

ENGINE ASSISTED BICYCLE
SERVICE AND MAINTENANCE MANUAL



Dear customer,

we thank you and congratulate you on the purchase of your bicycle with the subsidiary engine. The bicycle with the subsidiary engine has been designed and constructed to satisfy your requirements safely and reliably.

Please read the instructions manual carefully so as to be able to operate and maintain this bicycle effortlessly. At the same time we would like to inform you about the warranty which applies to the product, as long as it is used for the purpose to which it has been produced. In case of any unauthorized interfering into the construction parts of the bicycle, its engine or its gear during warranty time, the warranty loses its validity.

The product complies to the conditions for the traffic on roads in the sense of the valid law regulations and especially to the edict of the Ministry of transport no. 341/2002 in the sense of the edict of the Ministry of transport no. 100/2003 Sb.

The engine assisted bicycle has been verified by the Institution for the Investigation of Engine Vehicles by the act no. 82046-03 for interference elimination and by the act no. 85037 for noise suppression.

We wish you many safe and happy kilometres with our bicycle.

The manufacturer

TECHNICAL DETAILS:

Bicycle:

Type:		26 inches
Design:		ladies', gentlemen's
Usage weight:		100 kg
Maximum speed:		25 kmh
Brakes:	front brake:	wire-brake shoe
	rear brake:	counter-peddalling
Special equipment:		panoramic rear mirror

Engine drive:

Engine type:		AJT 26
Design:		air-cooled 2-stroke single cylinder
Engine volume:		25,66 cm ³
Cooling:		air – fan
Maximum load:		0,65 kW/6500 r.p. min ⁻¹
Maximum twisting moment:		1 Nm/6000 r.p. min ⁻¹
Compression ratio:		10:1
Sparking-plug:		Champion RCJ 6 Y
Tank volume:		0,5 l
Own weight (with engine-drive):		3,9 kg
Fuel ratio (oil:petrol)		1:25
Fuel:	petrol:	Unleaded 95
	oil:	2T (for two-stroke engines)
oils:		Aral 2T Super, Aral 2T High, Aral 2T Scooter, OMV syn star 2T, OMV city star 2T, Mobil 1 Racing 2T, Mobil Extra 2T
Actuation drive:		direct friction drive on the back wheel mantle, over the driving pinion

Safety instructions:

- When riding your bicycle on public roads you take part in the road traffic and you are obliged to follow the traffic regulations according to the corresponding enactments of the law.
- The bicycle must not be used by persons who are under the influence of alcohol, narcotics, or by persons who suffer of excessive fatigue or of ill health.
- The engine as well as the bicycle must not be altered by the user so as not to comply to the conditions of traffic and the current enactment about traffic on public roads.
- The bicycle must be used only for the activities it is designated for.
- The engine must not be turned on, neither must it run, in enclosed areas.
- The fuel must be mixed and filled outside enclosed areas.
- A fuel reserve must be carried in petrol cans which meet the directives for holding and transporting the relevant fuel.
- Close to the fuel, smoking, the handling of open fire, eating and drinking are prohibited.

Starting the engine:

1. Cold engine.

- Take in the fuel by squeezing the pump 2 – 4 times in the opening of the cover at the neck of the petrol can. See fig.:



- Put the handle of the air-access seal (IN THE COVER OPENING ABOVE) into the closed position, ie. the UPPER position, see fig. below.



- Accelerate the bike by pedalling, add “gas“ by twisting the right handle bar and at the same time press the handle of the clutch on the left side so as to engage the latch.
- The engine starts. Stop and switch the handle of the air access seal in the engine-cover into the bottom position.
- If the engine starts and then stops again, halt and switch the handle of the air access in the engine cover into the bottom position, too, ie. in the opened position. Accelerate the bike by pedalling, add gas and press the

handle of the clutch on the left side of the handle-bars so as to engage the latch. The engine starts and you can continue your ride.

- Please do not use the manual starting, it is meant only for engine-adjustment purposes.

2. Warmed-up engine

- Put the handle of the air access seal (IN THE COVER OPENING) into the opened position, ie. the BOTTOM position in, see fig. below.



- Accelerate the bike by pedalling, add “gas“ by twisting the right handle bar and at the same time press the handle of the clutch on the left side so as to engage the latch.
- The engine starts and you can continue your ride.
- Please do not use the manual starting, it is meant only for engine-adjustment purposes.

Riding the bicycle

On level ground and when going uphill, leave the clutch in the switched on position and use the engine acceleration. Going up steeper hills, or with strong headwind, it is necessary to tread the pedals and thus to overcome the resistance. At the same time it is possible to switch the handle of the clutch into the other position, in which the handle ensures a higher friction on the back wheel mantle. Going downhill it is necessary to disengage the clutch and to leave the engine on idle run without friction. You can switch the engine off by pressing the stopbutton on the right handle bar. If the descending road is uneven and you are going down with the engine switched off, the friction-mechanism might spring mount on rough ground and thus the bicycle gets slowed down, and even the engine might start. Therefore, if descending on rough ground, ride carefully in order to avoid unnecessary accidents. Do not ride on roads with unhardened surface and do not ride off any tracks. The bicycle is designed for roads with hardened surface.

Leverage for off engine position: (Used it, if is pedaling only)



Stopping

Before stopping, push the safety-press of the clutch handle (thus the engine gets disengaged from the back mantle). The engine will be on idle run . Switch the engine off by pressing the stopbutton on the right handle bar. In this way you can disengage the engine and switch it off when going downhill.

Refuelling:

Put the previously prepared fuel mixture into the tank. The fuel mixture must be previously prepared outside the tank, eg. in a canister. For this purpose we recommend you to acquire a canister of which you easily can pour the fuel into the tank.

The opening of the tank is on the left side in the front, in riding direction. It is placed in the cutout of the cover. When unscrewing the cap you will find a special packing piece which is to be put back under the tank cap after refuelling. Screw the cap back carefully and tightly. There is vacuum in the tank when the engine works and if the cap were not tight back properly, problems could occur in the functioning of the engine. It is not possible to ride the bike with an open tank (without the cap). Use unleaded petrol and oils for two-stroke engines which are labelled 2T (2-stroke), as fuel. The mixing ratio of the fuel is **1:25**, see chart, ie. add to 10 litres of unleaded petrol 0.4 litres (400 ml) of oil. With a new engine, we recommend a mixing ratio of 1:20, which is to be used for the first ca. 200km, ie. till three tanks have been emptied. See the chart for the mixing ratio below:

	petrol and oil ratio:
Liter of petrol:	1:25 oil
1 Liter	40ml
2 Liter	80ml
5 Liter	200ml
10 Liter	400ml
20 Liter	800ml

Oils: Aral 2T Super, Aral 2T High, Aral 2T Scooter, OMV syn star 2T, OMV city star 2T, Mobil 1 Racing 2T, Mobil Extra 2T

Adjustment:

From the production, the engine comes out ready for immediate use. The tyres are inflated to the pressure corresponding to the optimum friction. Any unauthorized interfering into the construction of the product with broken seal-marks on the screws annihilates the warranty of the product as the bicycle might be set into a state in which there is too much strain on its individual parts.

Friction pressure regulation:

For the right functioning of the engine-acceleration, the right amount of pressure by the driving pinion on the wheel mantle is necessary. This pressure is provided by the pressure mechanism.

The pressure must be adjusted in a way as to avoid friction of the wheel mantle and the pinion when the engine is switched off (the clutch handle is switched off), as pressure of this strength would be too high. And on the other hand, the pressure must be adjusted in a way as to avoid slipping of the wheel mantle when the clutch handle is in the switched-on position and thus the pressure is not strong enough. In this case the cyclist can make little or no use of the subsidiary engine.

- The pressure is too strong:

How does this show? When the engine is switched off, friction between the driving pinion and the wheel mantle occurs. When riding with the engine switched off, you can hear this easily.

- The pressure is too low:

How does this show? When the engine is switched on, there is only slight pressure (friction), or none at all. The clutch handle moves too lightly when operated.

Regulation:

The Bowden cable of the friction mechanism starts at the clutch handle. Here you can find the regulation screw with the help of which you can regulate the pressure. The other mechanism with which too strong or too low pressure can be regulated is in the bottom part of the cover, which can be reached from below, see fig. Here there

are two stopping screws with which you can regulate the pressure. If you tighten the screws, the pressure of the pinion on the wheel mantle gets lesser, if you loosen the screws, the pressure becomes higher.

Inflating the wheels

Make sure there is enough pressure in the bicycle wheels, especially in the back wheels. For a ride with an optimum friction a higher pressure in the back wheel is needed.

Cleaning the air-filter

After having made ca. 5000km (under common circumstances with common dust conditions) it is necessary to take down the cover of the engine-drive. (You can take down the drive-cover when you have removed the saddle and the tightening screw of the saddle). Undo two screws and take down the lid of the sucking-opening under which there is the foam air-filter. Wash the filter under running water, let it dry and put it back on again. Tighten the screws on the cover and put the bicycle back to original state.

If you are unable to perform this procedure, we will be happy to help you at our service-rooms.

Exchanging the sparking-plug

The sparking-plug is exchanged when it no longer fulfills its function adequately. The sparking plug in a two stroke engine gets impure easier because of the oil which is added to the fuel. To exchange the sparking plug, undo the cover of the engine-drive. (You can take down the drive-cover when you have removed the saddle and the tightening screw of the saddle). Take off the cap of the high voltage cable. Unscrew the old sparking-plug and install the new one. Push the cable end connector on the sparking-plug. Put the drive-cover back on again.

Operation instructions:

- The bicycle is equipped with a support stand.
- Do not lean the bike against the handle-bars. This would damage the switch for the stopping of the engine.
- Do not start the engine with the manual starting system. This system is only for engine-adjustment purposes. Frequent usage might damage the system.
- Do not interfere into the cover and into the engine. The screws are equipped with safety marks. If these marks were damaged, the warranty on the relevant parts would lose its validity.
- Do not ride the bicycle without the engine cover.
- After refuelling always screw the cap carefully back on again. There is a special packing piece under the cap which is to be placed back again after refuelling. Screw the cap back carefully and tightly. There is vacuum in the tank when the engine works and if the cap were not tight back properly, problems could occur in the functioning of the engine. It is not possible to ride the bike with an open tank (without the cap).