

Mercedes-Benz of Portland



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YOUR VEHICLE

Year 2008	Make Mercedes-Benz	Model ML63 AMG	Engine Type 6.3L V8 DOHC (MFI)
Odometer 95,386	VIN # 4JGBB77E68A302827	License # 002FQH	Date 1/5/2017



Original Customer Requests

The following is what you requested we perform or investigate regarding your vehicle:

- ✓ A. C/S THERE IS A CHECK ENGINE LIGHT ON AND THERE SEEMS TO BE A LACK OF COMPRESSION
 - ✓ Replace thermostat
 - ✓ Replace all cams, cam adjusters, and lifters
 - ✓ Replace head bolts at same time as cam repairs (without removing heads)
- ✓ B. C/S THE POWER STEERING HAS GONE OUT (Idler pulley has failed and belt came off)
 - ✓ Replace belt, all three idler pulleys, and tensioner
- ✓ C. C/S THERE IS A NOISE COMING FROM THE FRONT OF THE ENGINE
- ✓ D. MULTI-POINT VISUAL INSPECTION
- ✓ E. COMPLIMENTARY EXTERIOR CAR WASH AND INTERIOR FRONT FLOORBOARD VACUUM.



Package Results

Mercedes Benz of Portland MultiPoint Courtesy Inspection

Failed Task	Observation	Recommendation	Done
Measure rear brake lining thickness	3 mm or less	Replace rear brake pads and replace rear brake rotors	
Inspect brake system components	Brake rotors worn below minimum specifications	Replace both front brake rotors	
Inspect drive belts	Found belt(s) excessively damaged/cracked		
Inspect overall tire wear and condition	Found punctured tire	Mount and balance 1 new tire (right front)	

Cautioned Task	Observation	Recommendation	Done
Inspect wiper blades	<ul style="list-style-type: none"> • Found windshield wiper blade(s) worn • Found rear wiper blade to be worn 	<ul style="list-style-type: none"> • Replace both windshield wiper blades • Replace rear wiper blade 	
Inspect front differential fluid level, condition and check for leaks	Front differential fluid due by time/mileage	Perform front differential service	

Cautioned Task	Observation	Recommendation	Done
Inspect rear differential fluid level, condition and check for leaks	REAR DIFFERENTIAL DUE BY TIME / MILEAGE	Perform rear differential service	
Inspect transfer case fluid level, condition and check for leaks	Transfer case fluid due by time/mileage	Replace transfer case fluid	
Check engine performance	Based on manufacture standards regarding time and/or mileage of the vehicle and after checking available service history at our dealership, we recommend the following:	Replace spark plugs	

Passed Task	Observation	Recommendation	Done
Fill windshield washer fluid	Filled to proper level		
Measure front brake lining thickness	7 mm or greater: Inspect brakes next service		
Left front tire tread depth	Left front tire tread measures 7/32" or greater: Inspect tire next service		
Left rear tire tread depth	Left rear tire tread measures 7/32" or greater: Inspect tire next service		
Right front tire tread depth	Right front tire tread measures 7/32" or greater: Inspect tire next service		
Right rear tire tread depth	Right rear tire tread measures 7/32" or greater: Inspect tire next service		
Check and adjust front tire pressure	Tire pressure was set to manufacturer specification - Check tire pressures monthly		
Check and adjust rear tire pressure	Tire pressure was set to manufacturer specification - Check tire pressures monthly		

Passed Tasks		
✓ Inspect exhaust system for leaks, damage, and loose parts	✓ Inspect axles, driveshaft(s) U-joints and CV joints/boots	✓ Inspect engine mounts
✓ Inspect transmission mounts	✓ Inspect fuel tank, lines, and connections	✓ Inspect air cleaner element
✓ Fill windshield washer fluid	✓ Check power steering fluid level and condition	✓ Check engine oil level and condition

- ✓ Check engine coolant level and condition
- ✓ Inspect hazard light operation
- ✓ Inspect taillight, turn signal, side marker, and license plate lights
- ✓ Inspect wiper and washer operation
- ✓ Inspect dash and interior lights
- ✓ Perform battery performance test
- ✓ Inspect steering components
- ✓ Inspect engine for oil leaks
- ✓ Inspect cooling system for leaks
- ✓ Inspect sway bar components
- ✓ Right front tire tread depth
- ✓ Check and adjust rear tire pressure
- ✓ Check power locking system operation
- ✓ Inspect cabin air (HEPA/micro) filter (in applicable vehicles)
- ✓ Check brake fluid level and condition
- ✓ Inspect brake light operation
- ✓ Inspect taillight, turn signal, and side marker assemblies for cracks and damage
- ✓ Check horn operation
- ✓ Measure front brake lining thickness
- ✓ Inspect battery terminals and cables
- ✓ Inspect front suspension components
- ✓ Inspect transmission for leaks
- ✓ Inspect fog/driving lights (if equipped)
- ✓ Left front tire tread depth
- ✓ Right rear tire tread depth
- ✓ Windshield for cracks, chips and pitting
- ✓ Check power window operation
- ✓ Recommended Services
- ✓ Check transmission fluid level and condition
- ✓ Inspect reverse light operation
- ✓ Inspect headlight low and high beam operation
- ✓ Inspect heating and air conditioning operation
- ✓ Inspect instrument cluster warning lamps
- ✓ Inspect all hoses and clamps
- ✓ Inspect rear suspension components
- ✓ Inspect brake system for leaks
- ✓ Inspect steering system for leaks
- ✓ Left rear tire tread depth
- ✓ Check and adjust front tire pressure
- ✓ Inspect wheels for damage
- ✓ Check hood struts



Additional Information

Below is information we feel would help you better understand some of the reasons for taking preventive maintenance steps -- steps that help to ensure the reliability and safety of your vehicle for you and your family.

** The following section may contain instructions for servicing various components of your vehicle. These are an overview of the process that will be performed by a skilled technician in our shop. They are not intended to be a guide for a “do-it-yourself” operation.

Windshield wiper blade replacement

AI-19

Operation Description:

Remove the wiper blade inserts from the wiper arms following the vehicle manufacturer's instructions (found in the owner's guide). Install new wiper blade inserts onto the wiper arms. Thoroughly clean the windshield.

Significance:

The ability to drive safely interests all of us. Having a clean windshield is a necessity for safe driving. Most driving decisions are dependent on the driver having a clear view of the road ahead. Worn or torn wiper blades do not effectively clean the windshield, and a dirty windshield can obstruct the drivers view, possibly resulting in an accident.

Advantage:

Most wiper blade manufacturers recommend replacing your wiper blades or wiper blade inserts every 6 months or 6,000 miles. Something as simple and as inexpensive as replacing your windshield wiper blades will make your driving experience for you and your family a safer one.



Impaired view from worn wiper blades



New wiper blades

Brake rotor/drum replacement

AI-20

Operation Description:

Remove the wheels. For disc brakes, remove the caliper and disc brake pads. Replace the rotor. Inspect the caliper and hoses for damage and leaks. Replace any damaged or worn components as necessary. Replace the brake pads. For drum brakes, remove the brake drum. Inspect the brake shoes and wheel cylinders. Replace any damaged or worn components as necessary. Replace the brake drum. Reinstall the wheels and torque the lug nuts to the vehicle manufacturer's specifications.

Significance:

This repair job is all about safety. Your vehicle's ability to stop is only as good as your brake system. The safety of you and your family depends on your brake system working properly and stopping the vehicle - every time. A brake drum or rotor that is damaged from metal to metal contact or worn below minimum thickness will not perform as it was designed to, and can result in brake noise, vibration, and even total failure.

Advantage:

There are no shortcuts when it comes to your vehicle's brakes. Having a professional automotive technician check and service brakes on a regular basis is essential to the safety of any driver. Maintaining your brake system will keep your brakes working properly and save you money by avoiding unexpected (and expensive) damage to your brake components.



Scored and damaged brake rotor



New brake rotor

Operation Description:

Drain the differential fluid according to the vehicle manufacturer's service procedure. Refill the differential housing using the type and amount of differential fluid or gear oil recommended by the vehicle manufacturer.

Significance:

The differential contains gears referred to as spider gears that allow the wheels to rotate at different speeds whenever the vehicle turns. It also has a ring gear and pinion gear which convert the torque from the engine through the transmission, transfer case and driveline into a right angle torque. This function enables the wheels to be driven by the engine. All of the gears and bearings in the differential are submersed in differential oil for lubrication and protection purposes. Differentials create heat under normal driving conditions, which can eventually break down the fluid, causing its lubrication properties to deteriorate. This condition can lead to total failure of the differential and an expensive repair bill.

Advantage:

Proper service of the front differential fluid will ensure that the gears and bearings inside receive the lubrication they require. With regular service, your differential can last the life of your vehicle. Changing the differential fluid as part of a scheduled maintenance program enhances the reliability of your vehicle, and will save you money over the life of the vehicle.



Draining used differential fluid



Refilling with new lubricant

Operation Description:

Raise the vehicle using an automotive lift. Remove the rim and tire assembly from the vehicle. Remove the tire from the rim. Install a new valve stem assembly. Install a new tire on the rim. Inflate the tire to recommended pressure. Balance the tire and rim assembly on a computer-aided dynamic tire balancing machine. Reinstall the tire and rim assembly onto the vehicle. Torque the wheel retaining nuts to the vehicle manufacturer's specifications.

Significance:

Your vehicle's tires are the only connection between your vehicle and the road. Safe vehicle operation depends on your tires being in good condition. If your tires are neglected, the tread can wear completely away, leaving the tire bald and often exposing the steel cords. Not only is this condition dangerous, it is also unlawful in many states. Tires with an abnormal tread wear pattern can cause the vehicle to shimmy and vibrate, and can adversely affect the manner in which your vehicle performs. A tire with an abnormal tread wear pattern will no longer contact the road the way that it was designed to, and this condition can be dangerous, especially during adverse road conditions.

Advantage:

Replacing worn tires is part of vehicle maintenance that is necessary to ensure that your driving experience is as safe as possible. Besides the obvious safety benefits, tires that are in good condition and properly inflated to the correct air pressure can increase the overall fuel economy and help provide a comfortable ride.



Signs of irregular tire wear



New tire

Spark plug replacement

AI-37

Operation Description:

Remove the spark plugs and spark plug wires. Some new vehicles use a coil mounted on top of the spark plug. Perform a compression test as necessary. Replace the spark plugs and reinstall the spark plug wires (if equipped). If the engine is equipped with a distributor cap and rotor, inspect these components for signs of wear and arcing. Replace any worn or damaged component. Test drive the vehicle to confirm proper engine performance.



Worn out spark plug

Significance:

The efficiency and performance of your engine depend on it staying in proper running order. Spark plugs, ignition wires, distributor caps and rotors (all parts that wear out over time) require periodic replacement. If any of these parts are worn out or damaged, it can have a negative effect on the way that you engine runs. A rough running engine that is out of tune, will also have excessive tailpipe emissions, and will often fail a state emissions test. It will also cost more to operate and be less fuel-efficient. An engine with excessive emissions also runs the risk of damaging the oxygen sensors and catalytic converter.



New spark plug

Advantage:

Keeping your engine tuned properly is essential to long engine life and good fuel economy. An engine that is well maintained will provide you with good, reliable service for many years while reducing hazardous emissions.

Differential fluid change - rear

AI-43

Operation Description:

Drain the rear differential fluid according to the vehicle manufacturer's service procedure. Refill the differential housing using the correct type and amount of differential fluid or gear oil.



Draining rear differential fluid

Significance:

The rear differential contains components known as spider gears that allow the wheels to rotate at different speeds when turning. It also has a ring and pinion gear, which convert torque from the engine through the transmission and driveline into right angle torque. This is what enables the wheels to be driven by the engine. All of the gears and bearings in the differential are submersed in differential oil to protect and lubricate them. Differentials create heat under normal driving conditions, which can eventually break down the fluid, causing its lubrication properties to deteriorate. This condition can lead to total differential failure and an expensive repair bill.



Refilling with new fluid

Advantage:

Proper service of your rear differential fluid will make sure that the gears and bearings inside have the lubrication they require. With regular service, your differential can last the life of your vehicle. Changing the differential fluid as part of a scheduled maintenance program, will enhance the reliability of your vehicle, and save you money during the life of your vehicle.

Operation Description:

Remove the drain plug from the transfer case and allow the transfer case to drain completely. Clean the drain plug of any metal (especially if it is a magnetic design plug). Reinstall the drain plug, using a new drain plug gasket as needed. Torque the drain plug to the vehicle manufacturer's specifications. Remove the transfer case oil fill plug. Fill the transfer case with the correct amount and type of new fluid. Reinstall the fill plug, using a new fill plug gasket as needed. Torque the fill plug to the vehicle manufacturer's specifications.



Draining the old transfer case fluid

Significance:

The transfer case is a gear box that allows torque from your engine and transmission to be transmitted to the front and rear differentials, making four wheel drive operation possible. The transfer case includes bearings, gears, chains and shafts. The transfer case generates heat and pressure as you drive your vehicle. This heat and pressure, along with metal particles from normal use, can wear out your transfer case fluid and additives over time. Your transfer case relies on its fluid for both coolant and lubrication. If the fluid is not replaced at the recommended service intervals, you run the risk of your transfer case wearing out prematurely, or failing completely. Replacing or rebuilding your transfer case can be very expensive.



Filling transfer case with new fluid

Advantage:

Changing your transfer case fluid will ensure that it continues to shift and operate properly for years to come. This step will also keep bearings and gears from wearing out prematurely, which will help you avoid a costly repair.

Operation Description:

Remove the wheels. For disc brakes, remove the brake caliper and then remove the brake pads. Inspect the rotors for signs of damage or excessive wear. Replace or resurface the rotor as necessary. Inspect the brake caliper and brake hoses for damage and leaks. Replace the brake pads. For drum brakes, remove the brake drum. Remove the brake shoes. Inspect the brake hardware, wheel cylinders and hoses for damage. Inspect the brake drum for damage, or excessive wear. Replace or resurface the drum as necessary. Clean the brake drum and backing plate. Replace the brake shoes. Reinstall the brake drum. Adjust the brakes as necessary. Reinstall the wheels and torque the lug nuts to the vehicle manufacturer's specifications.



Damaged brake rotor from metal-to-metal contact

Significance:

This repair is all about safety. Your vehicle's brake system is only as good as your brake pads and/or brake shoes. The safety of you and your family depends on your brake system working properly and stopping your vehicle - every time. Aside from the obvious safety issues, neglecting the maintenance of your brake pads and shoes can cause the friction material on your brake pads and shoes to completely wear out. This can cause the steel backing on your brake pads or shoes to contact the rotors or drums and will destroy the rotors or drums, leaving you with an expensive repair bill.



New brake pads

Advantage:



There are no shortcuts when it comes to your vehicle's brakes. Having a professional automotive technician check and service brakes on a regular basis is essential to your safety behind the wheel. Maintaining your brake system by replacing your brake pads and shoes before they are completely worn out will help keep your brakes working properly and save you money by avoiding unexpected damage to your brake components caused by metal to metal contact.



Recommended Services

Our technicians recommend the following services for your vehicle.

Original Customer Requests	Status	Cost	Deferred	Approved
A. C/S THERE IS A CHECK ENGINE LIGHT ON AND THERE SEEMS TO BE A LACK OF COMPRESSION		\$0.00		X
Replace thermostat (Fault 0856, sticking thermostat)	Fail	\$590.00		
Replace all cams, cam adjusters, and lifters (Fault 0732 for cam adjustment, worn cam lobes causing low compression)	Fail	\$8,380.00		
Replace head bolts at same time as cam repairs (without removing heads) (Preventative repair, potential head bolt failure)	Caution	\$615.00		
B. C/S THE POWER STEERING HAS GONE OUT		\$0.00		X
Replace belt, all three idler pulleys, and tensioner (Idler pulley has failed and belt came off)	Fail	\$916.00		
C. C/S THERE IS A NOISE COMING FROM THE FRONT OF THE ENGINE		\$0.00		X
D. MULTI-POINT VISUAL INSPECTION		\$0.00		X
E. COMPLIMENTARY EXTERIOR CAR WASH AND INTERIOR FRONT FLOORBOARD VACUUM.		\$0.00		X
Subtotal		\$10,501.00		
Inspection Recommendations	Status	Cost	Deferred	Approved
Replace both front brake rotors (Brake rotors worn below minimum specifications)	Fail	\$1,050.00		See AI-20
Mount and balance 1 new tire (right front) (Found punctured tire)	Fail	\$407.00		See AI-31
Replace rear brake pads and replace rear brake rotors (3 mm or less)	Fail	\$975.00		See AI-77
Subtotal		\$2,432.00		
Replace both windshield wiper blades (Found windshield wiper blade(s) worn)	Caution	\$69.00		See AI-19
Replace rear wiper blade (Found rear wiper blade to be worn)	Caution	\$15.00		See AI-19
Perform front differential service (Front differential fluid due by time/mileage)	Caution	\$135.00		See AI-21

Inspection Recommendations	Status	Cost	Deferred	Approved
Replace spark plugs (Based on manufacture standards regarding time and/or mileage of the vehicle and after checking available service history at our dealership, we recommend the following:)	Caution	\$456.00		See AI-37
Perform rear differential service (REAR DIFFERENTIAL DUE BY TIME / MILEAGE)	Caution	\$135.00		See AI-43
Replace transfer case fluid (Transfer case fluid due by time/mileage)	Caution	\$125.00		See AI-53
Subtotal		\$935.00		
Previously Deferred Recommendations	Status	Cost	Deferred	Approved
PERFORM POWER STEERING FLUSH	Fail	\$225.00		
Subtotal		\$225.00		
Totals, Taxes and Fees		Cost	Deferred	Approved
Estimate Subtotal		\$14,093.00	\$0.00	\$0.00
Tax		\$0.00		
Estimate Total		\$14,093.00		
For "See AI-" items  see the "Additional Information" section 				



Previously Deferred Recommendations

We have kept a close watch on your maintenance history and believe that these previously recommended actions should still be performed:

Recommendation	Deferred	Approved
PERFORM POWER STEERING FLUSH		