

REEDS



It is lively recommended to carefully read this document in every part before beginning to work on the vehicle or the motor.

GENERAL INFORMATIONS

Valve is a fundamental component of engine fuel feeding system and a right choice of this item can influence on reaching of best performances and fuel consumption.

Its main function is to regulate automatically the flux of fresh charge, air and fuel blend prepared by carburettor, during engine suction stage in order to maximize the quantity of fresh charge drawn up and that remains in engine at different regimes of engine rotation.

Actually, the reeds are applied on the majority of two times cycle engine. The valve is mounted between engine and intake manifold; the keeping between this elements is obtained using some packings or directly deriving them in valve or in intake manifold. Reeds have the function to open and close the flux of fresh charge to engine acting as difference of pressure that there is up and down side of reed.

They are made by a plastic composite material or in steel with carbon sheet or in stainless steel sheet. In every case, they are special materials studied just in order to assure the best performances and the best reed duration.

The factors that contribute to right choice of reeds to mount on valve are several:

- engine model;
- carburettor model and intake manifold that it's used;
- total performances level that it is wished.

Reeds are different for profile's drawing, kind of used material and its thickness. The drawing of reed's profile has to be fit for assembling of reed on valve's engine body. Materials used to make reeds are extremely proof against static loads and fatigue for impact. Between different materials, carbon and glass fibre are the most used in high performance applications, the first one, particularly in order to obtain the best performances at high speeds of engine rotation.

For the choice of reed thickness made in carbon and glass fibre, it's possible consider the following parameters:

The small values of thickness, typically 0.20-0.30 mm, are usually used in applications where it is asked the best of performances at slow and average speeds of engine rotation and for use with carburettor of smaller diameter than engine displacement. They allows to obtain the best performances of vehicle's resumption at slow regimes of rotation, but they penalize lightly the acceleration in highest speed.

The highest value of thickness, typically 0.35 – 0.45 mm, are usually used in applications where it's asked the best of performances at high speeds of engine rotation and for use with carburettor of higher diameter than engine displacement. They allows to obtain the best performances at high regimes of

engine rotation and they increase the acceleration and the acceleration in highest speed, but they penalize lightly the vehicle's resumption.

So, generally, a reed of small thickness, more flexible and deformable, tries to support the performances at lower engine regimes and so the vehicle's resumption. On the opposite side, a reed of a bigger thickness, more rigid and less deformable, support vehicle's acceleration and acceleration.

Reeds in carbon and glass fibre are available in a wide and complete range of thickness, adapted for all the exigencies: 0.35 – 0.40 – 0.45 – 0.50 – 0.55 – 0.60- 0.65 mm.



Use the type of reeds defined from the applicability table that can be found in the catalogue, on the pages of Web Site, www.adler.it, or demand it by e-mail at the address adige@adler.it.

ASSEMBLING INSTRUCTIONS



The fitting and maintenance operations must be done exclusively by an authorized workshop.

The assembly of the reeds is generally an enough simple operation, it needs few minutes and it does not need of complex operations of preliminary disassembling.

The reeds' assembling and disassembling on the engine must be executed respecting all instructions and using all tools defined on the **Producer's Workshop Manual**.

It is advised to apply to a specialized mechanic for the assembling of the reeds.

The replacement of reeds on engine can require a new control of engine's calibration in according to the prescriptions contained in the reeds packaging. The new carburettor calibration requires a very specific competence and a competent person must make it. The wrong calibration of the carburettor can cause serious problems of safety drive and excessive fuel consumption.

In the case in which support area of reeds obtained on valve body are in a bad condition, it is advised to mount a new one, verifying the availability in our catalogue, on the pages of Web Site, www.adler.it, or by email at the address adige@adler.it. An unused reed can cause problems of drive safety, performances reduction and excessive fuel consumption.

If in the reeds' box there are some packings for valve, follow accurately the specific assembling instructions contained in the box to mount them.

The bad keeping of packings can cause problems of drive safety and excessive fuel consumption.

If it is estimated the assembling of original packings on valve, it is always advised to mount new and of the model established by vehicle's producer. A bad keeping of packings can cause problems of drive safety and excessive fuel consumption.

In the case in which the packings of valve are drawn on intake manifolds, need verify accurately their

usury's conditions and, if it's necessary, replace the intake manifold of engine, verifying the availability in our catalogue, on the pages of Web Site, www.adler.it, or by email at the address adige@adler.it. A bad keeping of packings of valve drawn on intake manifold can cause problems of drive safety and excessive fuel consumption.

The fastening screws of reeds on valve must be closed to clamping couple defined on the Producer's Workshop Manual. A wrong clamping couple of reeds' fastening screws on valve can cause problems of drive safety and excessive fuel consumption.

The fastening screws of reeds on valve in bad conditions has to be replaced with new items of the same model and quality. Breakage or unscrewing of reeds' fastening screws on valve can cause problems of drive safety and excessive fuel consumption.

The screws that fix valve to engine and carburettor must be closed to clamping couple defined on the Producer's Workshop Manual. A wrong clamping couple of valve's fastening screws can cause problems of drive safety and excessive fuel consumption.

Eventual fastening screws of valve in bad conditions must be replaced with new items of the same quality and kind. Breakage or unscrewing of valve' fastening screws can cause problems of drive safety and excessive fuel consumption.

It is very important to verify the condition of the reeds about every 5000 km or, however, every disassembling of engine or carburettor and also in the case of a sharp diminution of engine performances. The presence of fissures and, in general, the bad condition of the reeds can cause serious problems of drive safety and excessive fuel consumption.

GENERAL CAUTIONS

Before starting any maintenance or servicing on the vehicle, always follow a few general rules.

Make sure that the working place is clean, well aerated and perfectly lit.

Always switch the engine off before starting to work on the vehicle. Particularly, the engine must be switched off when operating in closed places without any exhaust gas vent system.

Lift the vehicle with a suitable equipment above a flat hard floor.

Always work in a clean area, wearing working clothes and safety garments or devices as prescribed by law. Keep off unauthorized persons, the young, particularly children.

Stop the engine, remove the key and wait for the engine and the exhaust system to cool to prevent burns. Pay attention to all engine or vehicle parts (i.e.: exhaust system, braking system) which may still be hot.

Pay the utmost attention to the presence of flames, heat sources or warm objects into the room: most of the liquids in the vehicle are generally highly inflammable.

Never swallow any vehicle or engine component or liquid. Particularly, liquids can be highly injurious or toxic.

Waste lubricant or components must be delivered only to the dedicated waste disposal centres; they must not be otherwise disposed of.

Always check that the packing is sealed and complete and there are no missing or damaged parts.

Always check the vehicle overall conditions before installing the valve.

It is specially recommended to always follow the instructions carefully for safety reasons. Any and every liability for any damage or injury to persons and/or property arising out of a wrong or inaccurate installation is hereby rejected. An improper use or the modification of the reeds, a wrong installation or the installation not in compliance with the prescribed instructions will automatically invalidate any product warranty.

The reeds are vehicle components for which homologation may be required according to the relevant laws in force.

The reeds are vehicle component subject to the approval of the vehicle manufacturer.

After the installation of the reeds the vehicle might require a new homologation.

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