



SERVICE BULLETIN

**TO: ALL DISTRIBUTORS
AND JOBBERS**

DATE: APRIL 9, 2004

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SUBJECT: SERVICING OF ALUMINUM HEATER CORES AND/OR RADIATORS

DESCRIPTION:

This bulletin revises and replaces ACDelco Service Bulletin 7611D and provides the addition of coolant recovery reservoir information. Please discard ACDelco Service Bulletin 7611D dated January 1999.

A coolant check should be performed whenever a heater core, radiator or water pump is replaced. If replacement is needed, it may be caused by erosion, corrosion or insufficient inhibitor levels. The following procedures / inspections should be done to verify proper coolant effectiveness.

1. Verify Coolant Concentration

A 50% coolant / water solution ensures proper freeze and corrosion protection. Inhibitor levels cannot be easily measured in the field, but can be indirectly done by the measurement of coolant concentration. This must be done by using a refractometer J23688 (Fahrenheit Scale) or J26568 (Centigrade Scale) coolant tester. The refractometer uses a minimal amount of coolant, which can be taken from the coolant recovery reservoir, radiator or the engine block. Inexpensive gravity float testers (floating balls) will not completely analyze the coolant concentration fully and should not be used. Concentration levels should be between 50% and 65% coolant concentrated; this mixture will have a freeze point protection of -34 degrees Fahrenheit (-37 degrees Celsius). (Note: Freeze point protection level does not assure that the inhibitor levels are correct. This can only be assured through chemical analysis, knowing the replacement history or completely replacing the current during service). If concentration is below 50%, the cooling system must be flushed.

IMPORTANT:

If the vehicle's coolant is low, drained out, or the customer has repeatedly added coolant or water to the system, then the system should be completely flushed using the procedure explained later in this bulletin.

2. Inspect the coolant flow restrictor, if the vehicle is equipped with one, for proper operation and condition. See Section 6B of the appropriate vehicle service manual for proper location and description.

3. Verify that no electrolysis is present in the cooling system. Electrolysis is the presence of "high" current circulating through the coolant. When coolant inhibitors are depleted, this level is usually higher than what is found in a normal system. Therefore, the electrolysis test should be performed before and after the system has been repaired to provide a basis for additional repair. Use a digital volt meter set to 12 volts. Attach one test lead to the negative battery post and

insert the other test lead into the radiator coolant, making sure the lead does not touch the filler neck or core. Any voltage reading over 0.3 volts indicates that stray current is finding its way into the coolant. Electrolysis is an intermittent condition that often occurs when a device or accessory that is mounted to the radiator is energized. This type of current could be caused from a poorly grounded cooling fan or some other accessory, and can be checked by watching the volt meter and turning on and off various accessories or by engaging the starter motor. Prior to using one of the following flush procedures, the coolant recovery reservoir must be removed, drained, cleaned and reinstalled before refilling the system.

IMPORTANT:

The following procedures recommend refilling the system with Dex-Cool®, ACDelco Part Number 10-101 (GM Specification 6277M). This coolant is known for its longer maintenance intervals when used in OEM applications. However, when used on vehicles built prior to the introduction of Dex-Cool®, maintenance intervals will remain the same as specified in the owner's manual.

FLUSH PROCEDURE (A)

If available, use the approved coolant exchanger Pro-Fil 42-75100-KM (available through the GM Dealer Equipment Program) or similar type equipment, following the manufacturer's operating instructions.

FLUSH PROCEDURE (B)

If a coolant exchanger Pro-Fill is not available, drain coolant and dispose of properly following the draining procedures in Section 6B of the appropriate vehicle service manual. Refill the system using pure water and run vehicle until the thermostat opens. Drain, fill and run vehicle three (3) times to totally remove old coolant or until drained coolant is almost clear. Once the system is completely flushed, refill the cooling system to a 50%-65% concentration with Dex-Cool®, ACDelco Part Number 10-101 (GM Specification 6277M) following the refill procedures in Section 6B of the appropriate service manual. If a service manual is not available, fill half the stated capacity of the system with 100% Dex-Cool®, ACDelco Part Number 10-101 (GM Specification 6277M). Then slowly add distilled water to the system until the level of coolant mixture has reached the base of the radiator neck. Wait two (2) minutes and recheck coolant level. Start engine and let it warm up and stabilize the coolant level. If necessary, add distilled water to restore coolant to the appropriate level. Once the system is refilled, recheck the coolant concentration using a refractometer J23688 (Fahrenheit Scale) or J26568 (Centigrade Scale) coolant tester. Concentration levels should be between 50% and 65%.

SEALING TABLETS

These tablets are intended for special bulletin use. It is not necessary unless directed by an OEM service bulletin to add these tablets when replacing a heater core or radiator.

ACDelco service bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely.

