Adaptive Air Suspension

AUDI ACADEMY

Audi Academy

Self-Study Program
Course Number 994303

Adaptive Air Suspension

Today, designing a chassis must overcome conflicting requirements. A car designed to be very comfortable when driven at the limit, falls short in terms of driving safety. On the other hand, a car with exceptional sport tuning achieves considerably higher cornering speeds and reaches its limit much later, but is usually very limited in comfort.

The equipment must deliver not only universal purposes such as function, safety, strength and durability, but also comfort, reduced weight and premium acoustics. To satisfy these contrary requirements, the 2004 Audi A8L is equipped with a new, fully load-bearing, Air Suspension System with electronic dampening control.

292_056

Contents

This Self- Study Program (SSP) is not a Repair Manual. Its purpose is to describe new designs and functions. All values in this program are meant to help your understanding of the program and are based on the software version that was valid at the time the SSP was developed.

For service and repair work, use the current technical literature.

New !

Important/Note!

Introduction

The basics of Air Suspension Systems are described in SSP 242 and 243 and are relevant to the 2004 A8L system.

New Technology

The 2004 A8L introduces a new Adaptive Air Suspension with innovative technical content and a wide range of functions. It is different from the allroad quattro suspension system used on previous models. The new features are briefly described below and later in more detail in the Components Section of this program.

292_001

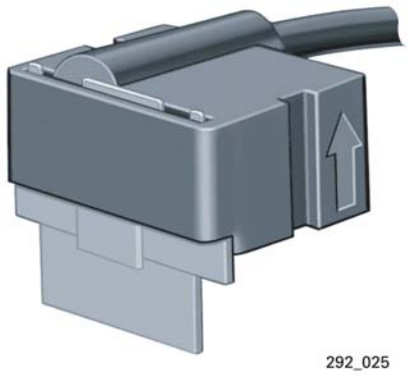
Computer Dampening Control (CDC)

Computer Dampening Control (CDC) technology calculates the current driving status. The wheel movements (unsprung masses) and body movements (sprung masses) are recorded.

Using one of four modes (a combination of the Adaptive Air Suspension Program and the Dampening Map), different dampening characteristics are achieved. In the process, each shock absorber is independently controlled. As a result, maximum comfort and driving safety is achieved.

Enhanced Sensor System

Three Acceleration Sensors are used to record the body movement.


292_025

Encased Pneumatic Struts

Pneumatic struts are housed in an aluminum cylinder, which results in an improvement in the response characteristic.

292-003

Operation

Integration in the Multi-Media Interface (MMI) means that operation is user-friendly, logical and easy to learn.

292-002

Residual Pressure Retaining Valves

Each strut has a residual pressure retaining valve at the air connection. This ensures that a minimum pressure of approximately 44 to 73 psi (300 to 500 kPa) is maintained in the pneumatic struts and almost eliminates the possibility of damage during storage and assembly.

Adaptive Air Suspension

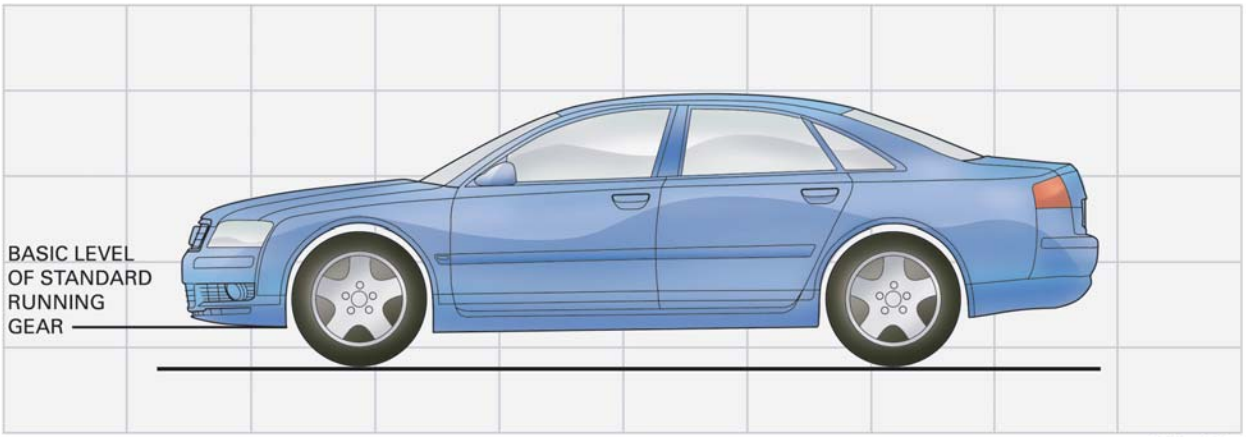
Adaptive Air Suspension is standard on the 2004 A8L. The following programs can be selected either manually or automatically

Automatic Mode

In Automatic Mode the vehicle is equipped with a basic leveling, comfort oriented suspension, with appropriately adapted dampening map. After 30 seconds at speeds of 75 mph (120 km/h) or more, the vehicle is lowered by 1 inch (25mm) (expressway lowering). This lowered position improves aerodynamics and reduces fuel consumption.

Comfort Mode

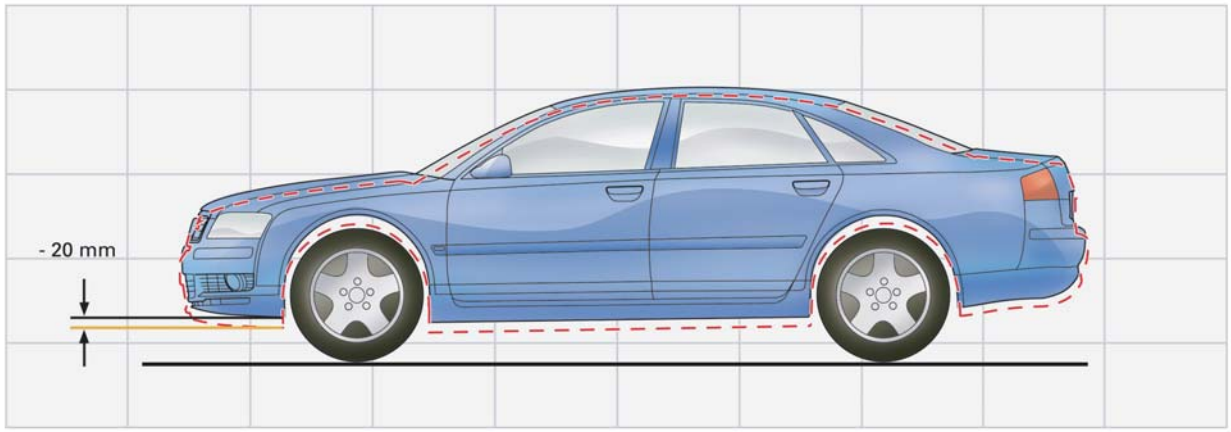
In Comfort Mode, the vehicle height is the same as in Automatic Mode, however it provides less dampening at lower speeds. Comfort Mode results in even greater driving comfort than in Automatic Mode. Comfort Mode does not include automatic expressway lowering.



"AUTOMATIC" AND "COMFORT" MODE: BASIC LEVEL 292_005

Dynamic Mode

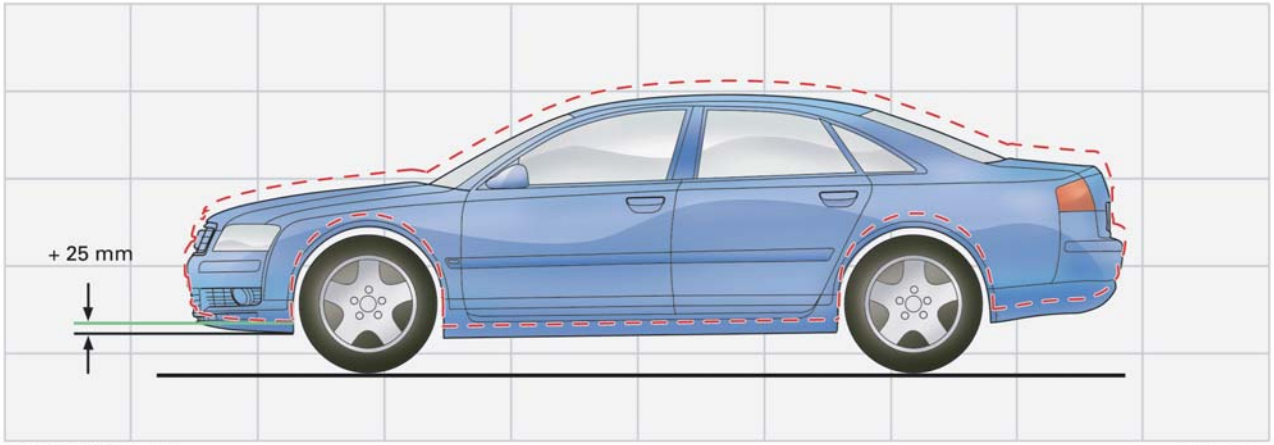
In Dynamic Mode the vehicle level is 0.8 inch (20 mm) lower than in Automatic Mode and the dampening map is automatically set to sporty. After 30 seconds at speeds of 75 mph (120 km/h) or more, the car is lowered by another 0.20 inch (5 mm) (expressway lowering).



"DYNAMIC MODE: - 20 mm 292_004

Lift Mode

Vehicle level is 25 mm higher than in comfort suspension like Automatic Mode.



"LIFT" MODE: +25mm 292_006

Notes

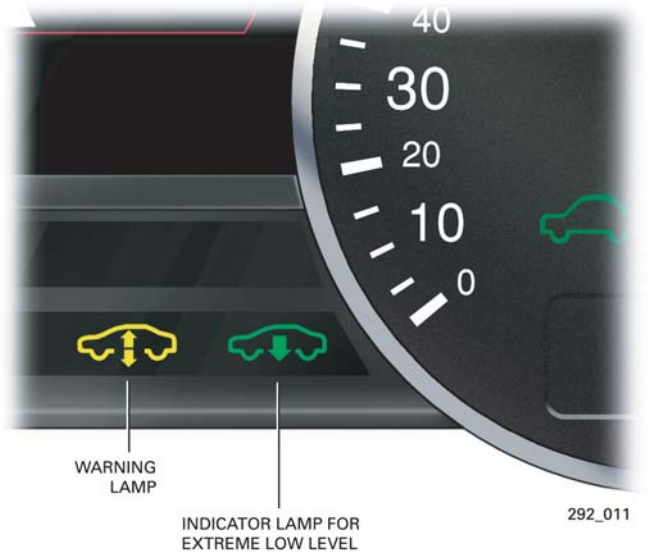
Operation and Display System

The process of changing from one mode to another and the display/monitoring of the system status are part of the MMI Operating System. When the CAR button is pressed, the Adaptive Air Suspension menu is opened directly in the MMI display. Adaptive Air Suspension has first priority. All other functions already in the display are suppressed in favor of the Adaptive Air Suspension Operating/Status Display.

When the control knob is turned to a different mode and then pressed, a new mode is activated. System status information and special settings can be requested by pressing the SETUP button. (Refer to the Owner's Manual and Control Strategy in the Special System States Section.)

292-010

With the standard Adaptive Air Suspension, the Dynamic Mode (low level) is displayed by an indicator lamp in the dash panel insert. An extremely low or extremely high level is displayed by the indicator lamp and the warning lamp in the dash panel insert. (Refer to Control Strategy in Special System States.)



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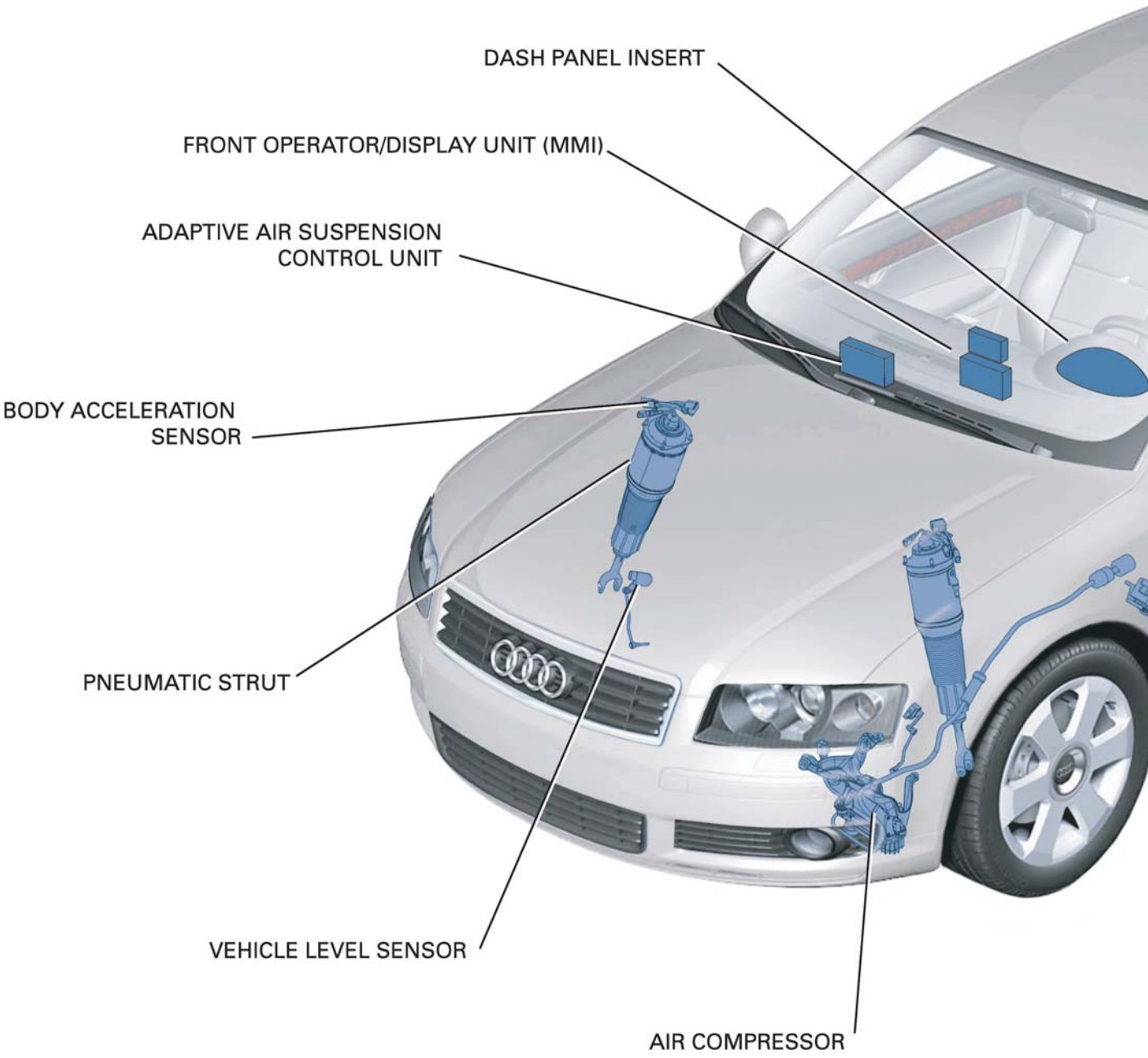
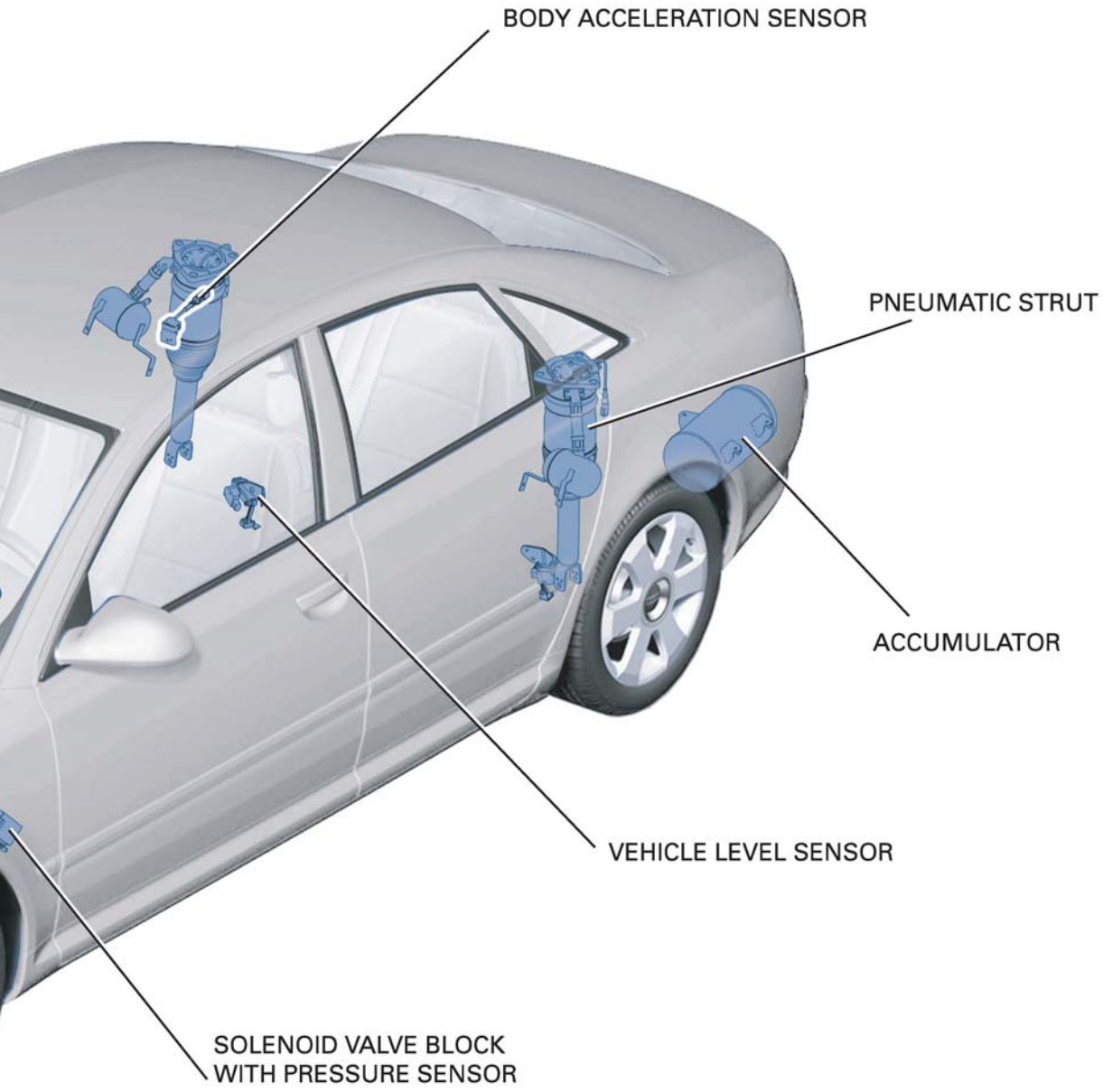
System components

Vehicle Overview




BODY ACCELERATION SENSOR
PNEUMATIC STRUT
ACCUMULATOR
VEHICLE LEVEL SENSOR
SOLENOID VALVE BLOCK
WITH PRESSURE SENSOR

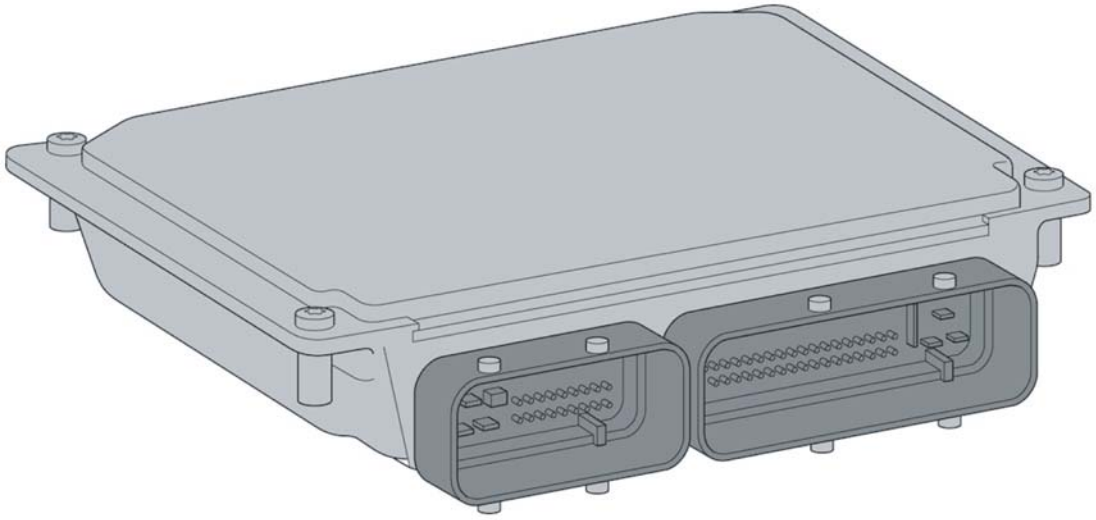
292_012

System components

Control Unit (J197)

The Control Unit is the central element of the system. It is installed in front of the glove box. It processes the relevant messages from the other units on the Bus and discreet input signals. (Refer to the Function Diagram and CAN Information Exchange).

The result is the signals that actuate the compressor, solenoid valves and shock absorbers.



HARDWARE
4E0 907 553 C * = STANDARD RUNNING GEAR
4E0 907 553 D * = SPORTY RUNNING GEAR

SOFTWARE
4E0 910 553 C * = STANDARD RUNNING GEAR
4E0 910 553 D * = SPORTY RUNNING GEAR

292_013

*As of 06/2002, these numbers are correct. However, changes may be made because of further technical developments.

(Refer to the current AESIS Service Manual.)

Suspension/Shock Absorber Strut

Pneumatic Struts

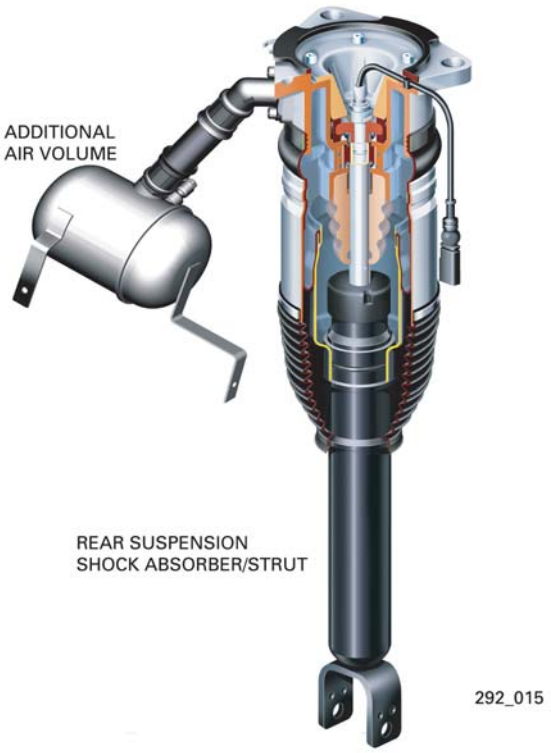
The pneumatic strut not only replaces the steel spring, but also offers considerable advantages over the steel version (refer to SSP 242). Each pneumatic strut is enclosed in an aluminum cylinder. Enclosing the pneumatic struts in an aluminum cylinder reduces the wall thickness of the bellows, which results in an even more sensitive response to bumpy roads.

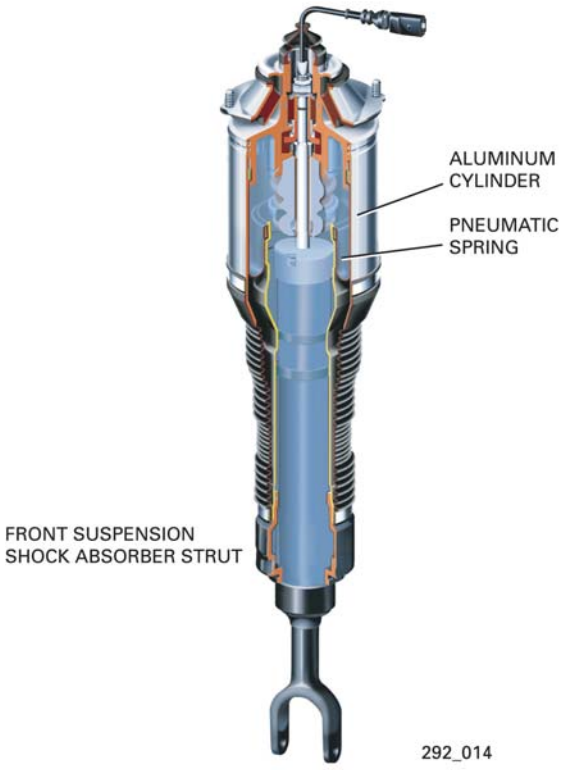
An additional air reservoir is connected to each pneumatic strut.

The area between the piston and the cylinder is sealed with a sleeve to prevent dirt from entering the cylinder and the air bellows. The sleeve can be replaced during servicing, but the air bellows cannot. If the strut is defective in any way, the complete strut assembly must be replaced.

The diameter of the strut has been a minimized to allow as much space and loading width in the trunk as possible.

All four pneumatic struts are constructed the same way.





System components

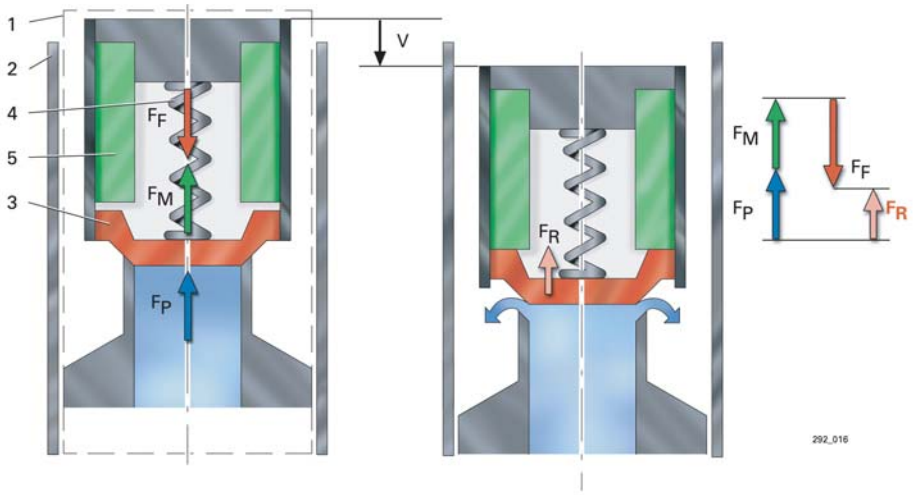
Shock Absorber

Each strut assembly has a twin—tube, gas-filled shock absorber with continuous electrical control. The main dampening valve in the piston is mechanically pretensioned by a spring. A solenoid is installed above the valve and the connecting cable is routed to the outside, through the hollow piston rod.

For more information on the twin-tube, gas-filled shock absorber, refer SSP 242.

The dampening force is determined by the flow resistance of the valves. The greater the flow resistance for the oil flowing through the valves, the higher the dampening force.

Bump Absorption



The entire piston unit (1) is moved downwards inside the cylinder tube (2).

The oil pressure in the chamber below the main dampening valve (3) increases.

Current flows to the solenoid (5). The magnetic force F_M counteracts the spring force F_F and partially raises it.

If the sum of the magnetic force and the oil pressure force ($F_M + F_P$) exceeds the spring force F_F, the resulting force F_R opens the valve.

The amount of magnetic force can be adjusted by changing the amount of electrical current. The higher the current, the lower the flow resistance and therefore, the dampening force.

Info: The highest dampening force is achieved when the solenoid is *not* electrically actuated. For the lowest dampening force, the solenoid must be receiving a current of approximately 1800 mA. In emergency running mode, the solenoid is not electrically actuated. In this way, the dampening force is set to maximum, ensuring a dynamically stable driving condition.

Air Supply Unit

The air supply unit is installed at the front left of the engine compartment. This placement of the unit avoids interference with the acoustics in the passenger compartment and allows more efficient cooling of the compressor. If the compressor runs cooler, it increases the amount of time the compressor can operate, and thus the quality of control.

The Air Supply Unit operates the same way as the unit used in the allroad quattro. (Refer to SSP 243). The unit is turned off when necessary to prevent the overheating due to excessive cylinder head temperature.

The maximum static system pressure is 232 psi (1600 kPa).

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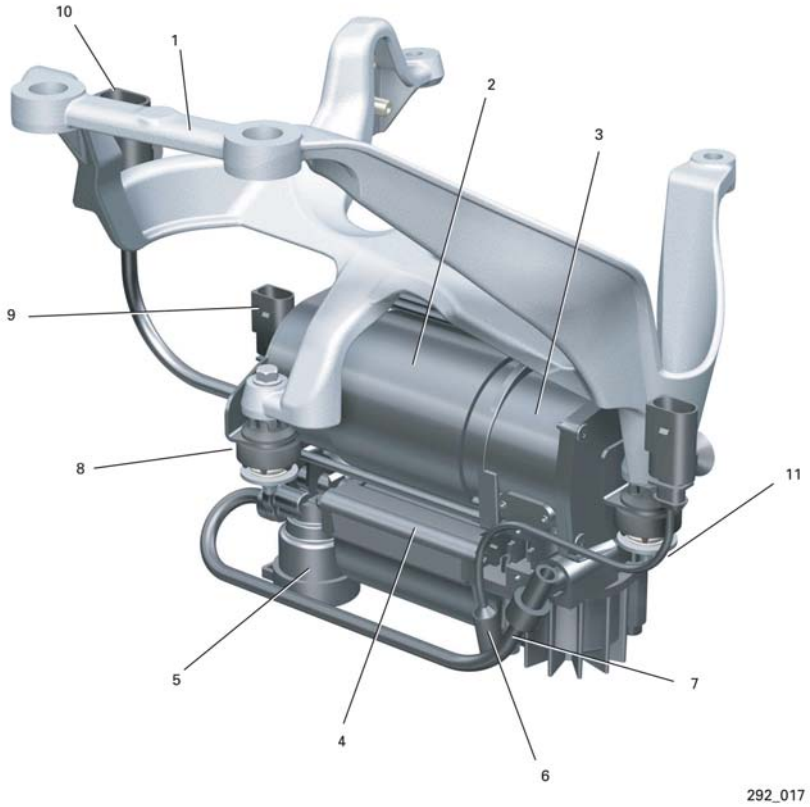


Components

1. Bracket
2. Electric motor
3. Compressor
4. Air Drier
5. Pneumatic Exhaust Solenoid Valve
6. Temperature Sensor

Pneumatic Connections

7. Air intake and Exhaust Line
8. Compressed air Connection to Solenoid valve block

Electrical Connections

9. Connection to Exhaust Solenoid Valve
10. Connection for Battery Voltage 12V
11. Connection for Temperature Sensor

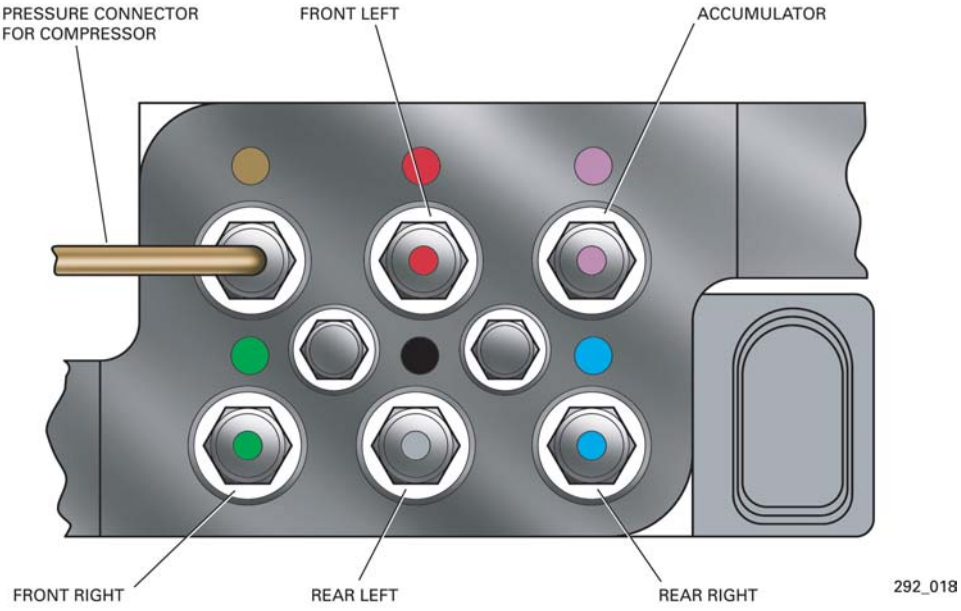
System components

Solenoid Valve Block

The solenoid valve block contains the pressure sender and the valves for actuating the pneumatic struts and the accumulator. It is installed in the wheel housing between the wheel housing liner and the left A-pillar.

Solenoid Valves

The construction and function of the solenoid valves are the same as the allroad quattro (refer to SSP 243).



Accumulator

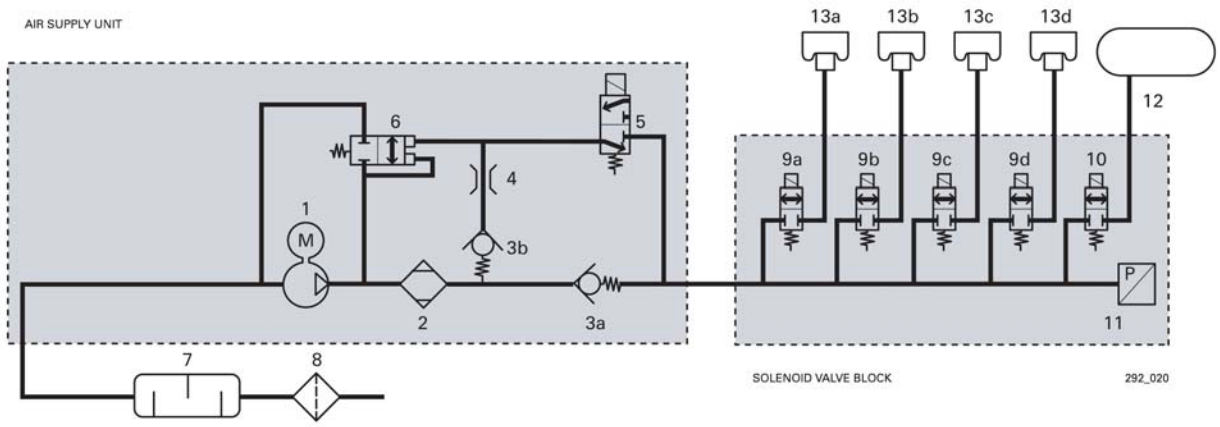
The accumulator is made of aluminum. It has a volume of 350 cu.in. (5.8 L) and a maximum operating pressure of 232 psi (1600 kPa). It is installed on the left side of the vehicle, between the floor of the trunk and the rear silencer.

The goal of the Adaptive Air Suspension system is to satisfy the operating requirements and at the same time keep energy use to a minimum so that the compressor is on as little as possible. For a controlled pressure buildup to be effective by only using the accumulator, there must be a minimum difference in pressure of 300 kPa (44 psi) between the accumulator and the pneumatic struts.

Notes

System components

Pneumatic Diagram

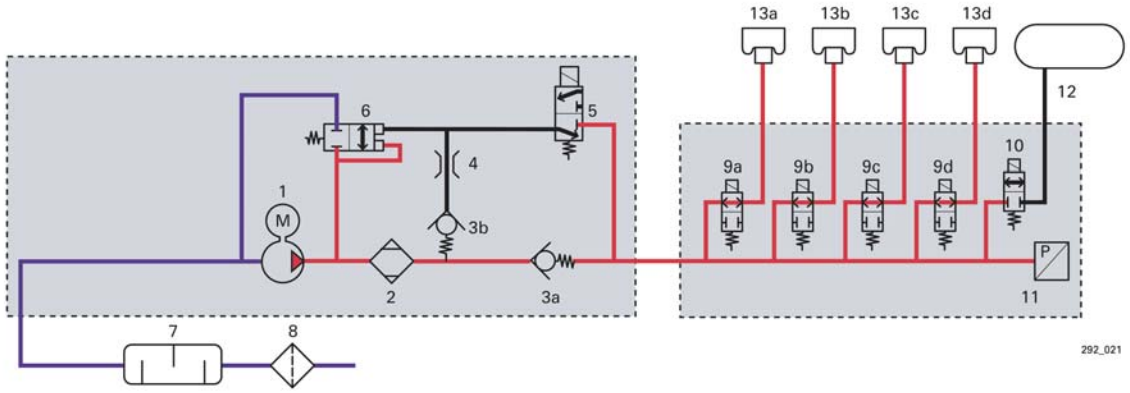


1 Compressor V 66
2 Air Drier
3a, 3b Non-Return Valves
4 Exhaust Throttle
5 Electrical Exhaust Solenoid Valve N111
6 Pneumatic Exhaust Solenoid Valve
7 Additional Silencer
8 Air Filter
9a Valve for Strut FL N148
9b Valve for Strut FR N149
9c Valve for Strut RL N150
9d Valve for Strut RR N151
10 Valve for Accumulator N311
11 Pressure Sender G291
12 Accumulator
13a Pneumatic Spring FL
13b Pneumatic Spring FR
13c Pneumatic Spring RL
13d Pneumatic Spring RR

Pressure Buildup

The valves (9a, 9b and 9d) are electrically actuated in pairs (front axle and rear axle). The compressor takes in air through the air filter (8) and the additional silencer (7). The compressed air flows through the air drier (2), the non-return valve (3a) and the valves (9) to the pneumatic struts.

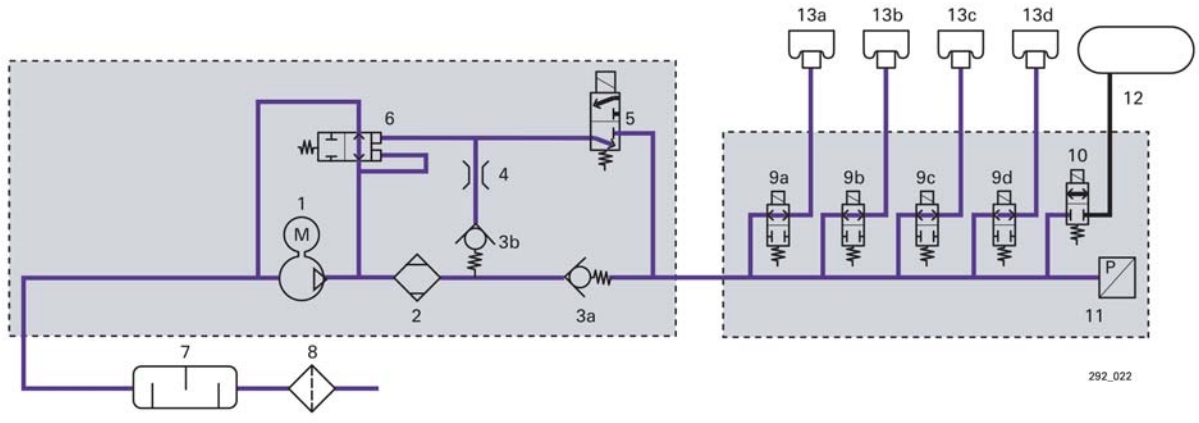
When the pneumatic struts are filled by the accumulator, valve (10) and valves (9) open for the appropriate axle. The compressor (1) fills the accumulator (12) and forces air through the open valve (10). If the vehicle is on a sideways incline, valves (9a - 9d) are also actuated individually.



Pressure Reduction

The appropriate valves (9a, 9b, 9c, 9d) and the exhaust solenoid valve (5) are opened. The air flows through the exhaust solenoid valve (5) and opens the pilot-operated pneumatic exhaust solenoid (6).

The air leaves the system through the pneumatic exhaust solenoid (6), additional silencer (7) and air filter (8). As air flows through the air drier (2), the desiccant is regenerated.

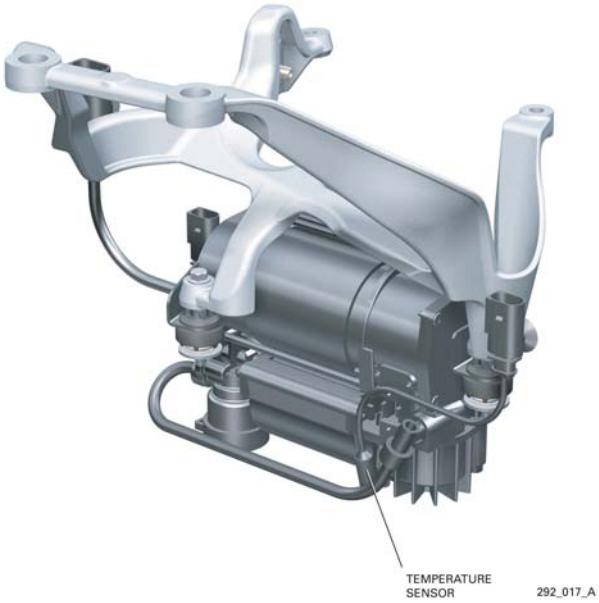


System components

Senders (Sensors)

Compressor Temperature Sender G290

The Compressor Temperature Sender is a Negative Temperature Coefficient (NTC) resistor and housed in a small glass case. The sender records the temperature of the compressor cylinder head. As the temperature rises, the sender resistance sharply decreases. The change in resistance is analyzed by the Control Unit. The current calculated temperature determines the maximum compressor running time. The sender cannot be replaced separately during servicing.

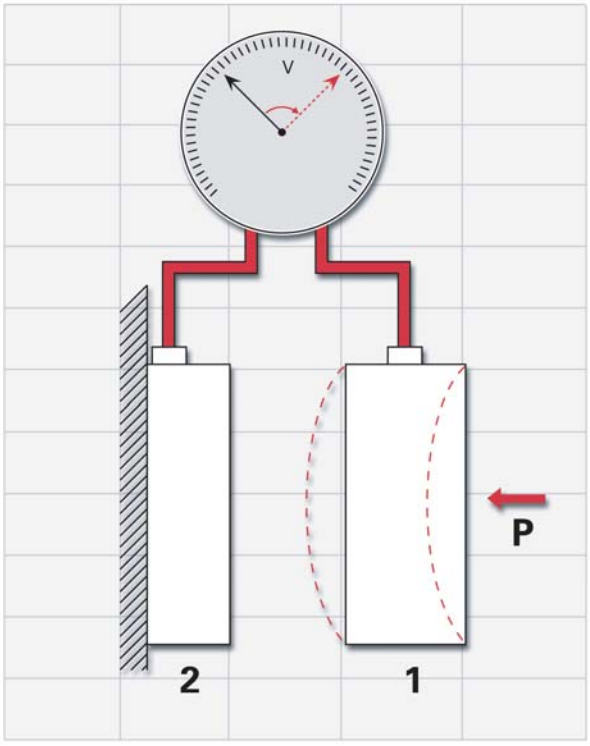


Pressure Sender (G291)

The pressure sender measures the pressure of the front and rear axle struts or depending on how the solenoid valves are actuated, the accumulator. Refer to the Pneumatic Diagram.

The pressure sender uses a capacitive measuring technique. The measured pressure causes a ceramic diaphragm to deflect. This deflection changes the distance between an electrode (1) attached to the diaphragm, and a stationary counter electrode (2) on the sender housing. Together, the electrodes form a capacitor. The smaller the distance between the electrodes, the larger the capacitance of the capacitor. This capacitance is measured by the integrated electronics and converted to a linear output signal.

The pressure sender is cast in the solenoid valve block and cannot be accessed from the outside.



Acceleration Sender

To achieve optimum dampening for every driving condition, the control unit must recognize the relationship of the body movement (sprung mass) to that of the axle components (unsprung mass).

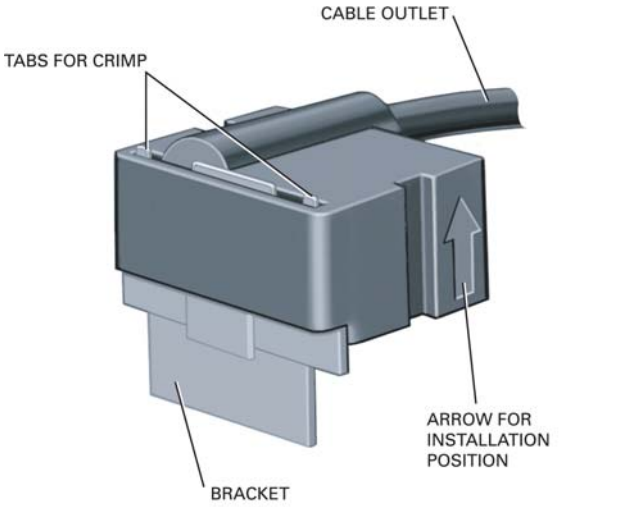
The movement of the body is measured by three senders.

Two of these are situated on the front axle MacPherson strut towers, the third is located in the right rear wheel housing. The movement of the axle components (unsprung mass) is determined by evaluating the signals produced by the vehicle level senders.

Body Acceleration Senders (G341, G342, G343)

The senders are bolted to the body with brackets. The senders and brackets are made of one assembly and cannot be separated.

During service work, the sender must always be replaced together with the bracket. When installed correctly, the arrow on the sender housing MUST point upwards.



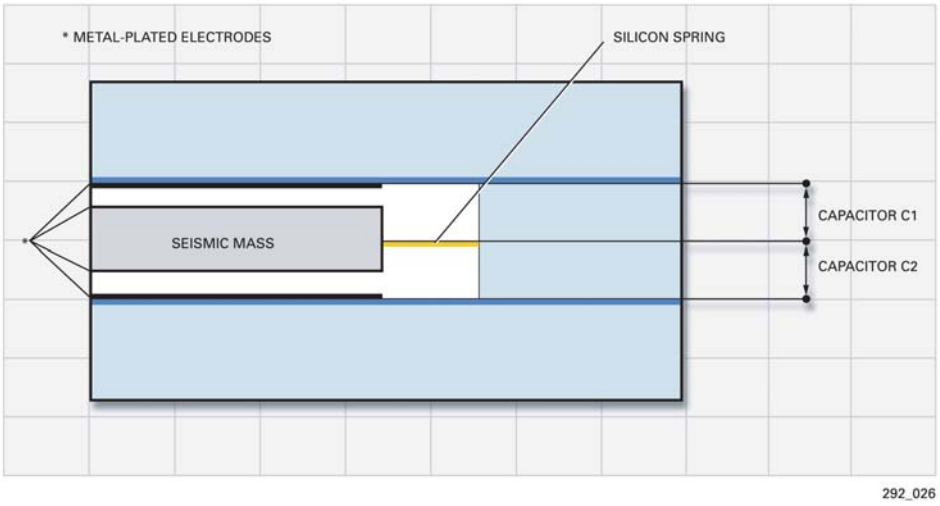
The sender element consists of several layers of silicon and glass. The middle silicon layer is a spring-loaded reed (seismic mass). The sensitivity of the sender is largely determined by the spring rate and the mass of the reed.

The metal-coated seismic mass acts as a moving electrode which together with the upper and lower counter electrodes, forms capacitors. The capacitance of these depends on the electrode surfaces and their distance from one another.

System components

Rest Condition

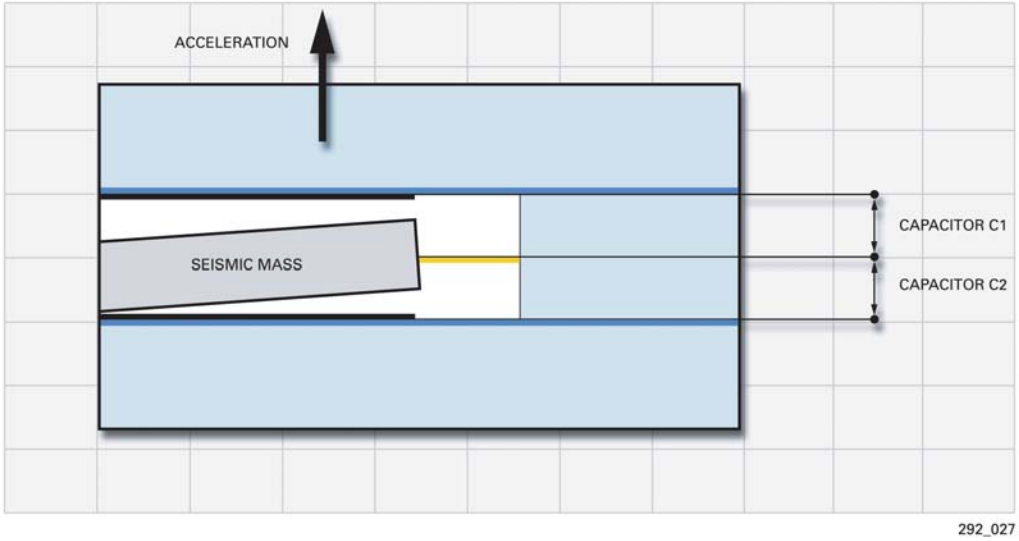
The seismic mass is between two counter electrodes. Capacitors (C1 and C2) have the same capacitance.



Accelerated Condition

Inertia causes the seismic mass to be deflected from its central position. The distance between the electrodes changes. As the distance is reduced, the capacitance increases. In the example below, the capacitance of capacitor C2 is greater than in the rest condition, whereas that of capacitor C1 decreases.

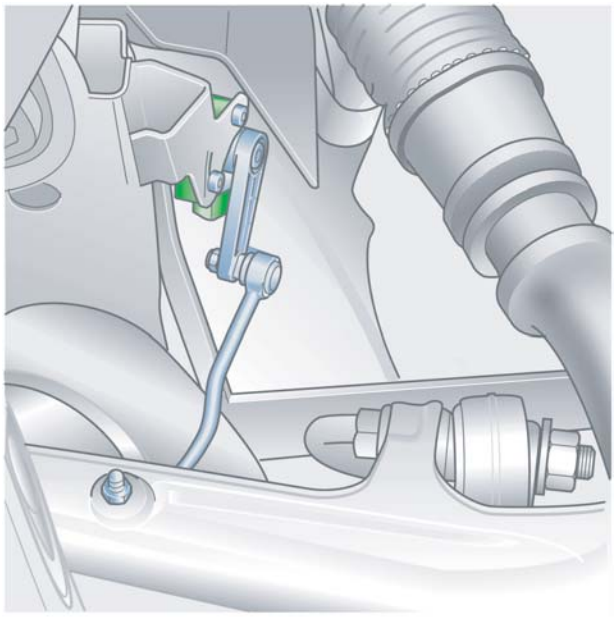
The supply voltage is provided by the pneumatic struts Control Unit. The body acceleration voltage can be read as Measured Data Blocks.



Vehicle Level Senders (G76, G77, G78, G289)

The construction and circuit designation of the vehicle level senders are the same as those of the allroad quattro (Refer to SSP 243). The four vehicle level senders are interchangeable, but the brackets and coupling rods must be installed on the correct side and axle.

The vehicle level senders record the distance between the links and the body, and thus the level of the vehicle. The scanning frequency of the senders is approximately 800 Hz (200 Hz in the allroad). This scanning frequency is enough to determine the acceleration of the unsprung masses.



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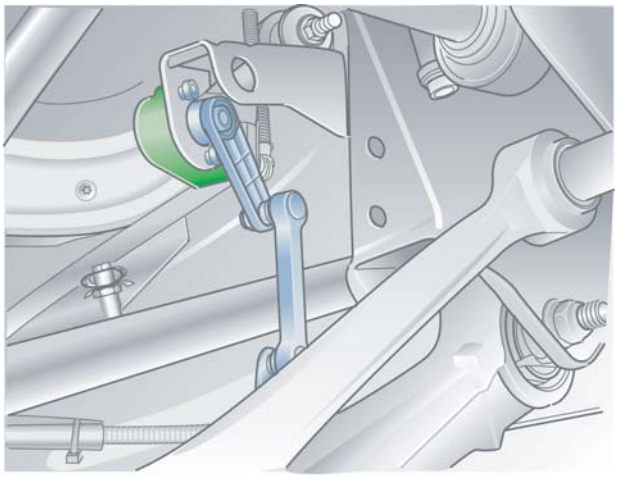


292_043

DO NOT install an identical sender for the allroad quattro in the A8L. The system will fail.

System functions

General Control Concept

Changes in level are affected by the axle, with correction of differences in level between the left and right sides (e.g. one side of the vehicle loaded).

At vehicle speeds of 22 mph (35 km/h) or less, the accumulator is the preferred energy source. There must be a pressure difference of at least 44 psi (300 kPa) between the accumulator and the pneumatic struts.

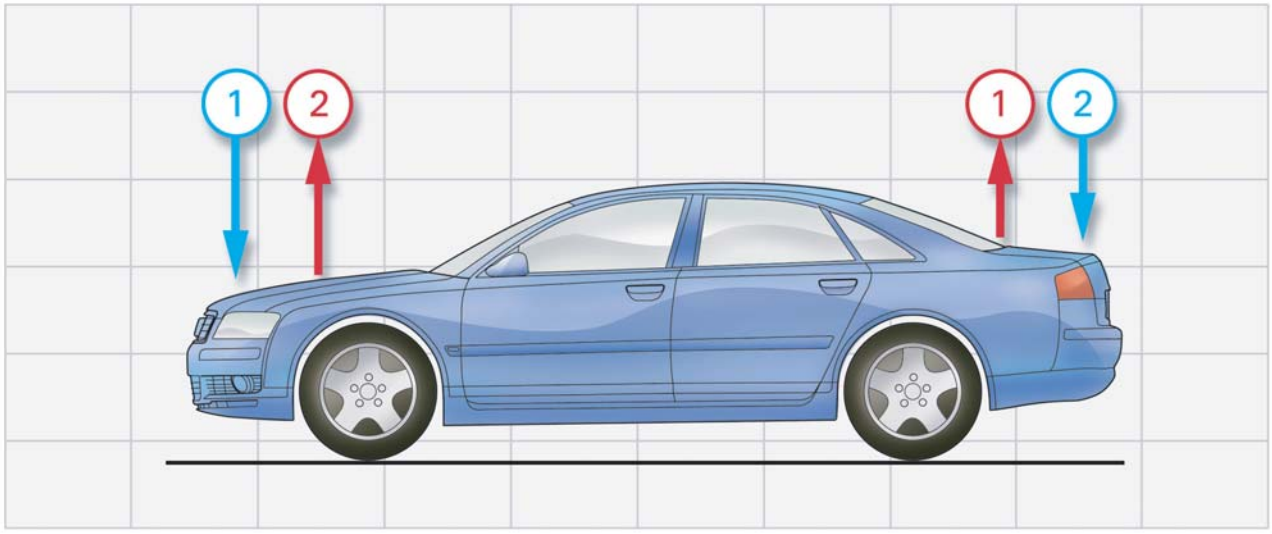
Level Change Procedure

Lifting

First the rear axle is lifted, then the front axle

Lowering

First the front axle is lowered, then the rear axle.



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Lifting

Lowering

This sequence ensures that oncoming traffic will not be dazed by the headlights during leveling operations, even if the headlight range control fails. Headlight range control is only used in vehicles with Xenon headlights.

Notes

Control Concept for Standard Adaptive Air Suspension

Automatic Mode

In this mode, the suspension is oriented towards a more comfortable ride. After 30 seconds of driving at speeds of 75 mph (120 km/h) or more, the A8L is automatically lowered by 1 inch (25 mm). The vehicle is automatically raised to its basic level when the speed drops below 22 mph (35 km/h), or below 44 mph (70 km/h) for 120 seconds.

Comfort Mode

In Comfort Mode, the suspension is even more comfort oriented than in Automatic Mode, particularly at lower speeds. There is no automatic expressway lowering.

Dynamic Mode

In this mode, a firm dampening command is applied to the complete speed range of the vehicle. When the vehicle speed exceeds 75 mph (120 km/h) for 30 seconds, the vehicle is automatically lowered another .20 inch (5 mm). After the speed drops below 22 mph (35 km/h) or when the speed drops below 44 mph (70 km/h) for 120 seconds, the vehicle is automatically lifted to the sporty level.

Lift Mode

Lift Mode can only be selected at speeds of less than 50 mph (80 km/h). The Control Unit automatically exits this mode at 63 mph (100 km/h) and reverts to the mode that was previously selected (Automatic, Dynamic or Comfort). Even if the speed drops below 50 mph (80 km/h) again, the Lift Mode is not automatically selected.

"LIFT" "AUTOMATIC" 292 _053

"COMFORT" "DYNAMIC"

ACCEPTANCE LEVEL FOR SELECTING "LIFT" MODE 80 km/h (50 mph)\

SYSTEM AUTOMATICALLY LEAVES "LIFT" MODE AT SOEEDS ABOVE 100 km/h (63 mph)
VEHICLE IS NOT LIFTED BACK UP AUTOMATICALLY

AUTOMATIC LIFT TO REVERT TO SPORT/BASIC LEVEL (DEPENDENT ON SPEED/TIME)

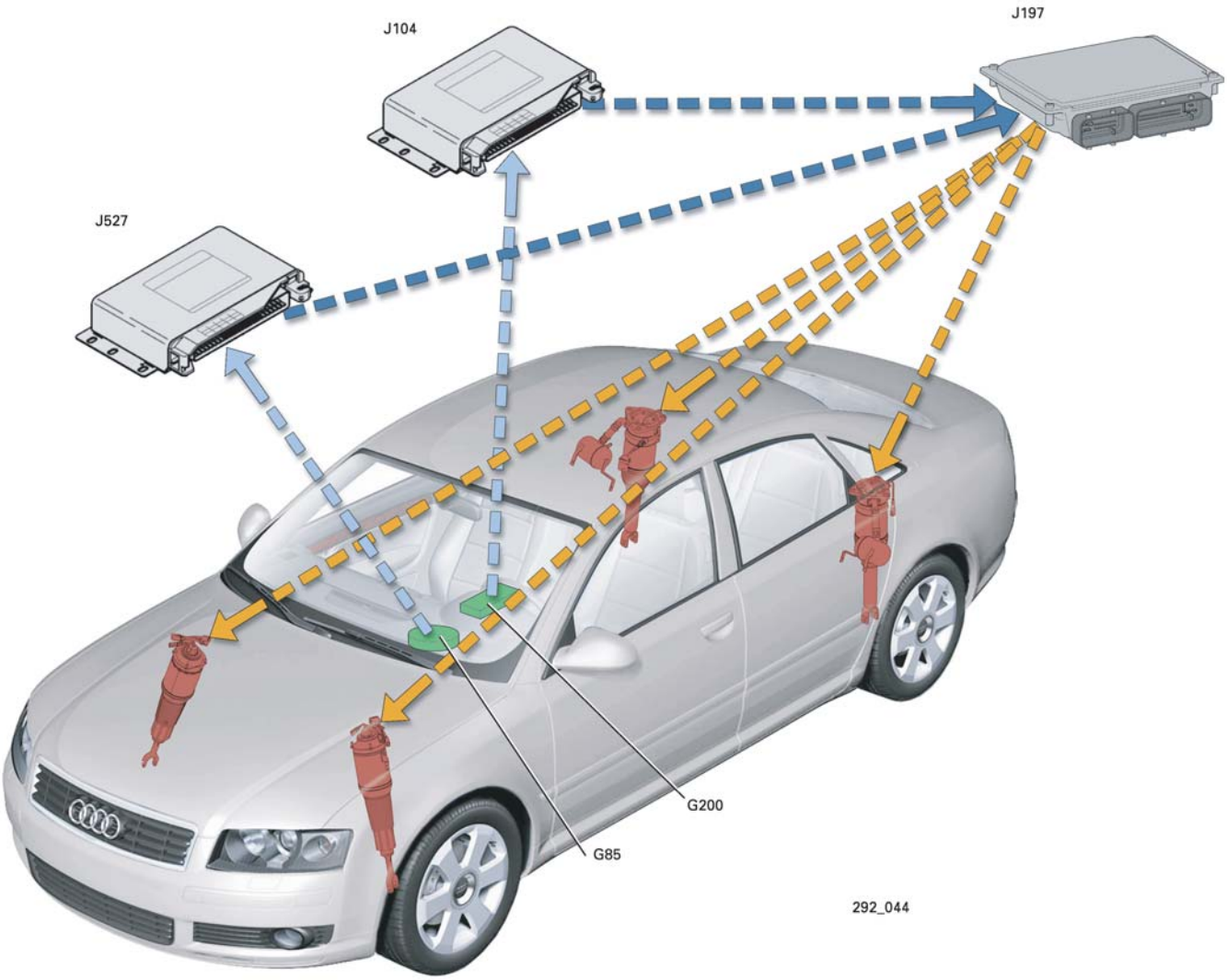
AUTOMATIC LOWERING AFTER 30 SECONDS AT SPEEDS ABOVE 120 km/h (100 mph)

Control Concepts for Special Operating Conditions

Cornering

Suspension adaptation is interrupted during cornering maneuvers. The system recognizes that cornering is taking place by the signals from the steering angle and lateral acceleration senders.

The dampening forces are adapted to suit the driving situation which reduces objectionable body movements such as rolling.

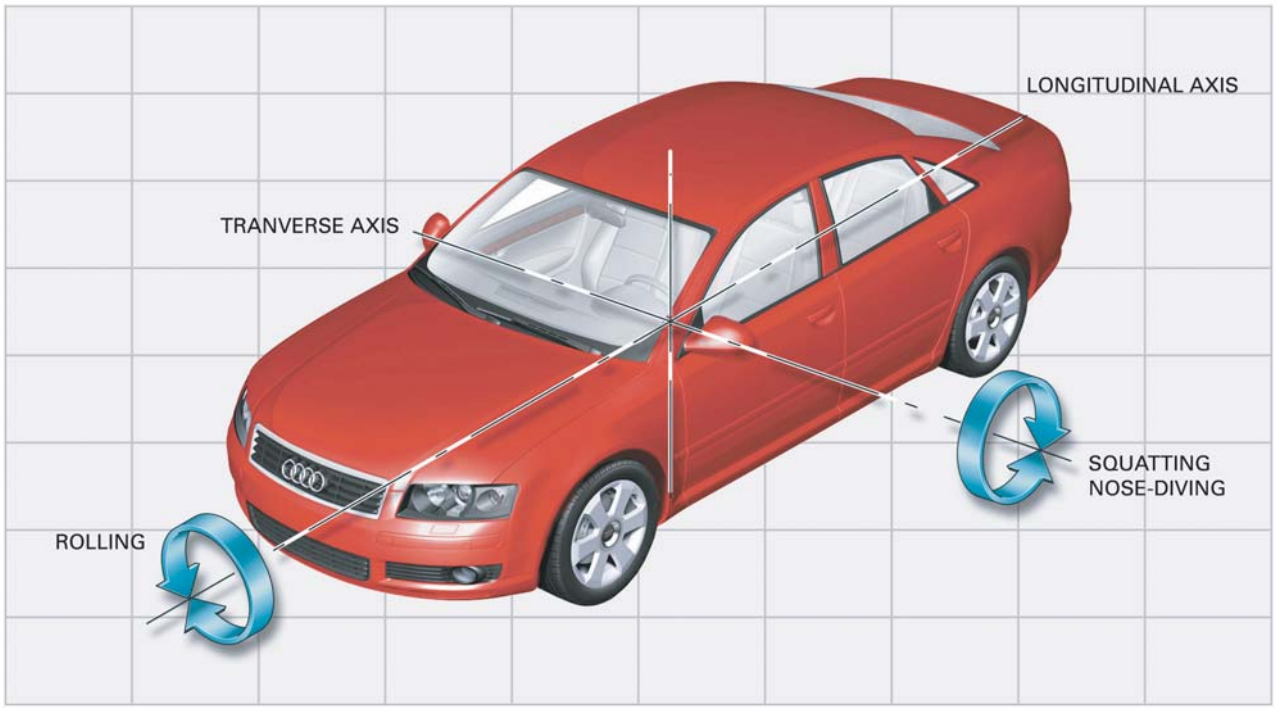


J107 APADTIVE AIR SUSPENSION CONTROL UNIT
J104 ESP CONTROL UNIT
J527 CONTROL UNIT FOR STEERING COLUMN ELECTRONICS
G200 LATERAL ACCELERATION SENSOR
G85 STEERING ANGLE SENSOR

Braking Maneuvers

Dampening control is used particularly during ABS/ESP braking maneuvers. Dampening is proportional to braking pressure.

This keeps nose diving, squatting and rolling of the vehicle body to a minimum.



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Starting Maneuvers

During starting maneuvers, the mass inertia of the body leads to squatting. Appropriate dampening forces that are adapted to the current situation restrict these movements to a minimum.

System functions

Pre-Travel and Afterrun Mode

Any difference from the specified height is corrected before driving begins or before the ignition is on. When the door, trunk or battery voltage at Terminal 15 is actuated, the system is awakened from the Sleep Mode and goes into Pre-Travel Mode (refer to the Interfaces Section).

Any difference in height by climbing out of or unloading the vehicle after switching off the ignition, is corrected in after-run mode.

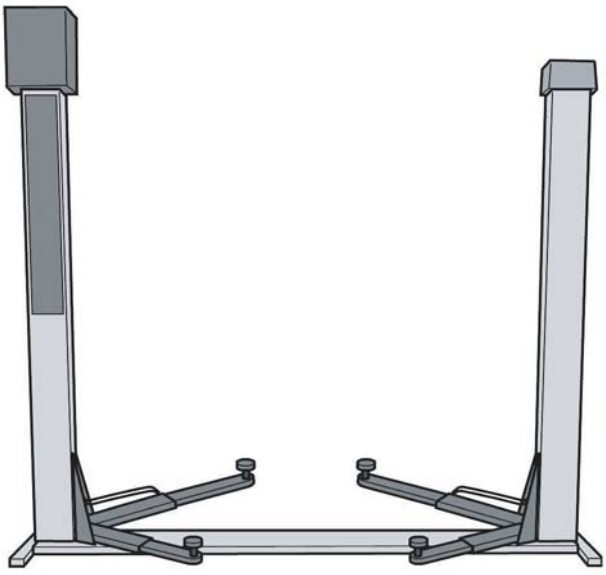
Sleep Mode

After 60 seconds in Afterrun M ode without receiving an input signal, the system goes into an energy saving Sleep Mode . After 2, 5 and 10 hours, the system briefly leaves the Sleep Mode and checks the height level again.

Any difference in height from the specified value such as the cooling of the air in the pneumatic struts is corrected by the accumulator.

Lifting Platform Mode

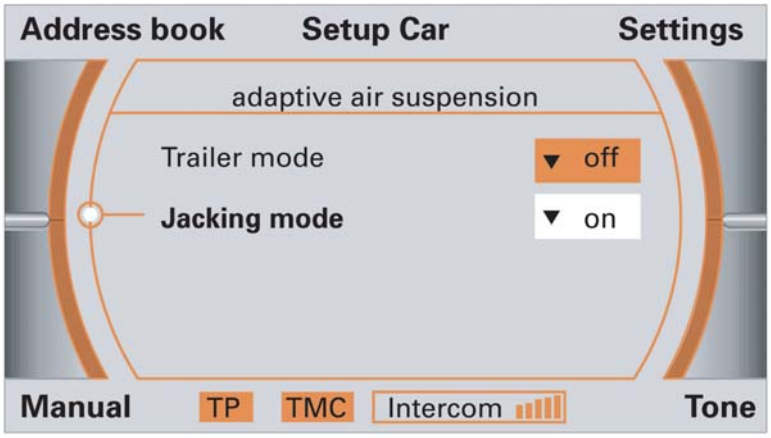
The system recognizes Lifting Platform Mode by evaluating the signals from the vehicle level sender and by the length of time that the stationary vehicle has been shutdown. A No Fault DTC is set. This mode is not displayed by the indicator lamp.



292_034

Service Mode

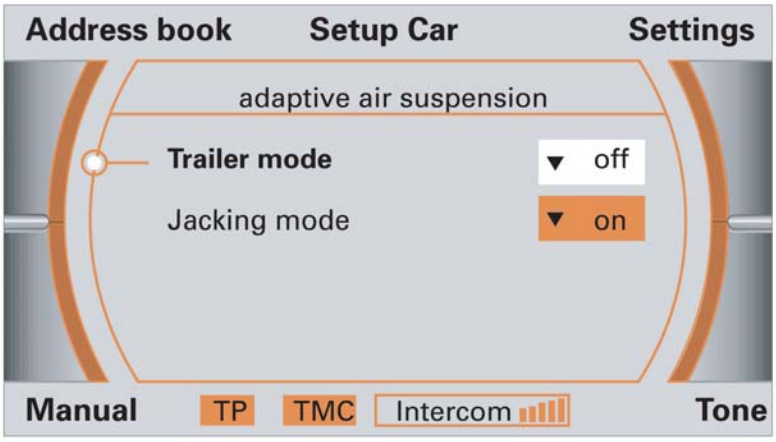
There is no automatic recognition for Service Mode. Adaptive Air Suspension must be deactivated if a jack is used. This is done by actuating the MMI control knob in the CAR SETUP menu. Service Mode is deactivated by either resetting the mode in MMI or by driving at more than 9 mph (15 km/h).



292-036

Trailer Mode

Trailer Mode is automatically recognized when the trailer is electrically connected. The system status (Trailer Mode On or Off) can be requested by the SETUP button and activated if necessary using the MMI control knob. In the Adaptive Air Suspension, Dynamic Mode cannot be selected in Trailer Mode.



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System functions

Extreme Low Level

Extreme Low Level (2.5 inch [65 mm] or more below nor mal level) is shown by the Low Level Indicator Lamp and a flashing warning lamp. Extreme low level can occur after the vehicle has been stationary for a very long time.

292_045

Extreme High Level

Extreme High Level (2 inches [50 mm] or more above normal level) is shown by the warning lamp flashing. Extreme high level may occur briefly when heavy objects are unloaded.

292_046

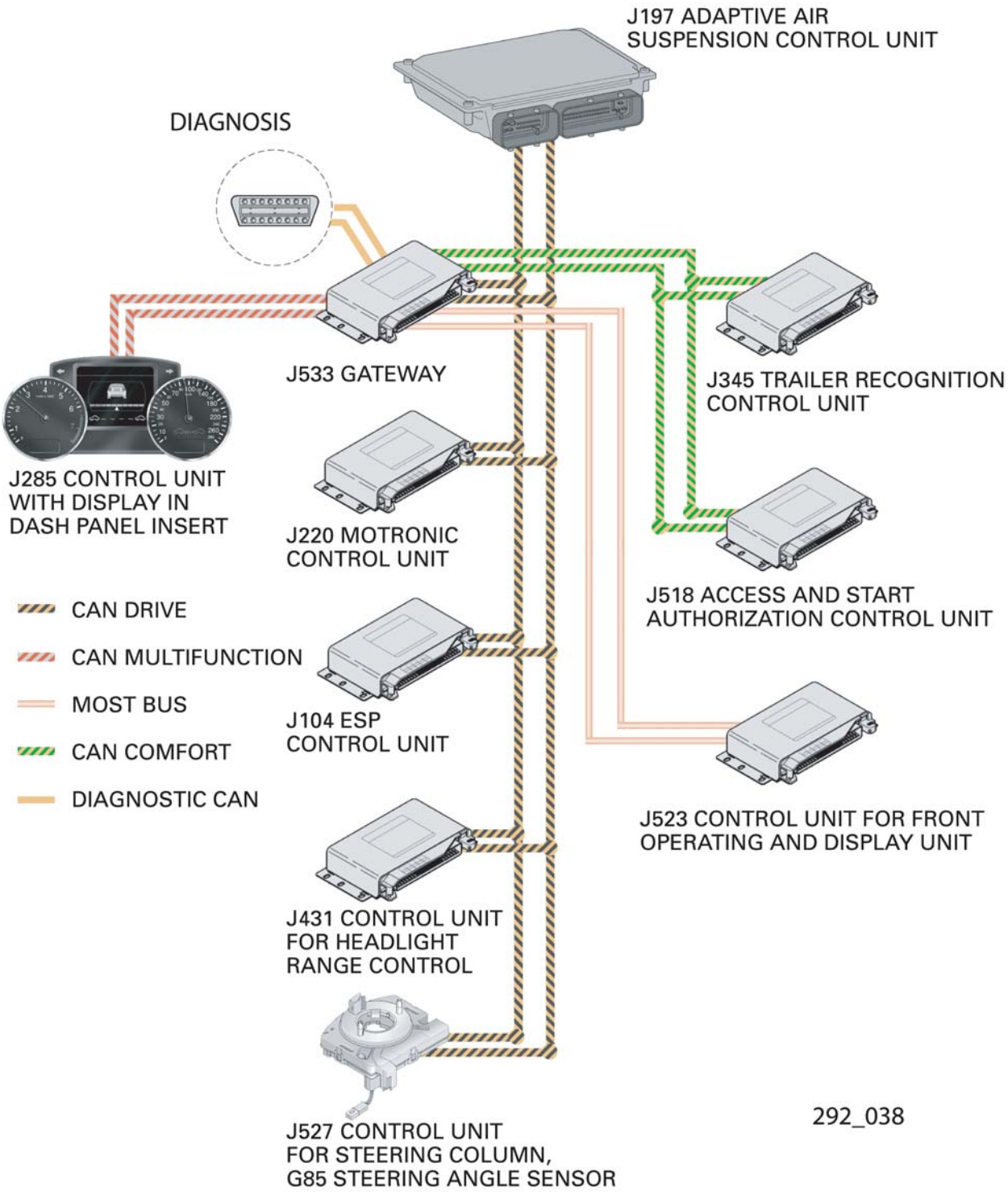
Emergency Running Function

If a failure of system components or signals is detected, the reliability of the system is generally no longer guaranteed. Therefore, depending on the severity of the fault, an Emergency Running Program is started. Faults are stored in the fault memory and the warning lamp in the dash panel insert illuminates. The premise for Emergency Running Mode is the maintenance of driving stability.

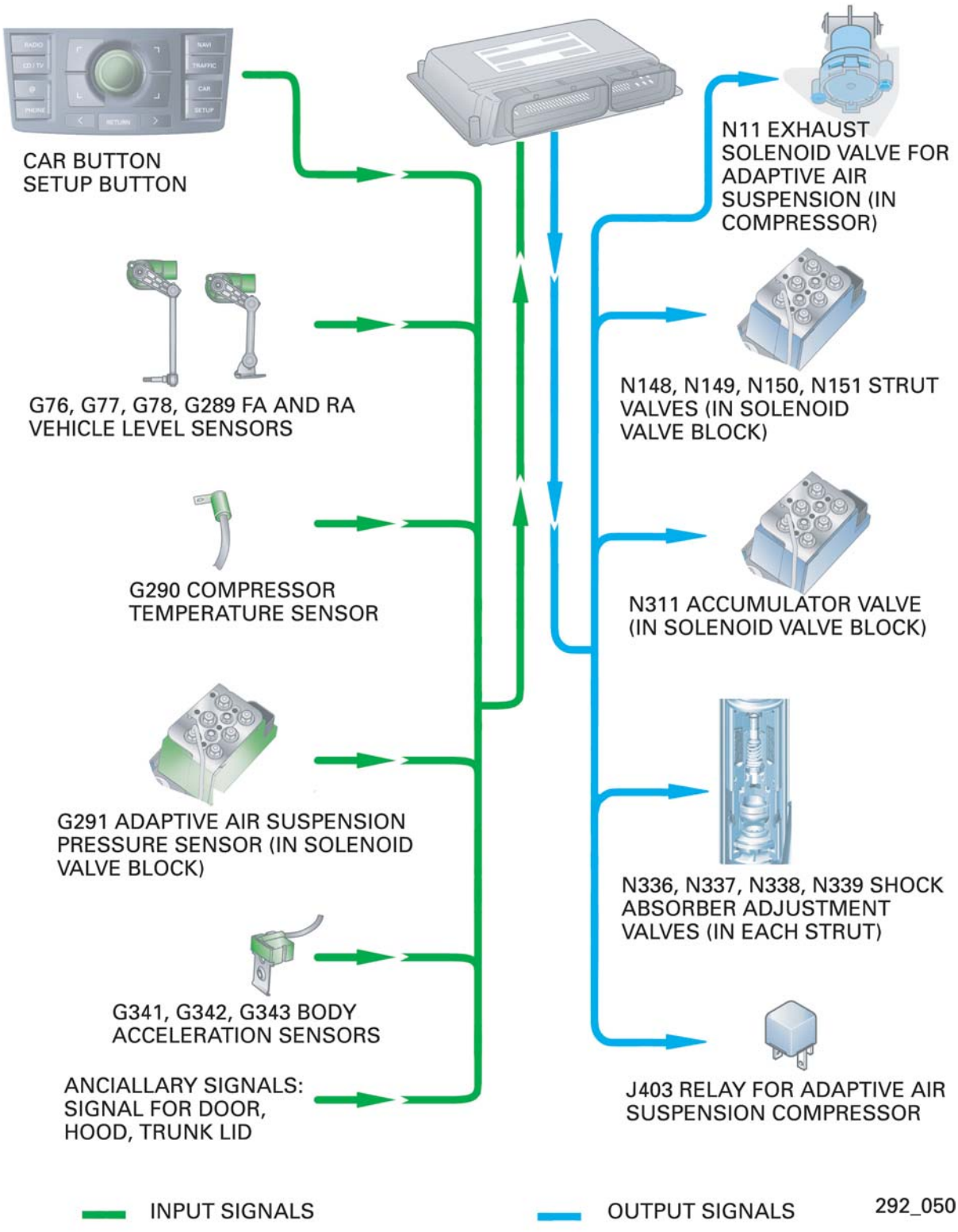
Excessively soft suspension is prevented. In case of complete failure of the system control, the damper actuation is de-energized and the system is set to hard suspension. (Refer to the Shock Absorber Description in the Sys tem Components section.)

Notes

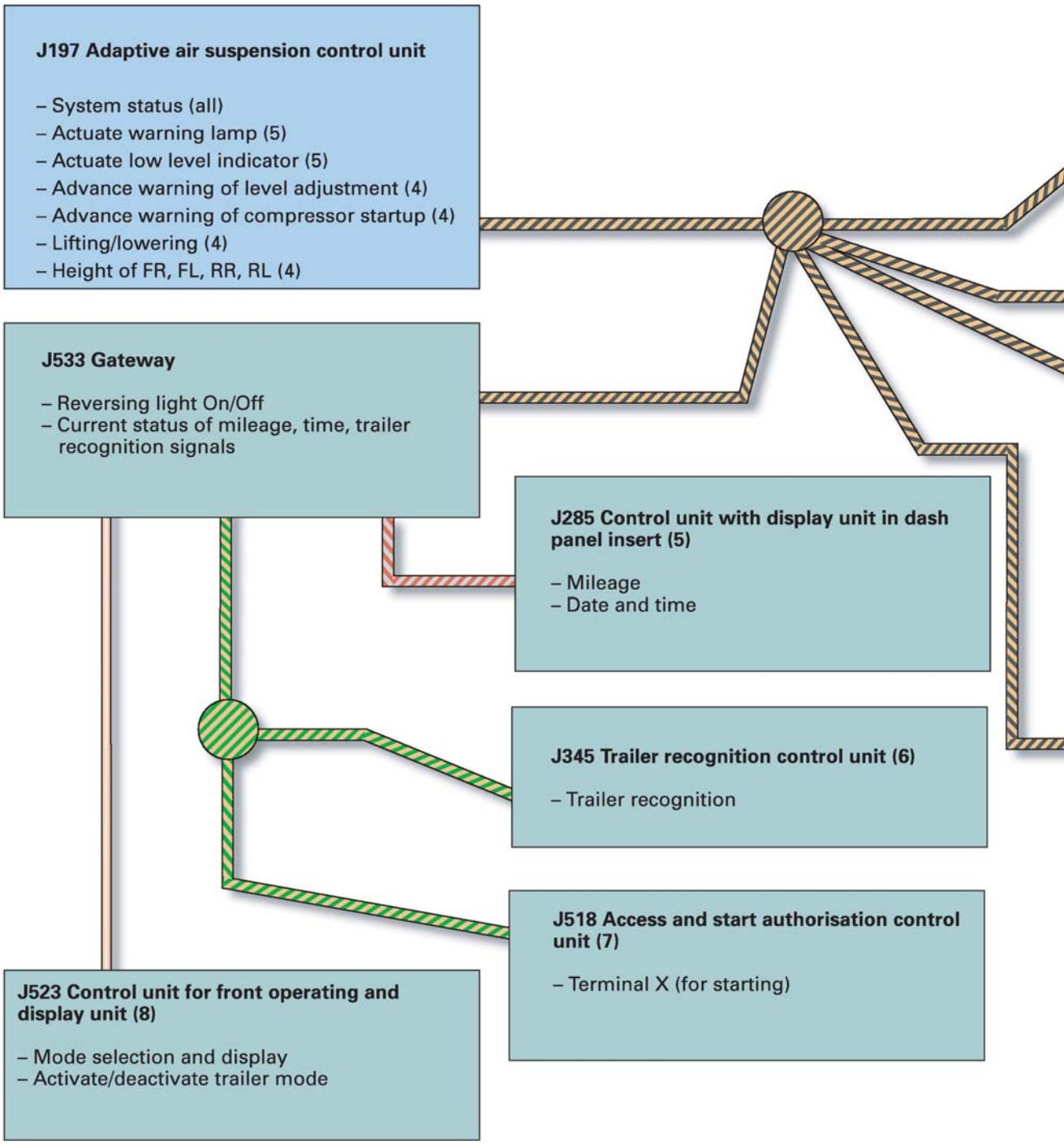
System Overview of Components with Bus Link (CAN, MOST)

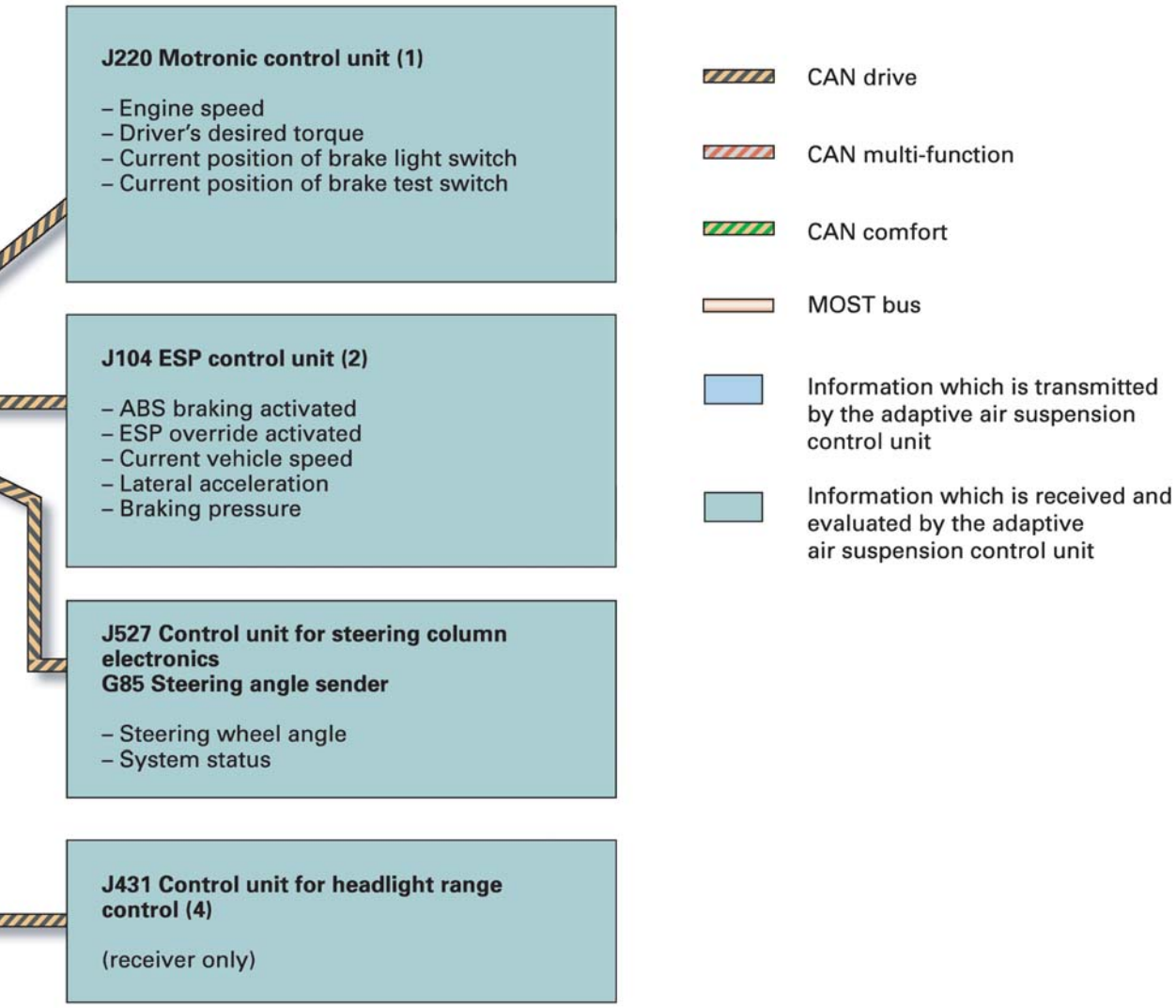


System Overview of Components without Bus Link



CAN Information Exchange




J220 Motronic control unit (1)
– Engine speed
– Driver's desired torque
– Current position of brake light switch
– Current position of brake test switch
J104 ESP control unit (2)
– ABS braking activated
– ESP override activated
– Current vehicle speed
– Lateral acceleration
– Braking pressure
J527 Control unit for steering column electronics
G85 Steering angle sender
– Steering wheel angle
– System status
J431 Control unit for headlight range control (4)
(receiver only)
CAN drive
CAN multi-function
CAN comfort
MOST bus
Information which is transmitted by the adaptive air suspension control unit
Information which is received and evaluated by the adaptive air suspension control unit

292-039

Interfaces

Function Diagram

G76 Vehicle Level Sender, Rear Left

G77 Vehicle Level Sender, Rear Right

G78 Vehicle Level Sender, Front Left

G289 Vehicle Level Sender, Front Right

G290 Temperature Sender for Adaptive Air Suspension Compressor

G291 Adaptive Air Suspension Pressure Sender

J393 Central Control Unit for Comfort System (for Door Signal)

G341 Body Acceleration Sender, Front Left
G342 Body Acceleration Sender, Front Right

G343 Body Acceleration Sender, Rear

J197 Adaptive Air Suspension Control Unit

J403 Relay for Adaptive Air Suspension Compressor

N111 Adaptive Air Suspension Exhaust Solenoid Valve

N148 Strut Valve, Front Left

N149 Strut Valve, Front Right

N150 Strut Valve, Rear Left

N151 Strut Valve, Rear Right

N311 Valve for Adaptive Air Suspension Accumulator

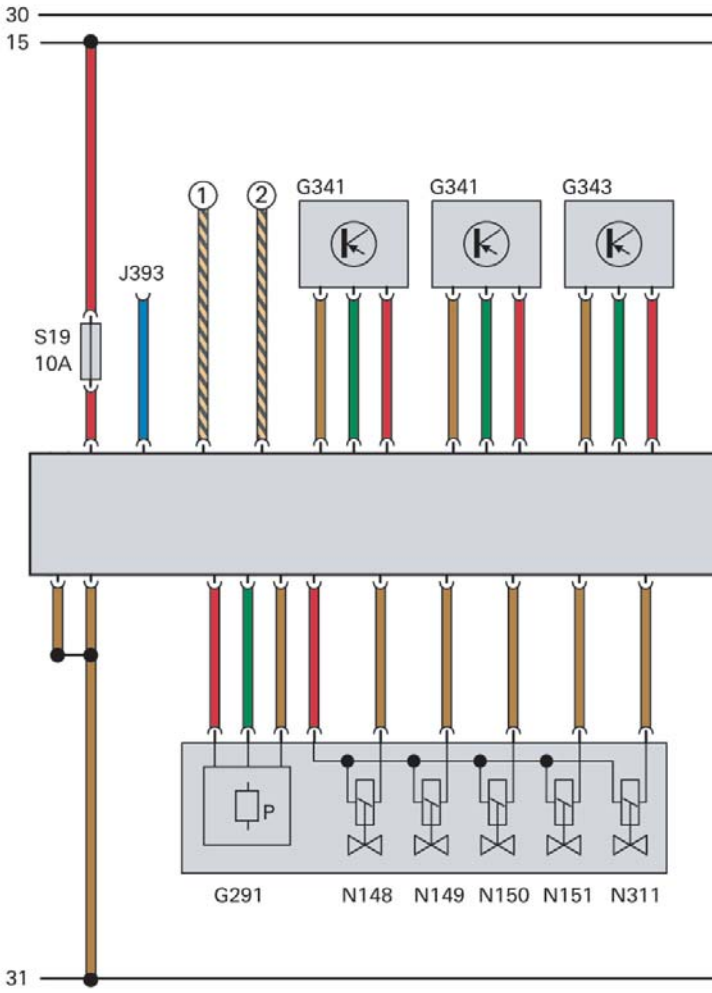
N336 Strut Valve, Front Left

N337 Valve for Shock Absorber Adjustment, Front Right

N338 Valve for Shock Absorber Adjustment, Rear Left

N339 Valve for Shock Absorber Adjustment, Rear Right

V66 Motor for Adaptive Air Suspension Compressor



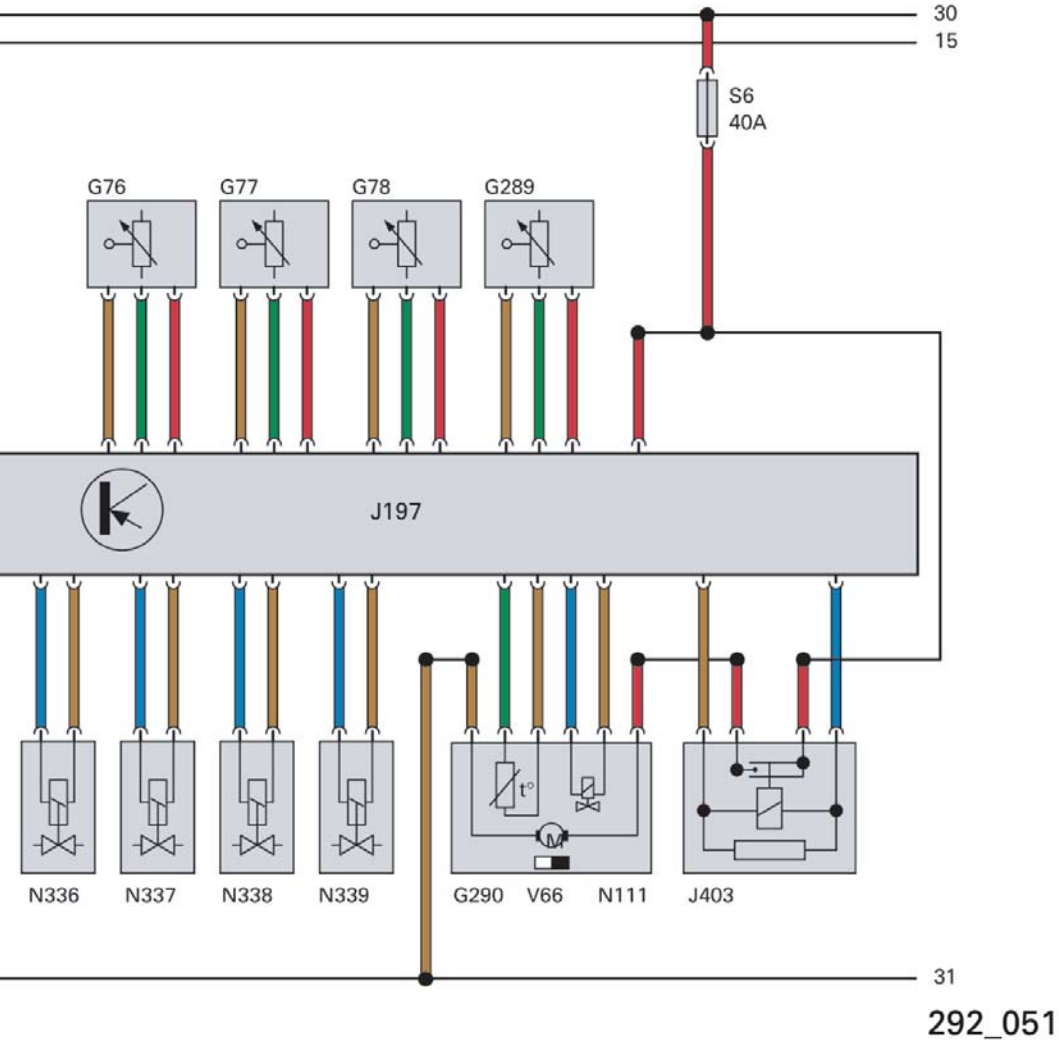
= input signal

= output signal

= positive supply

= earth

= CAN bus



292_051

Ancillary signals

① CAN High

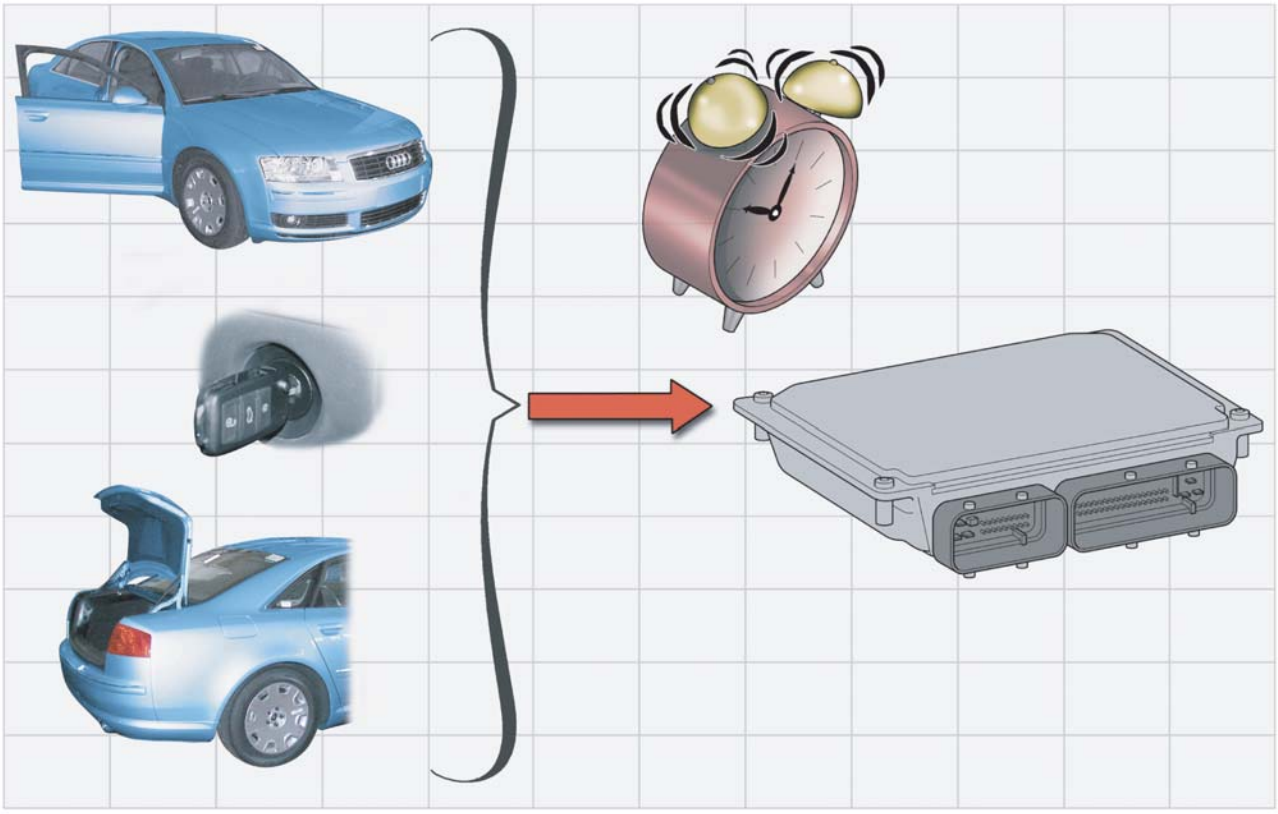
② CAN Low

Other Interfaces

Wake-Up Signal

The wakeup signal to awaken the Adaptive Air Suspension Control Unit from Sleep Mode is sent by the Comfort System Central Control Unit (J393). It uses a pulse width modulated signal. The length of the signal pulse varies depending on if the doors and/or trunk lid are opened or closed.

The Comfort System Central Control Unit transmits a signal even if battery voltage Terminal 15 is detected but the doors and/or trunk lid are not opened or closed.



292_047

Headlight Range Control Signal

The Adaptive Air Suspension Control Unit sends a CAN message about the momentary body level on all four wheels to the Headlight Range Control Unit.

The Headlight Range Control Unit uses this information to calculate the required head light setting in each case.

Terminal X Signal

The Adaptive Air Suspension System compressor is briefly turned off during vehicle start up. Information about Terminals 15 and 50 is sent to the Access and Start Authorization Control Unit (J518) over discrete lines from the Access and Start Authorization Switch (E415).

The Control Unit transmits the Terminal X message over the CAN bus to the Adaptive Air Suspension Control Unit. This prevents the compressor from running while the Terminal 15/Terminal 50 message is valid.

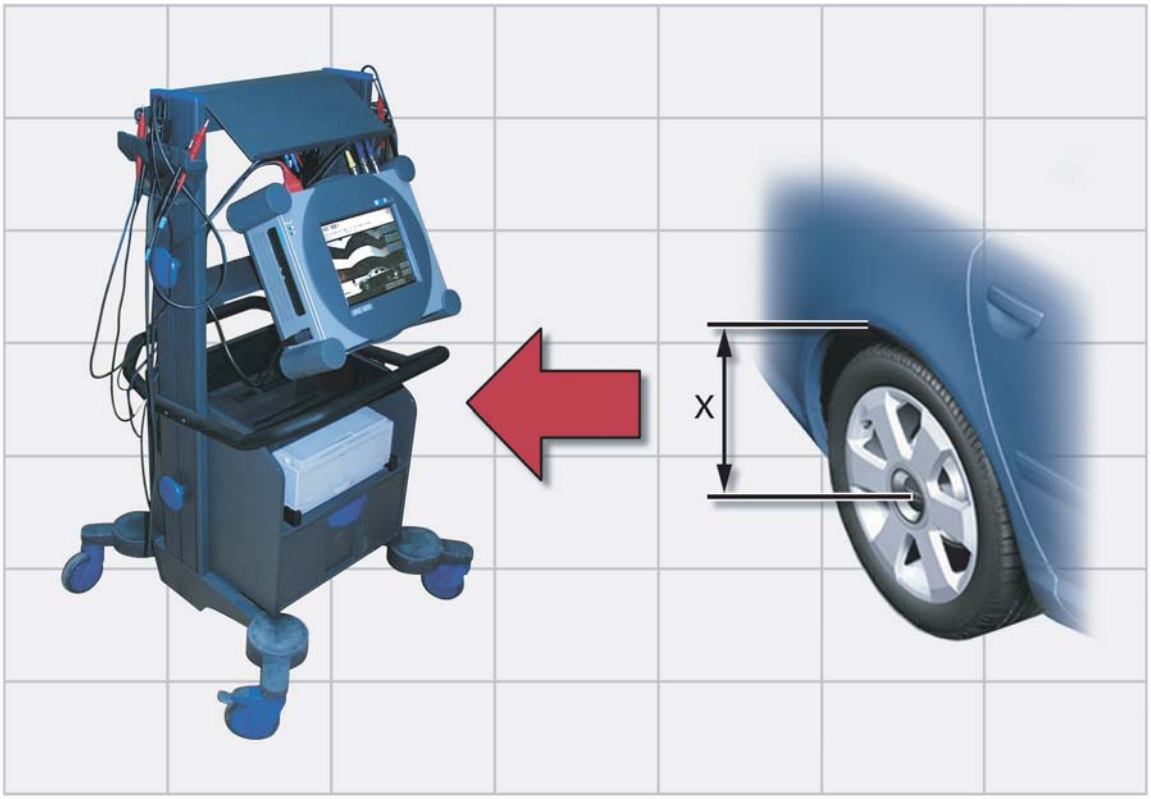
Control Unit Code

The code for standard Adaptive Air Suspension is 15500.

System Initialization

The System Initialization process includes calibration of the vehicle level senders. This is required whenever a sender or the Control Unit is replaced. System Initialization is performed using Diagnostic Tester VAS 5051 (Address Word 34 – Adaptive Air Suspension).

The height of each wheel is measured from the center of the wheel to the lower edge of the wheel housing. The measured values are transmitted one after the other to the Control Unit by Function 10, Adaptation. The dimensions are stored in the Control Unit. The correction factors can be determined by comparing the specified values with the measured values.



292_041

Final Control Diagnosis

Final Control Diagnosis checks the function of the compressor, solenoid valves and struts/shock absorbers. Diagnosis is automatically performed in three steps. Each step may be selected separately (Selective Final Control Diagnosis).

1. Each strut is lowered 0.8 inch (20 mm) below its current level for 30 seconds.

2. The accumulator is charged and emptied.

3. Various electrical currents are applied to actuate the shock absorbers.

Final control diagnosis is accomplished when the vehicle is stationary and the ignition is on. The engine may be running. During final control diagnosis, the yellow warning lamp in the dash panel insert flashes.

Measured Value Blocks

Information on System Initialization, Final Control Diagnosis, Measured Value Blocks and Control Unit Coding is described in the Fault-Finding Guide. The most important information about the system status is stored in the Measured Value Blocks.

Knowledge Assessment

An on-line Knowledge Assessment (exam) is available for this SSP.

The Knowledge Assessment may or may not be required for Certification.

You can find this Knowledge Assessment at:

www.accessaudi.com

From the accessaudi.com homepage:

- Click on the “ACADEMY” Tab
- Click on the “Academy Site” Link
- Click on the ”CRC Certification” Link

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Audi Academy

Learning Management Center Headquarters

1-877-AUDI-LMC (283-4562)

(8:00 a.m. to 8:00 p.m. EST)

Notes