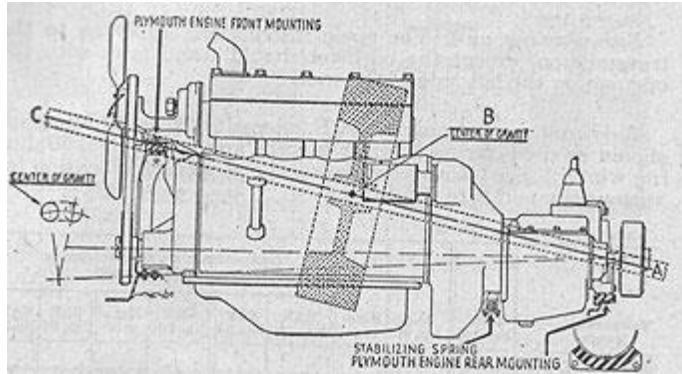


POSTWAR ENGINE LURCHING

Obsessed as they were with insulating passengers from the vibrations of the engine, the factory used an idea from Plymouth called 'Floating Power'. The line drawn through the engine in the diagram is actually the axis of the assembly around which the engine oscillates. Sudden acceleration however would probably see the engine rotate, or try to, in the engine compartment. You will note that Plymouth used a reaction spring behind the clutch, the Factory used a torque arm across the back of the gearbox jammed between a couple of rubber buffers.



This approach was used on all cars until the advent of the 'S' series which used the fairly conventional two lower engine mounts forward and a very dinky little rubber mount at the rear of the gearbox. The V 8 engine reversed that scheme and went for one mount forward and two behind with the gearbox hanging out in limbo!

An interesting dividend followed Plymouth's efforts here as they are credited with developing the multilayer engine mount we use today and particularly the technique of bonding very dense rubber to metal.

But we are not out of the woods with the pre S series cars. Given the height of the front engine mount and the flexible saddle the thing sat on, there was a fairly good likelihood of the engine fan eating the radiator core in the event of a sudden stop! The solution was a rubber insulated tie rod at the back of the gear box. These have been known to break or the rubbers rot to destruction producing some extraordinary noises. If fitted with a manual gearbox a rotten rear engine mount can completely immobilise the car through the gear change mechanism disengaging itself from the selectors.

And lastly while discussing rear ends, rear suspension dampers were controlled prior to the S series by a bellows mounted control valve that in turn was moved by oil pressure from the gear box. To get the gearbox oil to the dampers a flexible hose was needed from the gearbox to the chassis and this is one area that should be monitored carefully. The spectre of a ruptured hose pumping all the oil out of a manual gearbox and the latter subsequently failing is a contemplation I do not want to experience.

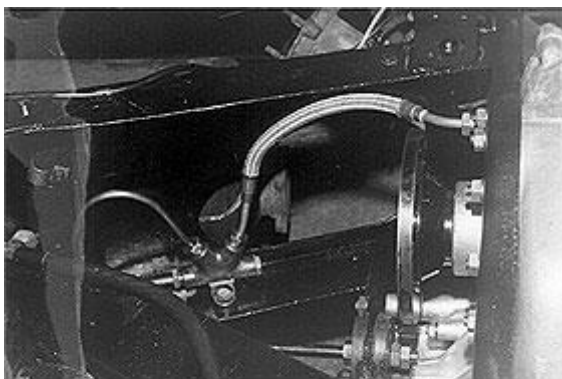
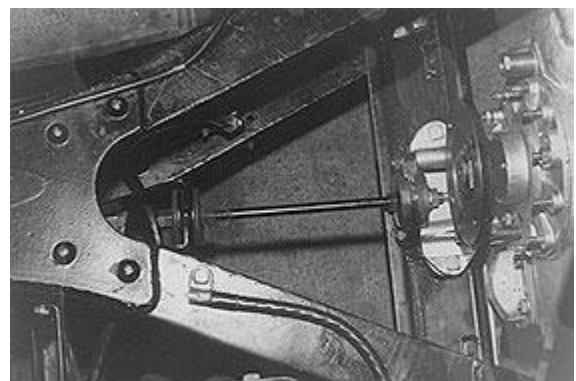


Image showing flexible pipe from gearbox oil pump that leads to rear shock absorbers. It is ruptures, gearbox oil is quickly lost.



View with floor out, propshaft off and torque arm off showing torque stay.