

## My Sunbeam Mechanical Experiences-Part II - By Y. Janardhana Rao

The Sunbeams are prized possessions and have considerable antique value. It is a pleasure to have one amongst anybody's collections. Normally these won't be put to regular use in view of their age and hence they need regular maintenance to keep them fit. It must be remembered these machines are about 70 years old and hence to be treated very respectfully.

Now I have a 1953 model Sunbeam S8 which is put to very sparing use. This is in a first class condition with all original fitments to the last nut and bolt. The odometer reads 41317 Miles. After purchasing this I had stripped it down completely and restored it. (Please see my article in classic glory.com styled

[My Sunbeam Mechanical Experiences - By Y. Janardhana Rao](#) ' under Articles & Features.

You can also click the above link to see the article.

I used another Sunbeam S8 between 1956 and 1961. This one was just a couple of years old when I bought it and was in a mint condition. I had used it for regular commuting and so I know how a Sunbeam should be. I had also personally overhauled this machine during that period and so I am very familiar with the mechanism also.

The present Sunbeam was giving starting trouble in spite of my best efforts to get it to excellent condition. In my effort to see that this machine is in a good condition I had made the following changes / modifications. With these modifications it is now in a fit condition and starts on the first kick even if it is kept idle for a fortnight or a month.

I give below a list of improvements and modification that I made for improving the performance of this Sunbeam along with the cost involved.

For the machine to start easily the battery must always be in a good condition. This is essential for quick starting and better engine performance. The battery of my Sunbeam was weak and was not retaining charge for a long time. I could not get a similar type new battery in the market as their production is stopped by the manufacturers. The old battery was EXIDE brand.

I had online purchased two 6 V 8 Ah Cyclon Monoblock batteries. In fact one battery is enough. But the object in my purchasing two batteries is to get 6V-16 Ah capacity by connecting both the batteries in parallel and also in case I choose to convert the electrical system to 12 Volt at a later date, the batteries could be connected in series and used. These batteries are sealed type and don't require any maintenance. Say they are fit and forget type. The batteries were purchased from <http://www.budgetbatteries.co.uk/20899/e-6v-8ah-sealed-lead-acid-cyclon-enersys-monobloc-battery/> .

Both the batteries could be accommodated into the original battery case.

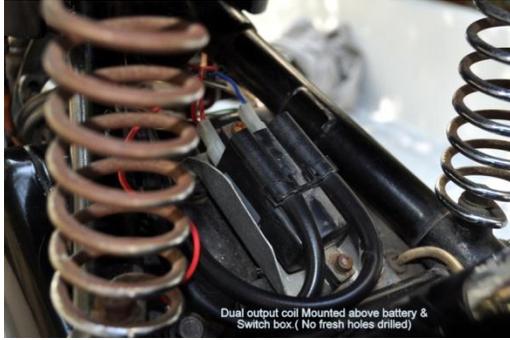
Each of these batteries cost me £15.79

Next problem was with the carburettor. The original Amal carburettor is worn and was giving me problems while tuning up. In spite of very careful tuning the machine was running rough. The machine needed frequent tuning up to keep it fit. When I searched in the local market (I live in India) for an Amal carburettor and / or spares in the local market, the salesman suggested that I go for a MICARB, a copy of Mikuni carburettor, made in India. This directly fits as the flange size is similar to that of original Amal carburettor. By making a small adaptor, original air filter and air filter cover also could be fitted. This looks absolutely original. On fitting this carburettor, the performance has vastly improved; the machine is giving better mileage. Quicker starting and there is no need for frequent tuning. The machine ticks over nicely. Please visit [http://www.hitchcocksmotorcycles.com/pictures/content2/micarb\\_notes\\_-\\_a4.pdf](http://www.hitchcocksmotorcycles.com/pictures/content2/micarb_notes_-_a4.pdf) for a write-up on the Micarb carburettor. I had paid Indian Rupees 900/- for this MICARB carburettor which amounts to less than 9 GBP at the present rate of conversion.



Look how original the assembly looks

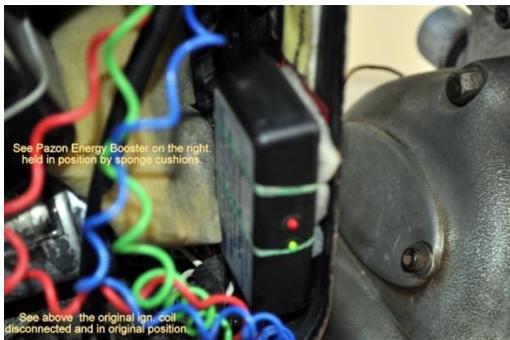
The distributor cap was giving me problems. Particularly in rainy season and in moist weather, the HT spark was arcing between metallic objects such as the cap clip holding the distributor cap etc. The distributor cap was a copy of the original cap and made of substandard material. This problem I over came initially by fitting a genuine Lucas cap of a four cylinder car. This was explained in greater detail in my article 'My Sunbeam Mechanical Experiences' in classicglory.com. To further improve this aspect and to avoid complications arising out of the old and worn distributor, I had fitted a Pazon code (IC03) 6V dual output Ignition coil. (Picture showing the location of dual output coil attached) For those who have an access to old car and motor cycle parts, a 6 V dual output coil may be available much cheaper as they were fitted on many Japanese motor cycles and older Citroen cars etc. This dual output coil could be mounted above the battery and control boxes under the seat. No additional drilling of holes is required. In this position the chances of the ignition coil overheating are very remote. The system is also called wasted spark system. This Pazon coil cost me NZ\$ 90.64.



Ignition coil with heat sink

To further improve the efficiency of ignition system I had fitted a Pazon (code PIEBP) --- Energy Booster II, Positive Earth- Installation of this booster is very simple as it is supplied with all the necessary wires and clips etc. This can be fitted inside the box on which the ammeter and ign. switch are mounted. There is ample space here to accommodate the booster. Fitment of the booster needs disconnection or removal of the condenser. So by eliminating the condenser we are eliminating another trouble giving component. Original 6V ign. coil is left at its original place and in case one wants to revert back to original set up it can be done in a few minutes.

This booster cost me NZ\$113.12



See the small LEDs of Booster. They help to locate TDC also easily.

If one observes the routing of supply to the contact breaker points it could be seen that there is a vulnerable point for loose contact at the junction where the bracket from distributor terminal meets the CB point spring. Sometimes loose contact was developing at this joint and I over came the problem by running an additional jumper wire bypassing this vulnerable point to eliminate the risk of a loose contact. (See the following picture)



The Jumper Wire



Condenser disconnected but left in place  
In case one wants to revert to originals.



Distributor with jumper connected.

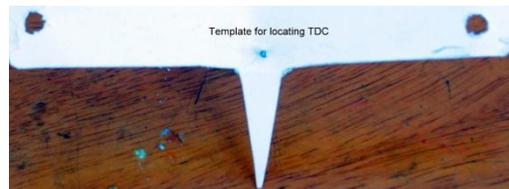
Setting correct ignition timing is essential for satisfactory performance of any engine. To set the correct ignition timing we should rotate the crankshaft such that the pistons are at TDC. This is easily said than done in the case of Sunbeam. The method normally adapted to bring the engine to TDC is to remove a spark plug, insert a screwdriver or small rod into the spark plug hole and turn the engine back and forth while feeling the position of piston and when the piston reaches the highest position it is at TDC. This method poses problems particularly because the spark plug holes are located at an angle to the vertical (movement of piston). For doing this we keep the machine on centre stand, engage the top gear move the rear wheel back and forth while feeling the position of piston. When the piston changes its movement from travelling upwards to downwards there is a point when the piston does not move up or down for slight rotation of the crank shaft. Half way through this non movement up and down position is the exact TDC. All the standard books I came across, to arrive at this point suggest various options but all of them depend on approximations only. The sunbeam owners' workshop manual suggests that one of the six bolts fixing the clutch pressure plate to the flywheel should be vertically above the center and also suggests blobbing a little white paint on it for easy identification. I feel it is a better idea to use a castle nut or domed nut on this stud to differentiate it from other nuts. The reference to this nut is suggested to align it with the top stud fixing the bell housing to the engine. This is problematic as the reference points are far apart and in different planes.

To overcome this problem I suggest as follows.

- 1) Remove the oval inspection door on the upper side of bell housing.
- 2) Make a 'T' shaped pointer, as shown in the picture in thin sheet metal so that it could be fixed on the inspection cover holding bolts. (Picture enclosed)
- 3) The downward protruding arm of this T could be cut like an arrow.
- 4) When this pointer is fixed in position, the arrow will be closer to the nut on which a blob of white paint is put or castle or domed nut as suggested by me.
- 5) This enables setting correct timing. The centrifugal timing advance can also be checked by using timing light.



Bell housing- Inspection door removed



Template of pointer



Pointer in position.

All the relevant pictures covered in this article are shown at appropriate places. Any suggestions for improvement of this article are always welcome. I will be glad to clarify any doubts.

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