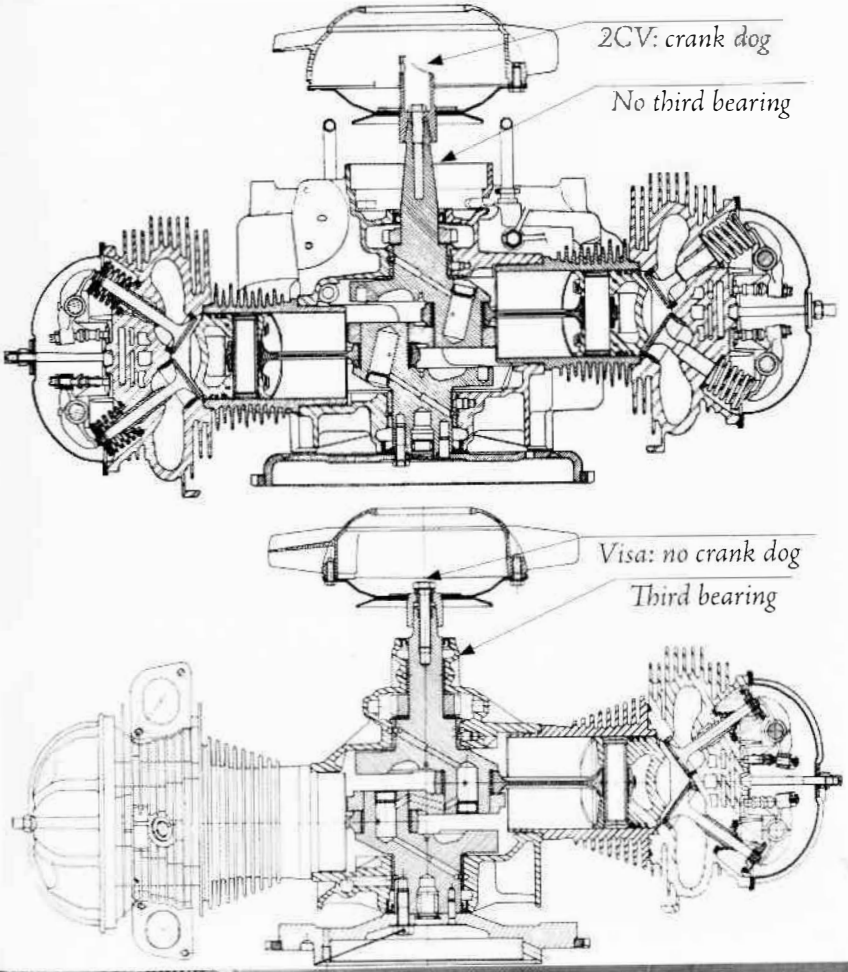
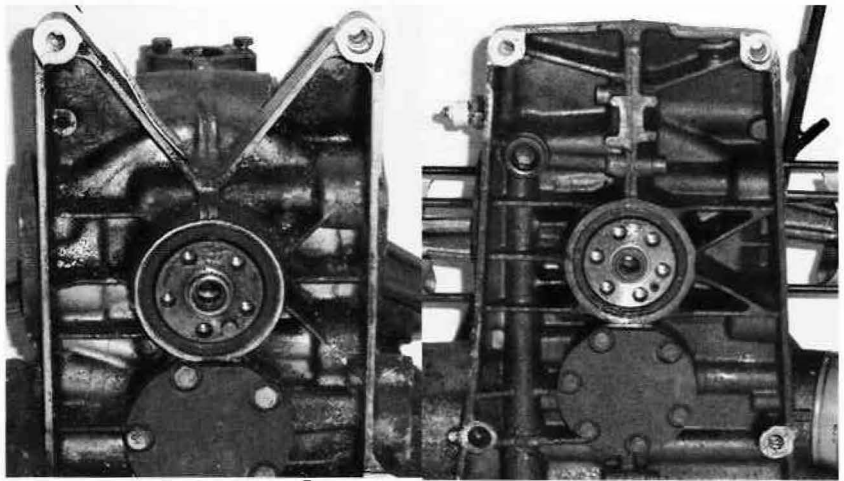
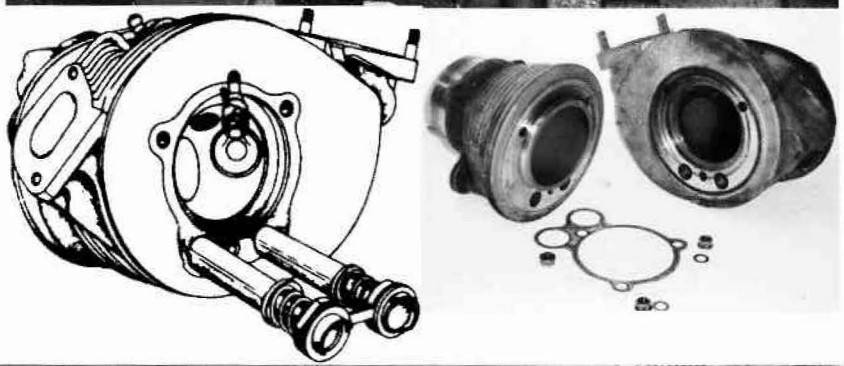
So you want to put a Visa 652cc engine in your 2CV? It is not as simple as switching engines and a few nuts and bolts. The V06/630 engine in the Visa was designed as Citroën's next generation flat twin, so there are many differences between it and the 602cc M28 engine fitted to the 2CV and other A-series models like the Ami 8, Mehari, Dyane and Acadiane. The earlier Visa V06/630 engine generates 35 DIN horsepower at 5,250rpm with 9:1 compression, while the later V06/644 engine produces 34.5horsepower at 5,500rpm with 9.5:1 compression. Torque is 5.3m/kg at 3,500rpm for the earlier engine; 5.0m/kg at 3,500rpm



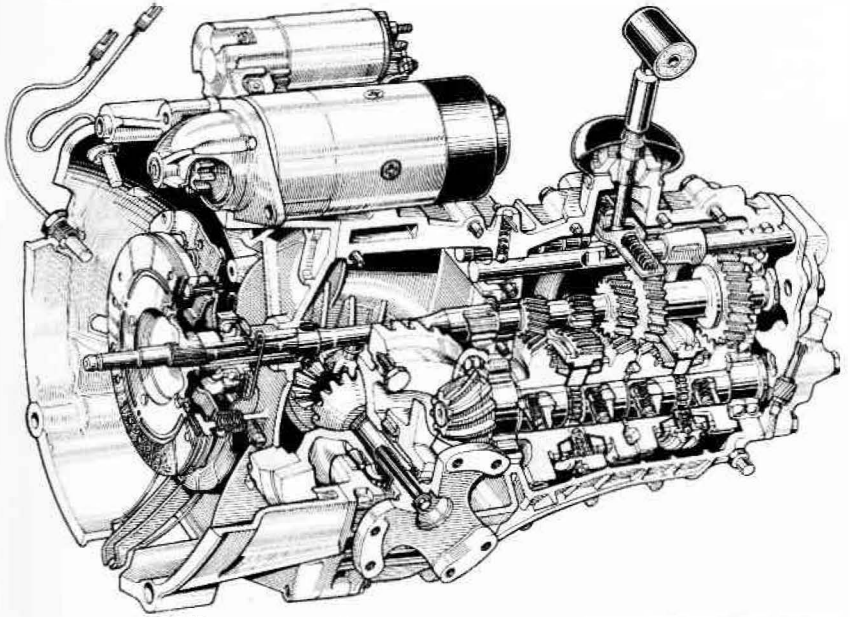
for the later version. The Visa crankcase, crankshaft and camshaft are totally different from the 2CV. The Visa has a 3bearing crank rather than 2bearing, the additional bearing is on the nose of the crankshaft immediately behind the fan. Internal machining on the assembled crankshaft is entirely different and includes an extra oil passage between the throws. The Visa flywheel attaches with six bolts, not five.

The Visa crankcase has machined mating surfaces for the cylinder barrels which include passages for the pushrods. The 2CV has twin external pushrod tubes with individual oil seals, these are assembled to the cylinder head. A flange for conventional points-type ignition is present as a part of the Visa crankcase casting, but not machined for hardware. A blanking plate for the end of the camshaft covers an opening for a mechanical advance unit which is not present.





Top left: 2CV crankcase with a five-bolt flywheel. Right: Visa crankcase with a six-bolt flywheel.
Below left: 2CV head. Right: Visa cylinder and head.

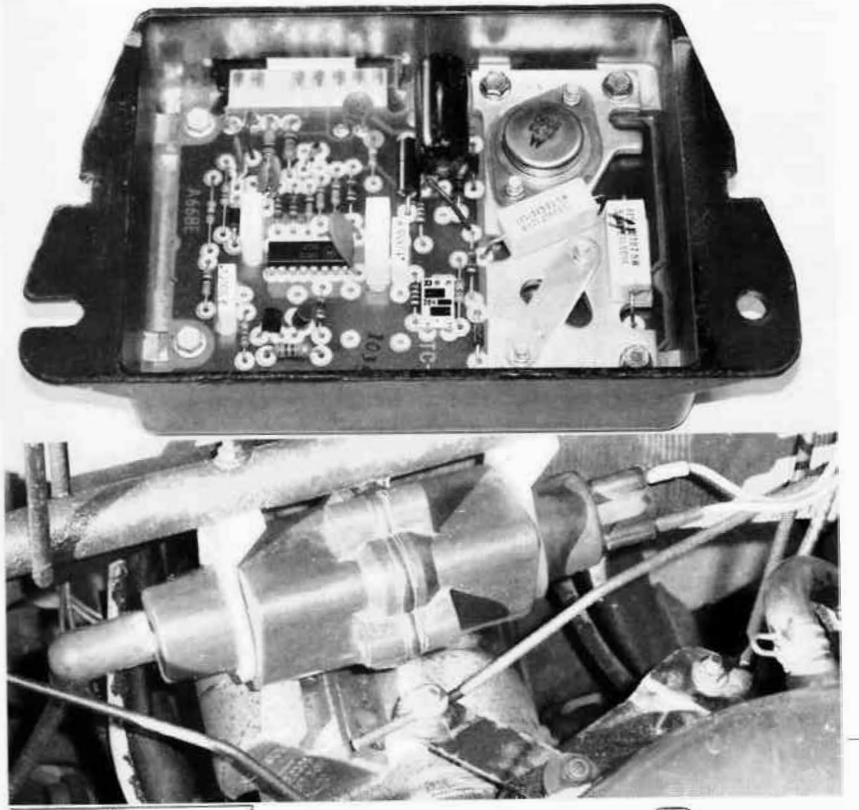


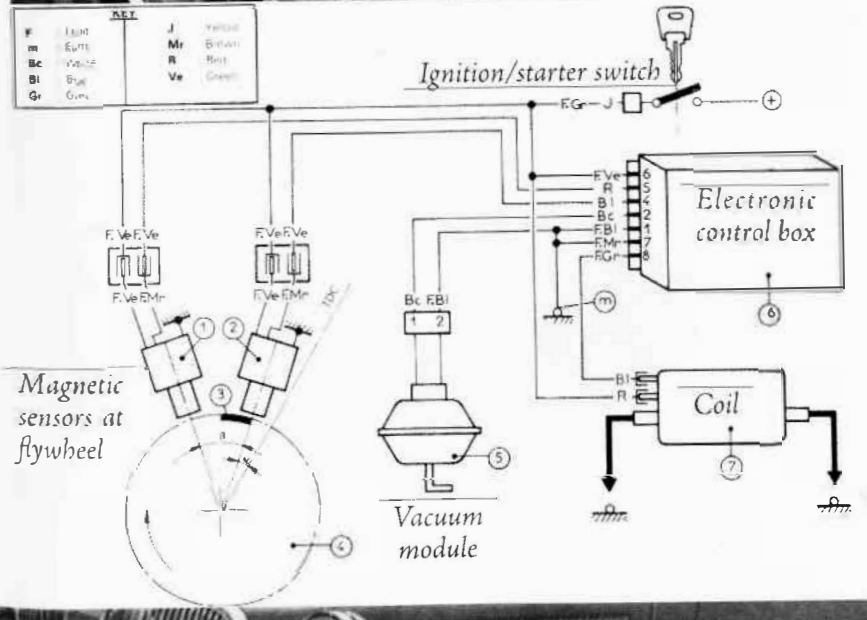
Top: Visa transaxle, with the ignition sensors showing at the top left.
Below: Visa spark plug LJS 800 [bottom] is smaller, with a longer reach a conical sealing surface.

The Visa cylinder barrels, in alloy, have a Nikasil coating on the bores. The barrels feature integrated pushrod tubes with a composite gasket at the base of the cylinder. Cylinder heads have a machined mating face to allow for an O-ring at the cylinder end. The Visa spark plug hole has a conical seat, not a flat crush washer. The spark plugs themselves have a smaller outer diameter requiring a smaller socket than conventional plugs.

The Visa electronic ignition system is entirely different from and shares no parts with any 2CV including the coil, despite superficial similarities. Ignition is timed by sensors at the flywheel, these mount to the bell housing, not engine. To install in a 2CV, an

Top right: Visa crankcase is unmachined for points box or screws, with a blanking plate.
Bottom left: 600cc. Right: 50cc – is all this work really worth the extra 50cc?





Top: Motorola VA1-VD1 control box.
Centre: The Visa ignition coil is brown and is mounted on the spare tyre rack.
Bottom: Schematic of the Visa ignition system. The vacuum activated sensor is at the lower centre.

adaptor plate is required. A small vacuum-actuated electronic module adjusts timing based on intake manifold vacuum. The ignition control box or 'black box' built by Motorola is simple with only one microprocessor. The earlier models of control boxes generate noticeable amounts of heat. The Visa 2cylinder models used several generations of control boxes and flywheel sensors, which do not interchange and have different electrical connectors.

Additional factors to consider are that use of the Visa transaxle is not recommended as the Visa uses outboard brakes, while the 2CV has inboard discs. The Visa engine, as installed, has no allowance for a hand crank while virtually every other 2cylinder A-series car does. It is noted that the 2cylinder 652cc Oltcit/Axel models use inboard front brakes and have a hand crank dog.

To add the Visa engine to a 2CV, the entire ignition system must be transplanted as well, including an adaptor to place the flywheel sensors in the correct spot. To use the 2CV type mechanical ignition system, the Visa crankcase would have be machined to accept the points box and fasteners. A camshaft with a mechanical advance has to be acquired and installed, which requires complete disassembly of the engine, and splitting the crankcase. The idea of putting Visa barrels on a 2CV crankcase is not especially workable, as the case would have to be machined flat to accept them. Is it really worth all the work for 50cc?

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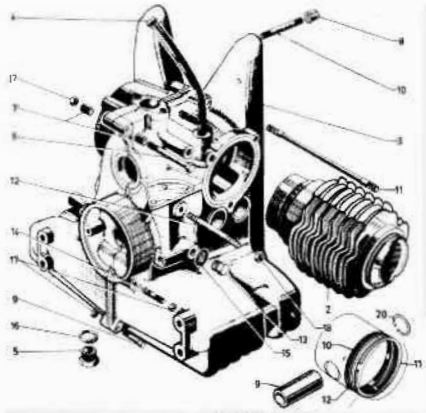
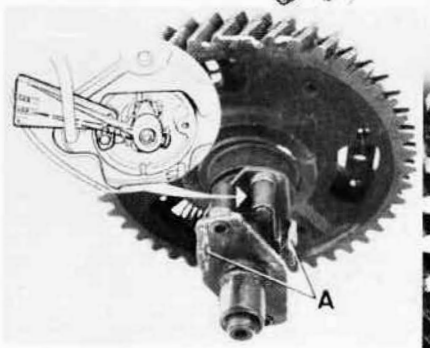
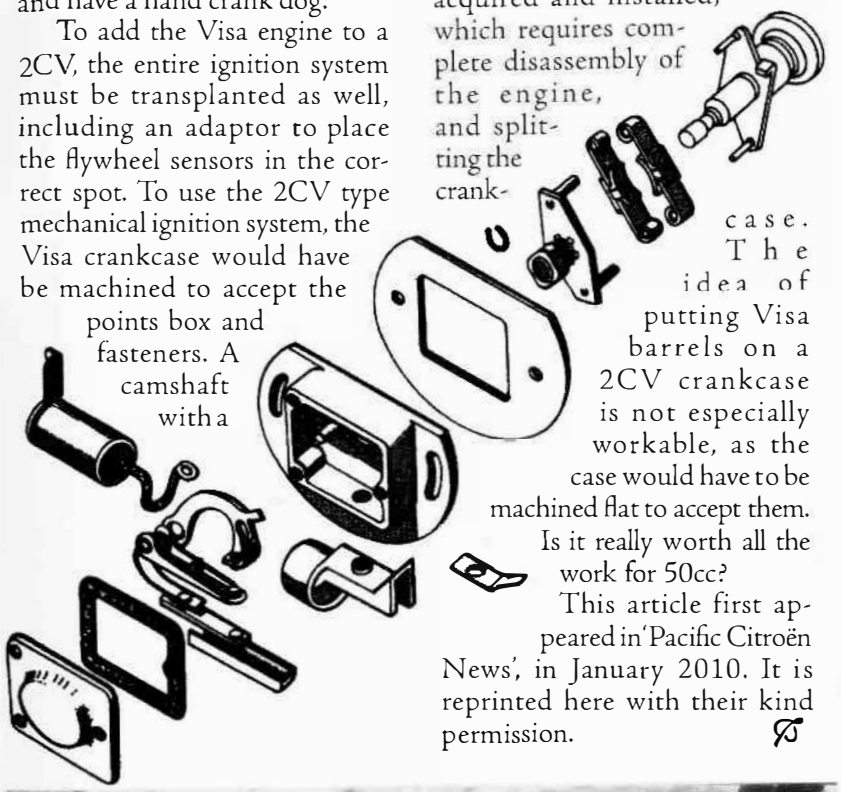




Top right: Visa alloy cylinders. Bottom left: 2CV camshaft with advance unit. Right: Visa camshaft.



2CV mechanical ignition.