

Link do produktu: <https://bizongarage.pl/rtmg-performance-block-reinforcement-plate-for-enhanced-strength-20-tfsi-ea113-engines-without-oil-pump-kit-p-4515.html>



RTMG Performance Block Reinforcement Plate for Enhanced Strength - 2.0 TFSI EA113 Engines without Oil Pump Kit

Cena brutto	3 421,05 zł
Cena netto	2 781,34 zł
Cena poprzednia	3 801,17 zł
Dostępność	Na zamówienie
Numer katalogowy	331546312
Kod producenta	RTMG-0110

Opis produktu

Block Reinforcement Plate for Enhanced Strength - 2.0 TFSI EA113

Why do we install a steel plate, and how does it improve the block's strength?

The steel plate, as opposed to a simple iron plate, is characterized by high strength and hardness of 30 HRC. This makes it one of the best materials available for use under high pressure. The crankshaft in performance applications is subjected to the intense impact forces of large explosions in the combustion process. These forces, transferred through the piston, connecting rod, and crankshaft, place significant stress on the main bearing caps and their fastening bolts.

Our kit introduces an innovative solution: additional reinforcement for the main bearing caps, reducing the strain on the crankshaft cap bolts. The benefits are significant under high loads because the plate is externally bolted to the engine block. This configuration helps evenly distribute stress across the central bolts of the main bearing caps.

For example, if during combustion a pressure of 1000 N is applied to the crankshaft at a journal, this pressure would traditionally stress the four factory bolts at the two bearing caps, resulting in $1000\text{ N} / 4 = 250\text{ N}$ per bolt. With our plate, the pressure is distributed across twice the number of bolts, reducing the load to approximately $1000\text{ N} / 8 = 125\text{ N}$ per bolt. This is achieved by utilizing the block's perimeter for additional support.

Key Advantages:

Reduced Bolt Stress: Lower stress on the bolts minimizes elongation, preventing crankshaft deformation and protecting the main bearings.

Enhanced Safety: In case of engine failure, the plate retains the crankshaft, preventing oil leakage onto the vehicle's wheels, which could lead to catastrophic accidents.

Optimal Material Selection: The spacers between the plate and the journals are made of chromoly, with a strength exceeding 1000 kPa. The bolts used are ARP, far stronger than factory bolts and among the best in the market.

Installation Considerations:

For some EA113 engines with cast main caps, the caps may need to be milled on the side where the spacers will sit. This ensures maximum benefit from the plate and evenly distributed pressure on the caps.

Our spacers are designed with extended length to accommodate all types of EA113 engines (e.g., BWA, CDL, AXX, etc.). Once the central caps are tightened, the plate must have a clearance of 0.04-0.06 mm from the block perimeter. This preloading enhances the rigidity of the assembly.

Precision machining ensures the steel plate is perfectly flat for optimal fitment.

Additional Modifications:

Since the pressure plate has a thickness of 10 mm, a longer oil pump chain (+2 links) is required. The kit includes an option for a larger chain.

To address common issues where the factory oil pump jams at high RPMs, this rigidity enhancement is often paired with a higher-capacity oil pump, available as part of our kit.

Welcome to the next generation of high-quality performance upgrades by RTMG PERFORMANCE.