

Replacement Distributor

There is a limited call for a replacement (better) distributor for the TR. The original Lucas distributor works well when maintained correctly but these days, can be worn to the extent that they adversely effect the engines operation. This was the case with mine and a new distributor was not an option at the time. Also I wanted to go to an electronic distributor and do away with any points or condenser problems. It was also a consideration that I wanted to see if I could.

After much research at my local Pick and Pay wreckers I came up with two options. The first was the 81 Nissan Pulsar and the second was the 81 Honda Civic. Both models fit in that period where they had electronic ignition but not fuel injected, hence the ignition is not managed by the engine CPU and contains both mechanical and vacuum advance/retard mechanisms.

I first went for the Nissan as all the components are enclosed within the distributor. With the Honda unit, a small module is mounted on the bulkhead. The problem I found was that almost all the Nissans had their electronic internals removed. That told me there must be a problem so I went for the Honda option (they were all complete). The spigot part of the Honda and Nissan housing is the same diameter as the Lucas. Also the main drive shaft on both the Honda and Nissan units were the same diameter as the Lucas. Together with the fact that they both spin in the same direction as the Lucas, it makes for an easy conversion.

When I purchased my Honda distributor, I also took the external module and a section of the wiring loom so that I could work out how it should be wired. There are other modules available such as Bosch that will work.

Stripping.

- Remove the two distributor cap retaining screws and the distributor cap. Remove the rotor button by pulling.
- With a suitable punch, drive out the pin that retains the drive gear and remove the gear. Ensure there are no burs on the shaft.
- Remove the two screws retaining the internals. Lift out the base plate. This may be awkward due to the lower magnet but can be lifted out.
- Remove the two screws that retain the vacuum mechanism and remove it.
- Carefully remove the shaft and internals by pushing then through the housing. Ensure that the two spacers that go under the internals retaining screws are not lost.
- Prise out the soft plug in the end of the shaft and remove the retaining screw.
- Remove one end of the two fly weight springs and remove the upper shaft together with the magnet and coil. No further dismantling of this section is required.
- Remove the two fly weights.
- Carefully clean all parts.

Modification.

- Cut 0.250" from the gear end of the main drive shaft. An abrasive disc is best for this as it is a hardened shaft. Dress the end of the shaft on a grinder to give a small chamfer.
- Drill a 1/8" hole in the fly weight base plate as per diagram.
- Fit the new timing advance stop to the plate from the bottom and line it up as per diagram 2. With a suitable hammer, peen the small end to fix the new stop in position.

- With a suitable size round file, file the new stop to within 2mm of the original stop (end of the slot). This will provide an advance of approx 14°. This equates to 28° of crankshaft rotation. 1.5mm will give approx 16.5° (33° of crankshaft)
- File a flat on the Honda spigot the same as on the Lucas spigot. This is required to ensure lubrication during operation..
- Thoroughly clean all parts.
- Reassemble the distributor in the reverse of disassembly.
- Remove the drive dog from the Lucas distributor. Fit it and the thrust washer to the Honda shaft and align it to give the same relationship to the rotor button it had on the Lucas. Mark the shaft where the pin will be fitted. Remove the dog and grind a small and shallow amount of metal where the mark is. This is required as the shaft is surface hardened and be difficult to drill unless this surface hardening is removed. It only requires removal of about 0.010" on one side of the shaft.
- Fit the thrust washer and drive dog and set up the dog to the correct alignment as in the previous point. Drill through the shaft ensuring that the drill will enter at right angles to the shaft as per diag 3.
- Remove any swarf and fit a new drive pin.
- Fit the new spacer collar to the spigot and tighten the two grub screws.

This completes the modifications.

Fitting.

Fitting the modified distributor to the TR is the same as per the TR manual, ignition leads as well.

Final timing will need to be carried out with a timing light.