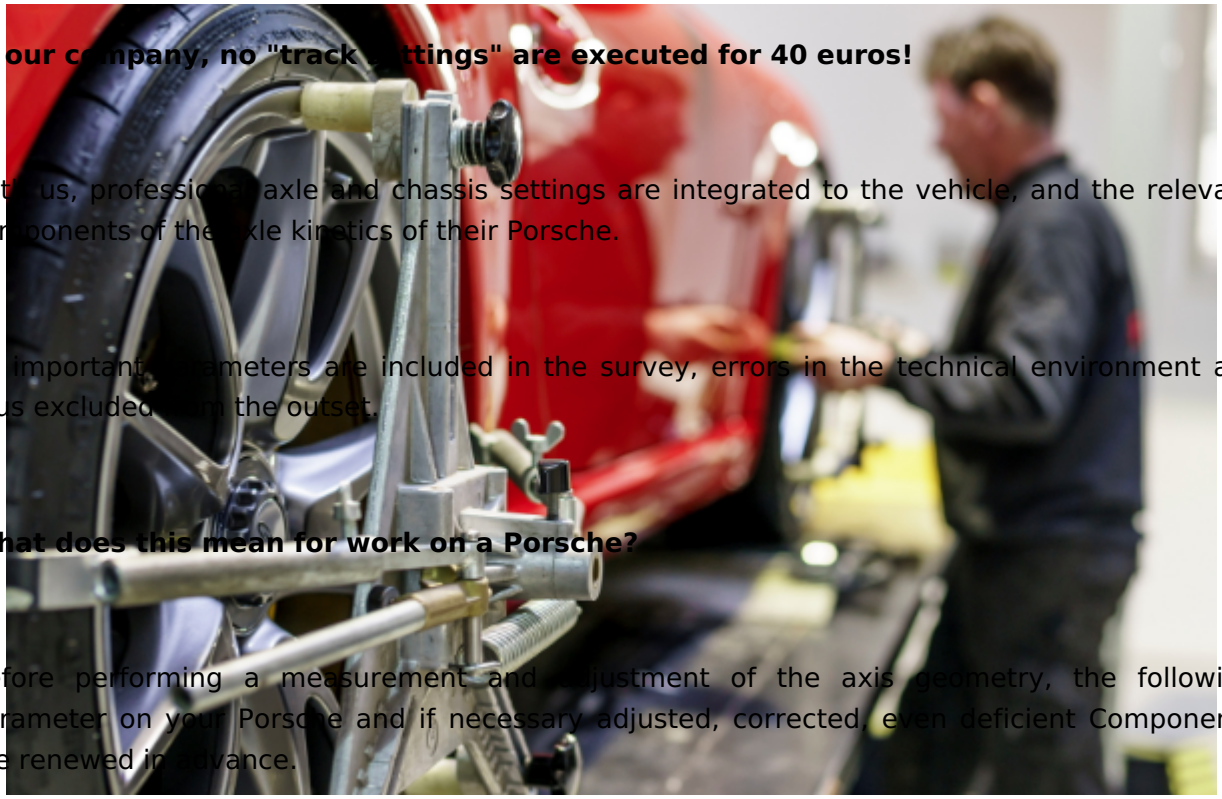
WHEEL ALLIGNMENT TO PORSCHE SPORTS AND RACE CARS

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WHEEL ALLIGNMENT TO PORSCHE SPORTS AND RACE CARS



In our company, no "track settings" are executed for 40 euros!

With us, professional axle and chassis settings are integrated to the vehicle, and the relevant components of the axle kinetics of their Porsche.

All important parameters are included in the survey, errors in the technical environment are thus excluded from the outset.

What does this mean for work on a Porsche?

Before performing a measurement and adjustment of the axis geometry, the following Parameter on your Porsche and if necessary adjusted, corrected, even deficient Components are renewed in advance.

The important preliminary work on the axle geometry measurement are:

- Check the tires and their air pressure.

- Check the axle joints, axle beams, tie rods and joints.

- Check the steering wheel level, the steering wheel right and left.

- Check the spring dome and the piston play of the shock absorbers.

- Check the wheel bearings and their adjustment or bearing clearance.

- Check the setting of the axle weights on our axle load balancer.

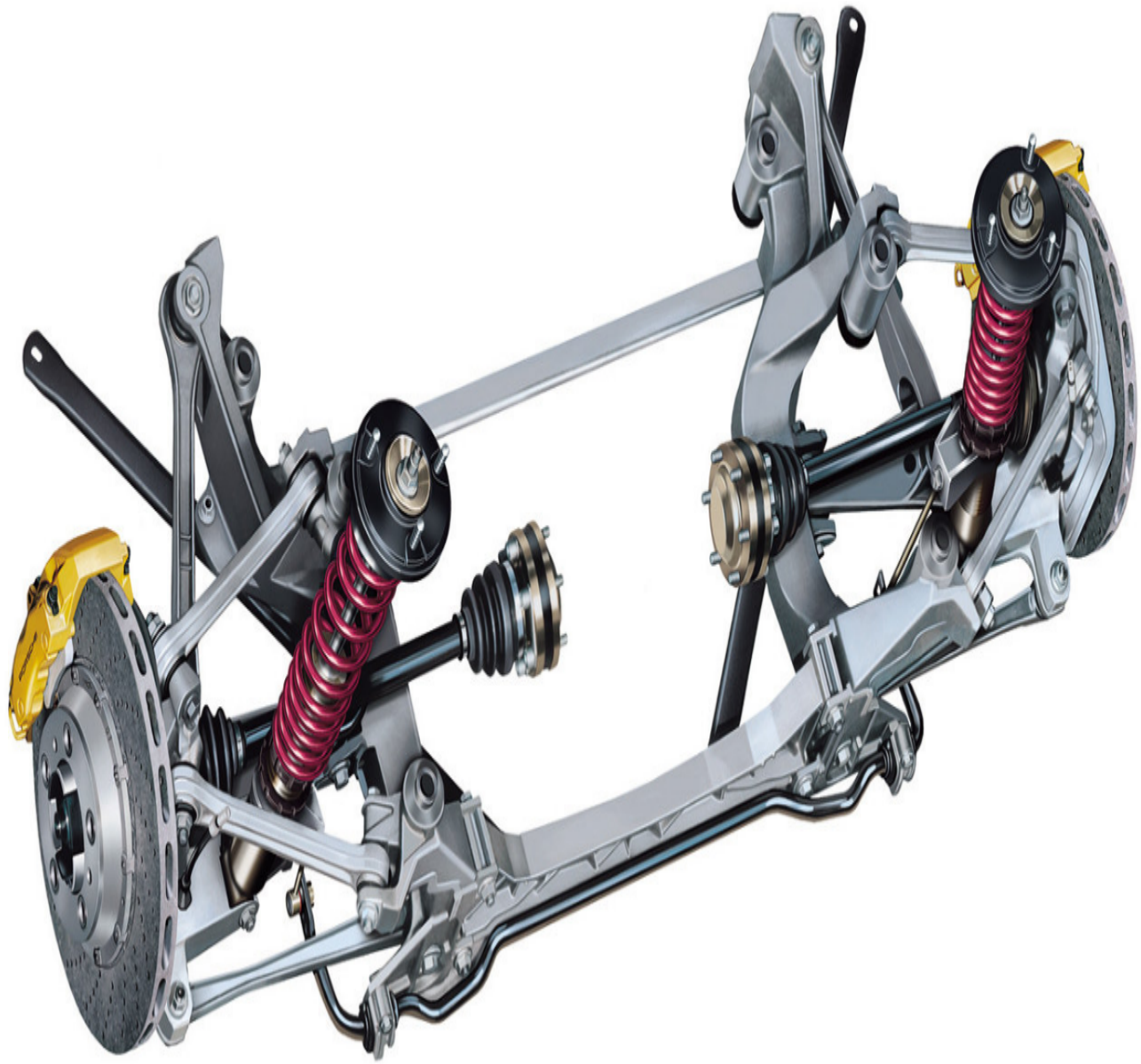
- Check the screws on all carriers, handlebars, stabilizers, etc.

- Check the wheel rim, run, tread, wheels and tires.

- Check the steering stops on the steering gear

Only when all of the above parameters have been met and found to be "good"

We begin with the actual wheel alignment and the chassis adjustment.



Before setting, we ask our customers if you want the car in normal Road operation, or a setting for mixed operation, or the pure Sports setup for sporting events. Accordingly, we then select the parameters to be set under and recommend this to our customers. The sports and racing vehicles are used for professional sports prepared that the driver's weights are included in the survey, in order to optimally match the vehicles to the relevant driver.

All actual and setpoint values are recorded by an input measurement, and, if necessary, newly recruited during the course of the work. Everything is done before and according to the axis setting.

- 1.) The front axle

  Lane (single and total lane, based on the geometric driving axis),

  Camber (when driving straight or zero),

  Wheel offset, relative to the left front wheel,

  Caster, spreading and trace angle

  (Jointly determined in an impacting routine).

- 2.) The rear axle

  Track (single and total track, related to the vehicle

  Longitudinal center plane, former symmetry axis),

  angle of travel, fall

- 3.) The axle geometry in relation to the body
  Rear wheel offset
  wheelbase difference
  Side offset right
  Side offset left
  Spur difference
  Axial offset

These additional measured values are only determined, they can only be caused by setting work Can be corrected, because this is usually the cause of damage caused by the influence. Often Straightening is necessary if the values deviate too much from the permissible tolerances. In principle, if actual values are determined outside the tolerance, they must be damaged Parts are exchanged and / or adjustment work is carried out.

In the case of incorrect values, always set the rear axle and then the front axle. For this, one must know that the track of the rear axle has a noticeable influence on the track of the front axle. In principle, the following applies in each case: first the caster, then The fall, then the trail. Because these values influence each other, in practice

This setting sequence has proven to be a success with us.



BACKGROUND KNOWLEDGE

By simply lowering the body without further changes, the Steering wheel half knife. This then has negative characteristics for the driving behavior. This change is at the expense of the negative steering roll half-knife. A positive steering roll diameter has in addition to one-sided pulling brakes also a strong one-sided pulling the vehicle.

By altered spring struts, the spreading angle also changes, it increases and is influenced thus the steering roller half-knives become positive, which in turn has an effect on the braking behavior. also the wheel load on the wheel bearing is increased, which has a wear-promoting effect on the wheel bearing.

Due to the simple lowering of the landing gear, the fall also changes into the negative. This affects again likewise the steering-roller half-knife and acts, as already described above, also on the brake-behavior.

In addition, this also results in a change in the track, which has the known effects on tire wear, to one-way pulling of the vehicle, to a faster deflection during toe-in, and to an inferior straight run in the event of toe-in.

The wheelbase is also changed by the chassis interior. This promotes the comfort of driving at one long wheelbase. A larger wheelbase reduces the pitching motions of the vehicle and the rocking in the case of road irregularities.

The caster changes into the positive after installation. This has a positive effect on the reserves of the vehicle, it is raised more on the curve side. The fall is thus outer side, which increases the support forces noticeably.

The wider tires provide better traction during start-up and a higher level of safety, which is however lifted by the harder chassis. In summary, it can be found that, when a lowering gear is installed, all wheel-sizes:

Lane, fall, spreader, caster, steering wheel half-knife. It is essential to make adjustments to the axis kinetics in order to generate a positive effect!

The simple installation of harder springs results in considerable disadvantages for the driving behavior. The problem is that some Porsche vehicles can not set all the parameters of the axis. Thereby construction errors could be built up by structural changes, which can no longer be corrected. A harder chassis only has a significant negative impact on driving behavior and on grounding in general.

This results in a poorer grip when cornering, in the case of road irregularities, when starting traction losses and a noticeably increased risk of aquaplaning in the rain.

We have been working for decades with the following formula: "As soft as possible, as hard as necessary".

This is equally true for the racing sport, as well as for the sports car at Trackdays!

Best regards

Jürgen Albert