

LIMITED WARRANTY

The manufacturer warrants its products to be free from defects in material and workmanship for 12 months* from date of shipment to the original consumer purchaser. This warranty covers any parts furnished from the manufacturer's factory but does not include labor of any kind and materials not furnished by the manufacturer or any charges for any such labor or materials.

The limited warranty is void if the product is subjected to **misuse, negligence, or operating conditions** other than those for which such equipment was designed, or has been repaired or altered outside the factory of the manufacturer, or when chemicals or any ingredients other than approved permanent-type antifreeze, designed and sold solely for radiator use, are used in the radiator. This warranty does not cover the physical or chemical effects of any corrosive substance in the operating environment or the equipment. This warranty is extended to and enforceable by only the original consumer purchaser.

THE MANUFACTURER'S WARRANTY OF ITS PRODUCTS TO BE FREE FROM ALL DEFECTS IN MATERIAL AND WORKMANSHIP, AS LIMITED HEREIN, AND SHALL BE IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Claims for internal engine damage due to overheating will be denied. All vehicles and stationary equipment have warning lights and gauges to warn an operator of overheating conditions long before internal engine damage would occur. The manufacturer shall not be responsible for engine damage due to operator negligence.

Purchaser's sole remedy for breach of this warranty, exclusive of all other remedies provided by law, shall be limited to repair or replacement of any part or parts which shall, within 12 months from date of shipment to the original consumer purchaser, be returned to the place of original purchase or to the Warranty Department of the manufacturer, with all transportation expenses prepaid by purchaser, and which the examination by the manufacturer, or its designated agent, shall disclose to have been defective. Purchaser's remedy does not include reimbursement for any expenses incurred for labor or material charges incident to the replacement, removal, or installation of any radiator, radiator core or component part, towing charges, rental of replacement vehicle, injuries to persons or property and any other special, incidental, consequential or punitive damages. An original purchase / installation receipt is required to file a warranty claim.

THE MANUFACTURER IN NO EVENT SHALL BE LIABLE TO THE PURCHASER FOR DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS OF PRODUCTION OR LOSS OF PROFITS OR CLAIMS OF THIRD PARTIES AGAINST THE PURCHASERS, RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING THOSE RESULTING FROM THE ORDER OR USE OF THE MANUFACTURER'S PRODUCTS, AND THE MANUFACTURER'S SOLE LIABILITY TO THE PURCHASER FOR ANY CAUSE OF ACTION, WHETHER BASED UPON NEGLIGENCE, CONTRACT OR STRICT LIABILITY, SHALL BE THE REPAIR OR REPLACEMENT REMEDY SET FORTH IN THE PRECEDING PARAGRAPH.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. The manufacturer neither assumes nor authorizes any person to assume for it any obligation or liability other than as herein expressly stated.

ITEMS THAT WILL VOID YOUR WARRANTY:

1. **Improper Installation** – Damage as a result of improper or incomplete installation or abuse by the installer.
2. **Stripped Threads** – Cross threading any fitting that results in damage to the threads: includes transmission and engine oil cooler lines, drain cocks, or sensors.
3. **Intentional Damage** – Any damage that is not caused by a manufacturing defect.
4. **Improper Application** – Use of the radiator in a manner not specified by the manufacturer.
5. **Repairs** – Any attempt to repair the radiator in any way will void the warranty.
6. **Improper Coolant** – Damage to the radiator caused by the use of a coolant or coolant mixture not in accordance with the vehicle manufacturers recommendation. NOTE: The same kind of coolant must be used to replace the original coolant in order to avoid potential engine component damage as well as radiator damage. Refer to the owner's manual for the type of coolant used in your vehicle.
7. **Chemical Damage** – Damage to the radiator as a result of the use of improper chemicals that may have been added to the cooling system (including improper anti-freeze coolant).
8. **Electrolysis** – Damage to the radiator caused by stray or unchecked voltage in the cooling system. As little as 0.1V of stray voltage can result in cooling system damage. Improper installation of any add-on electrical devices or equipment (for example: alarms, remote starters, stereo amplifiers, winches, plow lift motors, etc.). Poor or improper grounding of the add-on electrical equipment can result in premature radiator failure.

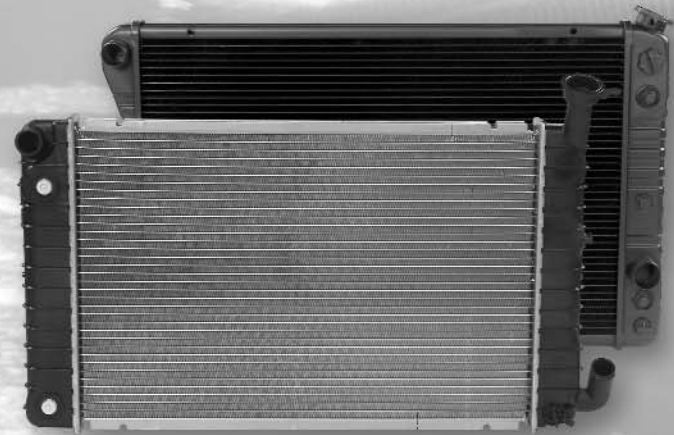
A NOTE OF CAUTION: If you are replacing an aluminum radiator with a new aluminum radiator, items 6, 7, & 8 above are extremely critical. Aluminum materials are very sensitive to the use of improper coolants and chemicals and will corrode quickly if the coolant chemical make up is out of specification. An indication of the correct chemical balance can be achieved by testing the coolant for its pH level: it should be in the range of 7.7 to 11. Additionally, stray voltages at very small levels (0.1 volts and above) can damage an aluminum radiator, sometimes within weeks of installation.

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RADIATOR

WARRANTY, INSTALLATION GUIDE & COOLING SYSTEM CHECKLIST



The replacement radiator which you have purchased has been built to meet or exceed OEM specifications. It has also been designed with you in mind for easy installation and offers you a limited one year warranty.

RADIATOR INSTALLATION INSTRUCTIONS

The replacement radiator is installed by following the basic steps listed below. Please keep in mind that the radiator installations vary somewhat from car to car, and that the following is intended only as a guide. Consult your owner's manual or a vehicle specific repair manual for detailed instructions.

The basic tools required for the typical installation of your new radiator are a screwdriver, a set of open-end wrenches and a pair of pliers. **We highly recommend that you replace your radiator hoses, hose clamps, thermostat and radiator cap.**

CAUTION: NEVER REMOVE THE PRESSURE CAP WHILE THE ENGINE AND COOLANT ARE STILL HOT. ONCE THE ENGINE HAS COOLED REMOVE THE CAP SLOWLY!!

REMOVAL

1. Slowly remove the pressure cap and save for later use, or better yet, purchase a new pressure cap designed specifically for your vehicle.
2. Drain the coolant from the system through the drain cock, if so equipped, or by removal of the bottom radiator hose. Replace the coolant with new coolant to protect your new radiator. Normal coolant replacement should be every (2) years. Be sure to discard used coolant in a safe manner and according to government disposal regulations. Failure to use the proper new coolant can void your warranty.
3. If the radiator has a transmission and/or an engine oil cooler, use a line wrench to disconnect the lines from the radiator tanks. **IMPORTANT!! Before disconnecting any oil cooler lines be sure to identify where these line are connected and mark them, so they can be re-connected properly to the new radiator.** Care should be taken to avoid stripping the fittings or kinking the transmission or engine oil cooler fluid lines. To avoid fluid loss, block the ends of the lines after removing them from the radiator fittings.
4. Remove the upper mounting panel and associated sheet metal.
5. Remove the fan shroud or electric fan assembly screws and remove the part, or slide it back away from the radiator far enough to permit removal of the radiator.
6. Disconnect the radiator inlet and outlet hoses, and heater bypass hose (if so equipped) from the radiator hose fittings. Check for brittle or deteriorated hoses. **New hoses, clamps, and thermostat are strongly recommended.**
7. Remove any sensor fittings attached to the radiator tanks, noting the exact location so that proper replacement can be made with the new radiator.
8. Remove the top mounting insulators, or the bolts from the radiator mounting brackets, if so equipped.
9. Remove the radiator assembly from the vehicle. NOTE: The installation of some high capacity replacement radiators may require trimming of the rubber mounting insulators to facilitate installation.

INSTALLATION

1. Reverse this procedure for the installation of the new radiator. **Start to thread transmission or engine oil cooler lines into the cooler fittings carefully by hand to avoid stripping threads.** NOTE: As a tip, it is often better to leave the mounting bolts loose until all the hoses and lines are connected. **Improper installation (cross threading) of the oil cooler lines that results in stripping of the internal threads will void the manufacturer's warranty.** Tighten the fittings with a line wrench. Be sure to connect all the lines to their proper location in the radiator tanks and tighten securely. Carefully retighten any connections as required: NOTE: Avoid over-torquing the drain plug; only hand tighten. Do Not use any tools to tighten the plug as damage to the threads will result. With the engine idling, recheck the automatic transmission fluid level.
2. Fill the system with a new 50/50 solution of the proper coolant and deionized or distilled water as recommended by the vehicle manufacturer. Coolant pre-mixes may also be used. Be sure to replace your coolant with the same kind that was removed (refer to your owner's manual to identify the coolant used in your vehicle). Replace the pressure cap. Start engine and check for leaks.
3. After the engine has idled long enough to open the thermostat (engine should reach it's normal operating temperature), turn the engine off. Make sure the cooling system has cooled down before slowly removing the pressure cap to check the coolant level: add the 50/50 mix or pre-mix as needed to bring the coolant level to the bottom of the fill neck or to the appropriate level in the overflow tank. Replace the pressure cap.
4. Check the coolant recovery reservoir the next few times you drive the vehicle, and, if necessary, add enough coolant mix to bring it up to the proper level.

COOLING SYSTEM "TUNE-UP" CHECKLIST

CAUTION: NEVER REMOVE THE RADIATOR PRESSURE CAP WHILE THE ENGINE AND COOLANT ARE STILL HOT.

ONCE THE ENGINE HAS COOLED, REMOVE THE CAP VERY SLOWLY!!

Your vehicle's cooling system protects your engine against heat generated during normal operations by keeping the engine operating within the correct temperature range. If the cooling system is not operating properly and the temperature range is exceeded the engine can be damaged. Regular checks and maintenance help assure long life of vulnerable engine parts. The cooling system maintenance schedule recommended by the vehicle manufacturer should be followed.

Here are some of the basic steps in proper cooling system maintenance:

1. Check the condition of water pump by inspecting for coolant leaks and by checking the pump shaft for "play" which may indicate excessive wear. If either of these conditions exists you may need to replace the water pump.
2. Inspect the radiator for leaks and corrosion.
3. Be sure your radiator coolant level is maintained at the manufacturer's recommended level. **CAUTION: Never open or remove the pressure cap when engine is hot.**
4. Look for leaking hoses, fittings, and connections. Tighten loose clamps.
5. Inspect condition of hoses. Cracked, mushy or otherwise deteriorated hoses should be replaced.
6. Check condition of the radiator pressure cap.* Replace if rubber gasket is damaged.
7. If the engine runs too cool or hot, the thermostat, fan or fan clutch may be at fault and should be replaced. The temperature gauge reading outside the normal range may indicate this condition or the check engine light may be on. Check your service manual to evaluate their performance.
8. Heater hoses demand attention too. Look for leaks, cracks or rotted rubber. Replace faulty clamps.
9. Check belts for wear and tension. Replace when cracked or frayed.

*NOTE: Pressure testing of the radiator and pressure cap is the best way to test the condition of these parts and most local service shops are equipped with these testers.