

# Hirschmann Koxha

## Pre-Tuning Checklist



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## PREAMBLE

In order to ensure that our software works properly, it is absolutely necessary that your vehicle is in a technically perfect condition.

## BRAKES & SUSPENSION

Before even thinking about an increase in performance, the suspension including tires and the braking system should be in very good condition. Defects in these components impair road safety and are simply unacceptable.

### Check list - Suspension

| Component                  | OK? |
|----------------------------|-----|
| Wishbone                   |     |
| Steering gear (lines, oil) |     |
| Outer CV joints            |     |
| Wheel hub/bearing          |     |
| Shock absorbers            |     |
| Struts                     |     |
| Strut bearings             |     |
| Stabilisator               |     |
| Engine & gearbox mounts    |     |
| Subframe bushings          |     |

Remember that the rear axle of your vehicle also requires assessment. There are also wheel hubs, wishbones and other axle parts that should be checked!

## Check list – Brakes

| Component                          | OK? |
|------------------------------------|-----|
| Brake disc (FL; wear & thichkness) |     |
| Brake disc (FR; wear & thichkness) |     |
| Brake disc (BL; wear & thichkness) |     |
| Brake disc (BR; wear & thichkness) |     |
| Brake pads front axle              |     |
| Brake pads front axle              |     |
| Brake fluid (boiling point)        |     |
| Brake lines                        |     |
| Brake booster                      |     |

When inspecting the pads, note that they wear more on the inside than on the outside!

The minimum thickness of your brake discs can be found in the manufacturer's information.

The boiling point of new liquid (DOT4) is 230°C. If your value is below 200°C, we recommend that you change the liquid. The change is absolutely necessary for values below 155°C (DOT4). The last change should not be older than 2 years, as brake fluid is "hydrophilic" and therefore attracts water.

## TRANSMISSION

The transmission is one of the parts that is most stressed by the tuning. In principle, the automatic transmissions in the SAAB 9-3II and 9-5 are more robust than their manual versions, but both systems require a certain amount of attention.

It is therefore advisable to flush the automatic and manual transmissions. In the case of automatic transmissions, you should contact a specialist, as special equipment is required for this job.

Owners of vehicles with manual transmission, however, can change the oil on their own. Corresponding information on the required oil and the filling quantity can be found in the WIS.

Pay particular attention to the magnet that is located in the drain plug. Metal abrasion is quite normal, but no large pieces should be found. This would indicate an impending gearbox damage.

You should also check your clutch.

It works like this:

1. Park the car on a level surface and apply the handbrake
2. Engage the highest gear
3. Let the clutch come slowly and give a little gas

The engine should stop. If this is not the case, the clutch slips. It should be replaced soon.

## ENGINE

### „SERVICE“

We recommend that you perform a basic service.

Change the engine oil - we recommend 5W40 - including all filters (oil and air filters). Ideally, you shorten the change to 10,000-12,000km in the future.

It is also essential that you change your spark plugs if the last change was more than 30,000 km ago!

We recommend the following spark plugs for the SAAB 9-3II:

- NGK PFR6T-10G

**Also pay attention to the color of your ignition coils.** If you still have "brown" ignition coils, we recommend that you at least get a replacement as a precaution. From around 2005 SAAB switched to "black" ignition coils, which are more robust and reliable.

For the 9-3I and 9-5, we require the following spark plugs **regardless of the engine type:**

- NGK BCPR7ES-11

## VEHICLE SPECIFICS (9-3I AND 9-5I)

One of the most well known problems is the oil strainer.

Over time, deposits collect in the oil pan, which can clog the strainer and lead to reduced oil pressure. This can lead to major engine damage.

When dropping the oil pan, it is advisable to also check the main and connecting rod bearings of your engine. Pay attention to play and possible tracks on the crankshaft. Basically, you shouldn't be able to feel any tracks on the crankshaft with your fingernail.

In vehicles with high mileage or GT1752 turbochargers, the shaft clearance of the turbo should also be checked. A bit of play is perfectly normal, but it shouldn't be possible for the compressor wheel to touch the housing.

Another known problem is the clogged oil trap of the crankcase ventilation (PCV) in the valve cover. This can be remedied by using a piece of wire or heating with a burner.

Another problem area is the tank ventilation (EVAP). This applies particularly to vehicles built before 2004. In the old version, the EVAP has two valves, one of which breaks down quite often. The consequence of this is a lack of boost pressure.

It temporarily helps to put a screw in the top tube of the APC. Long term, either a new valve should be purchased or the EVAP system should be upgraded to the 2004 version.

In addition to ignition and fuel, ideal combustion also requires air. Above all, this must be available in the correct amount. Ideally, the Tech2 should be used to check whether there is a deviation in the air mass.

If the deviation is positive, false air is sucked in. All hoses from the air mass meter to the throttle valve can be a source of error.

If there is a negative deviation, the system loses air. Often this is due to porous vacuum hoses (4mm).

If the deviation is exactly -24%, this strongly indicates a defect in the brake booster.

## GENERAL

We generally recommend larger intercoolers for all models.

## INJECTORS

We offer professional cleaning and testing for all intake manifold injectors. If you feel like they could need a clean, do not hesitate to contact us.