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MAHLE 029 AS 20558 000

MAHLE ORIGINAL 029 AS 20558 000 Engine Bearing Shells

User Manual

1. Introduction

Thank you for choosing MAHLE ORIGINAL engine components. This manual is designed to assist you with the correct handling, installation, and maintenance of your new engine bearing shells. Adhering to these guidelines will ensure optimal performance and longevity of the product.
MAHLE ORIGINAL products are manufactured to the highest quality standards, ensuring reliability and precision for automotive applications. This specific part, the 029 AS 20558 000, is a critical component for engine crankshaft or connecting rod assemblies.

2. Safety Information

Always observe the following safety precautions when working with engine components:

- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the work area is clean, well-lit, and free of obstructions.
- Disconnect the vehicle's battery before beginning any work on the engine.
- Refer to the vehicle manufacturer's service manual for specific torque specifications and procedures.
- Keep all tools and parts organized to prevent misplacement.
- Do not use damaged or incorrect parts.

3. Product Components

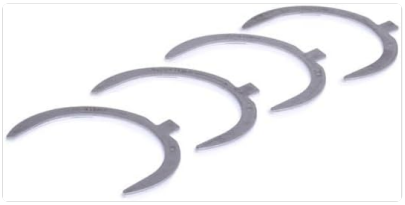
The MAHLE ORIGINAL 029 AS 20558 000 typically includes a set of precision-engineered engine bearing shells. The exact number of shells may vary depending on the specific engine application (e.g., main bearings, connecting rod bearings).



MAHLE ORIGINAL 029 AS 20558 000 Engine Bearing Shells in their original packaging, indicating a new, genuine product.



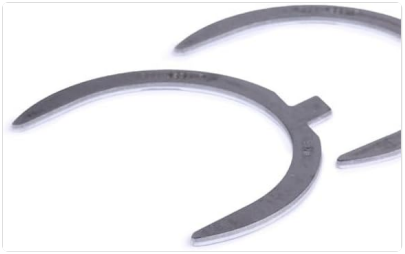
A set of four MAHLE ORIGINAL engine bearing shells, laid out to show their individual crescent shape and metallic finish.



Another view of the MAHLE ORIGINAL engine bearing shells, emphasizing their precise crescent design, crucial for proper fitment.



A close-up perspective of the MAHLE ORIGINAL engine bearing shells, revealing the fine details and markings on their surface.



A very detailed view of two MAHLE ORIGINAL engine bearing shells, showcasing the precision engineering and material quality.

4. Setup and Installation

Installation of engine bearing shells requires specialized knowledge and tools. It is highly recommended that this procedure be performed by a qualified automotive technician.

1. **Preparation:** Ensure all mating surfaces (crankshaft journals, connecting rod bores, engine block bores) are meticulously clean and free of debris, old oil, or carbon deposits. Use appropriate cleaning solvents and lint-free cloths.
2. **Inspection:** Carefully inspect the new bearing shells for any signs of damage, scratches, or manufacturing defects before installation. Do not install damaged parts.
3. **Lubrication:** Apply a thin, even coat of clean engine oil or assembly lubricant to the bearing surfaces of both the upper and lower shells. This is crucial for initial startup protection.
4. **Placement:** Carefully place the bearing shells into their respective locations (engine block, main bearing caps, connecting rods). Ensure the locating tangs align correctly with the notches in the bores.
5. **Assembly:** Assemble the crankshaft, connecting rods, and bearing caps according to the vehicle manufacturer's specifications. Pay close attention to orientation and proper seating.
6. **Torqueing:** Tighten all bolts (main bearing cap bolts, connecting rod bolts) to the exact torque specifications provided by the vehicle manufacturer. Use a calibrated torque wrench and follow the specified tightening sequence (e.g., torque-to-yield, angle tightening). Incorrect torque can lead to premature bearing failure.
7. **Clearance Check:** If possible, verify bearing clearances using plastigage or a similar method to ensure they are within the manufacturer's specified tolerances.

5. Operating Considerations

Once installed, the bearing shells operate as an integral part of the engine's rotating assembly. Proper engine operation and maintenance are key to their longevity.

- **Initial Startup:** After engine assembly, ensure the engine is primed with oil before the first start. This can involve cranking the engine without ignition or using a pre-lubrication system.
- **Oil Quality:** Always use the engine oil type and viscosity recommended by the vehicle manufacturer. High-quality oil provides the necessary lubrication and protection for bearing surfaces.
- **Oil Pressure:** Monitor engine oil pressure. Low oil pressure can indicate lubrication issues that will severely damage bearings.
- **Engine Temperature:** Avoid engine overheating, as excessive temperatures can degrade oil and bearing materials.

6. Maintenance

The bearing shells themselves do not require direct maintenance after installation. Their lifespan is directly tied to the overall health and maintenance of the engine.

- **Regular Oil Changes:** Adhere strictly to the vehicle manufacturer's recommended oil change intervals. Use fresh, clean oil and a new oil filter.
- **Oil Filter Replacement:** A clean oil filter is essential to prevent contaminants from reaching the bearings.
- **Engine Cleanliness:** Prevent dirt and foreign particles from entering the engine during any service or repair.
- **Cooling System:** Maintain the engine's cooling system to prevent overheating, which can lead to oil degradation and bearing damage.

7. Troubleshooting

Bearing issues typically manifest as engine noises or oil pressure problems. If you suspect bearing failure, immediate action is required to prevent further engine damage.

Symptom	Possible Cause	Action
Knocking or rapping noise from engine	Worn or damaged bearings, insufficient oil pressure, incorrect clearances.	Immediately stop the engine. Consult a qualified mechanic for diagnosis and repair. Do not operate the engine with these symptoms.
Low oil pressure warning light	Insufficient oil level, faulty oil pump, clogged oil filter, excessive bearing clearances.	Check oil level. If level is correct, stop engine immediately and seek professional diagnosis.
Metal particles in engine oil	Severe bearing wear or failure.	Do not operate the engine. This indicates catastrophic failure. Engine disassembly and inspection are required.

Note: Any significant engine noise or oil pressure issue should be addressed by a professional mechanic immediately to prevent further damage.

8. Specifications

Attribute	Value
Brand	MAHLE
Manufacturer	Mahle Aftermarket GmbH
Item Model Number	029 AS 20558 000
Manufacturer Part Number	029 AS 20558 000
OEM Part Number	026105635A
Product Dimensions	52.53 x 35 x 18.66 cm
Item Weight	40.4 Kilograms
Date First Available	January 15, 2020
Up to housing diameter	73.200 mm

Attribute	Value
Up to wall thickness	1.975 mm
Up to shaft diameter	59.750 mm
For housing diameter from	72.950 mm
For wall thickness from	1.925 mm

9. Warranty and Support

For information regarding product warranty, please refer to the warranty documentation provided with your purchase or visit the official MAHLE website. Specific warranty terms may vary by region and product type.
For technical support, installation guidance, or inquiries about product compatibility, please contact MAHLE customer service or your authorized MAHLE distributor. Contact information can typically be found on the official MAHLE website or on the product packaging.
MAHLE Official Website: www.mahle.com

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