We have done a detailed analysis of unbranded spare parts and repair kits for tractors of the type ZETOR, ZTS, URSUS, LKT purchased from unbranded sellers. How did these unbranded parts and repair kits compare to AGS Premium quality branded parts?

Travelling clutch plate no.: 10-7001-1189.5

- The unbranded travelling clutch plate does not have a lining type that corresponds to the drawing. The use of inappropriate lining on the plate results in a reduced plate life, slippage at higher engine power, and ultimately increased wear on the travel clutch pressure ring.

- The hub of the plate does not correspond to the drawing documentation and is about 5 mm narrower, which results in a smaller seating area between the hub grooves and the clutch shaft, resulting in increased wear at the engagement point.
- The number of rivets on the unbranded plate is only 5 pcs instead of 6 pcs. With increased engine power can occur to wear on the hub and clutch shaft.

Brake pads no.: 10-93-5023.5

- We compared branded brake pads with cheaper unbranded pads.
- Both types of brake pads have similar braking effects (same coefficient of friction).
- During the braking load, unbranded brake pads heat up by more than 400 °C, while branded pads only heat up by 200 °C.
- When the temperature reaches about 600 °C for non-branded pads, the braking effect is reduced.
- Wear indicators are missing on unbranded brake pads.
- The use of unbranded brake pads is not recommended, particularly for reasons of tractor safety.
- In addition, the use of unbranded brake pads has a significant impact on the life of other parts of the brake system, such as brake discs, brake calipers and sealing elements, which can be severely degraded by the high temperature of the brake pads.

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Connecting rod no.: 10-7101-0309.5

- Tie rod deflection does not correspond to the prescribed values.
- The composition of the material does not correspond to the material prescribed in the drawing.
- Connecting rod contains chemical elements that belong to the prescribed material, but in a different proportion.
- The material also contains elements that do not belong in it, such as aluminium, nickel, copper.
- The heat treatment does not correspond to the drawing the hardness of the material is about 15% lower than the prescribed lower limit.
- The test showed that the connecting rod cannot be used as a spare part for ZETOR, ZTS, Ursus, LKT engines. When using this product there is a risk of deformation and under high load also destruction of the engine.

Thrust washer set no.: 10-6011-0277.5

- The thrust washers are improperly packed and there is a risk of damage during transport and storage.
- The packaging marked "original parts" does not correspond to reality, the marking of the individual items does not correspond to the spare parts catalogue or the drawing.
- Confusing packing makes very difficult to identify the individual items when assembling and disassembling the crankcase.

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Connecting rod big end liner set no.: 10-6011-0094.5

- Connecting rod big end liners are improperly packed, there is a risk of damage during transport and storage.
- The packaging marked "original parts" does not correspond to reality, the marking of the individual items does not correspond to the spare parts catalogue or the drawing.
- Confusing packing makes very difficult to identify the individual items when assembling and disassembling the crankcase

Water pump no.: 10-6201-0615.5

- Uneven casting, after dismantling, there were shrapnels in the body after machining.
- On the inner surface, under the impeller wheel there was found the rest of the foundry sand.
- When tapped, grains of sharp hard dirt fall out of the body.
- The outlet and inlet necks are rough cast inside. When measured, the diameter of the inlet and outlet neck does not have correct diameter.
- The shaft is not made according to the drawing. Bearings of unknown origin with large clearances are used. It causes reduced service life and susceptibility to vibration.
- The correct width and height of the blades on the impeller wheel is not observed and it causes a reduction in cooling performance, increased susceptibility to overheating and vibration.
- The hub has the wrong diameter for mounting the fan, in one of the holes the screw could not be screwed in, it can increase vibration.

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Water pump gasket no.: 10-95-0613.5

- Gasket material and shape does not correspond to the drawing.
- The gasket material frays and breaks, there is a risk of leaking when the coolant temperature increases.

Cylinder head no.: 10-7101-0501.5

- Material and dimensions do not correspond to the drawing.
- Incorrect diameter of the valve guides increases oil consumption.
- Narrowed intake and exhaust head channels can cause reduced engine performance.
- Frost plugs are poorly sealed and made of unsuitable material susceptible to corrosion.
- Improperly seated and pressed injection sleeves can cause leaking and cracking of the casting.

Head gasket no.: 10-7101-0572.5

- Gasket material and shape does not correspond to the drawing.
- The gasket material frays and breaks, there is a risk of leaking when the coolant temperature increases.
- The individual layers separate from each other, poor quality of the middle layer.

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Piston liner kit no.: 10-7011-0099.5

- **Packaging:** goods are packed in a white cardboard box without protective elements.
- Without indication of origin and the producer's name.
- Piston rings are without marking, loosely inserted in the box, without any protection against damage.

- **Material composition:** the chemical composition of the material does not correspond to the prescribed material specification for cylinder liners and pistons.
- The cylinder liner and piston material contain chemical elements which belong to the prescribed material, but in a different and inappropriate proportion, which affects the strength and thermal expansion of the material.
- The material also contained elements that do not belong in it and affect the mechanical properties.
- The heat treatment does not correspond to the drawing the hardness of the material is about 13% lower than the prescribed lower limit.
- **Component dimensions:** when measured with calibrated gauges at the prescribed temperature, it was found that the dimensions of the individual components do not correspond to the approved drawings and exceed the lower limit significantly. It can increase oil consumption, the risk of engine stalling and lowered lifetime of engines with higher loads.
- **Weight:** Individual components have different weight than shown in the drawing. It has an effect on the durability and balance of the entire crankcase. The weight difference is especially at gudgeon pins and pistons it can be up to 15%.
- **Machining**: the liner is unevenly cast, the sealing rings have burrs, there is a risk of the sealing ring damage during assembly.
- The machining of the upper- and lower- cylinder edge is inconvenient and there is a risk of its cracking.
- The honing method does not correspond to the approved drawing which leads to increased oil consumption.
- The shape and dimensions of the working surfaces of the cylinder liner and piston are completely out of tolerance.
- Deviations in the piston weight, shape and volume of the combustion chamber have been found. It can increase engine smokiness and impaired engine starting, especially in cold weather.
- The machining deviation was detected in the piston rings and also different shape of the individual rings.

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Piston liner kit 110/4r – no.: 20-83-003-959.5

- The packaging of the piston liner kit is completely unsuitable, as the piston rings are stored loosely in the carton, are not protected in any way, and are at risk of damage during transport and handling
- The material and chemical composition of individual components does not correspond to the drawing documentation, and there is a risk of cracks forming, particularly in the area of the collar of the folded cylinder
- The dimensions of the inserted cylinder and piston do not correspond to the drawing documentation and are completely outside the tolerance specified by the engine manufacturer
- The hole for the piston pin is too tight
- O-rings are made of unsuitable black material and do not have the required hardness.
- The piston rings do not have the prescribed surface finish, which may result in rapid wear and increased oil consumption. Furthermore, the clearance in the lock does not correspond to the prescribed values.

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The conclusion is unambiguous. The branded spare parts and repair kits AGS Premium quality designed for tractors ZETOR, ZTS, URSUS, LKT are worthwhile in terms of price and their utility properties. It is the highest quality available on the market. Do not be tempted by bargain offers, because at the end the repair from unbranded parts could be more expensive. Branded spare parts and repair kits offer a very good price to performance ratio.

Unbranded spare parts and repair kits cannot be recommended for quality repair of your tractor ZETOR, ZTS, URSUS, LKT. They can reduce the durability of the tractors and its aggregates.

It is regrettable that the unbranded parts appear on the market in packaging such as original parts, genuine parts, quality parts or approved parts, which meets all the characteristics of unethical behavior. According to Czech and international law it is misleading the consumer.

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