

TIPS FROM DON THIBAULT

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DID YOU KNOW?

1. A 142/44/45 temp. sender can be substituted for the ' temp. sender on a '70-73 E/ES with the addition of a 10 ohm resister, just in front of the sender.
2. A very effective (and inexpensive) kill switch can be added to the E/ES by just disconnecting the fuel pump wire at the fuse box and adding a switch; the car will start, then quickly sputter and stall!
3. If your speedometer cable doesn't turn but is not broken, check the shear pin inside the right angle drive. The pin is actually a short length (about 1" long) of squared cable, still available from Volvo, I believe.

Call or write any time. Technical advice; glad to help, if I can.

July/August 1987

Keeping cooler: two ways to increase the effectiveness of your air conditioner. Block off the air extraction vents ('70-73 models) in the back seat area. Just remove the plastic grills and cover the openings with black tape or plug them up with a scrap of cloth. Then replace the covers. Adding a cooling fan behind the grille also helps. (This will keep your car from overheating when you're stuck in a traffic jam on a hot day, too.) Any small cooling fan that fits will do nicely. I got mine from a Subaru - cost \$20 at a salvage yard. Just be sure to hook up the polarity correctly, so the fan blows into the radiator, not away from it. On '70-73 models, the charcoal canister must be removed to install the fan. Don't worry, it's probably useless anyway, the bottom having long ago rusted out.

AIR CONDITIONING INSTALLATION '70 - '73 S/ES

I've noticed some interest in installing an air conditioning unit in the 1800, and since I installed one from scratch on my '71E two years ago, I'll describe the procedure. It's not as difficult as one would think; the Fridge King unit with York compressor is essentially a hang-on unit, even when factory installed.

You can start anywhere, but for this article I'll start from the front and work back. First, remove the hood and grille. Mount the condenser in the grille compartment by hanging it in front of the radiator, as low as possible so the hood won't hit it when it opens.

Cut a 2"x2" square out of the radiator support (or 2 individual holes), and run the hoses through it to the left of the radiator. (The overflow bottle for the radiator will have to be repositioned slightly.) Let me say here that you must use a rubber grommet everywhere the hoses go thru metal to prevent chaffing. There is a good deal of vibration when the unit is running, and no hoses should be up against anything, or they will chafe through in a surprisingly short time.

Mount the compressor on the left side of the engine block. (On the B-20E the mounting holes are already in the block and tapped; run a tap thru anyway to clean them out.) Now mount the idler pulley on the block. On my car the hole was drilled but not tapped.

Next, remove the alternator/water pump belt and the crank pulley, and replace it with the double pulley necessary for the AC compressor. Replace the alt/wtrpump belt and add the compressor belt, setting the tension with the idler pulley.

Working inside the car, drill two holes large enough to accommodate the freon hoses in the firewall, just above the accelerator pedal. These holes will determine the location of the receiver/dryer.

Back in the engine compartment, mount the receiver/dryer on the firewall. Experts recommend it be replaced each time the system is exposed to air, as the desiccant inside can become saturated with moisture and become ineffective; however, I did not replace it, and the system works fine.

You should hook up the Freon hoses as you go. With the exception of the evaporator inside the passenger compartment, all the hose connections are made with hose clamps. It may be a good idea to double clamp them as I did, and be sure to sock them up tight.

Back inside the car, mount the evaporator under the dash on the passenger side. As I recall, it shares at least one bolt with the fuel injection computer. Next, mount the small control panel under the dash with the existing heater/defroster control right in the center. You will find a long temperature probe wire which runs inside the control panel duct; place it inside the fins of the evaporator. The other end of the probe wire is connected to the temperature switch on the control panel. This switch turns the compressor clutch on and off to maintain the evaporator at approx. 35°F. The evaporator would quickly ice up at a lower temperature.

Drill a hole in the floor large enough to accommodate the drain hose, which lets out the condensed moisture removed from the air when the system is running.

Electrical connections are simple enough. Connect the four wires as follows: one power wire from the fuse box to the control panel, one ground wire, one wire from the control panel to the compressor clutch, and one wire from the control panel to the evaporator fan.

Your air conditioning unit is now installed and ready to be charged. I won't go into the charging of the system except to say, follow the directions on the charging kit carefully. I charged mine myself and it came out fine, but you can have the system professionally evacuated and charged at an AC shop.

The installation of an AC unit on the '61-'69 1800 is essentially the same. These are some of the differences: The receiver/dryer is mounted near the radiator; the compressor requires a different mounting bracket; the control panel, evaporator, and fan are all one unit which mounts under the dash in place of the heater/ defroster control. That control must be repositioned to the right.

If you buy a used AC unit, be sure it's complete: all hoses, grommets, double crank pulley, etc.

May/June 1988

Upper Control Arm Bushings

Every fuel injected 1800 I get in has bad upper control arm bushings on the passenger side due to the heat of the exhaust manifold. To check yours, jack up the front end slightly, then grab the top of the tire and pull towards you. You may be surprised to see it move an inch or more. While the bushings are a little tough to get at, they are inexpensive and easy to replace.

September/October 1988

Here are a couple of problems and fixes I've run across on 1800s. The first was a 73 ES I picked up which was running fine. When I went to move it after it had sat awhile in the driveway, it idled rough and kept fouling plugs. After a quick check of the ignition system, I moved on to the fuel injection system. First check was fuel pressure. To check fuel pressure, disconnect fuel line at the cold start injector and hook up a pressure gauge (an old oil pressure gauge will do nicely). Next, disconnect terminal 87 of the pump relay and, using a jumper, temporarily connect it to the positive side of the battery. This will run the pump and give you a reading on the gauge. In this case the gauge only went up to 60 lbs. and that's what the gauge read. Correct pressure would be 28 to 32 lbs. The regulator is adjustable, but in this case it was junk and needed to be replaced. Problem solved!

Next problem was a 67S. The brakes would lock up, but when allowed to sit, they would free themselves up. Opening up the bleeders on the front calipers would free them up also. The problem lies with the brake booster not releasing the pressure usually attributed to a blocked air filter on the booster. But in this case, the filter was clear and the problem was internal. The fix was simple though. I just removed the small air filter and poured a small quantity of brake fluid in the air hole. Have someone else pump the brakes while you tap gently on the housing and presto! the booster is freed up. Do not use any kind of oil such as WD40, because it will distort the seals and ruin them.

May/June 1989

A NEGLECTED ITEM

This article will be about usually neglected item on the 1800 differential.

The only time most owners look at it is when it starts making strange noises, and then it usually too late to prevent major repairs.

A really good idea is to change the oil, tomorrow would be a good time. Easy to do, there are two plugs, one high, one low. Drain the low fill the high with 80/90 wt. gear oil The number one cause of failure in a differential is lack of lubrication; be sure the oil level is up to the high mark at all times.

If the front pinion seal is leaking and you don't want to replace it, try cleaning all the dirt away from it. This may slow the leak down a bit, since the dirt has the effect of wicking the oil out.

The 1800 (at least the 70-73 models) were available with an optional Spicer/Thornton limited slip differential, manufactured by Dar Corp., Fort Wayne, IN. I suppose it's possible some owners may have a limited slip differential and not know it. Once the cover is removed, or can tell by looking at it. On the limited slip one cannot see the smaller bevel gears; all that can be seen is the large ring gear. If you have a limited slip differential, you must add special lubricant with the oil for the clutches It is available through Volvo or auto part stores.

I have a 12-page installation/maintenance manual that came with the limited slip on my '71E. I would be glad to send out a copy to anyone for \$2.00 to cover the copying costs Please send a SASE and I'll get it out to you.

November/December 1989

I'm sure all of you have noticed that the electrical terminals and relays on your 1800E/ES are all numbered. This numbering system is not random and, by identifying the terminal number, one can determine the function of the system. This holds true of other cars as well. Here are a few things I've noticed:

Terminal #15 - supply current only when ignition is on.

Terminal #30 - supply current from battery (always on).

Terminal #31 - is ground between a switch and an electrical component.

Terminal #85 - ground to chassis.

Terminal #50 - supply current only when ignition switch is in start position.

A letter suffix is used if two circuits have similar functions.

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