

May, 2001 e-mail

## Checking the Electric Fuel Pumps

The fuel pump unit is mounted on the right-hand frame member (slightly forward of the jacking bracket) and consists of two independent pumps providing fuel to a common outlet. This redundant system allows the engine to run in the event that either pump fails. However, if one of the pumps stops working, the driver will be unaware of the failure until the second pump fails. To ensure that the redundant system is working as expected, we must check that each pump is providing fuel to the engine.

The wiring on the pumps is quite simple. The pump body is grounded to the chassis. The power input is a single wire to the center terminal on the rear pump. A jumper wire connecting the center terminals of both pumps provides power to the front pump. Each center terminal also has a wire leading to a radio static suppressor (condensor/capacitor).

The exact order of testing is purely a matter of preference as long as both pumps are tested independently (no power to the other pump). Please take care to ensure that the hot wire does not touch anything when disconnected. I normally test as follows:

- ?? Start the car normally and then shut it off.
- ?? Disconnect the power input to the rear center terminal; at this point neither pump has power.
- ?? Start up the car and let it run out of gas, about one minute on my V8.
- ?? Remove the jumper wire from the rear terminal, connect the power input to the rear terminal (now only the rear pump has power), turn on the ignition key (you should hear the pump), start the car and let it run for a minute or so. If it doesn't pump, the rear pump needs work. Shut off the car, disconnect the power to the rear terminal, start the car and let it run out of gas.
- ?? Use a screw/nut or jumper wire to connect the power input wire to the jumper wire leading to the front pump (now only the front pump has power). Turn on the ignition key (you should hear the pump), start the car and let it run for a minute or so. If it doesn't pump, the front pump needs work.

## Rear Differential

A recent differential seminar has prompted me to remind you to service the rear differential. The work is quite simple, the fluid is cheap, and the effort may

spare you a very large repair bill. If possible, you should take the car for a drive to "warm" up the differential fluid. The rear differential fluid should be drained and the breather at the top of the rear differential should be removed and cleaned. If you are leaking fluid, a clogged breather may be the cause. Fresh fluid (SAE75W90 gear oil) should be added until the fluid reaches the level of the fill hole.