



Technical Report #68

***Cylinder head gasket for oversized pistons
on Mercedes engines***

Technical Report

Reason

Inform our customers about what cylinder head gasket to install on those Mercedes engines which allows the reparation of the cylinders.

Description

The families of Mercedes Benz Engines: **601/602/603/612/646/648** have the cylinders mechanized directly in the engine block. This type of engine offers the possibility to repair the cylinders that suffers some type of damage and / or wear due to the friction of the piston rings in their walls during their operation.

The repairing methods according the importance of wear or damage are the followings:

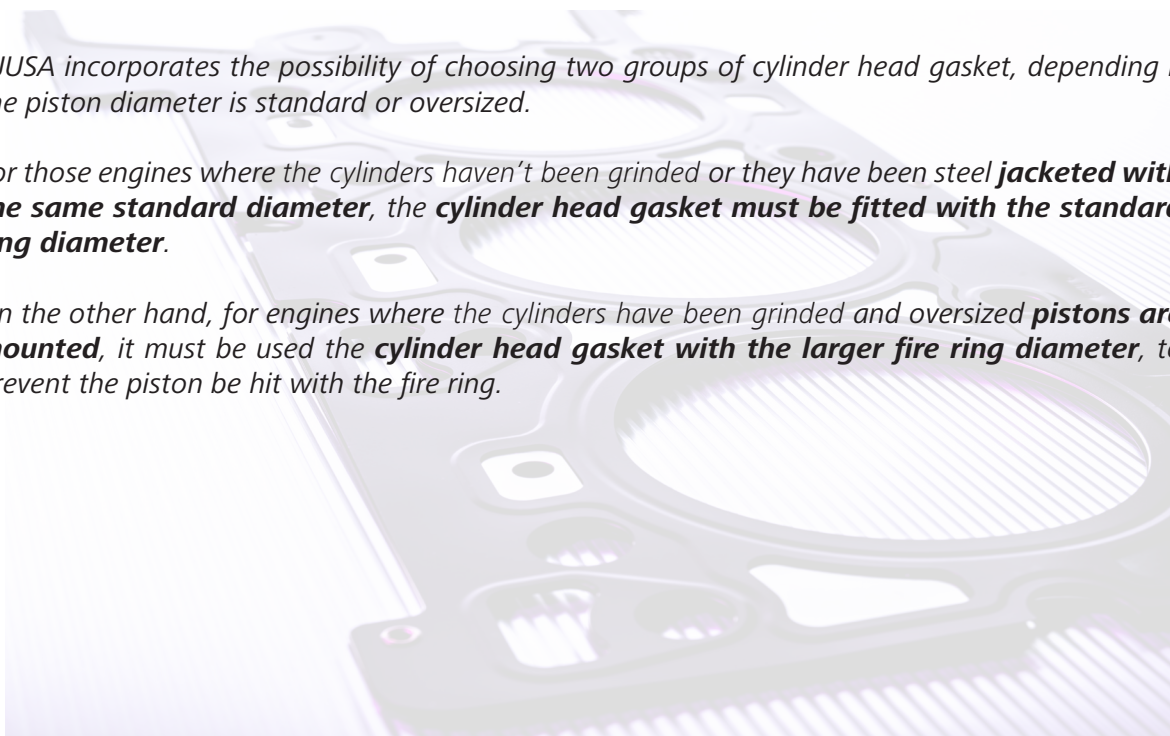
1. Grinding: in those cases where the damage is superficial and with a grinding is sufficient. When it's increased the diameter of the cylinder it is necessary to mount oversized pistons.

2. Grinding + Steel Jacketed: for those cases in which the damage is more important and it is not enough rectifying the walls of the cylinder. Firstly, the cylinder is rectified to the proper diameter to insert a new standard cylinder liner. As the cylinder diameter is maintained, standard diameter pistons must be installed.

AJUSA incorporates the possibility of choosing two groups of cylinder head gasket, depending if the piston diameter is standard or oversized.

For those engines where the cylinders haven't been grinded or they have been steel jacketed with **the same standard diameter**, the **cylinder head gasket must be fitted with the standard ring diameter**.

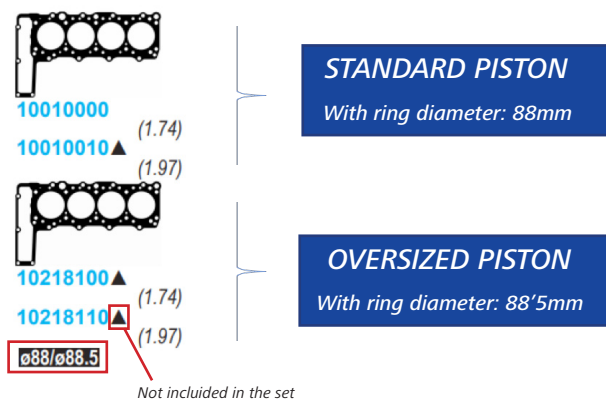
On the other hand, for engines where the cylinders have been grinded and oversized **pistons are mounted**, it must be used the **cylinder head gasket with the larger fire ring diameter**, to prevent the piston be hit with the fire ring.



In the following table, we indicate the different engine families that incorporate this possibility and the cylinder head gasket which they mount in each case:

ENGINE	DISPLACEMENT (cm) ³	PISTON / Ø RING (mm)	STANDAR THICKNESS	RECTIFIED THICKNESS
MB601	1997	Estándar / 88	10010000	10010010
		Sobremedida / 88.5	10218100	10218110
OM646	2148	Estándar / 89	10128100	10128110
		Sobremedida / 89.5	10188500	10188510
OM646	2148	Estándar / 89	10188300	10188310
MB646		Sobremedida / 89.5	10188400	10188410
MB601	2197	Estándar / 90	10128200	10128210
		Sobremedida / 90.5	10218600	10218610
MB601	2300	Estándar / 90	10080000	10080010
		Sobremedida / 90.5	10218000	10218010
MB602	2497	Estándar / 88	10062800	10062810
		Sobremedida / 88.5	10218200	10218210
MB612	2685 / 2950	Estándar / 89	10128900	10128910
OM612		Sobremedida / 89.5	10199400	10199410
MB602	2874	Estándar / 90	10080100	10080110
		Sobremedida / 90.5	10218300	10218310
MB603	2996	Estándar / 88	10063000	10010010
		Sobremedida / 88.5	10218500	10218110
MB648	3199 / 3222	Estándar / 89	10129000	10129010
		Sobremedida / 89.5	10199200	10199210

In our catalogue, we first indicate the cylinder head gasket of the standard size piston, while in the second picture we indicate de reference of the oversized piston gasket.



In the head sets (ref:52XXXXXX) and complete sets (ref:50XXXXXX), Ajusa always include the reference of the standard gasket.