



# Head Gasket Diagnosis

**Meets NATEF Task:** (A8-A-5) Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action. (P-2)

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Name \_\_\_\_\_ Date \_\_\_\_\_ Time on Task \_\_\_\_\_

Make/Model/Year \_\_\_\_\_ VIN \_\_\_\_\_ Evaluation: 4 3 2 1

A blown (defective) head gasket is often difficult to diagnose. To verify that a head gasket is defective, perform the following tests and checks.

\_\_\_\_\_ 1. Is excessive white steam visual at the tail pipe (disregard normal steam that occurs in cold weather)?

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 2. Check for visual signs of coolant or oil leakage between the block and the cylinder head.

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 3. Is the level of coolant lower than normal? (Lower than normal coolant level can indicate a defective head gasket.)

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 4. Does the engine run correctly (a blown head gasket often causes the engine to miss)?

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 5. Remove the radiator cap after the engine has cooled and use an exhaust gas analysis kit to determine whether exhaust gases are present in the coolant. One common test involves drawing coolant into a container with blue liquid in it and if it changes color to a yellow/green, then exhaust gases are present in the coolant.

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 6. Start the engine and use a 4- or 5-gas analyzer to check for CO and/or HC emissions above the open radiator cap.

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 7. Based on the tests results, what is the necessary action? \_\_\_\_\_

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