

# **DID YOU KNOW..**

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## **May/June 1989**

STEERING BOXES. Normal maintenance.

- 1) Check oil level and keep full of gear oil. The filler cap is very hard to get to on cars with AC. The compressor obscures it.
- 2) If it leaks, replace lower seal soon! So as not to ruin the box. They are very expensive to repair. As an interim measure, fill with white lithium grease (Lubriplate), wheel bearing grease or chassis lube.

The boxes are aluminum. The bolts that mount it to the frame are steel. Add water and maybe some salt and you get an electrolytic action that corrodes them together. If two or three of these bolts cannot be removed, you may have to move the engine to get the box out of the car.

To Remove Steering Box: Remove cotter pins from steering arms at pitman (or just cut them off so that wrench will fit, the nuts will easily shear them). Turn steering wheel to get easy access to nuts. Loosen nuts and run almost off. Leave them on the ends to protect the threads. If you use a wedge-type tool to remove the steering shafts, you will ruin the rubbers. Use a heavy hammer, preferably two. Back one on one side of pitman where the shaft goes through and rap the other side, sharply, as many times as necessary, till the shaft is "squeezed" out. For the end shaft you may strike the end of the pitman. If you're careful, you can remove the shafts without damaging anything. Remove three steering box mounting bolts. Remove driver's side wheel if you like. Remove two upper shaft mounting bolts at rubber connector. Lift box out. Remove, or cut and later splice, horn wire which runs through the shaft and the steering box. REMOVING FROZEN BOLTS. With steering box out of car, apply heat with a torch carefully to outside of bolt hole and try an impact wrench on the bolt. They will come out. Clean everything up. Run a drill through the boltholes. Grease the bolts and the boltholes in the box to retard oxidation in the future.

## **COURTESY LIGHTS.**

These are unique in that they are wired "hot" and the circuit is closed by grounding at the switches. This is probably to make it easy to control them from both doors and the dash switch.

The door switches often corrode and do not ground properly. Remove the switch with a wrench (it unscrews easily from the front). Clean up and lubricate thoroughly. They cannot be taken apart -- not easily -- and inside there is a spring that may break, or more likely corrode fast to the inside of the housing. You can straighten the shaft if it is bent. Check with an ohm meter or continuity tester. If the lights still will not work, check that the wire to the switch is okay. If you moved the positioning nut and didn't note its position, you will have to adjust the switch when you reinstall it. Just a little movement, say 1/8", should be plenty. The door has to just move the shaft enough to break the contact without putting any strain on it.

## **July/August 1989**

Turn Signal Switches.

As these become harder to find the following will be helpful:

All years will physically mount on the column and can be made to work, but there are a few differences in shape, finish, and electrical connections.

61-69 All are chrome have straight shanks and accept round electrical plugs.

Some chrome with straight handle. Some chrome with an extra bend in the handle.

70-71 Some black with the extra bend in the handle. Round plugs.

72-73 All are black with the extra bend in the handle. All accept spade type electrical connectors.

Removing Ignition Switches, 61-69.

The front retaining ring is held in place by a detent mechanism.

1. Insert key and turn to ON position.
2. Detent pin is on the cylinder behind the dash at about 10 o'clock.
3. Press on pin and front ring will come off. You may have to wiggle or move the key to depress the pin. It may not line up exactly in the ON position. The cylinder will come straight out.

## **September/October 1989**

SHIFTER BOOTS. LEATHER.

Rubber shifter boots are expensive and difficult to keep in place, and are of questionable design since they crack rather quickly. They try to keep heat, noise and dirt from coming into the car. Try leather. They look nice and do the job. The hard part is fitting the lower end to the hole in the carpet or console. Try a plastic ring, about a half-inch wide and slightly larger than the hole in the carpet or console. Any thickness should work, and a metal or wood ring would work just as well. An aircraft fabric inspection hole ring will work, or just cut what you need from any handy material. Place the ring beneath the carpet or console. Glue, sew or staple the wide end of the boot to the ring and bring the leather up through the hole in the carpet or console. You could forget about the ring and just glue the leather to the carpet or console.

HAMMER AND CHISEL (OR PUNCH) - OR - REMOVING REAR AXLE NUTS, CRANK PULLEY NUTS AND OTHER NUTS ON SHAFTS THAT TURN - OR ... THE POOR MAN'S IMPACT TOOL.

I had to remove some brake drums from an S rear end recently, away from the shop and with the rear end out of the car. I didn't have the right socket (over 1-1/4" -- had no impact wrench, anyway) and no pipe wrench. BUT, I had a hammer and cold chisel. The chisel went easily into the slots in the castellated nut, and it was easy to loosen the nut with a few sharp blows. The chisel is tangential to the nut, so your force is applied very efficiently to the nut. Slots were not damaged, but if they were, it would have been easy to restore them with a file.

On a nut without slots, you will mar the nut; but if necessary, it can be replaced or dressed with a file or grinding wheel. Do not overlook this method as a way to tighten nuts in a similar situation. At least consider the hammer as an impact tool when practical.

REMOVING BRAKE DRUMS.

1. Get the BEST three legged puller you can find. Junk won't work!
2. Loosen brakes if you can.
3. Mount puller snugly and tighten the center shaft against axle end.
4. Use a six or eight pound sledge (lighter hammers are a waste of time) and solidly rap the center shaft on its END into the axle end.
5. Retighten shaft, then rap again. Repeat until the drum breaks loose. This is a five-minute job that can take hours if you are not aggressive enough. It takes a good puller and a heavy sledge! The secret is in the shock force. It might take 10-12 tons of force to remove if it was applied slowly.

## March/April 1990

With so many cars sitting for longer periods, being stored during the winter months and being saved for shows, it is a good idea to give some attention to the items on an 1800 that may stick or corrode. Of course these things will depend upon the climate and the storage conditions, particularly humidity.

### PARTS THAT CORRODE AND STICK

#### GAS TANKS.

Keep full, if possible. Condensation causes rust, and since the gas does not slosh around, the tank may corrode at the top. My experience has been that empty tanks rust. NOTE: These tanks often rust out at the top on the outside due to water laying in the trunk. Trunk and hatch leaks should be stopped before you have costly tank problems.

#### GAS TANK GAUGE SENDERS.

These are mounted in the top of the tank. With gas at a constant level they get a chance to stick in one position. Bounce the rear end of the car once in awhile to move float up and down. If stuck, remove from tank and work free with a little penetrating oil. Whether stored or not, I like to drain gas from the tank and refill with fresh gas once a year to remove water and sediment. It certainly can't hurt. At some interval consider replacing or cleaning the fuel screen in the bottom of the tank (E-ES), fuel filter, and fuel pump sediment trap (S).

#### CALIPER PISTONS.

These move very little and can get a ridge in the cylinder. If stuck, push in with wedge between pad and rotor, then force out with brake pedal pressure. Repeat. If brake action is still poor on any wheel, remove pads, use work pad or equivalent as spacer, and force piston out with pedal pressure past the point where it was held by the original pads. Repeat. This will often be sufficient. If not, dismantle caliper and clean, as necessary, or rebuild. If a piston is stuck, it is smart to try to force it out while on the car prior to rebuild, if possible. Another solution is to replace bleeder with a grease fitting (same threads) and force it out with a grease gun.

#### BRAKE CYLINDERS.

May work out with pedal use. Otherwise dismantle and rebuild.

#### PARKING BRAKE CABLES.

Work free and lubricate. Use regularly. A good silicone grease may prevent recurrence. (Or use white lithium or chassis grease.) BRAKE SHOES. These can stick to drum. Try to drive back and forth. When free, hard braking will heat up the shoes and drum to drive moisture out of the lining. If really stuck, moderate heat on the drum may drive out moisture. Don't store with parking brake set in damp areas!

#### CLUTCH.

May set up like brakes. I've written about this before. Prevention: run car occasionally until warm. Use clutch. OR...keep clutch pedal depressed so disc is away from flywheel, or wedge clutch fork back. (Old Timers always did this when storing a car.)

#### POINTS, ROTOR AND DISTRIBUTOR CAP.

Always clean these up if car does not start easily after storage. File points. Scrape or file rotor end and scrape cap contacts. Also check ignition wire ends.

#### STEERING.

On some cars that have sat a long time, the ball ends of the steering arms and tie rods can freeze. This is especially deadly when towing. Suspect this when the steering wheel will not return after a turning. When towing, the car will not follow the towing vehicle. Jack front end and check to see that the steering will turn easily from either wheel. These can be freed with penetrating oil sometimes but should be replaced.

#### WATER PUMPS.

Bearings can corrode. Always keep cooling system full and use water pump lube to protect the pump.

BELTS. Real fustspots will loosen belt tension for extended storage.

#### EFI CARS. (E-ES}

Auxiliary air regulator can stick. Use carb cleaner to free.

#### THROTTLE CABLES.

These get sluggish. Keep lubricated.

#### THROTTLE VALVE SWITCH.

Contacts corrode. Clean with electronic tuner/contact spray.

#### GAS PEDALS.

These can "take a set," since the rubber is aged and will not allow the throttle to return. This can be dangerous and is due to a design flaw in the pedal. The pedal is hinged by the rubber in the pedal. Try flexing it back and forth. You also could remove it and try filing a notch in the rubber, or you could grind it thinner so it will flex. I think eventually we'll all have to either do this or fit these pedals with additional hinges, or replace them. Years ago I wrote about a 122 pedal retrofit which, while not original, was a nice alternative.

#### BATTERY.

Remove from car. This is the simplest way to avoid corrosion. Wash with baking soda to neutralize corrosion and acid.

### **July/August 1990**

#### PAINTING AND PAINTS

The 1800s were originally painted with enamel. (So what?) Yes, lacquer is nice. Yes, Imron is nice, too. But...please believe me, your best job will be done with the brand and type of paint that your body shop uses every day. A good paint job is not that simple. It takes a feel for viscosity and experience with reducers, hardeners, drying time and coverage characteristics, to say nothing of the gun and nozzle match to the paint. Most painters know this but are cocky and tend to try to tell you that they can handle any type of paint. Maybe some can, but they will do the best job with the paint they know best. What's the point of an Imron job that will last 20 years if it looks poor from day one? I like clear coats with some colors and with some paints, but would only consider it if the painter has enough experience with it.

## PARTS AVAILABILITY

Parts from Volvo seem to float in and out of the system. Lately I heard that coupe taillights are again available, as are rebuild kits for the Girling brake servos (61-68). Rumor has it that these kits are half of Volvo's price if bought from British Leyland and that the kits from Leyland contain instructions while Volvo's do not. Rebuilding these servos can be a tricky undertaking. A few experienced rebuilders and an occasional amateur will be successful. Others will report failures with brakes grabbing, locking, or a clanking noise, and even the "good" rebuilds often fail within six months or a year. Try it, if you like, but be aware of what may happen. I still think that converting to the later booster is a better alternative.

## SEAT WEBBING

The rubber webbing used in the coupe is still readily available, but at nonautomotive upholstery shops. It is widely used in furniture. It is usually available in white or brown and is quite expensive. I was charged over \$2/foot. Each seat requires 10 feet for the seat bottom.

## BRAKE BLEEDING

There are several different procedures for bleeding brakes. Most will work well enough in usual circumstances. (Check the service manual for the correct order of bleeding for the E and ES.) I haven't tried this yet, but aircraft mechanics bleed brakes from BOTTOM to TOP. They remove some fluid from the reservoir (master cylinder) and then pump fluid from each bleeder UP to the reservoir. This has the effect of purging the lines of old fluid and is probably foolproof in aircraft, which have simpler systems. It will probably work well on cars, especially those times when the brakes remain spongy after repeated bleedings. A pump oiler filled with brake fluid and a short length of 1/8" hose is all that is required, plus a rubber syringe to draw fluid from the master cylinder.