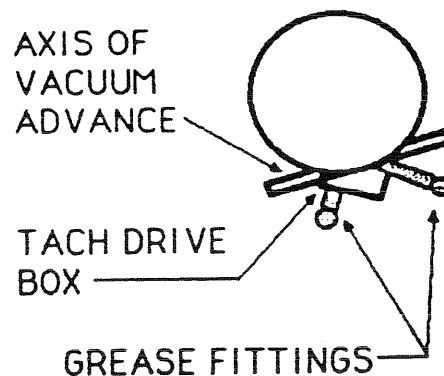
With the rotor pointing to number one ignition wire in the cap, remove the distributor. Disassemble your distributor using a manual and noting how it comes apart, especially the drive flange. It should be offset to the right when the rotor notch is facing you. Check you housing and shaft sizes to make sure

of the dimensions required for the new bushing. These should be .744" outside and .489" inside diameter. Once you have your new bushings made, put them in the freezer overnight to make them easier to install. Think ahead and have a driver with nearly .744" diameter and a squared off end to drive the bushings in. Once the new bushings are in, drill and tap the body for the 1/4" x 28 grease fittings shown. See the front and rear hub articles on where to get long grease fittings.

Now you're ready for reassembly, except for checking end play. Place the driving flange on the shaft and put the pin in just enough to fully align the hole. Use feeler gauges to check the gap between the bottom of the body and the flange. Shims are not available, but if you have enough wear to have a gap of .030" or more (a lot of wear) you can use a race from a Torrington radial needle bearing available from bearing suppliers. The best source I know of for thin shims is a shop handling electric motors for furnaces, etc. Play of .010" is good.



ORIENTATION OF FITTINGS
(TOP VIEW OF DISTRIBUTOR)



Replace the high tension lead from the coil and the terminal block (the plastic thing on the side next to the engine). These are cheap but nobody ever bothers to replace them. It is also a good idea to replace the ground wire (moving plate earthing lead in the manuals). This must be an ultra-fine very soft wire or it will break causing you no end of grief until you find the cause. The best source I know of is old auto supply stores. They will usually have a dusty box of them around which will be long enough for you to cut and solder to your plate. Don't discount these two wires as unimportant! Not that it will help much, but the weights, *54413922, are the same as E Type Jags.

ACCURATE SETTING OF IGNITION POINTS AND THE IGNITION TIMING

Skill Level C/D

Unless you are fortunate enough to have a Triumph expert in your area, you must take your chances on frequent maintenance like tune-ups with some jerk in a gas station. As your car gets older, you're going to have to do these things yourself. One of the first things the novice must learn to handle is ignition timing. This essentially is three jobs: (1) setting points (2) choosing, gapping, and installing spark plugs (3) setting timing. Use the manual for basic guidance augmented by the following.

The points must be set before the timing. Setting new points requires only a set of feeler gauges and a screwdriver. Setting used points requires a dwell meter, a simple device to use which costs about \$20, and is highly recommended for accuracy of setting point gap over your perhaps marginal skill with the feeler gauges. The only potential for screw up is the insulated bolt where the wires attach. This varies with the brand of points (some have a plastic bolt) but you need to be sure the wires do not touch the metal post but do touch the spring. The reason you need the dwell meter for used points is shown in Illustration 1 below. The deposit on one point causes a faulty gap reading with feeler gauges.

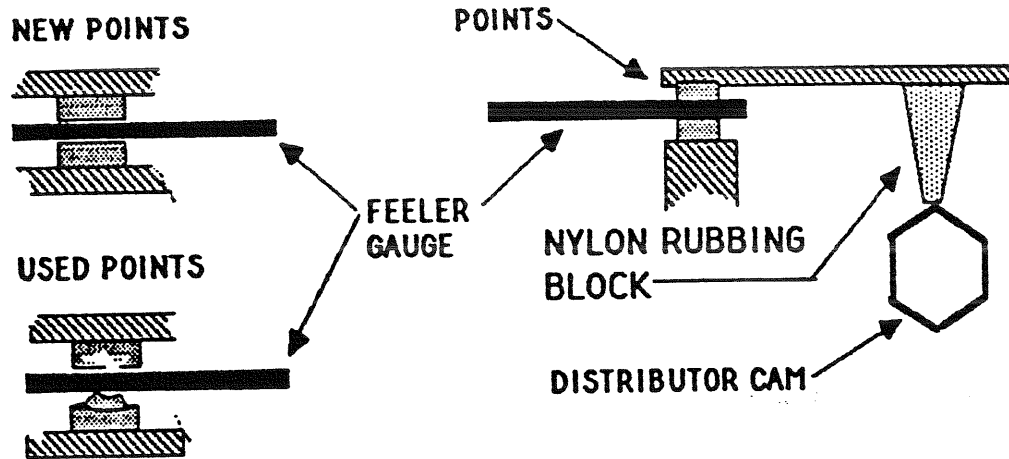
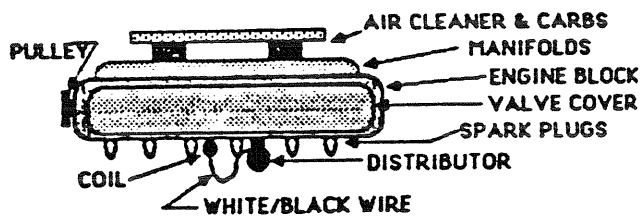


ILLUSTRATION 1

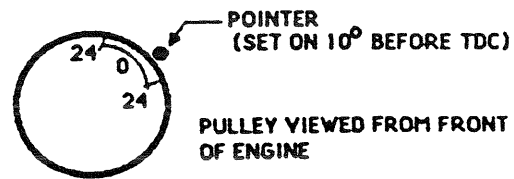
ILLUSTRATION 2

Turn the engine by hand (easy if the plugs are out) in the normal direction of rotation (this is necessary to offset stretch in timing chain) until the rubbing block and the cam are aligned on a point of the cam as shown in Illustration 2 above. Then set the points to a slight drag on the feeler gauges.

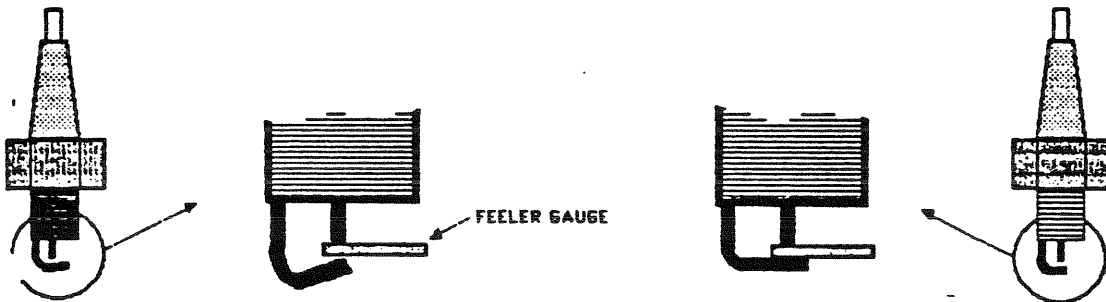
Next, again turn the engine in the proper direction until the timing pointer and the marks on the pulley are aligned to 10° Before top dead center. Attach one lead of a static (engine not running, as opposed to dynamic which means running) timing light to either end of the white/black wire from the coil to the side of the distributor and the other lead to a ground. An inexpensive static timing light can be made as shown in the following article. Loosen the pinch bolt at the base of the distributor and turn the distributor about 30° in the opposite direction to the rotation of the arrow on the rotor. Turn the ignition on. Turn in the direction of normal rotation until the light just goes on. Tighten the pinch bolt.



TOP OF ENGINE VIEWED FROM DRIVERS SIDE

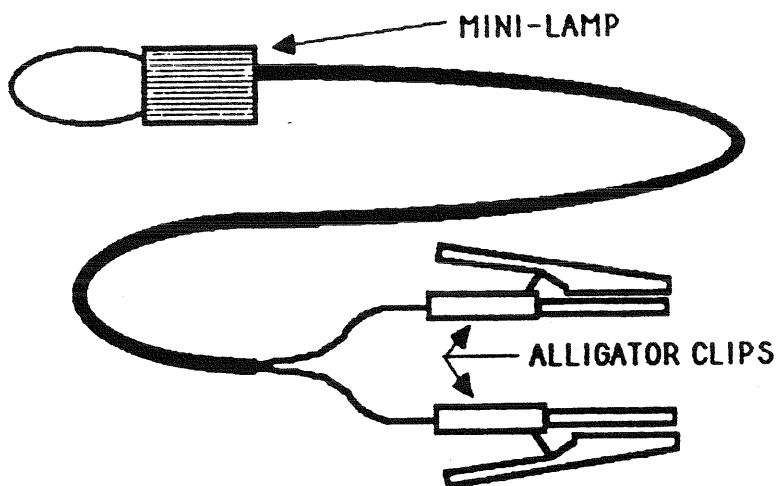


The correct plug for a US Specification TR 6 is Champion N-12-Y or YC, not N9Y which is for fuel injected cars. New plugs are not gapped to .025". Just bending the electrode (as shown on left) will result in an incorrect gap. Place a .020" or .022" feeler gauge between electrodes and tap the right side electrode until it is level (as at right). Then tap for final adjustment using a regular wire gapping gauge.



HOME MADE STATIC TIMING LIGHT FOR UNDER \$5

Skill Level D



A Radio Shack mini-lamp #272-1140, a section of speaker wire or other 2 conductor wire (preferably with a red and a black lead), and two alligator clips (one red, one black) from a Radio Shack test clip set # 270-374 are all you need.