

# INSTRUCTIONS FOR USE IN AGRICULTURAL MACHINE ENGINES

**CERAMIZER® is recommended for the reconditioning of four-stroke combustion engines, through regeneration of the surfaces of metal parts which are subjected to friction.**

The proper use of Ceramizer® will result in improvements of the vehicle's performance, increasing the compression level in all cylinders, reducing oil and fuel consumption, reducing vibration and noise, decreasing toxic emissions and extending the engine's life as well as the oil change intervals. Ceramizer® neither clogs filters nor blocks oil channels, as its particles are extremely small in diameter, so they can be freely transferred through filters.

Ceramizer® does not affect oil at all. Its viscosity and composition remain unchanged. Oil is used as a means of delivering active nano particles into the internal parts of the engine prone to friction.

Reconditioning of metal parts through the use of Ceramizer® takes place in normal operating conditions without the need to disassemble them. The ceramic-metal coating (which has unique properties) covers worn down surfaces, leading to restoration of ideal geometry of the surfaces which are subjected to friction.

## INDICATIONS:

1. Ceramizer® is suitable for all types of oil and for all types of combustion engines: petrol engines, Diesel with injectors, with direct injection common-rail, with sequential and distributor pumps, for engines powered by gas, turbocharged, with catalyzers and with lambda probe.
2. Ceramizer® can be used for combustion engines of any machinery and factory units after consulting the Producer.
3. A smaller dose of Ceramizer® than recommended will not give the expected results.
4. An increased dose doesn't cause any side effects, it only makes the process of cermet creation last longer.
5. Ceramizer® can be used at every stage of utilization, best just after oil exchange.
6. Do not change oil during the whole period of ceramization (1.5 thousand km or 25 operating hours). Oil change should be carried out according to maintenance schedule.
7. Use Ceramizer® as a preventive measure to protect the engine against friction and to extend its operating life.

## DOSAGING:

The below presented table specifies the QUANTITY OF CERAMIZERS (qty of dispensers) required for ceramization of surfaces subjected to friction.

Engine Oil Capacity (L)	Up to 10 L	10-15 L	15-20 L	20-25 L
Operation: 100-800 working hours	1 disp.	2 disp.	3 disp.	4 disp.
Operation: 800-5000 working hours	2 disp.	3 disp.	4 disp.	5 disp.
Operation: > 5000 working hours	3 disp.	4 disp.	5 disp.	6 disp.

### PACKAGE CONTAINS:

1. One dispenser with 4.5g net mass of oil additive.
2. The user manual.

## DIRECTIONS FOR USE:

### 1. WARM UP THE ENGINE



### 2. TURN OFF THE ENGINE AND APPLY CERAMIZER



### 3. RUN THE ENGINE AT STANDSTILL FOR 15 min



### 4. AVOID DYNAMIC DRIVING FOR THE FIRST 3,5 mth



### 5. FOLLOWING MAKING 3,5 mth, DRIVE AT ANY SPEED



### 6. DO NOT CHANGE OIL BEFORE MAKING THE FIRST 25 mth



1. Warm the engine up to working temperature of 80-90°C, (e.g. after a drive, or engine operation on idle gear for at least 10 minutes).
2. Turn off the engine.
3. Remove the oil filler plug and apply the dispenser(s) content through the filler plug. In case of filler with long neck, it is recommended to pour some oil through filler plug before application of Ceramizer®. Next, you need to apply Ceramizer® and then inject some oil again. This procedure ensures proper flow of additive to the engine lubrication system. In case of strainer filler, it is recommended to mix Ceramizer® with some oil (e.g. 200ml), and then to inject the mixture through oil filler plug.
4. Turn the oil filler plug back on.
5. Start the engine and run on idle for 15 minutes.
6. Cover the distance of 200km with care (a few shorter runs covering the required distance can be made as well), but do not exceed engine rotational speed of 1600 rpm or in case of vehicle without rev. counter drive at speed limited to 60 km/h. Caution: 200 km mileage corresponds to engine operation on idle gear for 4h. Engine operation on idle gear for 1 hour corresponds to distance of 50km.
7. Following the making of 200km or engine operation on idle gear for 4h you may drive at any speed. The process of ceramic-metal coating forming follows throughout 1500km. Do not change oil within this period!
8. In case of vehicles with a big mileage (over 500 thousand km) application of dispensers in 2 phases is recommended. Firstly, apply a half of dispensers specified in the attached user manual, and then after making approximately 500km apply remaining dispensers in the same manner. This procedure ensures optimum ceramic-metal coating of surfaces subjected to friction.

## NOTES

1. If any Teflon or molybdenum components have been added to the oil before, we recommend changing this oil and cleaning the mechanism before applying Ceramizer®. Otherwise its effectiveness will be reduced and the process of cermet creation will last longer.
2. In case of any mechanical damages to the engine e.g. cracked or scorched piston ring, leaky valve, deep scratches on the cylinder etc. - they should be repaired before adding Ceramizer®.
3. Ceramizer® does not recondition any places where friction of rubber or plastic with metal parts occurs.
4. In case of engines without automatic valve clearance adjustment, after Ceramizer® treatment for 25 operating hours, a valve adjustment should be done if considered necessary (if valve clattering is heard).
5. If the engine is equipped with a centrifugal oil filter, it should be cleaned before applying Ceramizer®. In these types of filters molecules tend to settle, therefore the amount of additive that reaches the friction surfaces is reduced.

## EFFECTIVENESS

Provides protection against wear and tear for minimum of 1150 operating hours (mth). Ceramizer® can be used again after this mileage.

## RESEARCH

This product is safe and produced in accordance with the EU (91/155/EEC) norm.

Effectiveness confirmed by tests.

Store at a temperature below +40 °C. If the storage temperature exceeds 40° C the product can sedimentate. In such case product should be shaken and cooled to a temperature below 40° C in order to make it ready to use.

Particle filter is a metal box filled with metal or ceramic fibers on which soot particles are being deposited. These particles burn out in certain operating conditions of exploiting the vehicle.

Ceramizer does not change the rheological parameters of the oil, it does not generate soot particles, sulphated ash, phosphorus and sulfur, therefore it does not affect the work of the DPF and can be safely used in engines with DPF.

Does not contain either molybdenum or Teflon.

Keep away from children.

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