

Topic:	CATALYST DEVELOPMENT, APPLICATION, AND AGING
Point of Contact:	Bruce Bykowski Phone: (210) 522-2937 Fax: (210) 522-3950
Test Objective:	Objectives of this test may include: <ul style="list-style-type: none"> ● Accelerated aging ● Catalyst performance with various fuels, lubricants, additives ● Endurance of prototype or production units ● Exhaust system validation (e.g., hot vibration)
Apparatus:	Typically, a 7.4 liter V-8 engine with exhaust split to provide desired space velocity is used for this test. Other engines specified by sponsor can also be used.
Test Procedure:	The test procedure varies with program needs: <ul style="list-style-type: none"> ● Transient test schedule ● Steady state ● Steady state with varying mixture stoichiometry ● Optional thermal shock (water quench)
Fuel Requirement:	The fuel requirement for this test is as requested by client. In addition to gasoline, testing is available using natural gas, diesel fuel, and liquefied petroleum gas.
Duration:	The duration of this test depends on test objective, but the typical duration is 20 to 200 hours.
Test Results:	Performance and deterioration data for tested components are reported at end of test.
Note:	

Catalyst and Emissions Evaluations

Revised 03/01

Topic:	EMISSIONS EVALUATION USING CHASSIS DYNAMOMETER
Point of Contact:	Charles Hare Phone: (210) 522-2646 Fax: (210) 522-3950
Test Objective:	The objectives of this test are: <ul style="list-style-type: none">● Emissions certification● Control technology development● Fuel/additives effects● Emission characterization
Vehicle:	Any light-duty vehicle, or heavy-duty vehicles such as urban buses or semi-tractor may be selected for use in this test.
Test Procedure:	Transient operation over any schedule, most steady-state conditions, at controlled temperatures (10°F to 120°F) are available for light-duty work.
Fuel Requirement:	Fuel requirements for this test are as required by client.
Duration:	Cycles and modes typically range from 20 minutes to 1 hour. Cold starts require preparation and 12-hour soak.
Test Results:	Test results from this test typically include: <ul style="list-style-type: none">● Regulated & unregulated emissions● Vehicle & tested component performance data● Modal analysis● Fuel consumption
Note:	

Catalyst and Emissions Evaluations

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Topic:	EMISSIONS EVALUATION USING ENGINE DYNAMOMETER
Point of Contact:	Charles Hare Phone: (210) 522-2646 Fax: (210) 522-3950
Test Objective:	Objectives for this test include: <ul style="list-style-type: none">● EPA transient, modal tests● Emissions mapping● Certification, audit, compliance● Fuel/additives effects● Control technology development
Apparatus:	Various test apparatus may be used, with a power range of 1 hp to 2,500 hp or more.
Test Procedure:	Any transient or steady state schedule may be followed. This includes U.S., European, Japanese, and other certification tests.
Fuel Requirement:	Gasoline, diesel fuel, liquefied petroleum gas, natural gas, alcohols, biofuels, and blends in varying quantities may be called for in this test procedure.
Duration:	The duration of this test procedure depends on the test objective. Typical duration for these emissions tests is from 20 minutes to 3 hours.
Test Results:	Test results vary according to procedure/objective. Usually, regulated emissions, particulate matter, and fuel consumption are reported. Sometimes smoke or unregulated emissions may be reported. Numerous options are available depending on specific client needs.
Note:	

Catalyst and Emissions Evaluations

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