Regular Maintenance (1.4 IE engines)

This guide will demonstrate a regular maintenance plan including oil (engine & transmission), filters (oil, air, fuel) and spark plugs replacement.

What you need :

- 4 liters engine oil (recommended SELENIA 20K 10W/40 or Star 5W/40 for northern climates)
- 2.6 liters manual transmission oil (TUTELA EPYX 80W/90)
- 2 seal rings for oil drain plug (engine and transmission)
- air filter (OEM AR part No. 60570436)
- oil filter - be sure that it features two non-return valves (OEM AR part No. 46805828)
- spark plugs (recommended SPICA Golden Lodge 25HL AR part No. 60504563)
- fuel filter (OEM AR part No.60801638 or BOSCH part No. 0 450 905 005)
- plastic container for oil draining
- plastic water bottle

I prefer to replace engine oil every 5.000 km and oil / air filter and spark plugs every 10.000 km. It is a good practice for your engine to have regular oil changes as city driving and driving habits affect the quality and the lubrication characteristics of the oil. A note here regarding air filter; if driving in very dusty areas then cleaning of the filter should be performed with the help of compressed air.

In addition, fuel filter is replaced every 20.000 km and transmission oil every 40.000 km; these intervals are much narrowed down compared to the official maintenance schedule. It would just be a pity to have a clogged fuel filter and stress your fuel pump ... after all a new fuel filter plays a significant role in emissions control and fresh transmission oil will preserve as much as possible the notorious 2nd gear synchro mesh.

Important; replace engine oil once a year even if you have not reached the predetermined number of Km/miles. Never leave oil more than a year in the engine, as it oxidizes and certain characteristics are not efficient any more; the result is poor lubrication of the engine.

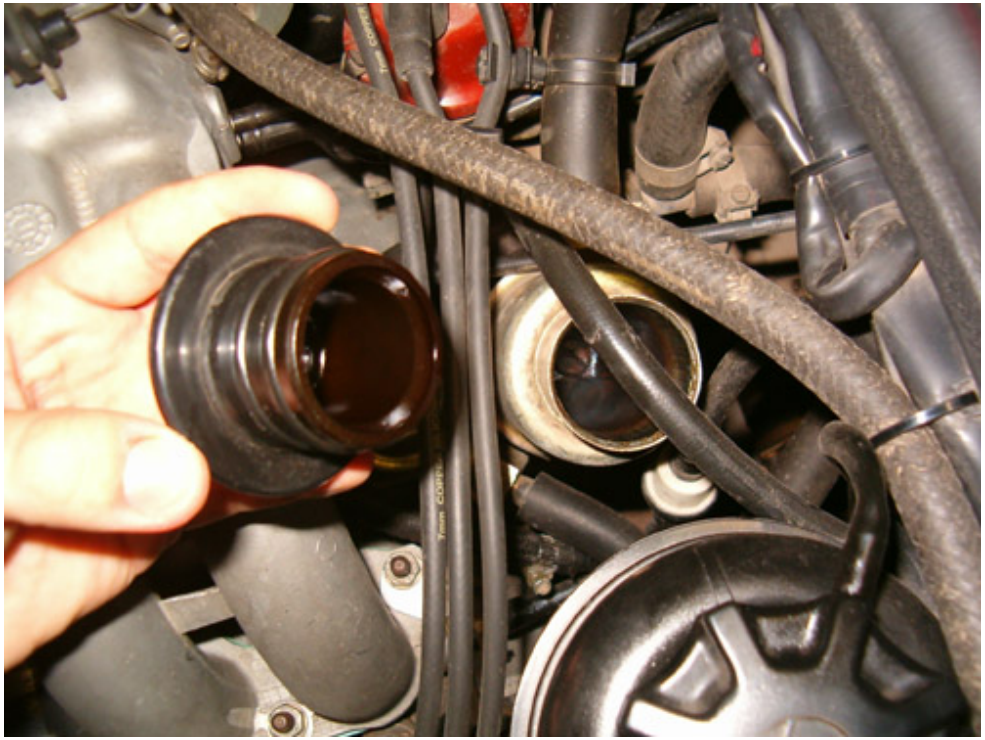
Let's begin.

SELENIA engine oil rated 10W/40 ...

Tutela EPYX transmission oil rated 80W/90

Here you see spark plugs (SPICA Golden Lodge 25HL), OEM oil filter which includes two non-return valves and OEM air filter.

... and BOSCH fuel filter. Be sure to check the packaging for two pairs of copper rings. These are essential for ensuring fuel system tightness when under pressure and should be renewed when the filter is replaced.



Warm up the engine to about 60C so that oil warms up, becomes thinner and easier to drop out of the engine.

This is the oil drain plug that will actually empty the lubrication circuit. It is an 12 mm Allen key.

Let the oil drain from the oil sump for at least 15 minutes.

It is time to undo the air filter box clamp ...

... and the four clamps holding the cover of the air filter box.

Lift it upwards ...

... notice the dark color in the edges of the filter.

We will now remove the oil filter...

Just a notice. When removing the oil filter, a certain amount of oil drops in the stabilizer bar of the engine; this bar is sitting exactly under the oil filter. As you may know, oil is the worst enemy for rubber elements like the stabilizer bar is. Prolonged exposure to oil deteriorates the rubber bush and the engine at this point losses its tightness to the chassis.

I have used a piece from a plastic container and created a cover so that possible oil dropping on the bar, is dripping away from the bush.

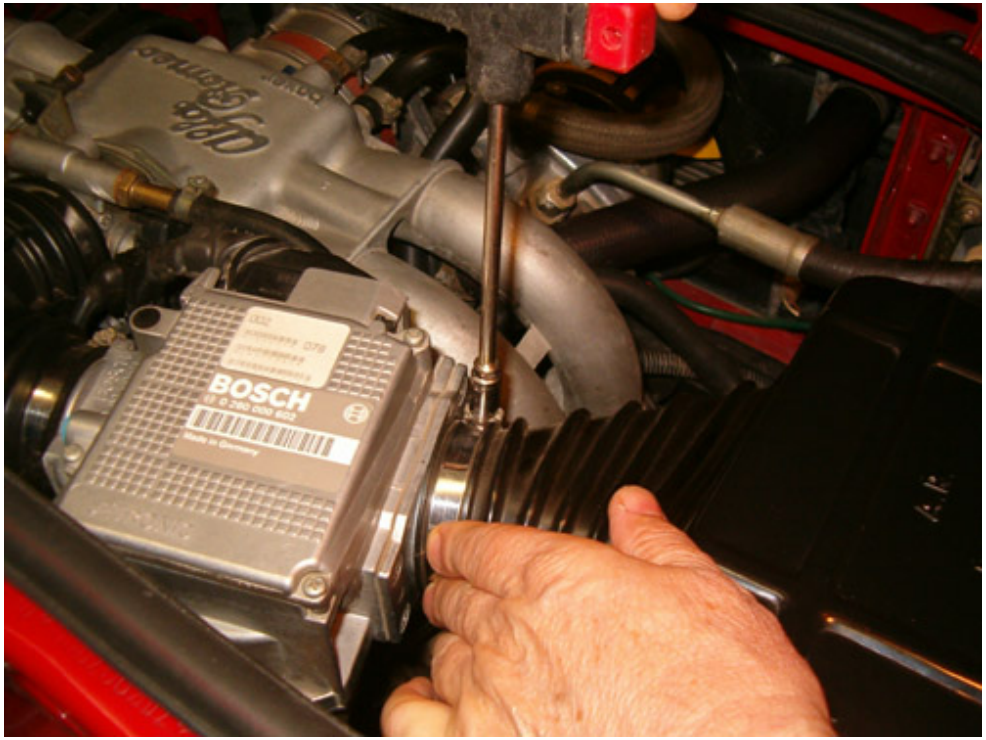
Here use a oil filter spanner to undo the filter; in case you have not a oil filter spanner near you, it is handy to use a long screwdriver by passing it through the filter. It would be recommended to place newspaper sheets under the filter covering the stabilizer bar and the exhaust.

By this way oil will not end to the rubber bush ruining it and in addition when you fire up the engine burned oil smell will not annoy the neighbors!

When you are ready to install the new oil filter, apply some drops to the gasket of the oil filter. Tighten the oil filter to the engine only by hand as far as it goes - do not overdo it as you will have trouble removing it the next time.

Also be sure to have in hand a new seal ring for the oil drain plug.

Install the new air filter ...



... and tighten the respective clamp.

Now you can cut the neck of the plastic water bottle and use it like a funnel. Be sure to wipe off any traces of water!

This trick is more convenient than a real funnel as you don't have to clean it afterwards; you simply discard it!

Caution here: hold the oil container as lower as you can as it is easy to spill everything and make a mess.

Pour the oil slowly letting it run freely down the filler tube. The 1.4 IE engine will need around 3.8 liters of oil including oil filter.

Here are the new spark plugs - A notice for spark plug installation; it should be done when engine is cold, NEVER when hot. Before installation apply a drop of oil in the threads of each plug.

It's a good chance to clean out the cavity of the spark plug being careful so that nothing falls inside the cylinder...

... and tighten each spark plug at 25-34Nm; if you don't have a torque spanner in hand then tighten them up to WIFR (When It Feels Right) and afterwards restore the spark plugs leads.

Let's now move on to transmission. Use again the 12 mm Allen key to undo the drain plug

place the plastic container under the plug to collect oil. When oil has drained install a new seal ring and fully tighten the plug.

this is the transmission oil filler plug; use the 12 mm Allen key to remove it

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Get hold of a funnel and a transparent hose, so that you can see the oil running down; install hose end inside the transmission oil filler plug

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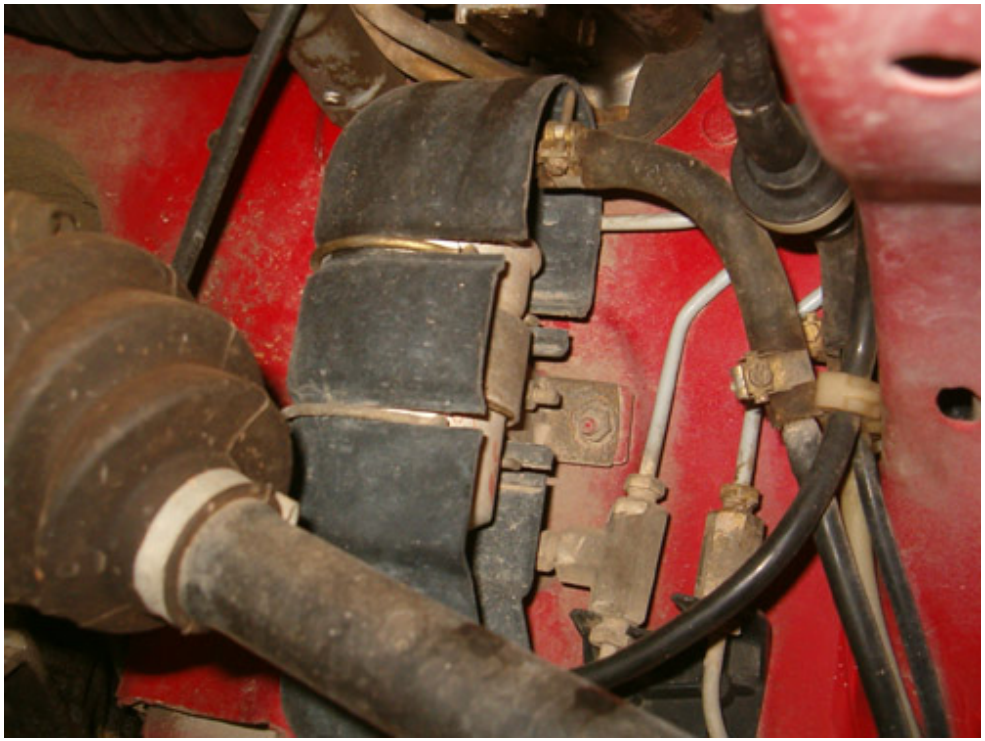
Pour oil in the funnel slowly, as transmission oil is very thick and it needs to be handled slowly so that you avoid spillage. By the way, this oil is very different compared to engine oil as it smells awfully and will badly stain everywhere it reaches; so handle it with caution to avoid trouble.

Pour small quantities as you need to keep an eye on the filler plug.

You can see the oil going down the hose and reaching gearbox; when gearbox is full you will see oil dripping out of the filler plug.

Stop supplying oil and restore the drain plug.

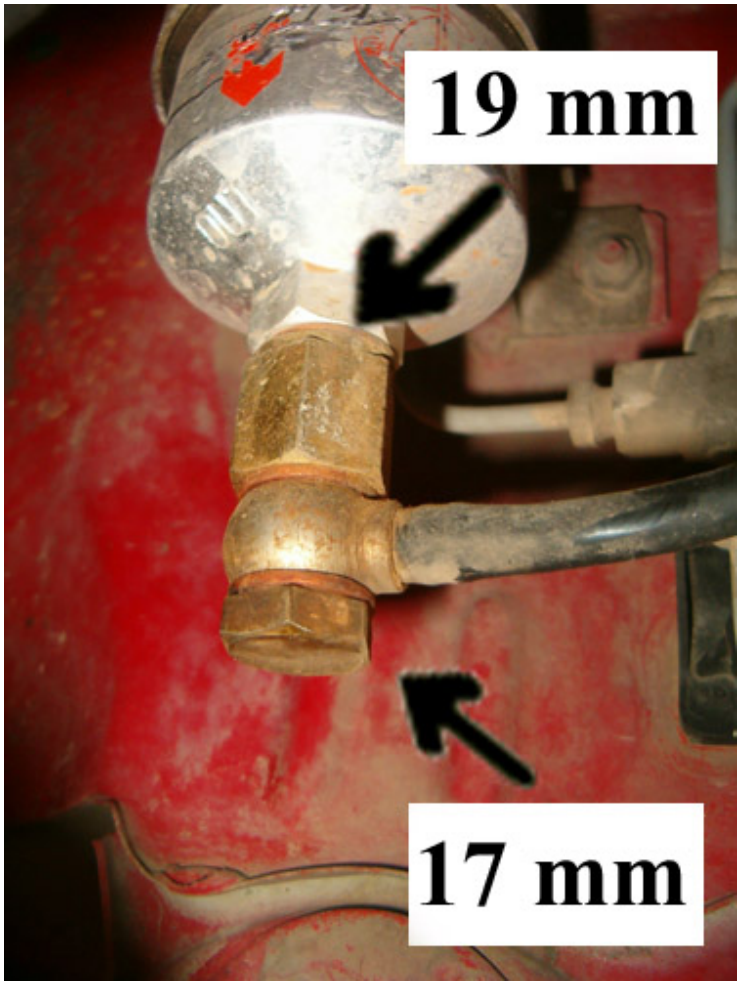


What is now left is the fuel filter. It is located in the left side of the engine bay just below the steering rack. There is a black plastic cover around the filter which is kept by two clips which should be removed in order to get access to the filter.

A close up of the fuel filter cover showing the two clips.

Fuel filter without cover demonstrated

Now that the way is clear, notice the upper connection (fuel inlet) ...

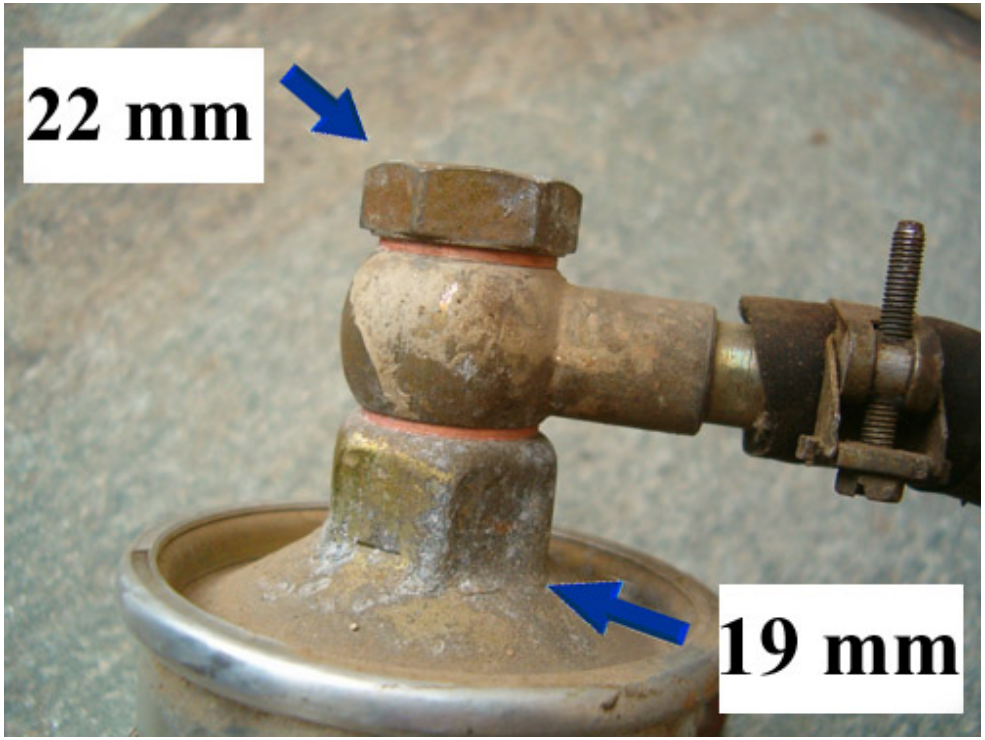


... and the lower one (fuel outlet). You will need a 17 mm and 19 mm key.

Regarding the upper connection, it is advisable to remove it once the filter is out of the car since access is very limited to the specific area.

Time to remove the bracket from the chassis so as to remove the filter; it is a 10 mm nut.

Filter is out of the car along with the inlet fuel flexible hose.



Remove the upper connection using a 19 mm and 22 mm key ...

Install the rubber band around the new filter

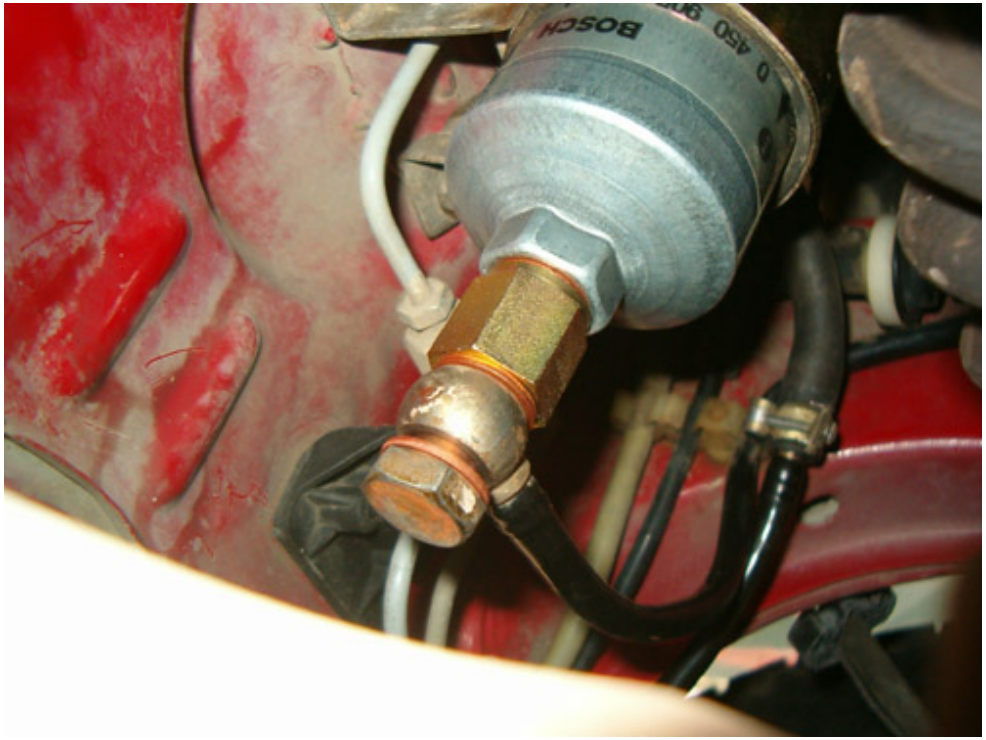
and proceed installing the filter to the bracket; tighten the nut you see in the middle.

Install the new washers to the upper connection of the filter ...

and pay attention so that the support bracket is parallel to the fuel hose.

Install the bracket to the chassis...

and reconnect the nylon fuel line to the rubber fuel line and tighten the respective clamp



Move on to the lower connection; don't forget to use the second pair of copper washers!

Finally restore the filter cover ensuring that the clips wrap around the filter body.

Just for demonstration: the old fuel filter being an OEM product costs around 15% more than the BOSCH one ... Identical by workmanship but different in price!

It is now time to start the engine. Let it idle for some minutes, and in the meantime check the under for any fluid leak; then turn the engine off; wait for a couple of minutes so that oil returns to the sump and check the oil level at the dipstick. Add extra oil if needed but do not fill above the MAX indication of the dipstick. It will stress the catalyst and increase the crankcase pressure. Go for a short ride so that new transmission oil circulates inside the gearbox and test gear-shifting to check for any unusual action.

You are now finished! Well done !

1991 Alfa 33 1.4 IE