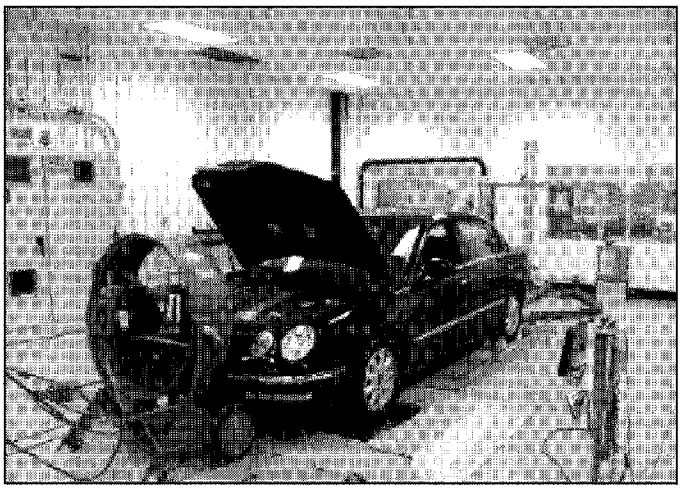
	GROUP **General**	MODEL **All**
	NUMBER **017**	DATE **August 2007**

TECHNICAL SERVICE BULLETIN

SUBJECT:

2008 FUEL ECONOMY INFORMATION - ALL MODELS

This service bulletin updates information related to fuel mileage documentation to assist in determining the actual fuel mileage obtained under normal driving conditions.



Dynamometer Simulates City and Highway Testing

How fuel economy estimates are determined:

The Environmental Protection Agency (EPA) acknowledges that their fuel economy estimates will vary from actual fuel mileage results in 'Real World' driving conditions. Fuel Economy is not a fixed number, it differs significantly based on several variables that can affect mileage estimates.

All new vehicles are tested by the manufacturer according to guidelines outlined by the EPA, who in turn reviews and confirms some of the manufacturers' results with their own additional testing at the National Vehicle and Fuel Emissions Laboratory (NVFEL) in Ann Arbor, Michigan. The vehicle tests are conducted according to different schedules to produce City and Highway fuel economy ratings.

File Under: General

Circulate To:	[X] **General Manager**	[X] **Service Manager**	[X] **Parts Manager**
[X] **Service Advisor(s)**	[X] **Technician(s)**	[X] **Body Shop Manager**	[X] **Fleet Repair**

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City - Represents urban driving. The test starts with the vehicles engine cold. The car is operated in such a way as to represent 11 miles of stop and go traffic. The average speed is 20 mph and the top speed is 56 mph. Periods of idling are also included. The test is completed after 11 miles of simulated driving on a dynamometer.

Highway - Represents a mixture of rural and interstate highway driving. The vehicles engine is warmed up before the test begins, and an average speed of approximately 48 mph is maintained. The top speed is 60 mph, and no intermediate stops or idling is included in the test. The test is completed after 10 miles of simulated driving on a dynamometer.

2008 Additional Testing Requirements:

The EPA recently revised methods for estimating vehicle fuel economy to better represent current driving styles and conditions. The new methods – which apply to the 2008 model year and later vehicles may include additional tests to represent:

· Faster Speeds and faster acceleration

· Air Conditioning Usage

· Colder Outside Ambient Temperatures

MPG estimates will also be adjusted downward to account for factors that are difficult to replicate in a laboratory, such as wind and road surface resistance.

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High Speed -Represents a mixture of higher speeds; harder acceleration and braking. The vehicles engine is warmed up before the test begins, and an average speed of approximately 48 mph is maintained. The top speed is 80 mph, and stops 4 times with 7% idle time and vehicle A/C is OFF. The test is completed after 8 miles of simulated driving on a dynamometer.

Air Conditioning- Represents A/C use under hot ambient conditions. The vehicles engine is warmed up before the test begins, and an average speed of approximately 22 mph is maintained. The top speed is 54.8 mph, and stops 5 times with 19% idle time and vehicle A/C is ON. The test is completed after 3.6 miles of simulated driving on a dynamometer.

City Cold Temperature - Represents colder outside city driving. The test starts with the vehicles engine cold. The car is operated is such a way as to represent 11 miles of driving with 23 stops. The average speed is 20 mph and the top speed is 56 mph. 18% of time idling and total testing time is 31 minutes. The test is completed after 11 miles of simulated driving on a dynamometer.

For additional information, please visit http://www.fueleconomy.gov.

From these tests, the EPA develops the fuel economy ratings. However, it is impossible for one set of estimates to predict fuel economy precisely for all drivers in all environments and driving conditions. Actual results will depend on a variety of conditions, including where you drive, how you drive and how you maintain your vehicle.

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1. Fuel Economy is based on many conditions which include:

· Engine break-in (3000~5000 miles) and initial setting of adaptives in the vehicles computer system.

· Excessive idling in freeway traffic congestion

· Stop and Go driving in traffic congestion

· Quick acceleration and panic stops

· Driving at speeds in excess of posted limits

· Cold weather (engines do not reach maximum fuel efficiency until the engine is warm)

· Towing or excessive loading of vehicle

· Electrical accessories

· Hilly or mountainous terrain

· Fuel types and fuel quality

· Using 4 wheel drive system

2. What the customer can do to improve fuel mileage:

· Keep vehicle properly tuned

· Check and replace air filters as required

· Keep the tires inflated to the proper pressure and rotate as necessary.

· Use the recommended octane of fuel per manufactures recommendation

· Remove excessive weight from trunk and cargo areas

· Using cruise control on the highways help maintain a constant speed

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3. Calculating Actual MPG:

1. Fill the vehicle gas tank completely.
    a. Write down the odometer reading on the instrument panel cluster.
    b. Record the gas pump and gas station where the tank was filled.
2. Drive the vehicle at least 50 miles.
    a. Fill the gas tank completely. Use the same gas station and gas pump that was used in Step 1
    b. Record the number of gallons it took to refill the fuel tank.
    c. Record the mileage; fuel mileage can now be calculated.
3. Subtract the lower mileage from the higher mileage.
4. Divide the amount of miles driven by the amount of gallons it took to fill the gas tank.

Example:

5075 (Miles in Step 2)
- **5000** (Miles in Step 1)

75 Miles
÷ **4** gallons needed to refill fuel tank

18.75 Total Miles per gallon averaged

***NOTICE**

The calculated average accuracy may improve if the customer continues to check during a few tanks of gasoline.