Manual revision vaporiser Koltec VG392 / Necam Mega

1. Demontage

At dismantlement of the vaporiser, we begin whit the front side.

Turn out the 2 short bolts beside the gas exit of the vaporiser and take out the brass tube out off the vaporiser.

The next, turn out the 5 long bolts evenly out of the vaporiser, but look out that the cover not jumps away by the big spring which is behind this cover.

If the cover is not coming loose by it selves we have to help it.

Keep looking out the cover don't jumps away.

Take off the brass cover from the shaft. This can be pulled off without turning.

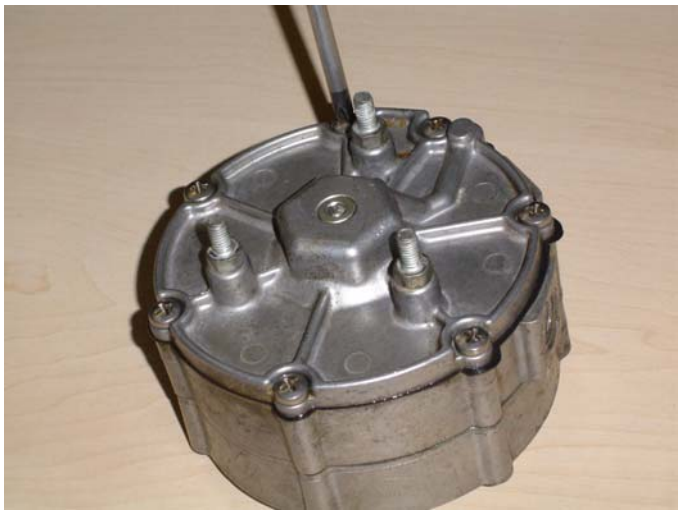
For turning of the steel shaft we need a pair of pliers and an inside spanner.

Turn the inside spanner to ***the right side***.

If we take of the membrane and the steel tube and others, we see these parts on the workbench.

The rubber ring we see left up was sitting around the copper vacuum tube which brings the vacuum to the other side of the vaporiser.

The little aluminium disk was sitting under the membrane.



Then we dismantle the back side of the vaporiser.
First we turn out the 2 long bolts which are sitting near to each other, out of the vaporiser.
Then we turn out the 5 short bolts evenly out.

Look out again for jumping away this cover by the spring which is behind.

If this cover not is coming loose by it selves, we even have to help it.
This is mostly be staked by the membrane.

If the cover is become loose, we can take off the membrane.

On this side is even a rubber ring around the copper vacuum tube.

After taking of the membrane, we can take out the big aluminium disk.

We can even take out the spring under the lever of the first step control valve of the vaporiser.

The next step is separating the three parts in the middle op the vaporiser.

Here you can see the vaporisers chamber where liquid the gas will be vaporised by the heat of the coolant which normally is in the chamber on the right side on the picture.

The big rubber ring on the left side will be changed by a new one.

If we open the coolant chamber, we see the same as showed on this picture.

This chamber is sealed by the paper gasket which sticks the 2 parts together.

Look out not to damage the gasket seats at separating the cover of the coolant chamber, because the vaporiser is going to leak coolant after revision.

For separating the escort shaft from the membrane of the first step pressure regulator we use a M10 nut where we saw out a little part like is shown on this picture.

If we clamp the membrane with the nut in a vice, we can push out the security ring from the escort shaft with 2 mini screw drivers.

Now we go cleaning al the parts we have to use again.

Especially the valve of the second step pressure regulator (in the middle of this part) needs our attention.

This has to be cleaned very well, so the shaft with the screw thread can move to and fro very easy through the brass casing.

After the great cleaning we have to reuse all the parts which are showed on this picture.

These parts are gone to be a new vaporiser together with the parts out of the revision kit.

For assembling the vaporiser we need a flat and clean underground.

2. Montage

At assembling, we begin with the coolant chamber.

We put the thickest little rubber ring (16x2,7) from the revision kit into the oval groove.

Then we stick in the copper vacuum tube into the right hole.

For a Koltec vaporiser, the little opening has to be on the upper side.
At Necam vaporisers are the holes on both sides equal.

Then follows the paper gasket.

On the paper gasket have to put down the cover with the cooling ribs with on it the biggest rubber ring.(95x3)

The next part is the vaporisers chamber with in it the second step pressure regulator.

Then we put on the small aluminium dick with the flattest side up.
The little rubber ring which will be re-used is coming a little through this little disk.

On the second step pressure regulator we fix now the steel shaft with a fork spanner and the inside spanner.

If we spray a little Teflon spray on the small aluminium disk, we can turn the membrane to the right position after fixing.

Then we lay on the membrane with the big hole over the steel shaft.

The next we lay on is the big aluminium disk followed by the spring, aluminium ring with the groove for the security ring and the security ring.

This all can be pressed on their place with a 12mm ring spanner until the security ring clicks in the groove.
Check if the security ring is fixed and press this ring with a screwdriver.

If the membrane is turned on its place, you can do a little grease on one of the smallest rubber rings and lay it around the copper vacuum tube.

The next parts are the brass cap with a little grease in it and the biggest spring.

The front side we can close now with the front cover and fix this evenly with the 5 long bolts.(M5x40)

Look out not to damage the paper gasket.

Look even out not to use the 2 longer bolts. (M5x45)
These are destined for the back side.

Fix these 5 bolts evenly but not to fast till the cover is closed.

The front cover may not fix completely because we can get problems with fixing the 2 longer bolts from the back cover.

The next action is fixing the 2 short bolts from the brass output tube.

Now we turn around the vaporiser and assemble the spring under the lever of the first step control valve.
Put a new rubber ring around the first step valve / input tube and fix this into the vaporiser.

The lever is going into the vaporiser and pushes the spring in.

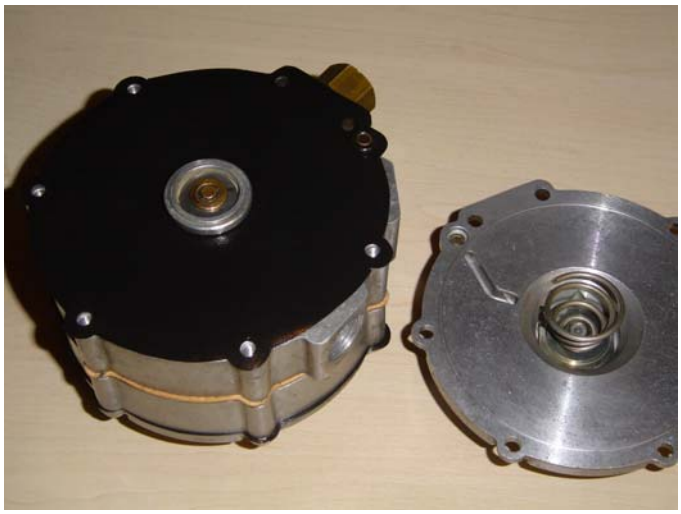
If the lever is in, can the big disk with a new rubber ring (50x2) be laid in the hole.

Some older versions have no rubber ring and groove.

For assembly the escort shaft in the membrane of the first step pressure regulator we use the M10 nut.

Spay between the membrane and the metal parts a little Teflon spray so we can rotate the membrane to the right place after fixing.

We clamp the membrane with the nut in a vice, we can fix the security ring with a pair of pliers and a mini screwdriver.



Press the escort shaft into the hole in the big disk so that the lever is coming in the escort shaft.
Turn the membrane around till the holes are all in the right position and the escort shaft can move free.

Do a little grease on the little rubber ring which is left and lay it around the copper vacuum tube.

Then can the back cover with the spring placed on the vaporiser.

Fix the back cover evenly with the 2 longest bolts and the 5 short bolts.

Look out not to damage the paper gasket with the 2 longest bolts.

All bolts on front and back side can fixed solidly now with a strong screwdriver so that every cover is closed firmly.

For assembling the gas output tube, we have to remove the 2 short bolts beside the hole.

Put a new rubber ring with a little grease around the output tube before you press it into the divider.

Now we can fix this with the 2 bolts.

After we have fixed the vaporiser into the car, and the engine is came to the normal temperature by petrol running, we can change over to gas running.

Now it is time to control the gas pressure.
Stop the engine and connect a manometer with the M6 hole on the vaporiser.
Take off the vacuum hose from the vacuum tube and close the vacuum hose.
Start the engine and let the engine take control by stationary running on gas.
The engine needs 10-20 seconds to running well stationairy.

Now the pressure has to be adjusted between 1,4 and 1,5 bar with a inside spanner in the back cover.
Stop the engine, disconnect the manometer and close the hole with the M6 bolt with rubber ring.

Connect the manometer with theM6 hole in the divider.
The vacuum hose isn't just connected.
Start the engine and let the engine take control by stationary running on gas.
Now the pressure has to be adjusted on 0,96/0,97 bar with a inside spanner in the front cover.
Stop the engine, disconnect the manometer and close the hole with the M6 bolt.

Connect the vacuum hose, and the job is done.