# COOL-04, Radiator Removal and Installation

### **Radiator Removal**

### <u>Tools</u>

- 10 mm socket/ratchet
- Flat tip screwdriver
- Diagonal cutters

#### **Other Procedures Needed**

- <u>COOL-02</u>, Coolant System Draining, Filling, and Venting
- 1. Disconnect the battery negative lead.
- 2. Using <u>COOL-02</u>, <u>Coolant System Draining</u>, <u>Filling</u>, and <u>Venting</u>, drain the coolant system.
- 3. In the engine compartment, cut the any retaining straps attached to the fan shroud. Remove the three bolts which attach the fan assembly to the upper radiator support.
- 4. Underneath the car, cut any retaining straps attaching the fan wires to the fan housing and unplug the fans.
- 5. Remove the three bolts from the bottom of the fan assembly and remove the assembly from the car.
- 6. Loosen the jam nuts for the two radiator retaining bolts on the upper crossmember and loosen the retaining bolts.
- 7. Unplug the thermofan switch.

## <u>NOTE</u>

Before you remove the radiator hoses, note the position of the hose clamps on the hoses. When you reinstall the hoses try to install the clamps in the same orientation to prevent interference with other components.

- 8. Disconnect all radiator hoses.
- 9. On models with automatic transmissions, disconnect the transmission fluid hoses at the radiator and plug the holes.
- 10. On turbocharged cars perform the following:
  - a. From above, remove the hoses attached to the cross-over pipe at the upper cross-member and remove the cross-over pipe.
  - b. Remove the bolts connecting the external oil cooler to the body and hang the cooler out of the way.

- 11. On normally aspirated cars, remove the radiator as follows:
  - . From underneath the vehicle, push up on the bottom of the radiator to disengage it from the rubber mounts on bottom.
  - a. Pull the bottom of the radiator toward the rear of the car and lower it out of the vehicle.
- 12. On turbocharged cars, remove the radiator from the vehicle as follows:
  - . Tilt the top of the radiator toward the rear of the vehicle and remove from above.
  - a. Remove the radiator lower mounting bracket from the car.

### **Radiator Installation**

- 1. On normally aspirated cars, install the radiator from beneath the vehicle. On turbocharged cars, install from above. Ensure the rubber mounting plugs are installed in the bottom radiator cross-member before setting the radiator.
- 2. Secure the radiator in place using the jam nuts on top of the radiator crossmember. Don't tighten the nuts too tightly as you can crack the radiator.
- 3. On models with automatic transmissions, connect the transmission fluid lines at the radiator.
- 4. Connect the plug for the thermofan switch.
- 5. Install the cooling fans.
- 6. Connect all coolant hoses to the radiator.
- 7. On turbocharged cars, perform the following:
  - a. Install the coolant cross-over pipe and attach hoses.
  - b. Attach the external oil cooler to the side of the radiator housing.
- 8. Using <u>COOL-02</u>, fill and vent the cooling system.

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