The symptoms of a split boost diaphragm are easy to identify. The split causes boost pressure from the turbo to pass along the spill rail pipe to the tank, causing the cap to blow off when you release it. Fuel also passes the opposite way into the turbo - causing the engine to run rich/smoke and the turbo will not work. The diaphragm can easily be replaced, although it's a bit fiddly to do due to the location of the housing between the engine block and injector pump main body.

There are two pipes connected to the boost housing - one goes to the spill rail, and the other goes to the turbo. Both banjo bolts are identical (5/8"). Make a note of which pipe goes where, then remove both fittings - retrieving the 2 x copper sealing washers from each.

The diaphragm top cover is held in place by two 8mm bolts - the top one is lockwired. Cut the lock wire, get underneath the vehicle and remove the lower one first. Keep the cover in place with one hand while you remove the top bolt to prevent the bits falling out.


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Carefully remove the top cover - it should come away with the diaphragm still attached. In case it all falls apart, the sequence is as follows -
Top cover, spring, diaphragm, shim washer, spring, rod.
The two springs are different, so keep them in the order they come out.


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The cause of your problem

The centre pin of the new diaphragm must be the same as the old one. There's a 10mm lock nut on the back, slacken it and then turn the pin until it protrudes the same amount, then tighten the lock nut.

Keeping the bits in place while you reassemble it awkward - the rod may be sticking out too far, so take it out, apply a small amount of grease to it, then replace it. The grease will keep it inside the housing. Do the same with the spring inside the cover, the shim washer, and the inner spring.


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Put the new diaphragm in the top cover - make sure it's the right way round as shown.

Make sure the cover is located correctly and hold it in place while you fit the two bolts - top one first. Reconnect the two pipes - making sure there's a copper sealing washer either side of the banjo fitting and don't excessively tighten the bolts - they are fine thread and will strip very easily.
Start the engine - it may smoke initially, due to the fuel residue in the pipework, but this will clear fairly quickly.