

DIAGNOSIS MADE EASY PART OF COOLING SYSTEM TROUBLE SHOOTING PART #: 496-2122:



GATES' INTUITIVE QUESTION TREE DIAGNOSTIC PROCESS

The purpose of this booklet is to provide you with more detailed guidance on some specific car problems that involve the engine's cooling system. The easy-to-follow diagnostic tree structures in this booklet will help you to quickly identify the correct cause of the problem and provide you with a logical flow to the recommended repair procedures.

| Liquid or traces of liquid under the bonnet4 | |
|--|---|
| Liquid under the vehicle | ļ |
| Wet interior carpet(s)/sweet smell inside cabin/mist on the inside of the windows5 |) |
| White smoke from the exhaust pipe(s)5 | j |
| Temperature below normal, fuel consumption increased and/or excessive revvings | j |
| Coolant is above maximum level in expansion tank7 | , |
| Coolant is below minimum level in expansion tank8 | ; |
| Noise from the water pump |) |
| Noise caused by air bubbles in the expansion tank |) |
| No/insufficient interior heating |) |
| Steam from under the bonnet |) |
| Engine is overheating |) |

PLEASE NOTE:

Throughout this booklet, we use \bigcirc symbols to make you aware that more guidelines relating to the topic are to be found in the troubleshooting guide. So wherever you come across the \bigcirc symbol, be sure to read the corresponding page in the guide.

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LIQUID OR TRACES OF LIQUID UNDER THE BONNET LIQUID UNDER THE VEHICLE Identify the liquid. Are you Is there evidence of the leak? sure it is coolant? Are you sure the liquid Can you identify the source Overpressure the cooling is coolant? of the leak? Can you identify the source system. Are there any of the leak? coolant leaks? Overpressure the cooling system. Are there any Is this condensation from the air coolant leaks? Does the water pump leak Repair the leak/replace while the engine is running? the component conditioning outlet? Does the water pump leak while Repair the leak/replace The problem is not cooling This is normal if the air the engine is running? the component related. Check oil and conditioning system is functioning correctly other liquids The problem is not cooling related. Check oil and WET INTERIOR CARPET(S)/SWEET SMELL INSIDE other liquids CABIN/MIST ON THE INSIDE OF THE WINDOWS The coolant was spilt during a Has the coolant level in the Does the level of the coolant in expansion tank dropped? previous refill the expansion tank drop? 15 18 Overpressure the cooling Inspect the heater core as Can you identify the source The coolant was spilt during a Overpressure the cooling The problem is not cooling system. Are there any well as all attached hoses of the leak? previous refill system. Are there any related. Check vehicle for coolant leaks? and clamps. Is there possible water ingress coolant leaks? evidence of a leak? 42 ____ 43 Repair the leak/replace the component Repair the leak/replace Repair the leak/replace the component the component

LIQUID OR TRACES OF LIQUID UNDER THE BONNET

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Repair the wiring

TEMPERATURE BELOW NORMAL, FUEL CONSUMPTION INCREASED AND/OR EXCESSIVE REVVING





Replace the thermostat

WHITE SMOKE FROM THE EXHAUST PIPE(S)

COOLANT IS BELOW MINIMUM LEVEL IN EXPANSION TANK



exclude any chance of a leak. Leaks can lead to infiltration

COOLANT IS ABOVE MAXIMUM LEVEL

IN EXPANSION TANK



COOLANT IS ABOVE MAXIMUM LEVEL IN EXPANSION TANKS

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NOISE FROM THE WATER PUMP





NOISE CAUSED BY AIR BUBBLES

STEAM FROM UNDER THE BONNET





ENGINE IS OVERHEATING

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STEAM FROM UNDER THE BONNET





GATES KEEPS YOUR KNOWLEDGE UP-TO-DATE!

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This booklet should be read in conjunction with the **Cooling System** troubleshooting guide and may not be distributed separately. The manufacturers reserve the right to amend details where necessary.

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