

01 - General Information

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Engine Overview

Engine code		AHA	APB	ART
Manufactured		from 06.97	from 06.99	from 08.99
No. of cylinders / valves per cylinder		6 / 5	6 / 5	8 / 5
Displacement	liters	2.771	2.671	4.172
Output	kW at RPM	147 at 6000	187 at 5800	220 at 6000
Torque	Nm at RPM	280 at 3200	310 at 1800-4500	410 at 3300
Bore diameter	mm	82.5	81	84.5
Stroke	mm	86.4	86.4	93.0
Compression ratio		10.1:1	9.3:1	11.0:1
Ignition system		Bosch Motronic	Motronic	Motronic
RON	minimum	98 (unleaded) → Note	98 (unleaded) → Note	98 (unleaded) → Note

1) Standard unleaded RON 95 is also permitted, but with reduced power.

Engine code	AHA	APB	ART
Hydraulic valve lifters	X	X	X
On Board Diagnostic (OBD)	X	X	X
Three Way Catalytic Converter (TWC)	X	X	X
Oxygen Sensor (O2S) control	X	X	X
Knock sensor control	X	X	X
Secondary Air Injection (AIR) system	X	Auto trans.: Yes Manual trans.: No	X
Exhaust Gas Recirculation (EGR)	-	-	-
Electronic throttle control (E-Gas)	-	X	X

Exhaust gas turbocharger	-	X	-
Variable valve timing	X	X	-

Engine code		ATQ	AVK	AWN
Manufactured		-	-	from 05.00
No. of cylinders / valves per cylinder		6 / 5	6 / 5	8 / 5
Displacement	liters	2.771	2.976	4.172
Output	kW at RPM	142 at 6000	162 at 6300	236 at 6000
Torque	Nm at RPM	280 at 3200	300 at 3200	413 at 3300
Bore diameter	mm	82.5	82.5	84.5
Stroke	mm	86.4	92.8	93.0
Compression ratio		9.9:1	10.3:1	11.0:1
Ignition system		-	Motronic	Motronic
RON	minimum	98 (unleaded) → Note	98 (unleaded) → Note	98 → Note (unleaded)

2) Standard unleaded RON 95 is also permitted, but with reduced power.

Engine code	ATQ	AVK	AWN
Hydraulic valve lifters	-	-	-
On Board Diagnostic (OBD)	X	-	X
Three Way Catalytic Converter (TWC)	X	-	X
Oxygen Sensor (O2S) control	X	-	X
Knock sensor control	-	X	X
Secondary Air Injection (AIR) system	-	-	-
Exhaust Gas Recirculation (EGR)	-	-	-
Electronic throttle control (E-Gas)	-	-	X
Exhaust gas turbocharger	-	-	-
Variable valve timing	X	X	-

Engine code	BBD

Manufactured		-
No. of cylinders / valves per cylinder		8 / 5
Displacement	liters	4.172
Output	kW at RPM	250 at 6000
Torque	Nm at RPM	400 at 3500
Bore diameter	mm	84.5
Stroke	mm	93.0
Compression ratio		11.0:1
Ignition system		Bosch Motronic
RON	minimum	98 → Note(unleaded)

3) Standard unleaded RON 95 is also permitted, but with reduced power.

Engine code	BBD
Hydraulic valve lifters	-
On Board Diagnostic (OBD)	X
Three Way Catalytic Converter (TWC)	-
Oxygen Sensor (O2S) control	X
Knock sensor control	X
Secondary Air Injection (AIR) system	X
Exhaust Gas Recirculation (EGR)	-
Electronic throttle control (E-Gas)	-
Exhaust gas turbocharger	-
Variable valve timing	X

Engine code	BAS	BCY
Emissions category	EU IV	EU III
Number of cylinders/valves per cylinder	8 / 5	8 / 5
Displacement	L	4.2
Output	kW at RPM	220/7000
		331 5700-6300
Torque	Nm at RPM	400 3000-4000
		560 1950-5500
Bore	Ø mm	84.5
Stroke	mm	93.0
Compression ratio		11.0
		9.3
Fuel injection/Ignition	Motronic	Motronic

RON	minimum.	98 → Note (Premium or Premium Plus unleaded)	98 → Note (Premium or Premium Plus unleaded)
CZ	minimum.	-	-
On Board Diagnostic		X	X
Catalytic converter		X	X
Electronic Power Control System		X	X
Secondary air injection		X	X
Oxygen sensor control		X	X
Exhaust gas recirculation		-	-
Turbocharger		-	X
Emissions testing after 3, 5, 7, 9, etc. years		X	X

4) 95 RON unleaded gasoline is permissible, however with decreased power output.

Oil Change Service

Refer to Maintenance Service Circular and/or Owners Manual for appropriate model and year located in ServiceNet.

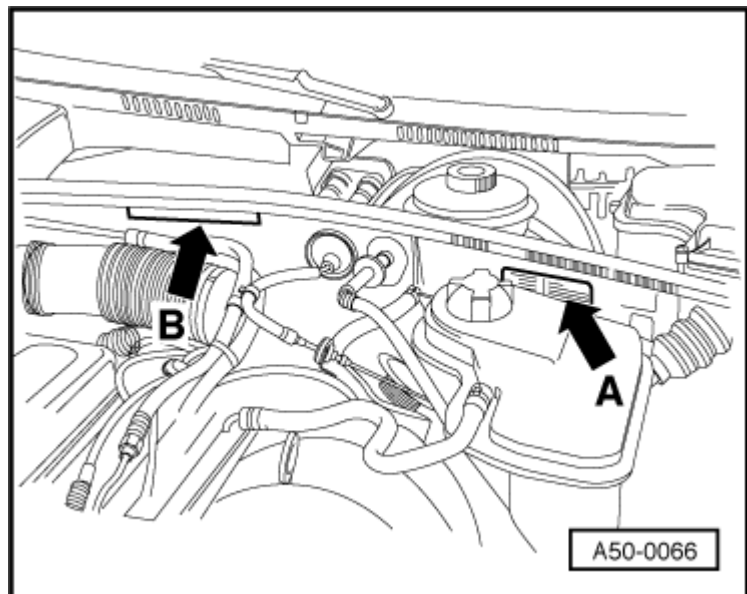
Also, refer to Fluid Capacity Charts for appropriate model and year located in ServiceNet.

Type Plate, VIN

Vehicle Data Label

- A - Type plate
 - Located on the plenum chamber.
 - Vehicles for some countries have no type plate.
- B - Vehicle Identification Number
 - Stamped onto rear engine compartment partition.

Decoding VINs



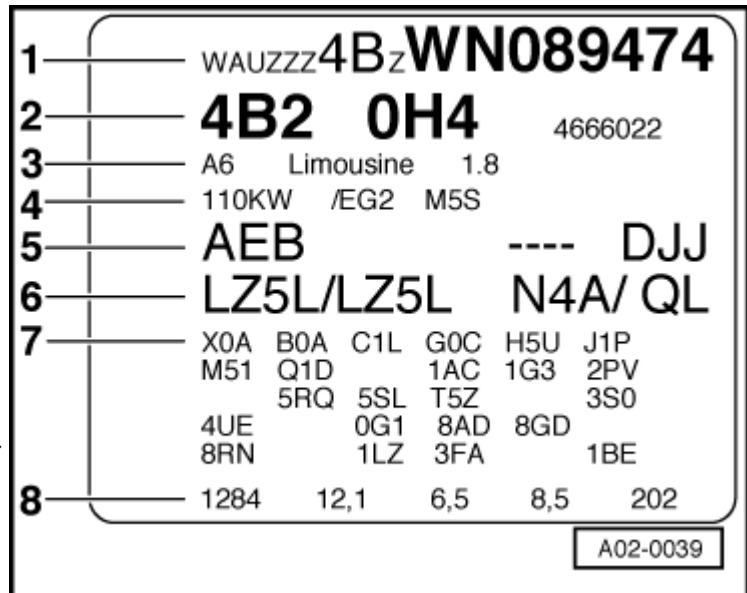
WAU	ZZZ	4B	Z	Y	N	000 001
Manufacturer-code	Filler character	Model	Filler character	Model year 2000	Production site	Serial number

Vehicle Data Label

The vehicle data label is in the customer Maintenance booklet and in the vehicle in the spare wheel recess or on the luggage compartment floor.

The sticker contains the following vehicle data:

- 1 - Vehicle Identification Number
- 2 - Model identification number/Production control number
- 3 - Model explanation
- 4 - Engine output/Emissions standard/Transmission
- 5 - Engine and transmission code letters
- 6 - Paint number/interior equipment identification number
- 7 - Optional equipment identification numbers
- 8 - Curb weight/Consumption/CO₂ emissions



Engine Code and Engine Identification

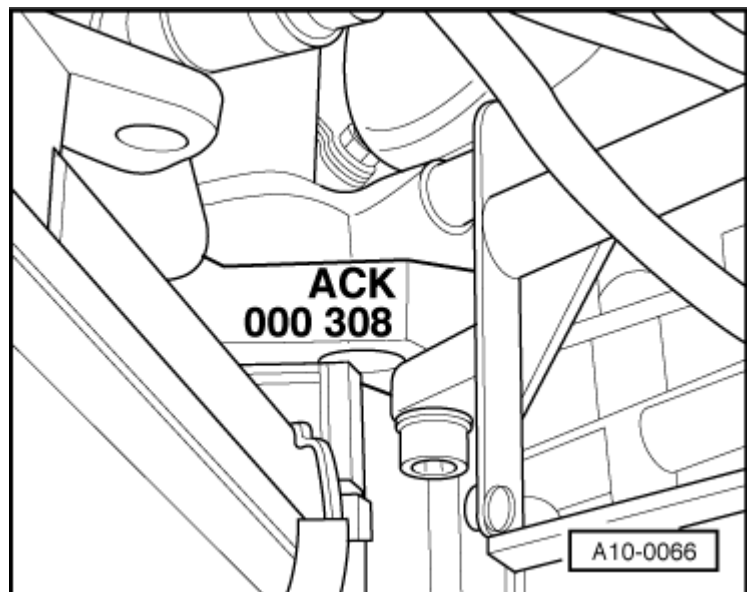


Note

The "engine codes" are also listed on the vehicle data sticker. The vehicle data sticker is in the customer Maintenance booklet as well as at the back of the vehicle in the spare tire well or on the luggage compartment floor.

6-cylinder gasoline engine:

Engine number ("engine code" and "serial number") is stamped on right inner side of cylinder block between cylinder head and hydraulic pump.



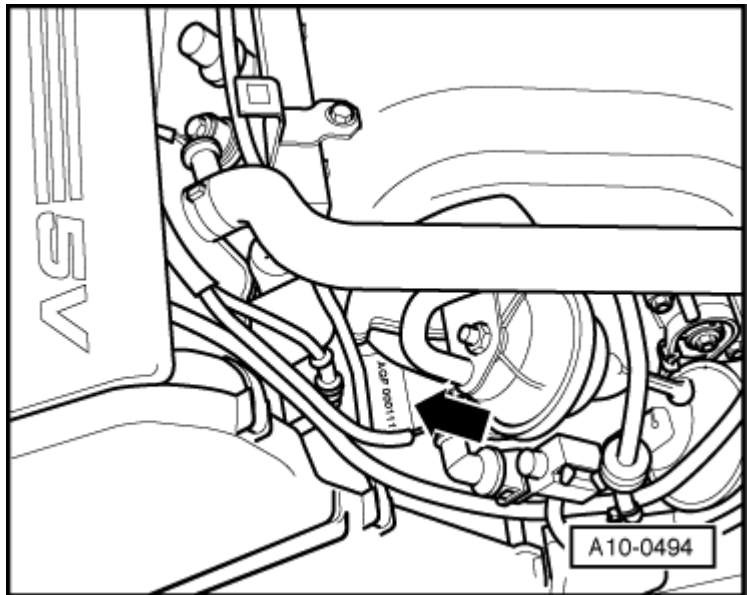
8-cylinder gasoline engine:

The engine number (“engine code” and “serial number”) is stamped into the left side of the cylinder block - arrow-.

A label with “engine code” and “serial number” is also attached to toothed belt guard.

Raising Vehicle

Before lifting an Audi allroad quattro, the jack mode must be set. Refer to Owner's Manual



WARNING

- ◆ *Vehicle may only be lifted at points indicated in illustration in order to avoid damaging vehicle floor pan and to prevent vehicle from tipping.*
- ◆ *Never start engine and engage a gear with vehicle lifted so long as even one wheel has contact with the floor! There is a risk of an accident if this is not observed!*
- ◆ *If work is to be performed under vehicle it must be supported by suitable stands.*

Floor Jack:

Always use a suitable rubber or wooden block between the jack and the vehicle.

Do not lift the vehicle at the engine oil pan, transmission, or on front or rear axles as serious damage may result.

A workshop vehicle jack must also be attached only at the mounting points depicted in the illustration.

Before driving on to a hoist ensure there is sufficient clearance between low lying vehicle components and hoist.

Hoist and Floor Jack Lifting Points

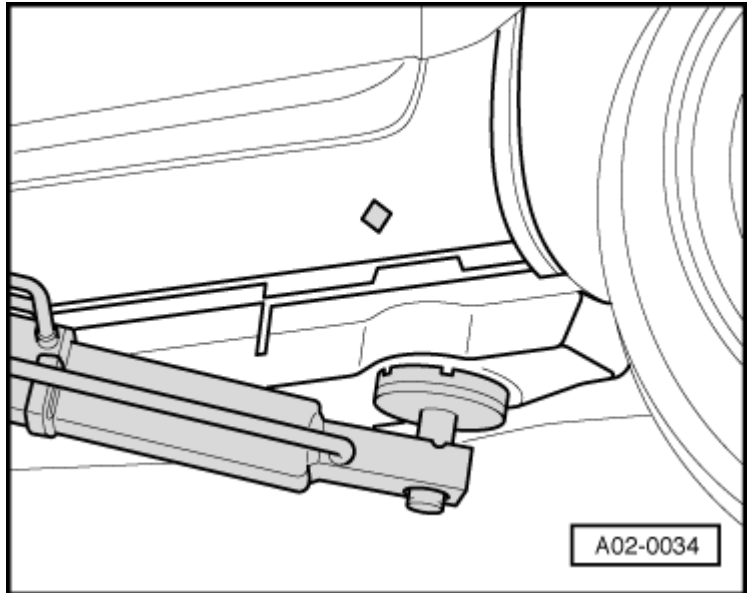
Front:

On the floor longitudinal reinforcement -arrow- in area of marking for onboard vehicle jack.

**WARNING**

On no account must front of vehicle be raised on side member vertical stiffener.

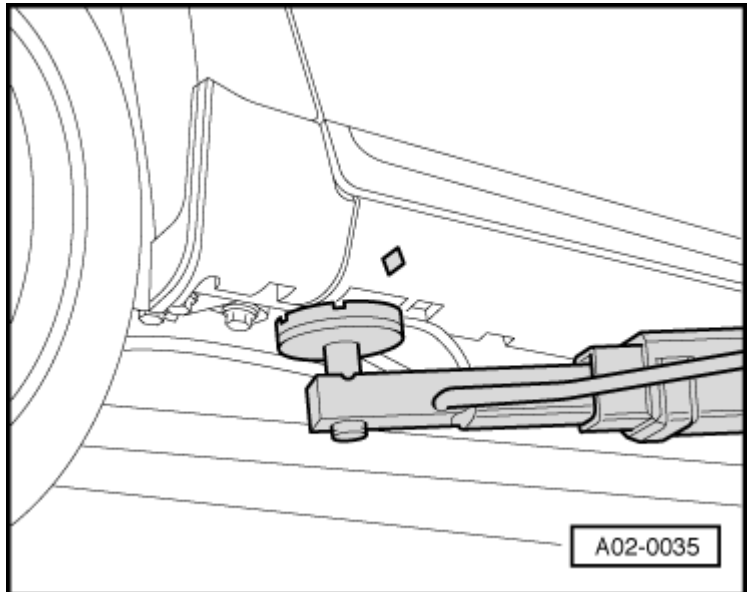
Rear



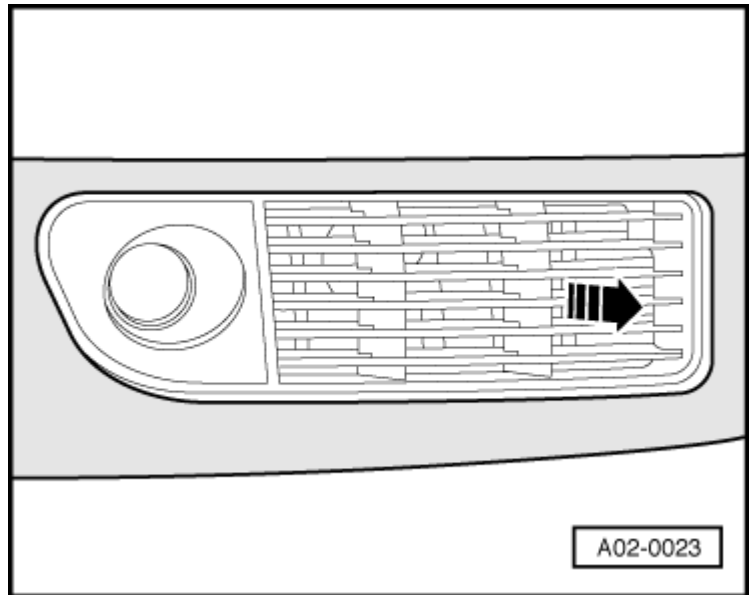
On the vertical reinforcement -arrow- in area of marking for onboard vehicle jack.

Tow Starting/Towing

Attach tow rope or tow bar only to the following eyes:

Front Towing Eyes

- Remove the cover -arrow- in the lower part of the bumper.

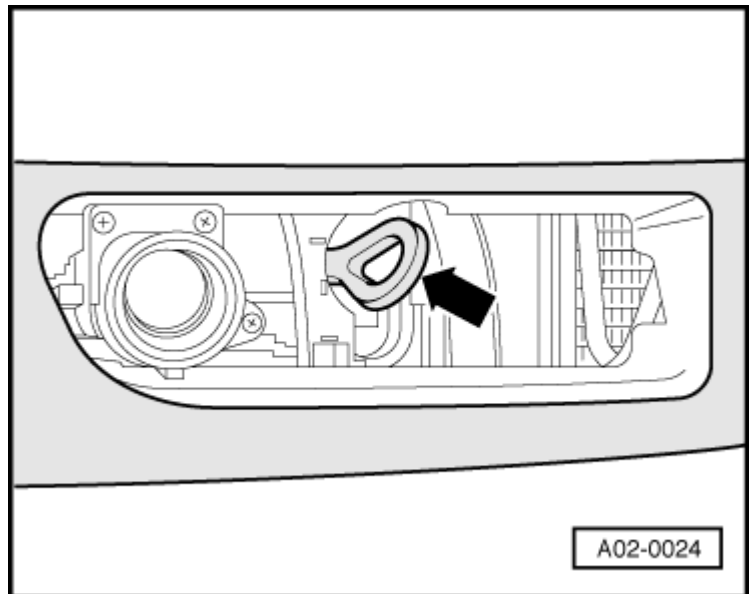


- Remove towing eye from vehicle tool kit compartment.
- Screw in towing eye -arrow- until stop and tighten eye with wheel bolt wrench.

i Note

Remove towing eye after use and return to vehicle tool kit storage compartment. Towing eye must always be in vehicle.

Rear Towing Eye



The rear towing eye -2- is located under the bumper cover on the rear right.

- Swivel the cover -1- by the upper edge inward.

i Note

- ◆ *The tow-rope should be able to stretch to reduce the risk of damage to both vehicles. Therefore only ropes of synthetic material or rope from similarly flexible material should be used. However it is safer to use a tow bar!*
- ◆ *Avoid excessive towing effort and*

do not jerk. During towing operations on unsurfaced roads there is always a danger that the attachment points will be overstressed and damaged.

- ◆ *The battery from another vehicle should be used for starting if possible before trying to start an engine by towing.*

Towing Guidelines

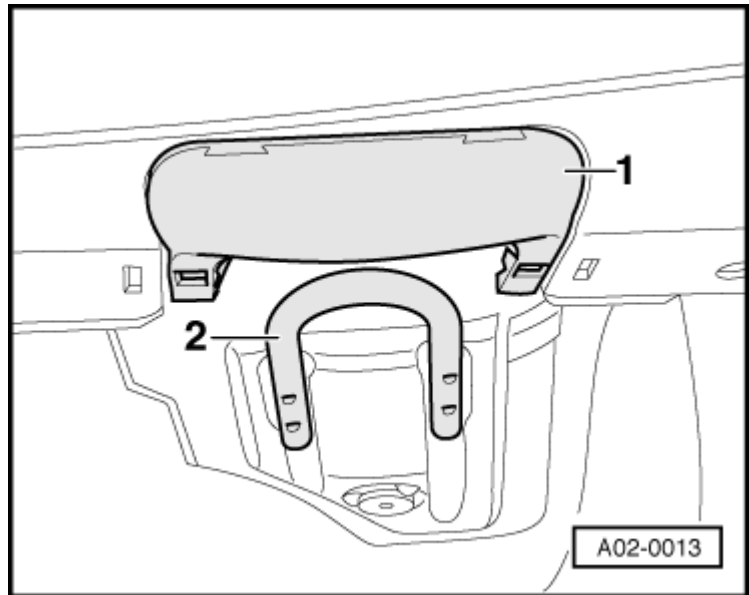


Note

- ◆ *If the vehicle must ever tow or be towed, observe the following:*
- ◆ *Legal regulations concerning towing must be observed.*
- ◆ *Both drivers must be familiar with towing procedures. Inexperienced drivers should not attempt to tow start or tow.*
- ◆ *When using a tow rope the driver of the towing vehicle must engage the clutch very gently when moving off and changing gear.*
- ◆ *The driver of the vehicle being towed must ensure that the tow rope is always taut.*
- ◆ *Both vehicles must have the emergency flasher switched on - if necessary observe any other regulations.*
- ◆ *The ignition must be switched on, so that the steering wheel is not locked and the turn signals, horn, windshield wipers, and windshield washer system can be operated.*
- ◆ *Since the brake booster only works with the engine running, the brake pedal must be stepped on with substantially more force when the engine is switched off.*
- ◆ *With the engine switched off, the power steering also does not work, increasing the amount of steering effort.*
- ◆ *Without lubricants in the manual transmission and/or automatic transmissions the car may only be towed with raised drive wheels.*

Towing vehicles with manual transmission

When towing vehicles with manual transmission, observe the following:



- Before tow starting, push in clutch pedal and hold, and select gear 2 or 3.
- Switch ignition on.
- When both vehicles are in motion, release the clutch pedal.
- As soon as the engine is started, push in the clutch and take the car out of gear to avoid running into the towing vehicle.



Note

- ◆ *Vehicles with catalytic converter (gasoline engine only) must not be started when the catalytic converter is at operating temperature and pulling the vehicle over a longer distance of more than 50 m. Otherwise, the vehicle could be damaged by unburned fuel entering the catalytic converter.*
- ◆ *Tow starting of vehicles with automatic transmission is not possible for technical reasons.*

Towing vehicles with FWD and automatic transmission

When towing vehicles with front wheel drive and automatic transmission, observe the following:

- ◆ Selector lever must be in the “N” position.
- ◆ Do not tow at speeds greater than 30 mph (50 km/h).
- ◆ The maximum towing distance is 30 miles (50 km).
- ◆ For longer distances, the front end of the vehicle must be raised.

Reason: With engine switched off, the transmission oil pump does not work. Therefore the transmission is not sufficiently lubricated at higher speeds and longer distances.

- ◆ When towing with a tow truck, the vehicle may only be towed with raised front wheels.

Reason: With car raised in the back, the driveshafts turn backwards. This would cause the planetary gears in the automatic transmission to achieve such high RPM that the transmission

would be heavily damaged within a very short time.

Towing vehicles with AWD and manual transmission

When towing vehicles with all wheel drive and manual transmission, also observe the following:

The vehicle can be towed with a tow truck with the front or rear axle raised.

- ◆ Do not tow at speeds greater than 30 mph (50 km/h).
- ◆ The maximum towing distance is 30 miles (50 km).



Note

If normal towing of the vehicle is not possible, the vehicle must be transported with a special transporter or trailer. This also applies to towing distances of over 50 km.

Towing vehicles with AWD and automatic transmission

When towing vehicles with all wheel drive and automatic transmission, also observe the following:

- ◆ Selector lever must be in the “N” position.
- ◆ Do not tow at speeds greater than 30 mph (50 km/h).
- ◆ The maximum towing distance is 30 miles (50 km).

The vehicle must not be towed by a tow truck with front or rear axle raised.



Note

If normal towing of the vehicle is not possible, the vehicle must be transported with a special transporter or trailer.

Vehicle Checks During Inspection and Maintenance

For vehicle checks, we recommend interactive acceptance VAS 5000 and performance test stand V.A.G 1858.

Brakes, testing

Information for checking brakes on front and all wheel drive vehicles is in

the corresponding brake system repair manual.

Performance check

Perform performance check on performance test stand recommended by Audi. The corresponding correction factors for automatic transmissions and all wheel drive are provided in these test stands. Vehicles with all wheel drive may only be tested on a four-wheel performance test stand. The four-wheel performance test stand V.A.G 1858 has movable rollers in order to be able to test vehicles with different axle spacing.

Tachometer check

With the tachometer test, the vehicle wheels are driven. Vehicles with all wheel drive may only be tested on a four-wheel test stand.

Shock absorber check

Information on testing shock absorbers can be found in the suspension repair manual.