Service Manual: 0X - COMPLETE VEHICLE - GENERAL -- (95B) - MACAN

### WM 0X00IN OVERVIEW OF A, B AND C MARKETS (MACAN, MACAN S, MACAN TURBO) > INFORMATION > OVERVIEW OF A, B AND C MARKETS

#### Information

For vehicles as of model year 2011

Because of different fuel octane ratings, the change intervals for oil, spark plugs and air cleaner have been adapted to suit the various markets.

Markets	Countries
A markets	Andorra Belgium Germany Denmark Estonia Finland, France Greece, Great Britain Ireland, Iceland, Italy Japan Latvia Liechtenstein, Lithuania, Luxembourg Malta Netherlands, Norway Austria Poland, Portugal Sweden, Switzerland, Slovakia, Spain Czech Republic Hungary Cyprus
B markets	Egypt, Algeria, Angola, Argentina, Armenia, Aruba (itc Caribbean), Azerbaijan, Australia Bahamas, Bahrain, Bangladesh, Barbados, Bosnia and Herzegovina, Brazil, Brunei, Bulgaria Chile, Costa Rica Dominican Republic Ecuador, El Salvador French Guiana, French Polynesia Ghana, Guadeloupe, Guatemala Haiti, Dutch Antilles, Honduras, Hong Kong India, Iraq, Iran, Israel Jamaica (itc Caribbean), Yemen, Jordan Cameroon, Canada, Kazakhstan, Qatar, Cayman Islands, Kenya, Columbia, Croatia, Kuwait Lesotho, Lebanon, Libya Malaysia, Morocco, Martinique (F), Mauritius, Mexico, Moldova, Monaco

	Namibia, New Caledonia, New Zealand, Nigeria, Nicaragua Oman Pakistan, Panama, Paraguay, Peru, Philippines, Puerto Rico Reunion, Romania, Russia Saudi Arabia, Serbia and Montenegro, Zimbabwe, Singapore, Slovenia, Sri Lanka, South Africa, South Korea, Swaziland, Syria Taiwan, Thailand, Trinidad and Tobago, Turkey, Tunisia Ukraine, Uruguay, USA UAE (Abu Dhabi, Dubai), Venezuela, Vietnam Belarus, Western Sahara
C markets	China, Indonesia

## WM 0X01IN ALARM SYSTEM: CHECKING OPERATION OF MONITORING DEVICES (MACAN, MACAN S, MACAN TURBO) > ALARM SYSTEM: CHECKING OPERATION OF MONITORING DEVICES

- 1. Read out the fault memory and activate systems on the unlocked vehicle (see previous point in sales check).
- 2. Lock the vehicle using the remote control (key fob). A warning tone must not be emitted by the alarm system horn shortly after locking the vehicle (not relevant for USA).
- 3. If a warning tone is emitted, open and close all doors and outer lids one after the other (not relevant for USA).
- 4. As soon as the vehicle is locked, the LED in the driver's door panel must flash quickly for 2 seconds and then start to flash slowly.

#### Fault indicator:

5. LED flashes quickly for 2 seconds, lights up for 28 seconds and then flashes slowly: Connect the System Tester and read out the fault memory.

### WM 0X01IN CHECKING EXTERIOR EQUIPMENT AND PAINTWORK (MACAN, MACAN S, MACAN TURBO) > CHECKING EXTERIOR EQUIPMENT AND PAINTWORK

- The following items can be checked by simple visual inspection, no assembly work required.
  - 1. Check whether transport protection has been completely removed and ensure that no film remains in the body joints or under seals.

## WM 0X01IN CHECKING EXTERIOR EQUIPMENT AND PAINTWORK (MACAN, MACAN S, MACAN TURBO) > CHECKING EXTERIOR EQUIPMENT AND PAINTWORK > CHECKING EXTERIOR EQUIPMENT

- 1. Check vehicle for secure fit of accessories such as trim strips, doors mirrors, front and rear spoilers.
- 2. Check underbody for noticeable areas where undersealing material is missing (e.g. scrapes).
- 3. Check side member of body flange for deformation of jacking points.
- 4. Check outer shell of vehicle for noticeable soiling with cavity sealing wax.

## WM 0X01IN CHECKING EXTERIOR EQUIPMENT AND PAINTWORK (MACAN, MACAN S, MACAN TURBO) > CHECKING EXTERIOR EQUIPMENT AND PAINTWORK > CHECKING PAINTWORK

- 1. Check outer shell of vehicle for noticeable sheetmetal damage such as dents and bulges.
- 2. Check painted surfaces of vehicle for noticeable defects such as scores, scratches, notches, scrapes, pores, bubbles or signs that the bodywork is coming through the paint.

### WM 0X01IN CHECKING GLAZING (MACAN S, MACAN TURBO) > CHECKING GLAZING

#### Information

- The following items can be checked by simple visual inspection, no assembly work required.
  - 1. Check whether transport protection has been completely removed and ensure that no film remains in the body joints or under seals.
  - 2. Check vehicle glazing for stone damage and scratches.
  - 3. Check surrounds and rubber sections of vehicle glazing for damage and cracks.

### WM 0X01IN CHECKING LIDS AND DOORS (MACAN, MACAN S, MACAN TURBO) > CHECKING LIDS AND DOORS > FUNCTION TEST ON FRONT LID LOCK

#### Information

The lid lock does not have an emergency release.

When working close to the front apron and on the various parts of the lock, carry out the following function test before closing the lid:

1. Check that the release cable is clipped fully into the bracket provided.

- 2. Lock lower part of lid lock using a screwdriver.
- 3. Release the lid lock using the lever in the passenger compartment.
- 4. Perform a visual inspection to check that the lock releases correctly.

### WM 0X01IN CHECKING LIDS AND DOORS (MACAN, MACAN S, MACAN TURBO) > CHECKING LIDS AND DOORS > CHECKING LID LOCK AT FRONT AND REAR

 Check that the lid locks engage when the lids (front and rear) are closed by engaging the upper parts of the lock and that they disengage again when the lid releases are activated.

### WM 0X01IN CHECKING LIDS AND DOORS (MACAN, MACAN S, MACAN TURBO) > CHECKING LIDS AND DOORS > CHECKING SAFETY HOOK ON FRONT LID

- o Check that the front lid is held down by the safety hook (locking hook) after the lid lock is opened.
- Check that the return spring on the upper part of the lock pulls the safety hook back as far as the stop.

### WM 0X01IN CHECKING LIDS AND DOORS (MACAN, MACAN S, MACAN TURBO) > CHECKING LIDS AND DOORS > FUNCTION TEST ON DOOR LOCKS

 Check that the door locks engage in two stages when the doors are closed and that they disengage again when the door openers are actuated (inside and outside).

### WM 0X01IN CHECKING LIDS AND DOORS (MACAN, MACAN S, MACAN TURBO) > CHECKING LIDS AND DOORS > FUNCTION TEST ON FUEL TANK CAP LOCK

- o Lock the vehicle.
- Check that the fuel tank cap is locked by the fuel tank cap lock in the closed position.

# WM 0X01IN CHECKING OPERATION OF ELECTRICAL EQUIPMENT AS WELL AS WARNING AND INDICATOR LIGHTS (MACAN, MACAN S, MACAN TURBO) > CHECKING OPERATION OF ELECTRICAL EQUIPMENT AS WELL AS WARNING AND INDICATOR LIGHTS

- Turn ignition key and check function of warning and indicator lights (visual inspection).
- Actuate power windows and check that they are working correctly.

- o Check that rear window heating is working.
- o Adjust heater blower and fans to high and low and check the air vents for air throughput.
- o Front seats and back seats: check function.
- o Check audio function.
- o Check function of exterior mirrors, check adjustment options.
- o Check function of orientation lights.
- Check function of luggage compartment lamps.
- o Check function of interior lights.
- o Actuate central locking and check function.
- o Operate cigarette lighter and check that it is working.

### WM 0X01IN CHECKING VEHICLE EQUIPMENT FOR COMPLETENESS (MACAN, MACAN S, MACAN TURBO) > VEHICLE EQUIPMENT

Check that the items listed below are in the vehicle.

Qty.	Restrictions	Position in the vehicle
1 x	Country-specific (1)	Trim panel for rear lock support
1 x	Country-specific (2)	Stored in luggage compartment
1 x	Country-specific (3)	Trim panel for rear lock support
1 x	Standard	Glove compartment
1 x	Only with vehicle spare wheel (I-no.: 1G1)	
1 x	Only with vehicle flat-tyre set (I-no.: 1G8)	Luggage compartment (under the loadspace floor)
1 x		
1 x	Only with vehicle flat-tyre set (I-no.: 1G8)	Contained in Tire Fit bag
	1 x 1 x 1 x 1 x 1 x 1 x	1 x Country-specific (1)  1 x Country-specific (2)  1 x Country-specific (3)  1 x Standard  1 x Standard  1 x Only with vehicle spare wheel (I-no.: 1G1)  1 x Only with vehicle flat-tyre set (I-no.: 1G8)  1 x Only with vehicle flat-tyre

Torch and torch holder	1 x	Japan only	A-pillar trim
Front number plate carrier, including fastening material	1 x	USA only <sup>(6)</sup>	Stored in luggage compartment
Wiper blades, front <sup>(7)</sup>	2 x		
(1) All countries except US	SA, Canada, Japan, Gree	ece and Germany	
(2) The dealer or importer	must supply the addition	al warning triangle.	
(3) Only in Germany and G	Greece.		
		board folder containing teclet) must be supplied by the	
(5) The PCM/CDR operation speaking countries.	ng instructions must be s	supplied by the dealer or im	porter in all non-German-
	SA that require a number ALLING NUMBER PLATI	plate at the front of the vel	nicle. → 668319
(7) Replace the one-way w	viper blades with the end	closed wiper blades → 922	719 REMOVING AND

### WM 0X01IN CHECKING VEHICLE EQUIPMENT FOR COMPLETENESS (MACAN, MACAN S, MACAN TURBO) > VEHICLE EQUIPMENT > TOOL KIT

INSTALLING WIPER BLADE.

Designation	Qty.	Restrictions	Position in the vehicle	
Open-ended wrench	1 x	Standard		
Towing lug	1 x		Luggage compartment	
Screwdriver	1 x			
Socket wrench	1 x			
Socket for security wheel bolts	1 x			
Wheel wrench	1 x			
Jack with ratchet	1 x	Only for vehicles with spare wheel (I-no.: 1G1)	(under the loadspace floor)	
Assembly pin	1 x		ŕ	
Puller hook	1 x			
Additional assembly pin and holder	1 x	Only for vehicles with spare wheel (I-no.: 1G1)		
Allen key for emergency operation of sliding roof panel	1 x	Vehicles with sliding roof		

#### WM 0X01IN CHECKING VEHICLE EQUIPMENT FOR COMPLETENESS (MACAN, MACAN S, MACAN TURBO) > VEHICLE EQUIPMENT > VEHICLE KEY

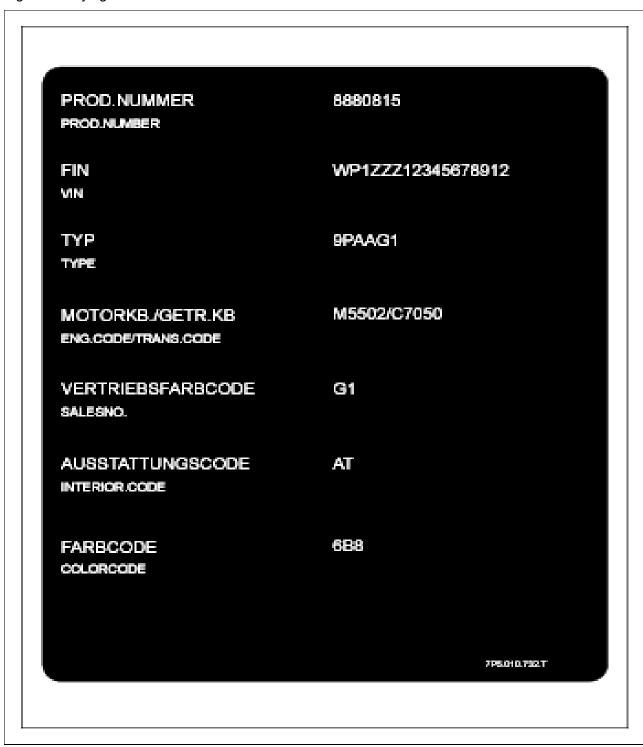
Designation	Qty.	Restrictions
Key ring	1 x	Standard
Key tag	1 x	Standard
Remote control	2 x	Standard
Emergency key (contained in remote control)	2 x	Standard
Control element	1 x	Only for vehicles with Porsche Entry & Drive

#### WM 0X01IN CHECKING VEHICLE IDENTIFICATION NUMBER FOR CONFORMITY (MACAN S, MACAN TURBO) > CHECKING VEHICLE IDENTIFICATION NUMBER FOR **CONFORMITY**

#### Information

• The sticker for the on-board literature is included with the vehicle registration documents and can be found in the glove compartment.

Fig 1: Identifying Vehicle Identification Sticker



Check that the following vehicle identification numbers are identical. Then stick the vehicle data carrier sticker supplied with the vehicle in the on-board literature (Warranty and Maintenance booklet).

- Vehicle identification number on lower left of the windscreen.
- Vehicle identification number stamped on the bodyshell in the front right footwell.
- Vehicle identification number on the vehicle data carrier sticker.

#### WM 0X01IN DIAGNOSTIC SYSTEM: PERFORMING VEHICLE HANDOVER (MACAN S, MACAN TURBO) > TOOLS

Designation	Type	Number	Description	
PIWIS Tester II	Special tool	9818		9818 000 721 981 80

#### WM 0X01IN DIAGNOSTIC SYSTEM: PERFORMING VEHICLE HANDOVER (MACAN S, MACAN TURBO) > TECHNICAL VALUES

Location	Description	Туре	Basic value	Tolerance 1	Tolerance 2
Current rating		Nominal value	40 A		

#### WM 0X01IN DIAGNOSTIC SYSTEM: PERFORMING VEHICLE HANDOVER (MACAN S, MACAN TURBO) > DIAGNOSTIC SYSTEM: PERFORMING VEHICLE HANDOVER



NOTE: Voltage drop

- Risk of irreparable damage to control unit
- Risk of damage to control unit
- Fault entries in the control unit
- Coding in the control unit is aborted
- Malfunctions in control unit, even during programming
- → Prior to disconnecting the control unit, switch off ignition and remove ignition key.
- → Ensure that the power supply is not interrupted during programming.

- $\rightarrow$  Connect a battery charger with a current rating of at least  $\rightarrow$  **Nominal value: 40 A** to the vehicle battery.
  - 1. PIWIS Tester II 9818 must be connected to the vehicle. Then start the Tester.
    - 1. 1.1. Switch on ignition.
  - 2. Select the required vehicle.
  - When the overview of control units is displayed, press [F7] to continue.
  - 4. Select Vehicle handover log menu and press [F12].
  - 5. When **Remove transport protection** is displayed, press [F12] to continue.
  - 6. The control units are activated and the status is displayed. Compare the chassis number displayed on the Tester with the chassis number of the vehicle. Press [F12] to continue.
  - 7. If the vehicle is a new vehicle, press [F8] (Yes) to continue.
  - 8. Select the relevant country and press [F12] to continue.
  - 9. The Tester displays the message Write service interval . Press [F8] to confirm.
  - 10. Service intervals will be written. Press [F12] to continue.
  - 11. **Chassis number is correct?** . Press [F12] to confirm and then press [F11] to return to the data entry screen.
  - 12. Archive the vehicle handover log file. Press [F12] to continue.
  - 13. Carry out a test drive and read out the fault memory.
    - 1. 13.1. Check faults following diagnosis if necessary and erase the fault memory before delivering the vehicle.

### WM 0X01IN INTERIOR EQUIPMENT: VISUAL INSPECTION FOR DAMAGE AND SOILING (MACAN S, MACAN TURBO) > CHECKING INTERIOR EQUIPMENT

- The following items can be checked by simple visual inspection, no assembly work required.
  - 1. Check that transport protection has been completely removed and ensure that no film remains in the component joints or under seals.
  - 2. Check interior equipment of vehicle for noticeable damage such as scores, scratches, notches and scrapes.
  - 3. Check interior equipment of vehicle for soiling.

#### SOILING (MACAN S, MACAN TURBO) > CHECKING SEAT BELTS > FUNCTION TEST

- The following requirements must be met when fitting the seat belt.
- If one of the requirements listed below is not met, the seat belt or seat-belt buckle must be replaced.

It must be possible to unroll the belt strap smoothly from the belt retractor via the deflector fitting by pulling evenly.

The tongue of the seat belt must engage audibly in the buckle.

An abrupt pull on the belt strap must lock the belt retractor.

## WM 0X01IN INTERIOR EQUIPMENT: VISUAL INSPECTION FOR DAMAGE AND SOILING (MACAN S, MACAN TURBO) > CHECKING SEAT BELTS > CONDITION INSPECTION

Visually inspect the belt strap for damage by unrolling it completely.

If there are signs of damage on the belt strap in the form of cuts, fraying, seam tears, etc., the seat belt must be replaced.

### WM 0X01IN MOBILE ROOFS: CHECKING FUNCTION (MACAN S, MACAN TURBO) > CHECKING SLIDING ROOF AND PANORAMA ROOF SYSTEM

- 1. By operating the control switch, return to original tilting, opening and closing positions. During operation, check for malfunctions and noises.
- 2. Completely open and close trim panel/sun blinds for roof systems. During operation, check for noise and stiffness.

### WM 0X01IN REMOVING TRANSPORT PROTECTION (MACAN, MACAN S, MACAN TURBO) > REMOVING OUTER TRANSPORT PROTECTION

o Installation position: Body

o Material: Plastic film

Installation position: Doors

o Material: Foam strips with adhesive film

Installation position: Front bumper

Material: Foam strips with adhesive film

o Installation position: Rims

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Material: Self-adhesive rim protection

o Installation position: Mirrors

o Material: Plastic bag

### WM 0X01IN REMOVING TRANSPORT PROTECTION (MACAN, MACAN S, MACAN TURBO) > REMOVING INNER TRANSPORT PROTECTION

Installation position: Seats (front)

o Material: Fleece

o Installation position: Centre console cover

o Material: Fleece

o Installation position: Door sill

o Material: Plastic film

o **Installation position**: Lower door trim panel

• **Material**: Cardboard protection

o Installation position: Inner door handle

o Material: Plastic film

o Installation position: Footwell

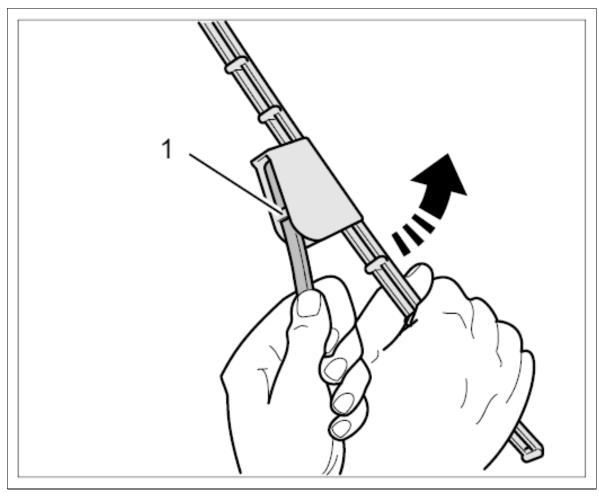
o Material: Cardboard protection

### WM 0X01IN REPLACING TRANSPORT WIPER (MACAN S, MACAN TURBO) > REPLACING TRANSPORT WIPER

1. Fold out wiper arm.

2. Break off bar on transport wiper -1- by moving the transport wiper with force. Make sure that the wiper arm is not deformed in the process.

Fig 1: Removing Transport Wiper



3. Fit wiper blade.  $\rightarrow$  INSTALLING WIPER BLADE .

### WM 0X01IN TEST DRIVE - SALES CHECK (MACAN, MACAN S, MACAN TURBO) > TEST DRIVE - SALES CHECK

- The following test items are included in the test drive.
- Check electric parking brake and footbrake operation and actuation travel.
- Actuate steering and check operation.
- o Change gears and check gearshift operation.
- ParkAssist: select reverse gear and check operation.
- Activate automatic cruise control during the test drive and check operation.
- o Check operation of heating adjustment when engine is warm.

- o Check operation of sports exhaust system.
- Check operation of air-conditioning system when engine is running.
- o Check operation of instruments.

WM 0X01IN WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS (MACAN, MACAN S, MACAN TURBO) > WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS



NOTE: Headlight surface not cleaned properly

- Scratches
- → Use only soapy water to clean the exterior lights and the plastic headlight lenses.
- → Never use chemical cleaning agents.
- ightarrow To avoid scratches, do not rub with dry or slightly damp cloths, paper towels or insect-removal sponges.

#### Information

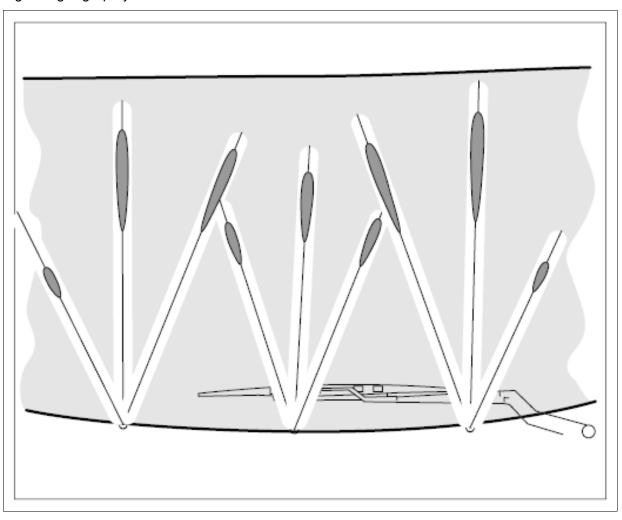
- The headlight washer nozzles are pre-set!
- Generally, it is not necessary to adjust them!

#### Information

Check operation, fluid level indicator and nozzle settings. If the spray nozzle settings for the windscreen washer system are not OK, the nozzles need to be adjusted:

- Insert a sharp object (needle) into the nozzle hole.
- Align the spray nozzles using the sharp object.

Fig 1: Aligning Spray Nozzle



WM 0X01IN WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS (MACAN, MACAN S, MACAN TURBO) > WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS > MIXTURE RATIO OF FLUIDS FOR THE WINDSCREEN WASHER SYSTEM

Fluid:	Mixture ratio:
Water	Undiluted
	1: 1
Water/isopropanol	2: 1
	3: 1
Water/ethanol	1: 1

WM 0X01IN WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS (MACAN, MACAN S, MACAN TURBO) > WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS > CHECKING WIPER BLADES

Check the wiper blades for any deformities and tears.

1. Switch on ignition, operate the spray nozzles and check the quality of the wiper action.

### WM 0X03IN CHECKING WHEEL MOUNTING (MACAN, MACAN S, MACAN TURBO) > TECHNICAL VALUES

Location	Description	Туре	Basic value	Tolerance 1	Tolerance 2
Wheel to wheel hub		Tightening torque	160 Nm (118 ftlb.)		

### WM 0X03IN CHECKING WHEEL MOUNTING (MACAN, MACAN S, MACAN TURBO) > CHECKING > CHECKING WHEEL MOUNTING

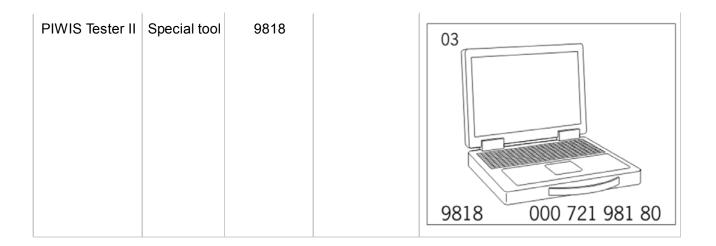
#### Information

Use a suitable commercially available tool together with a tested torque wrench, covering the range from 40 to 200 Nm (30-148 ftlb.). Never use an impact bolter.

- o Do not loosen the wheel bolts to check whether they are secure.
- Re-tighten wheel bolts and check that they are seated securely. Tightening torque 160 Nm (118 ftlb.)

### WM 0X03IN CREATING VEHICLE ANALYSIS LOG (VAL) (MACAN, MACAN S, MACAN TURBO) > TOOLS

	Description	Number	Туре	Designation
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### WM 0X03IN CREATING VEHICLE ANALYSIS LOG (VAL) (MACAN, MACAN S, MACAN TURBO) > CREATING VEHICLE ANALYSIS LOG (VAL)

#### Information

When creating the FAP, it is essential to guarantee the power supply for the Porsche System Tester. A battery charger with a current rating of at least 40 A must be connected to the vehicle battery.

The Porsche System Tester instructions take precedence and in the event of a discrepancy, these are the instructions that must be followed. Deviations may occur with later software versions.

The procedure described here has been structured in general terms; different text or additions may appear in the Porsche System Tester.

- PIWIS Tester II 9818 must be connected to the vehicle. Then start the Tester.
- 2. Switch on ignition.
- 3. Select "Diagnosis".
- 4. Select vehicle type.
- 5. Select "Additional menu" by pressing [F7].
- 6. Select VAL by pressing [F12].
- 7. Select AS VAL or OBD VAL . Then press [F8] to start.
- 8. Check the chassis number and correct it if necessary.
- 9. If you want to print the data, connect the printer to **PIWIS Tester II 9818.**
- 10. Switch on the printer.
- 11. Press [F10] to display the VAL.
- 12. If there is a printer connected, the print job can be started using the menu bar.
- 13. Then **save** or **delete** the VAL using the touchpad.
- 14. Shut down the Tester, switch it off and disconnect it from the vehicle.

### WM 0X03IN ELECTRICS MAINTENANCE: CHECKING WINDSCREEN WIPER AND WASHER SYSTEM (MACAN, MACAN S, MACAN TURBO) > TOOLS

WM 0X03IN ELECTRICS MAINTENANCE: CHECKING WINDSCREEN WIPER AND WASHER SYSTEM (MACAN, MACAN S, MACAN TURBO) > WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS > CHECKING AND ADJUSTING SPRAY NOZZLES FOR WINDSCREEN WASHER SYSTEM

#### Information

Only use windscreen cleaning agents and antifreeze approved by Porsche.

Observe the required mixture ratio in accordance with manufacturer's specifications and season.

- 1. Fill the windscreen-washer reservoir with a mixture of water and window cleaner or antifreeze, depending on the season.
- 2. Actuate the windscreen washer system and align spray nozzles for the windscreen washer system as required using **adjusting tool T40187**. → 926619 REMOVING AND INSTALLING SPRAY NOZZLE FOR WINDSCREEN WASHER SYSTEM .

WM 0X03IN ELECTRICS MAINTENANCE: CHECKING WINDSCREEN WIPER AND WASHER SYSTEM (MACAN, MACAN S, MACAN TURBO) > WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS > CHECKING WIPER BLADES

Check condition of wiper blades on windscreen and rear window for wear, deformities and tears.

1. Switch on ignition, operate the windscreen-washer system spray nozzles and check wiping

quality.

- 1. 1.1. Replace windscreen wiper blades if necessary. → 922719 REMOVING AND INSTALLING WIPER BLADE.
- 2. 1.2. Replace wiper blade for rear window washer as required. → 924319 REMOVING AND INSTALLING WIPER BLADE FOR REAR WINDOW WASHER.

WM 0X03IN ELECTRICS MAINTENANCE: CHECKING WINDSCREEN WIPER AND WASHER SYSTEM (MACAN, MACAN S, MACAN TURBO) > WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS > WINDSCREEN WASHER/HEADLIGHT CLEANING SYSTEM: CHECKING OPERATION, NOZZLE SETTINGS



NOTE: Headlight surface not cleaned properly

- Scratches
- → Use only soapy water to clean the exterior lights and the plastic headlight lenses.
- → Never use chemical cleaning agents.
- → To avoid scratches, do not rub with dry or slightly damp cloths, paper towels or insect-removal sponges.

#### Information

- The headlight washer nozzles are pre-set!
- Generally, it is not necessary to adjust them!
  - 1. Check function and adjustment of spray nozzles for headlight washer system.

#### WM 0X03IN RUNNING GEAR MAINTENANCE: BALL JOINTS/DRIVE SHAFTS (MACAN S, MACAN TURBO) > PRELIMINARY WORK



WARNING: Vehicle can fall down

- · Risk of squashing or crushing
- Risk of damage to the vehicle
- → Do not place any solid objects under the raised vehicle.
- → Ensure that the lifting platform is prevented from lowering.

- → Remove solid objects before lowering the vehicle.
- → Raise the vehicle only at the jacking points provided.
- → The outer jacking points should be used primarily.
  - 1. Jack and raise the vehicle at the prescribed jacking points.
    - ightarrow 4X00IN LIFTING THE VEHICLE .

## WM 0X03IN RUNNING GEAR MAINTENANCE: BALL JOINTS/DRIVE SHAFTS (MACAN S, MACAN TURBO) > INFORMATION > AXLE JOINTS: CHECKING PLAY AND DUST BELLOWS

1. Check joint clearance.

#### Information

- 1. When doing so, press the rubber dust boots down with your fingers to reveal any hidden cracks.
- 2. If a rubber dust boot is leaking, the corresponding joint or control arm must be replaced because any dirt or moisture that seeps in will cause irreparable damage to the joint.
- Visually inspect the dust boots for damage.
- 3. Inspect the dust boots of the axle joints (ball joints) on the wheel suspension as follows:
  - 1. Place the vehicle on a lifting platform with the steering lock disengaged.
  - 2. Perform a visual inspection after cleaning.

The procedure for the front axle is as follows:



CAUTION: Turning steering too sharply using the steering wheel.

- Risk of squashing arms.
- $\rightarrow$  Only turn the steering wheel as far to the left and right as required in order to check the amount of play on the tie rod.
  - · Turn the front wheels as far as they will go
  - Perform a visual inspection of the visible surfaces on the left and right
  - After turning the front wheels to the other steering stop, check the other half of each rubber dust boot.

### S, MACAN TURBO) > INFORMATION > DRIVE SHAFTS: VISUAL INSPECTION OF BOOTS

• Perform a visual inspection of the boots for leaks and damage.

## WM 0X03IN RUNNING GEAR MAINTENANCE: CHASSIS ADJUSTMENT/STORAGE OF ASSEMBLIES (MACAN S, MACAN TURBO) > INFORMATION > CHASSIS ADJUSTMENT (WHEEL ALIGNMENT VALUES)

 Check that threaded connections for chassis adjustment (wheel alignment values) at front and rear are secure.

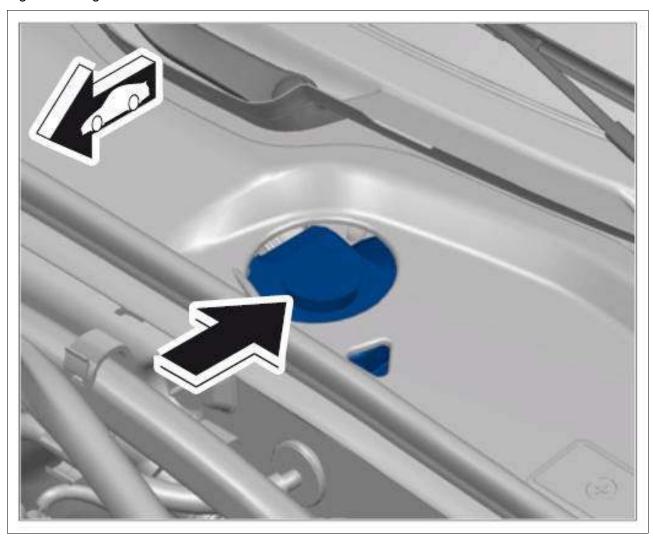
## WM 0X03IN RUNNING GEAR MAINTENANCE: CHASSIS ADJUSTMENT/STORAGE OF ASSEMBLIES (MACAN S, MACAN TURBO) > INFORMATION > STORAGE OF ASSEMBLIES AND CHASSIS

o Visual inspection of all rubber mountings for damage.

### WM 0X03IN RUNNING GEAR MAINTENANCE: CHECKING BRAKE FLUID LEVEL AND CHANGING BRAKE FLUID (MACAN S, MACAN TURBO) > CHECKING

Visually check the brake fluid level. The brake fluid reservoir is located under the left plenum panel cover **-arrow-** .

Fig 1: Locating Brake Fluid Reservoir



#### Information

- The brake fluid level must not exceed the MAX mark.
- Observe brake fluid quality. Use only new DOT 4 brake fluid.
- This brake fluid is available under the following part numbers: Quantity supplied: 1 litre = 000.043.203.66; 30 litres = 000.043.203.67.

MAX marking on brake fluid reservoir. The brake fluid level must be between the MIN and MAX markings.

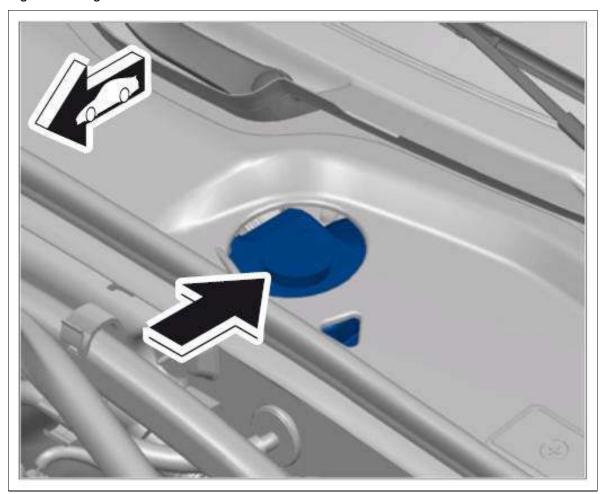
### WM 0X03IN RUNNING GEAR MAINTENANCE: CHECKING BRAKE FLUID LEVEL AND CHANGING BRAKE FLUID (MACAN S, MACAN TURBO) > CHANGING BRAKE FLUID

#### Information

• Observe brake fluid quality. Use only new DOT 4 brake fluid.

- The brake fluid change interval is two years using Super DOT 4 brake fluid.
- This brake fluid is available under the following part numbers: Quantity supplied: 1 litre = 000.043.203.66; 30 litres = 000.043.203.67.
- Drain brake fluid from every brake calliper at both bleeder valves.
- There are two bleeder valves on the brake calliper. Brake fluid must be drained at both bleeder valves. Observe specified sequence: Bleed the outer bleeder valve first.
  - 1. Open threaded cover on brake fluid reservoir -arrow- .

Fig 1: Locating Brake Fluid Reservoir



- Connect bleeding device to the brake fluid reservoir.
- 3. Switch on the bleeding device. Bleeding pressure is approx. 2.0 bar.
- 4. Continue changing the brake fluid at the brake callipers. Do so in the following sequence: rear right/rear left/front right/front left.
- 5. Open every bleeder valve until clear, bubble-free brake fluid emerges and until the corresponding change quantity per brake calliper is reached (approx. 250 cm<sup>3</sup>).
- 6. Use a transparent hose and a collecting bottle to check the escaping brake fluid for cleanliness, absence of air bubbles and to determine the amount of brake fluid used.

- Tighten the bleeder valves to the specified tightening torque → Tightening torques for brake hydraulic system → 47 - BRAKES - HYDRAULIC BRAKE SYSTEM, REGULATOR -- (95B) -MACAN - "Technical values" and remove the bleeder hoses.
- 8. Switch off the bleeding device and remove the adapter at the reservoir. The brake fluid level in the reservoir must be between the MIN and MAX markings once the vehicle has been filled and bled. Correct the brake fluid level if necessary.

## WM 0X03IN RUNNING GEAR MAINTENANCE: STEERING GEAR - VISUAL INSPECTION OF BELLOWS AND TIE ROD JOINTS (MACAN S, MACAN TURBO) > CHECKING > CHECKING BELLOWS

#### Information

- The bellows on the steering gear can be damaged by external influences for example, by stone damage or during assembly work!
- The steering gear can become damaged if dirt or moisture leaks into it as a result of a leaky bellows!
- o Visually inspect the bellows for damage.

## WM 0X03IN RUNNING GEAR MAINTENANCE: STEERING GEAR - VISUAL INSPECTION OF BELLOWS AND TIE ROD JOINTS (MACAN S, MACAN TURBO) > CHECKING > TIE ROD ENDS: CHECKING PLAY AND DUST BELLOWS

1. Raise the vehicle  $\rightarrow$  4X00IN LIFTING THE VEHICLE .

#### Information

- 1. The rubber dust bellows and tie rods can be damaged by external influences, e.g. stone impact, or during assembly work.
- 2. If a rubber dust boot leaks, the joint or tie rod must be replaced, because any dirt or moisture that seeps in will destroy the joint.
- 2. Check joint clearance and dust boots.
- 3. Check that the dust boots and joints are working perfectly and have no leaks.

## WM 0X03IN RUNNING GEAR MAINTENANCE: TIRES AND SPARE WHEEL: CHECKING CONDITION AND TIRE PRESSURE (MACAN S, MACAN TURBO) > CHECKING > CHECK CONDITION

For vehicles with Tyre Pressure Monitoring (TPM), which can be identified by aluminium valves, the tire pressure must be adjusted according to the >> Filling information << on the multi-function display. To do this, select >> Main menu >> Tyre pressure >> Filling information <<. Adjust the deviation values so that

they range from 0.0 bar to +0.1 bar. Fill the tires according to the display using the tire-inflating device. Example: If the tire pressure display >> Filling information << shows - 0.2 bar, 0.2 bar pressure must be added.

Fig 1: Display - Tyre Pressure Information Screen



Courtesy of PORSCHE CARS NORTH AMERICA, INC.

#### Information

The >> Tyre pressure << display is for information purposes only.

• Tyre pressure settings can only be entered according to the values in >> Filling information <<.

Due to the pressure and temperature relationship (approx. 0.1 bar/10° C), the actual pressure values displayed under >> Tyre pressure << on the multi-function display, or on the pressure gauge of the tire-inflating device, can deviate from the required pressure specified at 20° C on the tire pressure plate if the air temperature in the tire is significantly above (higher values) or significantly below 20° C (lower values). Changes in tire pressure are displayed after max. 1 minute under >> Filling information << after switching on the ignition. A series of dashes (-.-) will appear instead of the tire pressure during this time.

Fig 2: Display - Tyre Pressure Information Screen



For vehicles with Tyre Pressure Monitoring (TPM), always use plastic valve caps. Plastic valve caps protect against dust, dirt and humidity, and therefore against damage (corrosion).

Tyres are a safety element that meet the demands placed on them only if they have the correct air pressure and sufficient tread depth.

WARNING: Risk of accidents if the air pressure in the tires falls below the minimum pressure, if the tread depth is insufficient or if there are foreign bodies, pricks, cracks and bulges in the sidewall (ply breakage).

- Modified handling behaviour can cause accidents and significant material damage.
- → The tire pressure must never fall below the values specified (these are minimum pressures).
- → The tread depth must never fall below the minimum value.
- → A visual inspection of the tires (for cracks, pricks, bulges in the sidewall and/or foreign bodies) must

be carried out.

- 1. Check condition and tire pressure.
- 2. Always screw on valve caps tightly and replace missing valve caps.



NOTE: Tyre pressure for cold tires (approx. 20 °C)

#### Information

The currently applicable air pressure values and comfort tire pressure values in the individual countries can be found in the Manufacturer Approval >>Approved wheels and tires<< in the >>Manufacturer Approvals << .

Tyre pressures apply to all-season, winter and summer tires. They also apply only to tires approved by Porsche.

Part load = payload < 260 kg

Full load = payload > 260 kg

The collapsible spare wheel is an optional extra (tire sealing compound comes as standard).

WM 0X03IN RUNNING GEAR MAINTENANCE: VISUAL INSPECTION - BRAKE LINES/BRAKE PADS/BRAKE DISCS (MACAN S, MACAN TURBO) > CHECKING > **BRAKE HOSES AND LINES** 

o Carry out visual inspection for leaks, damage, routing and corrosion.

WM 0X03IN RUNNING GEAR MAINTENANCE: VISUAL INSPECTION - BRAKE LINES/BRAKE PADS/BRAKE DISCS (MACAN S, MACAN TURBO) > CHECKING > BRAKE SYSTEM: VISUAL INSPECTION OF BRAKE PADS AND BRAKE DISCS FOR **WEAR** 



WARNING: Risk of accidents if brake pads and brake discs are not replaced in time.

- Risk of injury and material damage due to impaired braking effect.
- → The brake pads must be replaced when the brake pad warning indicator lights up, but no later than when there is a residual pad thickness of 2 mm.
- → Brake discs must be replaced on reaching the wear limits.

#### Information

If brake pad wear is indicated by the warning light, the warning contact (sender including line and

plug connection) must also be replaced.

- Replacing the warning contact can be avoided by replacing the brake pads no later than when the pad thickness is approx. 2.5 mm.
- Warning contacts must be replaced if the core of the wire is worn. Worn insulation is not important.
- However, if only the plastic part of the warning contact is worn, there is no need to replace it.
  - 1. Visually inspect the brake pads for wear (wear limit: 2 mm).

#### See:

- → 463602 CHECKING THICKNESS OF FRONT BRAKE PADS
- → 463802 CHECKING THICKNESS OF REAR BRAKE PADS
- 2. Visually inspect the brake discs for wear  $\rightarrow$  4650TW TECHNICAL DATA/BRAKE WEAR LIMIT .

### WM 0X03IN TEST DRIVE - MAINTENANCE (MACAN, MACAN S, MACAN TURBO) > TEST DRIVE - MAINTENANCE

- The following test items are included in the test drive.
- Actuate remote control for central locking and check operation.
- Seats: check operation of adjustment options.
- Check electric parking brake and footbrake operation and actuation travel.
- Start engine, check operation.
- o Actuate steering and check operation.
- o Change gears and check gearshift operation.
- ParkAssist: select reverse gear and check operation.
- Activate automatic cruise control during the test drive and check operation.
- o Actuate PSM switch during the test drive and check operation.
- o Check operation of heating adjustment when engine is warm.
- Check operation of sports exhaust system.
- o Check operation of air-conditioning system when engine is running.
- o Check operation of instruments.

### WM 0X03IN TRAILER HITCH MAINTENANCE: CHECKING FUNCTION (MACAN, MACAN S, MACAN TURBO) > TOOLS

Designation Type Number Description
socket tester V.A.G. 1537 A Workshop equipment WE 1180

## WM 0X03IN TRAILER HITCH MAINTENANCE: CHECKING FUNCTION (MACAN, MACAN S, MACAN TURBO) > INFORMATION > TRAILER HITCH MAINTENANCE: CHECKING FUNCTION

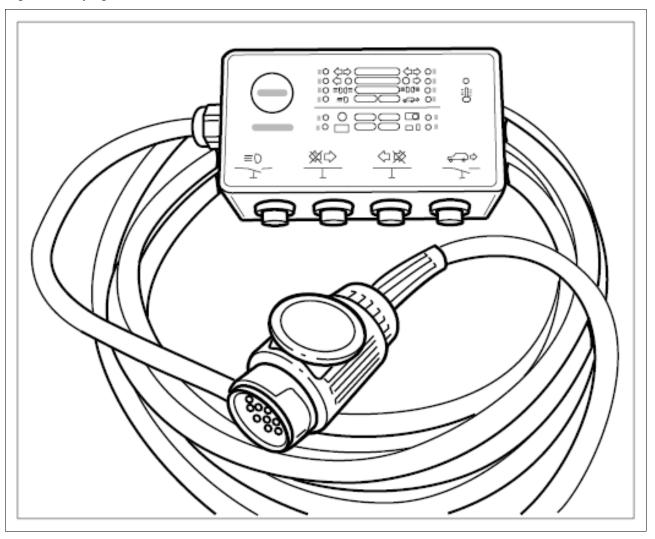
#### Information

The function test on the electrical components of the trailer hitch can be performed using a trailer with no faults in the wiring and lights or using the **socket tester V.A.G. 1537 A WE 1180**. The procedure for testing using the **socket tester V.A.G. 1537 A WE 1180** is described below.

The **socket tester V.A.G. 1537 A WE 1180** can only be used to test 13-pin plug sockets. An adapter is required for testing 7-pin sockets.

Thermal cut-off can occur on the **socket tester V.A.G. 1537 A WE 1180** as a result of the build-up of heat.

Fig 1: Identifying Socket Tester - V.A.G. 1537 A



#### WM 0X03IN TRAILER HITCH MAINTENANCE: CHECKING FUNCTION (MACAN, MACAN S, MACAN TURBO) > INFORMATION > CHECKING FUNCTION OF THE TRAILER HITCH PLUG SOCKET

- WARNING: Risk of injury and damage when retracting and extending the ball hitch.
  - Make sure that no persons, animals or obstacles are in the movement range of the ball hitch.
  - To interrupt the swivel action of the ball hitch in the event of danger, touch the rocker switch again.

<sup>→</sup> Never swivel the ball hitch when a trailer is coupled or when, for example, bicycle racks are mounted or supported on the ball hitch.

- → Only use the trailer coupling when the ball hitch is extended fully.
- → Never insert tools of any kind into the ball hitch swivel mechanism. This could damage the locking mechanism; safe operation of the trailer hitch can then no longer be assured.
- → Check that the ball hitch locks into position correctly before every journey.

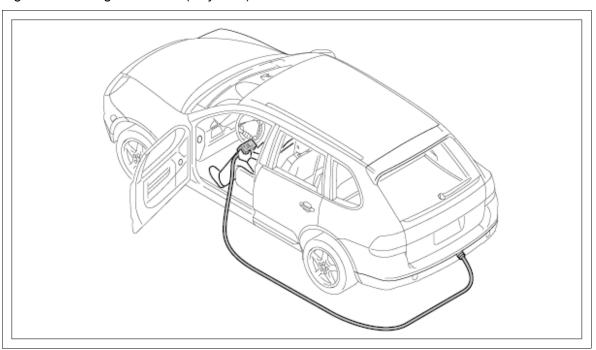
#### Vehicles with electrically extendable trailer hitch

1. Unfold coupling.

#### All vehicles

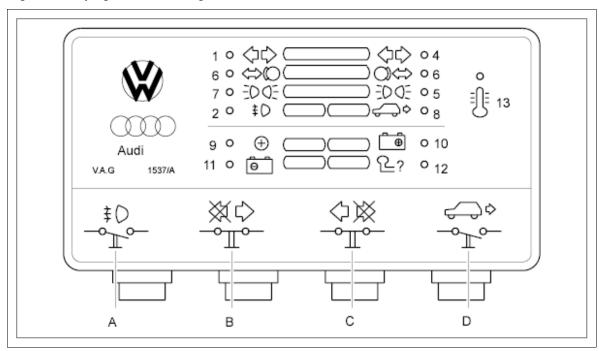
2. Plug test cable of **socket tester V.A.G. 1537 A WE 1180** into the plug socket for the trailer hitch and route it towards the driver's seat.

Fig 1: Connecting Test Cable (Cayenne)



Courtesy of PORSCHE CARS NORTH AMERICA, INC.

Fig 2: Identifying Tester Marking



- 1. 1 Left direction indicator
- 2. 2 Rear fog light
- 3. 4 Right direction indicator
- 4. 5 Right parking light
- 5. 6 Left and right brake lights
- 6. 7 Left parking light
- 7. 8 Reversing light
- 8. 9 Permanent positive
- 9. 10 Charge positive
- 10. 11 Ground for charge positive
- 11. 12 Trailer detection
- 12. 13 Socket Tester overheats
- 3. Switch on ignition.
- 4. Check permanent positive function.
  - 1. 4.1. LED **-9-** must light up continuously.
- 5. Check function of left direction indicator.
  - 1. 5.1. Switch on left direction indicator. The LED -1- and the left direction of travel

arrow in the instrument cluster must flash.

- 2. 5.2. Press button **-B-** . The LED **-1-** and the left direction of travel arrow in the instrument cluster must not flash.
- 6. Check function of right direction indicator.
  - 1. 6.1. Switch on right direction indicator. The LED **-4-** and the right direction of travel arrow in the instrument cluster must flash.
  - 2. 6.2. Press button **-C-** . The LED **-4-** and the right direction of travel arrow in the instrument cluster must not flash.
- 7. Check function of brake lights.
  - 1. 7.1. Press the brake pedal. The LED -6- must light up.
- 8. Check function of reversing light.
  - 1. 8.1. Engage reverse gear. The LED -8- must light up.
- 9. Check function of parking light.
  - 1. 9.1. Switch on the parking light. The LEDs -5, 7- must light up.
- 10. Check function of rear fog lights.
  - 1. 10.1. Switch on dipped beam headlights and rear fog light. The LEDs -5, 7- and the LED -2- must light up. The rear fog lights on the vehicle must not light up.
  - 10.2. Unplug test cable of socket tester V.A.G. 1537 A WE 1180 from the trailer hitch plug socket, the rear fog lights on the vehicle must light up.
- 11. Switch off parking light.
- 12. Shift the transmission to position P.

## WM 0X03IN TRAILER HITCH MAINTENANCE: CHECKING FUNCTION (MACAN, MACAN S, MACAN TURBO) > INFORMATION > CHECKING ELECTRICALLY EXTENDABLE TRAILER HITCH

- The swivel action of the ball hitch is interrupted in the one-touch function of the rocker switch if
  resistance interferes with the movement sequence. The interruption is indicated by the rapid
  flashing of the red LED in the rocker switch.
- Overload protection is switched off by pressing the rocker switch for at least two seconds.
- WARNING: Risk of injury and damage when retracting and extending the ball hitch.
  - Make sure that no persons, animals or obstacles are in the movement range of the ball hitch.

- To interrupt the swivel action of the ball hitch in the event of danger, touch the rocker switch again.
- → Never swivel the ball hitch when a trailer is coupled or when, for example, bicycle racks are mounted or supported on the ball hitch.
- → Only use the trailer coupling when the ball hitch is extended fully.
- → Never insert tools of any kind into the ball hitch swivel mechanism. This could damage the locking mechanism; safe operation of the trailer hitch can then no longer be assured.
- → Check that the ball hitch locks into position correctly before every journey.

### WM 0X03IN TRAILER HITCH MAINTENANCE: CHECKING FUNCTION (MACAN, MACAN S, MACAN TURBO) > INFORMATION > OVERLOAD PROTECTION

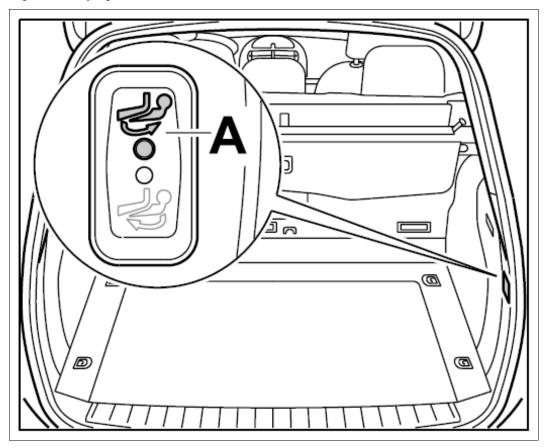
#### Information

- The vehicle must be stationary.
- Rear lid or rear window must be open.
- The trailer must be unhitched.
- Connectors (and any adapters) must be removed from the socket.
- There must not be any accessories on the ball hitch (e.g. ball protection cap, bicycle rack, etc.).

#### 1. Swivelling out the trailer coupling

- 1. The vehicle must be stationary.
- 2. Rear lid or rear window must be open.
  - 1. 1.1.
  - 2. 1.2. To swivel out:
  - 3. 1.3. Touch rocker switch -A- .
  - 4. 1.4. >> The ball hitch moves automatically into operating position.
  - 5. 1.5. The red LED in the rocker switch flashes until the operating position is reached.

Fig 1: Identifying Rocker Switch



#### 2. Retracting the trailer hitch

- 1. The vehicle must be stationary.
- 2. Rear lid or rear window must be open.
- 3. The trailer must be unhitched.
- 4. Connectors (and any adapters) must be removed from the socket.
- 5. There must not be any accessories on the ball hitch (e.g. ball protection cap, bicycle rack, etc.).
  - 1. 2.1.
  - 2. 2.2. To retract:
  - 3. 2.3. Touch rocker switch -A- .
  - 4. 2.4. >> The ball hitch moves automatically into operating position.
  - 5. 2.5. The red LED in the rocker switch flashes until the operating position is reached.

Fig 2: Identifying Rocker Switch

