Introduction

To limit this list of adjustable parameters, only parameters considered to be of use to bodybuilders are described. For full details of the current parameters for a specific vehicle, contact an authorised Scania workshop. The parameters are stored in the vehicle's various control units, and can be adjusted using SDP3 (Scania Diagnos & Programmer 3) and SDP3 for bodybuilders.

This document is a comprehensive list. Which of these parameters and settings are available in a specific vehicle depends on how the vehicle is equipped and the vehicle specification.

Apart from the adjustable parameters, there are also parameters which describe the vehicle's physical specification in a SOPS file (Scania On-board Product Specification). This type of parameter may need to be updated when a conversion is carried out.

Further information about SOPS is contained in the document Reprogramming control units under General information.
SDP3 for bodybuilders

SDP3 for bodybuilders enables bodybuilders to check and adapt the parameters described in this document.

SDP3 for bodybuilders is a limited version of SDP3, which is used by Scania workshops. The tool is limited to only deal with parameters for bodybuilders.

System designations

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Description of adjustable parameters

Each parameter is identified through its parameter designation in the heading. Each parameter designation is concluded with the system to which the parameter is allocated, indicated in brackets.
Vehicle speed

Vehicle speed limiter 2

Selection of signal input for vehicle speed limit 2 (BWS)
This is where you can set the type of signal input which should be used when vehicle speed limit 2 is requested.

- Active low - A signal that is active when digitally low.
- Active high - A signal that is active when digitally high.
- External CAN - The signal is received via the external CAN bus.

Basic setting: Active low.

Note:
If you select Active low or Active high, this affects where the connection is made in the C260 connector. More information is available in the bodywork control unit pin connection list.

Explanation: Active low means that pin 4 connector C259 is used, which activates the function when it is connected to ground. A closing switch which is grounded is used to control this function when Active low is selected.

Active high means that pin 6 in connector C260 is used which activates the function when it is not connected to +24V. A breaking switch connected to +24V is used to control this function when Active high is selected.

Note:
Before the bodywork is connected to the bodywork interface, pin 6 in connector C260 must also be temporarily connected to +24V if the vehicle is to be driven without Vehicle speed limit 2 being activated. This applies when the parameter is set to Active low.

Further information about speed limitation is contained in the document Functions for vehicle speed limitation.
Vehicle speed limit 2 (BWS)
This is where you can set a second vehicle speed limiter.

Note that the maximum speed (parameter in the engine control unit) also applies if this parameter is set higher than the maximum speed.

- Without – No second vehicle speed limiter.
- 5–150 km/h in increments of 1 km/h.

Basic setting: 30 km/h.

Explanation: The parameter only applies to vehicles produced from November 2008 onwards.

Vehicle speed limit 2 (EMS)
Controls a second speed limit. Vehicle speed limit 2 can be programmed in numerical form within an interval or no speed limit, which means that the speed limit will be the same value as that set for the maximum speed.

- None - The speed limit will be the same value as that set for the maximum speed.
- 10–150 km/h in increments of 1 km/h.

Basic setting: 70 km/h.

Note:
To ensure that the vehicle can be driven normally after setting this parameter, pin 6 in connector C260 must be connected to +24 V. Only applies to vehicles in which the parameter Selection of signal input for vehicle speed limit 2 is set to active high.

Explanation: The parameter only applies to vehicles produced up to and including October 2008.
Vehicle speed limiter 3

Vehicle speed limit 3 (BWS)

This is where you can set a third vehicle speed limiter.

Note that the maximum speed (parameter in the engine control unit) also applies if this parameter is set higher than the maximum speed.

- Without – No third vehicle speed limiter.
- 5–150 km/h in increments of 1 km/h.

Basic setting: 6 km/h.

Explanation: This parameter is only valid where applicable.
Vehicle level adjustment

Alternative drive levels

**Alternative drive level 1 front (SMS)**
Vehicles can be equipped with the Alternative drive level function. An alternative drive level can be set according to the interval. The function is activated with a switch in the instrument panel.

- -80, -60, -45, -30, 0, 20, 30, 50, 65, 80, 100, 150, 200 mm

Basic setting: 50 mm

**Alternative drive level 2 front (SMS)**
Vehicles can be equipped with the Alternative drive level function. An alternative drive level can be set according to the interval. The function is activated with a switch in the instrument panel.

- -80, -60, -45, -30, 0, 20, 30, 50, 65, 80, 100, 150 mm

Basic setting: -30 mm

**Note:**
If the parameter Choice of lowest level has the value Empty bellows, the parameter Alternative drive level 2 (front and rear) will be overridden.

**Alternative drive level 1 rear (SMS)**
Vehicles can be equipped with the Alternative drive level function. An alternative drive level can be set according to the interval. The function is activated with a switch in the instrument panel.

- -90, -60, -45, -30, 0, 30, 50, 65, 80, 100, 150, 180 mm

Basic setting: 50 mm
Adjustable parameters – Chassis settings

Explanation: The lowest height of chassis heights Low and Extra low is -30 mm.

Alternative drive level 2 rear (SMS)

Vehicles can be equipped with the Alternative drive level function. An alternative drive level can be set according to the interval. The function is activated with a switch in the instrument panel.

-90, -60, -45, -30, 0, 30, 50, 65, 80, 100, 150 mm

Basic setting: -30 mm

Note:
If the parameter Choice of lowest level has the value Empty bellows, the parameter Alternative drive level 2 (front and rear) will be overridden.

Explanation: The lowest height of chassis heights Low and Extra low is -30 mm.

Selecting the lowest level (SMS)

This is where you can select whether the set parameters Alternative drive level 2 front and rear or Empty bellows should be the lowest level.

When the switch for alternative drive levels has been activated for empty bellows, the vehicle does not return to normal level until there is a short press on the upper part of the switch.

- Drive level 2
- Empty bellows

Note:
If the parameter Choice of lowest level has the value Empty bellows, the parameter Alternative drive level 2 (front and rear) will be overridden.
Smooth level control (SMS)
Smooth level control is a self-learning function for avoiding overshooting when the system controls to normal vehicle level. The ELC shortens the current pulses of the solenoid valve block when the level approaches the normal vehicle level. This is to reduce the speed at which the bellows are filled or emptied.

Smooth level control is normally activated but the function can be disabled if the vehicle driver experiences problems with vibrations in the rear vehicle unit. In this special case the parameters for Speed limit for quick control and Control delay on a stationary vehicle must be reset. The speed limit for quick control is set to 30 km/h and Control delay on a stationary vehicle is set to 2,500 ms.

- With
- Without

Note:
Note that this action is only relevant to 4x2 and 6x2 wheel configurations with two-bellows suspension.

Raised drive level

Temporary raising of vehicle level during load transfer (SMS)
The vehicle can be configured for a higher drive level when activating load transfer. The vehicle returns to the value set in the parameter Raised drive level during load transfer after raising is temporarily terminated.

- 0 mm.
- 30 mm.
- 60 mm.

Basic setting: 30 or 60 mm depending on chassis.
Note:
This parameter should not have a higher value that the value set in the parameter Raised drive level with tag axle raised.

Raised drive level during load transfer (SMS)
Raised drive level during load transfer can be set according to the interval. Select here whether the vehicle is to have a raised drive level during load transfer, and how high that level should be.

- 0 mm.
- 20 mm.
- 45 mm.
- 65 mm.

Basic setting: 0 or 20 mm depending on chassis.

Explanation: If 0 mm is selected, this effectively means without raising.

Note:
This parameter should not have a higher value that the value set in the parameter Raised drive level with tag axle raised.

Raised drive level with tag axle raised (SMS)
Raised drive level with tag axle lifted can be set according to the interval. Select whether the vehicle is to have a raised drive level when the tag axle is lifted, and how high that level should be. If 0 mm is selected, this effectively means that Without lift has been selected. The selection 65 mm means that the highest permitted drive level has been selected.

Note:
If a lower raised drive level than the Scania standard for a raised tag axle is selected, there is a risk that the tag axle wheels will hit the ground when driving.
Adjustable parameters – Chassis settings

- 0 mm
- 15 mm
- 30 mm
- 45 mm
- 65 mm

Basic setting: 30 or 65 mm depending on chassis.

Other

Permitted maximum difference in level, front/rear
- 10 mm
- 20 mm
- 30 mm

Basic setting: 30 mm

Control box 2 (SMS)

You can change parameters here after Control box 2 has been connected. When this control box has been connected and the parameter has been set, it will not be displayed as a circuit or component in SDP3.

When two control boxes are connected at the same time, no vehicle settings are changed if the two control boxes are used at the same time.

- Without
- With

Basic setting: Without
Adjustable parameters – Chassis settings

Automatic activation of normal level when starter key voltage turned on (SMS)

The configuration determines whether the vehicle should reassume standard drive level when starter key voltage is turned on.

- Without - If the vehicle is configured with the parameter Without, it will return to the level it had when the starter key voltage was switched off.
- With - If this parameter is selected With, the vehicle will return to one of the drive levels selected by the driver with the switch for alternative levels when the starter key voltage is turned on.

Basic setting: Without

Control delay on stationary vehicles (SMS)

Control delay on stationary vehicles has a normal value of 1,500 ms and it is the time between controls for quick control. This parameter can be set to 2,500 ms if the vehicle driver experiences problems with vibrations in the rear vehicle unit. In this special case the parameters for Speed limit for quick control and Smooth level control must be reset.

Speed limit for quick control is set to 30 km/h. Smooth level control is set to without.

Note that this action is only relevant to 4x2 and 6x2 wheel configurations with two-bellows suspension.

- 1,500 ms
- 2,500 ms

Speed limit for quick control (SMS)

The speed limit for quick control can be set according to the interval. Normally quick control on a stationary vehicle is used. When the control unit for ELC3 receives a signal that the vehicle has a speed of at least 1 km/h the system changes to controlling the vehicle level at longer time intervals (slow level control).
Using the Speed limit for quick control parameter the speed up to which the quick control is active can be set. For vehicles whose load changes while driving, for example when laying asphalt, salting, sanding and watering roads, it is advisable to change quick control to 15, 30, 50 or 100 km/h depending on which transport task is relevant.

The 30 km/h speed limit for quick control can also be selected if the vehicle driver experiences problems with vibrations in the rear vehicle unit. In this special case the parameters for Smooth level control and Control delay on a stationary vehicle must be reset. Smooth level control is set to without and Control delay on stationary vehicles is set to 2,500 ms. Note that this action is only relevant to 4x2 and 6x2 wheel configurations with two-bellows suspension.

- 0 km/h
- 15 km/h
- 30 km/h
- 50 km/h
- 100 km/h

Basic setting: 0 or 15 km/h depending on chassis.

**Note:**

If the limit for quick control is raised it leads to higher air consumption, which in turn increases the wear on the compressor and APS unit. The number of activations for the valve block also increases, resulting in faster wear.
Adjustable parameters – Chassis settings

Axle weight

Maximum permitted rear axle weight during tag axle lift (SMS)

The maximum permitted rear axle weight for tag axle lift can be set according to the interval. This is where the maximum permitted rear axle weight is entered. If the vehicle is equipped with a tag axle, this will also be the limit at which the tag axle will be lowered automatically.

In certain countries, legal requirements dictate that the tag axle must be lowered at 60% of the permitted axle weight.

The unlimited option should only be selected in exceptional circumstances, because it entails a risk of damage to the rear axle and axle gear.

- 3.0 / 6.0 / 6.3 / 6.5 / 6.9 / 7.8 / 8.5 / 9.5 / 9.9 / 10 / 10.5 / 11.5 / 13.0 / 13.6 / 14.9 / 16.9 tonnes or Unlimited

Basic setting: According to vehicle specification.

Maximum permitted rear axle weight during load transfer (SMS)

The maximum permitted rear axle weight for load transfer can be set according to the interval. This is where the maximum permitted rear axle weight during the load transfer phase is entered. When complete load transfer is requested, the rear axle will be loaded to the value that is entered here.

Additional pressure will load the tag axle. Unlimited load transfer should only be selected in exceptional circumstances since this increases the risk of damage to the rear axle and axle gear considerably.

- 10.0 / 12.35 / 13.0 / 13.6 / 14.9 / 16.9 tonnes or Without limit

Basic setting: According to vehicle specification.
Type of axle weight distribution (SMS)

This is where you can change the type of axle weight distribution for the bogie:

- **Optimal traction** - The Optimal traction option provides maximum driving axle weight up to the value for Maximum permitted rear axle weight during tag axle lift. When the value is attained, the tag axle is lowered and 2 tonnes of the bogie weight are transferred to the tag axle. When the driving axle value is then attained again with the tag axle lowered, the distribution is according to the selection in the parameter Bogie pressure distribution.

- **Pressure ratio** - If you select Pressure ratio the bogie pressure distribution is the same regardless of load, selected under the parameter Bogie pressure distribution.

Basic setting: Optimal traction or Pressure ratio.

**Note:**
If Optimal traction is selected, this may cause an overload on the front axle with some loading configurations. Carry out a control calculation for the vehicle concerned using BUC (Build Up Calculation Program).

Automatic lowering of tag axle when rear axle overloaded (SMS)

Select whether the tag axle will operate with Automatic or Manual lowering here.

- **Automatic lowering** - Means that the tag axle will be lowered at the load that has been set in the Maximum permitted rear axle weight function.

- **Manual lowering** - Means that the tag axle will only be lowered when the lowering button is pressed. However it will not be possible to raise the tag axle again if the weight at the rear axle exceeds the value set in the Maximum permitted rear axle weight.

Basic setting: Automatic lowering.
Note:
The setting for this function depends on statutory requirements which vary from one country to another.