

Topic:	B M W I N T A K E V A L V E D E P O S I T T E S T
Point of Contact:	Kevin Brunner Phone: (210) 522-3579 Fax: (210) 681-5344
Test Objective:	The objective of this test is to evaluate fuels' ability to control deposits on intake valves.
Vehicle:	For this test, a 1985 BMW 318i, four-cylinder, four-stroke, 1.8-L vehicle with an automatic transmission is used.
Test Procedure:	<ol style="list-style-type: none">1. The vehicle is run 10,000 test miles with daily mileage accumulation of 800 miles.2. A fixed route is run, consisting of:<ul style="list-style-type: none">● 10 percent city● 20 percent secondary road● 70 percent highway3. Intake valves are weighed.
Fuel Requirement:	The fuel requirement for this test is 500 gallons of fuel.
Duration:	The duration of this test is 4 weeks.
Test Results:	(PASS/FAIL) The test is a PASS if the average intake valve deposit weight is less than 100 milligrams per the four valves for EPA requirement and less than 50 milligrams per valve for CARB requirement. CARB also requires a combustion chamber deposit (CCD) weight determination in conjunction with the BMW IVD Test.
Note:	A 5,000-mile test option is available. This test is run as a CARB procedure and as an EPA procedure following ASTM Method D-5500.

Intake Valve Deposits

Revised 03/01

Topic:	F O R D 2 . 3 - L I N T A K E V A L V E D E P O S I T T E S T
Point of Contact:	Bill Buscher Phone: (210) 522-6802 Fax: (210) 681-7523
Test Objective:	The objective of this test is to determine intake valve deposit-forming tendency of unleaded gasoline, and/or gasoline additives.
Apparatus:	For this test, a 1994 Ford 2.3-L dual spark plug engine on a dynamometer test stand is used.
Test Procedure:	<ol style="list-style-type: none">1. The test cycle consists of:<ul style="list-style-type: none">● 2,000 rpm and 230 mm Hg manifold absolute pressure for 4 minutes● 30-second ramp to 2,800 rpm● 2,800 rpm and 540 mm Hg manifold absolute pressure for 8 minutes● 30 second ramp to 2000 rpm2. The cycle is repeated for 100 hours.
Fuel Requirement:	The fuel requirement for this test is approximately 250 gallons.
Duration:	The duration of this test is 100 hours.
Test Results:	Test results for this test are reported in two ways: PRIMARY: Intake valve deposit ratings and weights SECONDARY: Combustion chamber deposit ratings, weights, and thickness
Note:	Test is run following ASTM Method D 6201.

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Topic:	INDUCTION SYSTEM DEPOSIT FUEL EVALUATION
Point of Contact:	Robert Legg Phone: (210) 522-2071 Fax: (210) 522-4544
Test Objective:	The objective of this test is to evaluate the tendency of motor gasolines to form induction system deposits by simulating carburetor spark-ignition engine conditions.
Apparatus:	An induction system deposit bench rig is used for this test.
Test Procedure:	The test procedure is as follows: 1. A 100-ml volume of the test fuel is sprayed onto the deposit tube – 50 minutes 2. Heat soak and cooling time – 10 minutes 3. If required, repeat with additional 100-ml volume of test fuel
Fuel Requirement:	The fuel requirement for this test is 100 to 300 ml of fuel.
Duration:	The duration of this test is 1 to 3 hours.
Test Results:	The test results are measured by the deposit weight gain on the deposit tube for every 100 ml of fuel.
Note:	This test is described in Federal Test Method 500.1.

Intake Valve Deposits

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Topic:	VALVE INDUCTION SYSTEM DEPOSIT TEST
Point of Contact:	Robert Legg Phone: (210) 522-2071 Fax: (210) 522-4544
Test Objective:	The objective of this test is to evaluate the fouling tendencies of a gasoline or the effectiveness of an additive in preventing intake valve deposits.
Apparatus:	A bench rig to simulate the formation of intake valve deposits is used for this test.
Test Procedure:	1. Test cycle consists of : <ul style="list-style-type: none">● 1-second spray● 1 to 5 minutes of heat soak 2. The cycle is repeated for 24 hours.
Fuel Requirement:	The fuel requirement for this test is 2 liters of fuel.
Duration:	The test duration is 24 hours.
Test Results:	The valve weight increase is determined at the end of this test.
Note:	

Intake Valve Deposits

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