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650 OR BUST!!

Some time ago I was told of a 650 cc conversion for the good old 2CV. Now I expect there are a few groans and not another faster faster 2CV freak sort of noises coming from somewhere. Please read on and perhaps you will be enlightened about the whys and wherefores of it all.

Lets look at what can be achieved here, we have a 2CV that given a fair chance will reach the top speed permissible in this land and once there is quit happy. If we were to look at the R.P.M. we would find the engine is near to the speed that Citroen say is it's maximum. So lets accept that if we want our engine to last we are not looking at a big speed increase. So what is the point of a 650 conversion, some would say "no point at all."

However I am sure there isn't one of you who drives a 2CV that at some time hasn't wanted a little help up a hill or against that headwind. At the end of the day many of us who go camping like to take one or two home comforts. Some mums and dads don't have the choice or say as to how much comes too.

Lets assume you like to travel by 2CV and agree that a little more pull would be handy. I suppose rather than leave the speed freaks out I should say there is a noticeable boost to acceleration and provided your prey are unprepared, you have them on a plate. Just be careful we don't want to lose anybody.

The next question is what is there to do for this little extra help. It's surprisingly simple, you don't even need to take the engine out. Those who are able to follow the simple explanations of the Haynes type of manual can easily consider this a D.I.Y. job. to be started on a Saturday am. and easily finished by evening. Assuming you get all the ground work done in advance.

What is entailed :-

1. Remove bonnet & wings.
2. Undo engine mounts.
3. Remove heat exchangers.
4. Remove manifold assembly.
5. Raise engine from below by a jack (you may wish to chock it there)..
6. Remove all the cowlings.
7. Remove both cylinder heads.
8. Remove both barrels and piston sets (keep them matched).

At this point there is a choice the short cut or the proper way. The choice is do you decoke the heads or not, I would. Why not you've gone this far, if it takes time they needed doing and if they didn't need doing they won't tack long.

Now all you have to do is put it all back together again, using the big bore barrels and 650 pistons. Time for another choice. If your old engine was running well, without plumes of smoke or rattles from slack pistons, I would suggest you use a set of barrels from another supply.

The big decision is do you purchase a set of barrels and pistons from someone like Lomax, or do you purchase pistons and have a set of gash barrels rebored. This is really down to wether you can find Visa 650 pistons at a good price or not. Lomax charge about £94.00 + VAT. That is for rebored barrels and a pair of pistons. My pistons cost me £30.00 and my rebore was 1/2 a case of '33'.

However my pistons were 0.010mm oversize and the friends who did my bores were unable to hone them for me. Hand honing to size took much time and the 0.010 oversize did leave even less metal in the barrels. Then I was told about 650 conversions that had gone wrong. As you can imagine with only a small amount of money invested I was tempted to forget the hole project.

Some time passed, then an injury put me off work. After a time and a household conference, it was decided the ideal therapy for me would be to get the 650 done. Having a good 602 and with the fear of engine failure with 650, I was permitted to use the old (89500 mile) smoker that came out of our R reg. when its new heart was fitted some years ago.

So there I was, with a high mileage bottom end, a set of barrels that had 1.5+ mm removed all round and anything else I could find so long as it didn't cost. Some chance of success you may think. Now you know why I called this piece 650 or Bust. With the help of friends for muscle and general support the engine was built and fitted.

Build is as simple as stripdown just reverse 1.-> 8. I suppose you would like to find out how it all went. The first start up was music to my ears then 200 miles of trying to be good. Still no problems an oil change, Slick 50 and Ford 10/30 then a good pasting. To date we have had no problems and no oil consumption. The engine sounds great hot or cold, and we use the muff in the normal way (on below 10c - off above 15c).

There was talk that we would need a carburettor from a Visa, it is true to say we did detect a leanness on the primary side of the carburation. I tried an old level 2CV 21/24 carb., this was not a good move at first. This carb. turned out to have a lean secondary. No I wasn't pulling out my hair just the manuals. All was revealed, what I needed was the main jet from an old twin choke Dyane.

Job done and very rewarding I must say, of course if you haven't any spare carburettors on the shelf, you can change the primary main jet up from 102.5 to say a 107.5 and stick with the 18/26 2CV carb. I will probably be changing back to the 18/26 carb. myself as it is quieter, honest it is, we both commented on a run how noisy the induction had become with the fitting of the 21/24 (O.K. for boy racers).

The next thing I want to try is a Dyane gearbox to get the engine revs down, to improve motorway travel even further, we'll see. Ian and I have covered 2000 miles on this set up, mostly motorway type of use, so far the 650 won't bust or burst. The extra comes in handy round town too. It is actually 653.1 cc. with my oversize pistons. We are so pleased that I am going to build another for Unleaded use with a lower mileage bottom end. This one runs fine on unleaded but the heads are as old as the bottom end and not unleaded.

If you decide to have a go the piston clearance is 0.05 to 0.07 mm. In the manual you may not spot the bit that says fit the pistons to the barrels first, this does make life easy and allows the use of a normal ring compressor.

Good luck.

David Gale.

P.S. With Committee meetings all over the country this year a 650 seems a good idea. I don't believe in turning up in anything else not that I own anything else !!
