

ELECTRONIC AUTOMATIC GEARBOX (SPORTRONIC)

(optional for versions/markets where applicable)

The Sportronic is an automatic gearbox with four speeds plus reverse (3.0 V6 24V version) and five speeds plus reverse (JTD 20V Multijet version) with self-adapting control (i.e. capable of adapting to the driver's driving style), which transmits power continuously and with very fast electrohydraulic gear engagement times.

STARTING THE ENGINE

The engine can be started only with the gearshift lever in the **P** or **N** position.

For safety reasons, it is advisable to start the engine with the brake pedal pressed.

IMPORTANT When moving off, after starting the engine, do not press the accelerator pedal before and during the movement of the gearshift lever. This is particularly important when the engine is cold.

MOVING OFF

After starting the engine, with the engine idling and keeping the brake pedal pressed, move the gearshift lever to position **D**. Release the brake pedal and gradually press the accelerator pedal.

IMPORTANT Movement of the lever from position **P** is allowed only with the ignition key at **MAR** and the button on the lever and the brake pedal pressed.

The 3.0 V6 24V version features an automatic winter driving programme (described in the following pages), whereas the JTD 20V Multijet version features a specific function enabling to engage at standstill up to the 3rd gear (in sequential mode) to guarantee pickup even under extreme grip conditions, in addition to ASR assistance.



Do not attempt to obtain peak performance until the engine has reached normal operating temperature.

STOPPING THE CAR

To stop the car simply press the brake pedal regardless of the position of the gearshift lever.

IMPORTANT The key may be removed only with the gear shift lever in position **P** and within a max. time of 25 seconds from the engine switch off. If the lever is not in position **P**, when opening the door a buzzer will advise the driver for approx. 15 seconds.

In the case of an emergency (faults, flat battery, etc.) the ignition key can be removed from the switch pulling the knob (**A-fig. 103**) under the ignition switch.

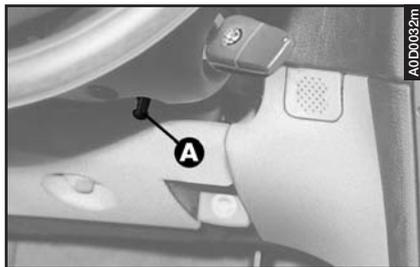


fig. 103



SELECTING AUTOMATIC/SEQUENTIAL MANUAL OPERATION

The main feature of this gearbox is the possibility of being used in the automatic or sequential manual mode. The operating mode is chosen positioning the gearshift lever (**fig. 104**) in the right sector (**A**) (automatic gearshifting) or left sector (**B**) (sequential manual gearshifting). The gearbox operating mode and the gear engaged are shown on the display (**A-fig. 105**):

SPORT - sequential manual operation (lever in left sector)

AUTO - automatic operation (lever in right sector)

1-2-3-4 — gear engaged (3.0 V6 24V version)

1-2-3-4-5 — gear engaged (JTD 20V Multijet version)

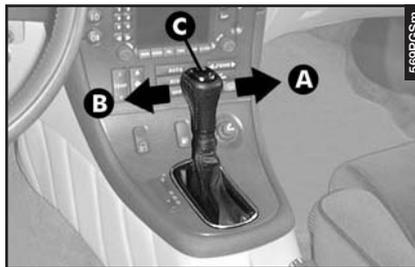


fig. 104

AUTOMATIC OPERATION

For automatic operation move the lever in the right sector (**A-fig. 105**) with four positions:

- P** - park
- R** - reverse
- N** - neutral
- D** - forward gear.

P - Park

To prevent accidental movements, the lever can only be moved to position **P** with the button (**C-fig. 104**) pressed.

When the car is parked, always set the lever to this position. A device in the gearbox locks the driving wheels.



WARNING

Always pull the hand brake completely before leaving the vehicle.



WARNING

Move the gearshift lever to position P when getting out of the car leaving the engine running.

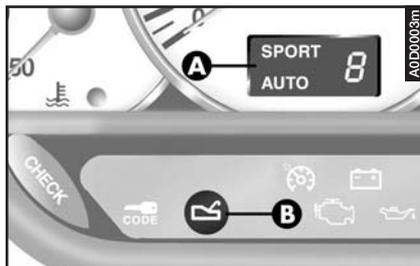


fig. 105

Move the gearshift lever to position **P** with the car stationary and the engine idling before switching off.

For safety reasons the ignition key can only be removed with the gearshift lever in this position.

 **WARNING**
Before moving the lever from position P, press the brake pedal: the vehicle must be stationary.

In case of emergency (low battery), it is possible to move the lever from position **P**, pressing on the lever lock device (**B**-fig. 107) through the plugged hole (**A**-fig. 106).

You are advised to have this operation carried out by Authorised Alfa Romeo Services.

R - Reverse

Move the gearshift lever to **R** with the vehicle stationary, the engine idling and the brake pedal pressed.

To prevent accidental movements, the lever can only be moved to this position with the button (**C**-fig. 104) pressed.

With the lever in position **R** the reversing lights turn on and a buzzer will sound for about 5 seconds.

IMPORTANT With the lever in position **R**, reverse gear is not engaged if the vehicle speed exceeds the established limit. When the speed falls below this value, reverse gear engages and stays engaged even if the limit is exceeded.

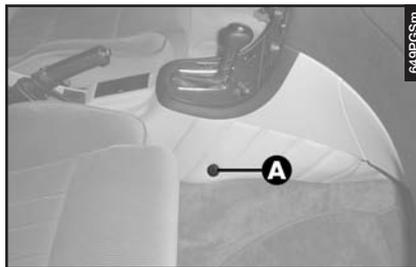


fig. 106

 **WARNING**
Before moving the lever, press the brake pedal: the car must be stationary.

N - Neutral

This is the neutral position to be used if the car is to be pushed or towed.

With the gearshift lever in this position, keep the car braked pressing the brake pedal.

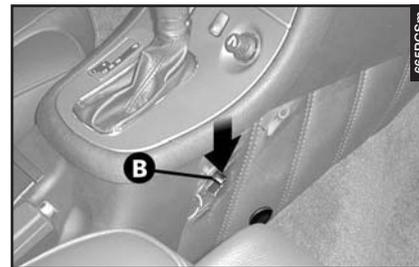


fig. 107



WARNING

With the engine idling and the gearshift lever is in position N, the car tends to move also on a level surface: keep the brake pedal pressed when the lever is in position N.

D - Forward gear

This is the position to be used when driving forward normally. The electronic control unit controls automatic engagement of the gears depending on the position of the accelerator, driving speed, engine rpm, longitudinal and transversal acceleration and the type of road.

The electronic gearbox can choose between different operating programmes, which range between comfortable economy driving and sporty driving coming into operation between the lowest and the highest speeds.

The electronic control unit can acknowledge special circumstances, such as running along a bend, by means of the instant front wheel revolution speeds difference between given by the ABS active sensors, preventing shifting to a higher gear before engine rpm limit is attained. Only with this condition at the end of the bend will the gearbox engage the longer ratio. This strategy makes it possible to improve the balance of the car and assure prompt acceleration at the end of the bend, because the ideal gear has already been engaged.

In the same way, during braking, lower gears are engaged to better exploit the braking action of the engine.



WARNING

With the engine at idle speed and the lever in position D the car tends to move also on a level surface: keep the brake pedal pressed until moving off.

Kickdown

To obtain optimum acceleration, for example when overtaking, the gearbox will kickdown by one or two gears simply by quickly pressing fully home the accelerator pedal.

Engagement of the next longer ratio will take place when the maximum rpm limit is reached.

Engagement of automatic sporty programme (only 3.0 V6 24V version)

When wanting to drive in a sporty manner exploiting automatic gearbox operation, simply move the lever to the left sector from position **D**, without moving it on the (+) and (–) positions. In fact, with the lever in this position the sportiest automatic programme is engaged.

The sporty programme will remain engaged until the gearshift lever is moved.

Moving the lever to the right sector re-engages automatic operation with the different operating programmes, while pushing it forwards or backwards on the (+) or (–) positions sequential manual operation is selected.

SEQUENTIAL MANUAL OPERATION

For the sequential manual mode, move the lever to the left sector (**B-fig. 104**) with 2 positions, as shown by the symbols on the lever mask:

(+) = engagement of the higher ratio

(-) = engagement of the lower ratio.

Moving the gearshift lever to the manual sector is only possible from position **D**: The ratio selected by the automatic gearbox when the lever is moved will remain engaged.

When the sequential manual mode is selected, the word **SPORT (A-fig. 105)** and the gear engaged light up on the display on the instrument cluster.

To select the higher ratio move the lever in the (+) direction and to shift down move the lever to (-).



WARNING

When the sequential manual mode has been set and a high gear is engaged, to accelerate rapidly, for example to overtake, it is necessary to down-shift by hand: the kickdown feature cannot be engaged!

Moving the lever back to position **D** the gearbox instantly resumes the automatic mode selecting the ratio according to the driving characteristics.

IMPORTANT The electronic control unit is programmed to change gear one at a time, therefore repeated fast actuation will not result in repeated engagements of the gears. The higher or lower gear is engaged moving the lever to the (+) or (-) position when the previous request has been performed.

In the event of fault to the sequential manual gearshift system (**SPORT**) the system will select the automatic mode and the display on the instrument cluster will show **AUTO**.

FAULT SIGNALLING

Automatic gearbox faults are indicated by the warning light (**B-fig. 105**) on the instrument cluster as follows:

– warning light glowing steadily = automatic gearbox oil maximum temperature

– warning light flashing = automatic gearbox fault.

Turning the ignition key to **MAR** the warning light should turn on and go out after about 4 seconds. If the warning light stays on or if it turns on when travelling, this indicates a gearbox fault (flashing light) or gearbox oil overheating (steadily glowing light).

Warning light glowing steadily

If the warning light turns on and glows steadily when travelling, this indicates that the gearbox oil has reached the maximum temperature.

You are therefore advised to stop the car with the engine at idle speed (gearshift lever at **P**) until the warning light goes out and then resume your journey without pushing the engine to peak performance.

If the warning light turns on again, it is necessary to stop again with the engine idling until it goes out.

If there are less than 15 minutes between one turning on of the warning light and the next, you are advised to stop the car, switch off the engine and allow the engine-gearbox unit to cool down completely.

Warning light flashing

If the warning light flashes when the engine is started, this indicates a fault in the automatic gearbox.

The automatic control system sets an "emergency" programme engaging 3rd or 4th gear (depending on the speed at which the fault occurred).

Turning the engine on and off again, the system self-diagnostic feature may exclude the fault and then turn off the warning light. The fault remains in the memory and it is therefore advisable to have the automatic gearbox checked by Alfa Romeo Authorized Services.



WARNING

When travelling with the gearbox faulty, drive with the utmost care in consideration of the limited performance (in terms of acceleration and speed) that the car can offer.



WARNING

When travelling with the gearbox faulty, the reversing gear lock might not be active: absolutely never move the lever to the R position with the car on the move.

PUSH STARTS

Starting by pushing or towing the car is not possible. In the event of an emergency, when the battery is flat, start the car with a suitable emergency battery, following the instructions given in the chapter "In an emergency".

TOWING THE CAR

WARNING For towing the car comply with current local regulations. Also follow the instructions given in the chapter "In an emergency".

If the car needs to be towed adhere to the following recommendations:

- if possible, carry the vehicle on the floor of a rescue vehicle;
- if this is not possible, tow the car raising the driving wheels (front) from the ground;
- if this, too, is not possible, the car should not be towed for more than 50 km at a speed of no more than 50 km/h.

When towing, the gearshift lever should be at **N**.



Do not start the engine while the car is being towed.



The failure to comply with these instructions may cause serious damage to the automatic gearbox.

CONSTRUCTIONAL FEATURES

The Sportronic gearbox is fully automatic with electrohydraulic control and four forward gears plus reverse (3.0 V6 24V version) and five forward gears plus reverse (JTD 20V Multijet version).

It is controlled by an electronic control unit which handles:

- the torque distributor
- gearshifting
- specific programmes

The gearbox is coupled with a fluid power torque distributor with piloted antislip device which makes it possible to obtain demultiplication ratios.

The particularity of this gearbox which works without idle gear enables:

- higher compactness and weight reduction
- improved output due to less friction
- lower stress of transmission parts

GENERAL FEATURES

Electronic gearbox management makes it possible to obtain gearshifting suited to momentary engine characteristics with a certain elasticity.

The electronic control unit has the task of:

- adapting the oil pressure for gearshifting to the engine torque
- activating safety functions
- defining the manual gearshifting programme
- system diagnostics.

For controlling these operating logics the control unit uses the following signals:

- engine rpm
- throttle position
- engine temperature
- turbine rpm
- vehicle speed
- gearbox oil temperature
- gearshift selector lever position
- accelerator pedal position (kickdown)
- brake pedal position

In addition the control unit converses with the electronic control units of the ABS, injection-ignition, VDC and Cruise Control.

Conditions of use analysed by the control unit

The control unit analyses each single condition of use of the car, discriminating it on the basis of the signals received from the various sensors.

The conditions analysed are:

- starting (position/accelerator pedal changing speed)
- acceleration (accelerator pedal completely pushing down speed)
- full load (number of engine full load kickdown signals or position maintenance time)
- braking (accelerator pedal release time and braking system operation)
- type of programme (gearshift selector lever position)
- winter driving (driving wheel skidding/ABS sensors active) (only 3.0 V6 24V version)
- driving with trailer or uphill (car speed in relation to transmitted torque)

- entering a bend (transversal acceleration detected by the difference in the difference between the wheels of one side and the other/ABS sensors active)

- downhill driving (acceleration of the car in relation to the position of the accelerator pedal)

- driving in town or queues (accelerator pedal position and car speed)

- gear required by the driver (gearshift selector level position).

Management of gearshift programmes

To optimise vehicle handling the electronic control unit has the following memorised programmes:

- automatic operation
- manual operation
- winter driving (only 3.0 V6 24V version)
- protection against high temperature of the gearbox oil.

Automatic programme

In relation to the car speed and torque transmitted, the control unit detects the slope of the road surface and depending on the sporty features chosen, it autonomously chooses the programme most suited to the situation.

Automatic sporty programme (only 3.0 V6 24V version)

This function makes it possible to drive sportively while exploiting automatic operation of the gearbox.

To engage this function set the lever to the left sector in the central position, without moving it to (+) or (–): the sportiest programme will remain engaged until the lever is moved.

Manual sequential programme

This function enables manual sequential use of the gearbox merely moving the selector lever to the left.

To avoid overrevving or excessively low engine rpm, the control unit inhibits requests for gearshifting that would cause such situations.

Winter driving programme

(only 3.0 V6 24V version)

This programme engages automatically if a driving wheel skids and it changes to specific gears. Starting is possible only in 2nd gear.

Engine heating programme

(only 3.0 V6 24V version)

This programme allows the engine to reach normal operating temperature in the shortest time possible (depending on the outside temperature) by highering the gearshifting points in relation to engine temperature.

The programme engages automatically after starting, if the engine temperature is below 30°C and it remains active up to 34°C.

High gearbox oil temperature safety programme

This is activated when the gearbox oil reaches high temperature.

To facilitate oil cooling, this programme inhibits gearshifting, either up or down. It is however possible to use the manual programme

INTERNAL FITTINGS

GLOVE BOX (fig. 108-109)

On the dashboard there is a key-lockable glovebox with light. The lock can be opened/closed using the ignition key.

To open the glovebox pull lever (A).

The compartment is lit by a courtesy light (B) when it is open with the ignition key at **MAR**.

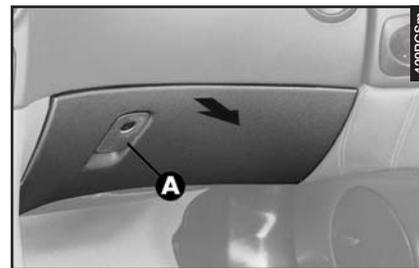


fig. 108



WARNING

Do not travel with the glovebox open; it could harm the passenger in the event of an accident.

ODDMENTS COMPARTMENTS ON THE DASHBOARD

Upper compartment (fig. 110-111)

This is fitted with a lid. To open, press and release the button (A). To close the lid, simply lower it.

Left side compartment (fig. 112)

On the lower side of the dashboard, at the left of the steering wheel, there is an oddments compartment (A).

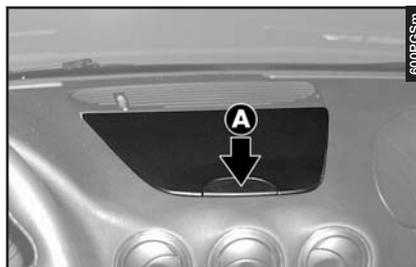


fig. 110

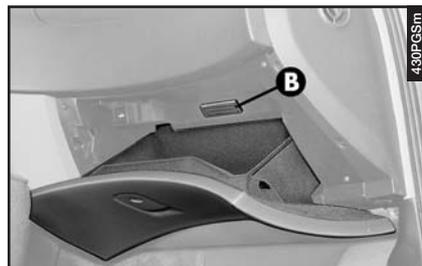


fig. 109



fig. 111

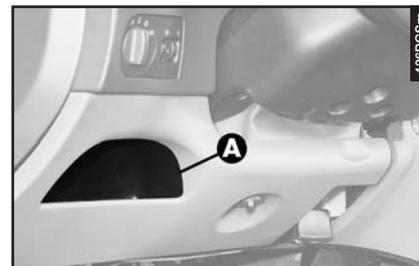


fig. 112

COMPARTMENTS AND POCKETS ON THE DOORS (fig. 113-114)

Each door is fitted with a pocket.

fig. 113 - Front doors

fig. 114 - Rear doors.



fig. 113



fig. 114

COIN/CARD/OBJECT HOLDERS (fig. 115)

The coin holder (**A**) is located on the central console.

The card holder (**B**) may contain a card in the vertical position.

The object holder (**C**) is located next to the hand brake.

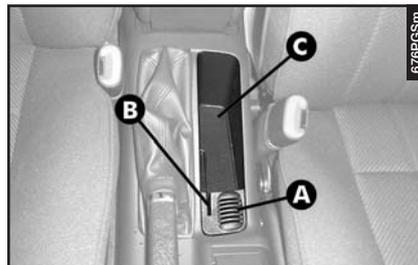


fig. 115

REAR ODDMENTS COMPARTMENT (fig. 116-117)

This is on the parcel shelf and it has a lid.

To open the lid raise it pulling the handle (**A**).

To close, simply lower it.

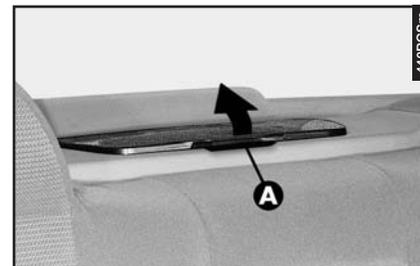


fig. 116

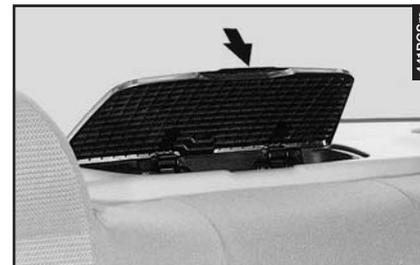


fig. 117

CIGAR LIGHTER (fig. 118)

Press knob (A) in to use the cigar lighter, with ignition key at **ACC** or **MAR**; after some seconds the knob will return automatically to its initial position and the cigar lighter is ready to use.

Remove the tray to empty and clean the ashtray.



WARNING

The cigar lighter gets extremely hot. Handle with care and prevent its use by children: danger of fire and/or burning.



Always ensure that the cigar lighter has turned off.

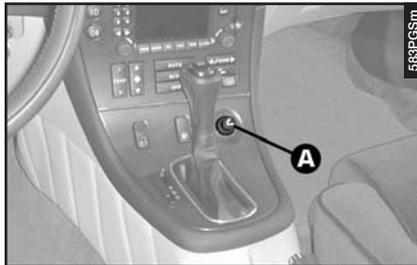


fig. 118

FRONT ASHTRAY (fig. 119)

To open the protective lid (A) press in the point shown by the arrow.

To empty the ashtray, pull out the tray, pressing towards the left on the open lid: the tray is released and it moves up automatically. Re-insert the tray in the special guides and pressing gently.

The ashtray is lit when the key is at **MAR**.



WARNING

Do not use the ashtray as paper bin: it might set on fire in contact with cigarette stubs.

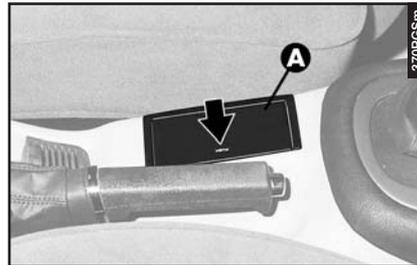


fig. 119

REAR ASHTRAYS (fig. 120)

There is an ashtray on each rear door.

To empty remove the ashtray pressing the tab (A). When refitting, firstly insert the lower part, press the tab, then push the upper part into place.

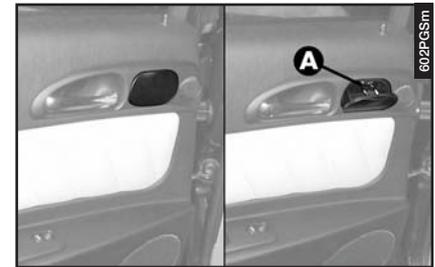


fig. 120

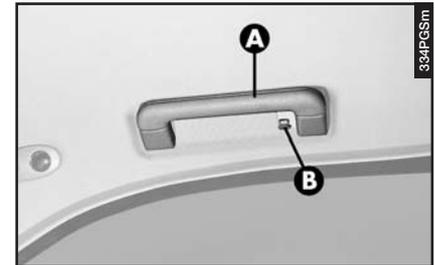


fig. 121

GRAB HANDLES (fig. 121)

Two grab handles are located at front doors.

Two grab handles (A) are located above the rear doors fitted with a coat hook (B).

SUN VISORS (fig. 122)

These can be adjusted at the front and side.

The rear side of each sun visor (A) is fitted with a small mirror with sliding cover.



fig. 122

FRONT ROOF LIGHT (fig. 123)

The roof light comprises two lights with the corresponding control switch.

With the switches (A) and (B) in the central position (1), both lights gradually turn on until reaching their maximum intensity when a door is opened. The light goes off gradually after about 8 seconds from where the last door is closed.

If a door is left open, the lights gradually go out after about 3 minutes. To turn them on again, open another door or shut and re-open the same one. The lights go out when the ignition key is turned to **MAR** (with the doors closed) or engaging central door locking.

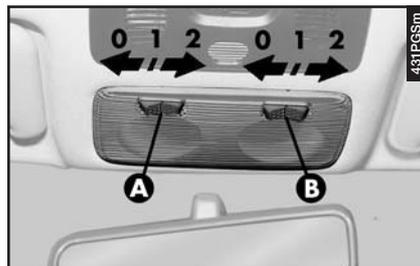


fig. 123

Moving switches (A) and (B) to the left (position 0), the lights stay off (OFF position).

Moving switch (A) and (B) to the right (position 2), the lights stay on.

With switches (A) and (B) the lights are turned on individually.

WARNING Before leaving the car, make sure that both switches are in the central position.

COURTESY LIGHTS (fig. 124)

Lowering the passenger's sun visor the courtesy light on the roof panel can be seen.



fig. 124

This light makes it possible to use the courtesy mirror under conditions with dim light.

Switch the light on and off, with the start key in **MAR** position, using switch **(A)**.

REAR ROOF LIGHTS (fig. 125)

In correspondence with each rear door there is a light which turns on automatically when a door is opened.

They are timed and work in the same way as described for the front roof light.

They can be turned on and off by hand pressing the switch **(A)**.

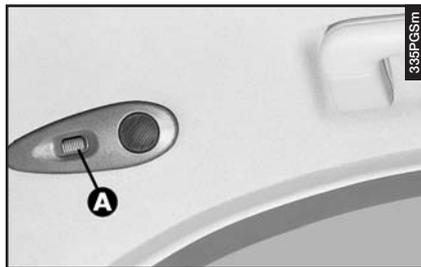


fig. 125

DOOR LIGHTS (fig. 126-127)

In the lower part of each door there is a sill light.

(A) - Front doors

(B) - Rear doors

Operation of these lights is coupled with the front roof lamp.

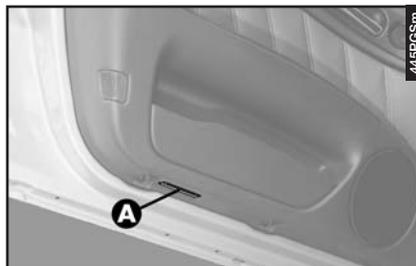


fig. 126

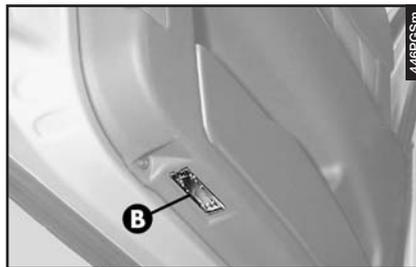


fig. 127

TELEPHONE PROVISION

On request for versions/markets where applicable, the car may be fitted with a provision for the installation of a cellular telephone.

This provision comprises:

- aerial on the roof;
- speaker on the passenger door together with the woofer speaker,
- aerial/speaker and car electrical supply cables.



For the installation of the cellular phone and connection to the provision in the car, contact only Authorized Alfa Romeo Services; this will guarantee first-rate results with no possibility of any inconvenience that may compromise the safety of the vehicle.

SUNROOF

(optional for versions/markets where applicable)

The sunroof can only be operated when the ignition key is in the **MAR** position.



WARNING

Improper use of the sunroof can be dangerous. Before and while operating it always make sure that the passengers are not exposed to the risk of harm caused either directly by the sunroof in motion or by personal items drawn or knocked by it.



Do not open the sunroof when snow or ice are on the roof as this may damage it.

SLIDING FORWARDS/BACKWARDS (fig. 128-129-130)

Press part **(1)** of the button (**A-fig. 128**) to open the roof; press part **(2)** of the button to close it.

When the button is released the sunroof will stop in that position.

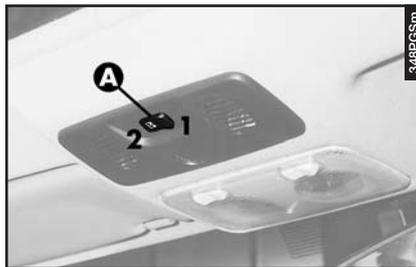


fig. 128

When the sunroof is opened a small spoiler (**B-fig. 129**) rises which diverts the flow of air.



WARNING

When leaving the vehicle the ignition key should be removed to avoid accidents involving the sunroof which could be inadvertently operated by any passengers remaining in the vehicle.



Routinely check that the side water drain holes (C-fig. 130) are clear.

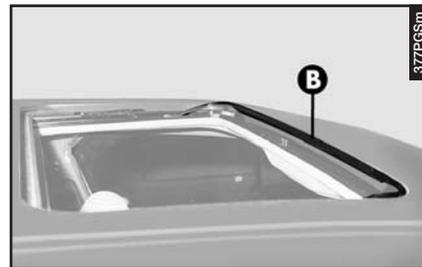


fig. 129

SLIDING WING

The sunroof is equipped with manual-operated sliding wing preventing direct sun rays. To open the wing pull handle (**A-fig. 131**).

When opening the sunroof, the wing is automatically pushed inside the roof panel. When closing the sunroof, the wing comes out partially in order to have access to the handle for manual closing.

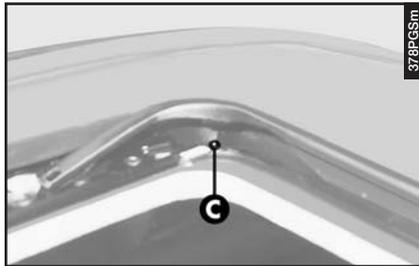


fig. 130

REAR LIFTING

This can only be achieved when the sunroof is completely closed. Press the front end (**2**) of the control button (**A-fig. 128**).

Press end (**1**) of the button (**A-fig. 128**) to return the sunroof to the horizontal position (roof closed).

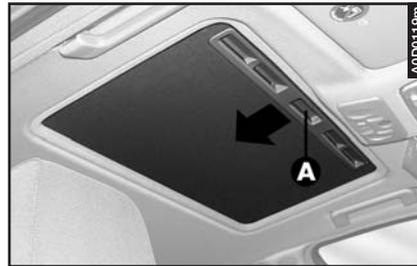


fig. 131

EMERGENCY OPERATION

(fig. 132-133-134)

If the electrical control device does not work the sunroof can be opened manually as follows:

– Apply leverage to the points indicated by the arrows and remove the plate with switch (**A-fig. 132**).

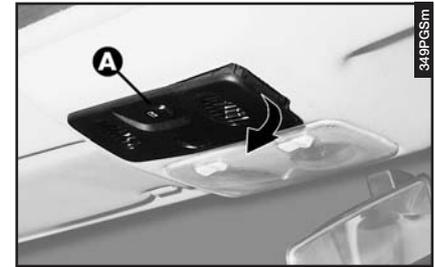


fig. 132

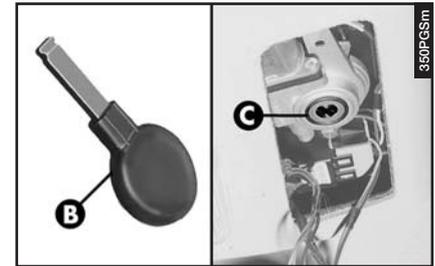


fig. 133

– Using the special key (**B-fig. 133**) provided in the tool bag rotate bushing (**C-fig. 133**) of the motor to move the sunroof.

IMPORTANT When the operation has been ended the key should be turned half a turn in the opposite direction until a click is heard before it is removed.

LUGGAGE COMPARTMENT

The boot lid can be opened from outside the vehicle and from inside the vehicle.

IMPORTANT If the boot is not properly shut, the corresponding warning light on the check panel will come on.

OPENING FROM OUTSIDE (fig. 135)

Turn the badge (**A**) in the direction shown by the arrow, insert the key (**B**) and turn it anticlockwise.

Opening is facilitated by a servocontrol which operates the lock.

OPENING FROM INSIDE (fig. 136)

To open from inside:

– With the vehicle stationary, press button (**A**) inside the glovebox.

Due to its position, this control cannot be operated when the glovebox is key-locked.

REMOTE CONTROL OPENING (fig. 137)

(optional for the versions/markets where applicable)

The luggage compartment may be remote opened by pressing the push-button (**A-fig. 137**) on the key with metallic insert (**B**), even when the electronic alarm is ON (where installed).



fig. 134

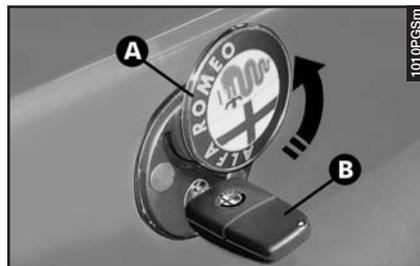


fig. 135

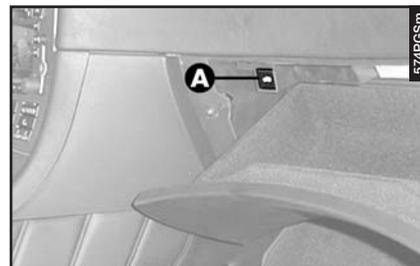


fig. 136

In this case the alarm disengages the boot control sensor, the system (with the exception of versions for certain markets) sounds two beeps and the direction indicators light up for about three seconds.

When the boot is closed again the control function is restored, the system (with the exception of versions for certain markets) sounds two beeps and the direction indicators light up for about three seconds.

EMERGENCY OPENING

The luggage compartment lock is released by a servocontrol when opening the bonnet from inside or using the key. However, it is always possible to open the luggage compartment, even in case of insufficient battery power: just rotate the key wider and simultaneously press the bonnet edge by the hand.

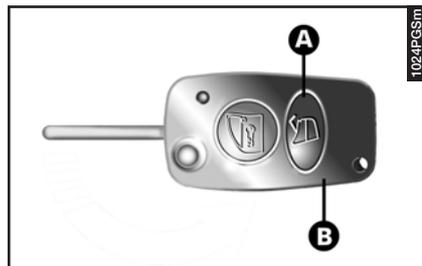


fig. 137

IMPORTANT Apply a moderate pressure only on the bonnet edge, immediately above the lock.

LIFTING AND CLOSING

Lifting the boot lid is made easier by the action of the gas springs (**B-fig. 138**).



The gas springs are calibrated to guarantee correct operation with loading specified by the manufacturer. Arbitrary additions to the boot lid (spoiler etc.) may affect its operation and safety.

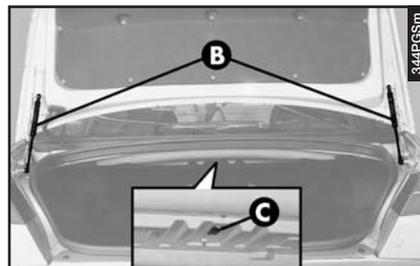


fig. 138

When the boot is opened the light (**C-fig. 138**) will come on. This light will go out again when the boot is closed.

In order to close, lower the bonnet by the handle (**A-fig. 139**) on the lining and press next to the lock till it clicks into the right position.

Leaving the boot open, the light goes out automatically after a few minutes. To turn it on again, open the boot and close it again.

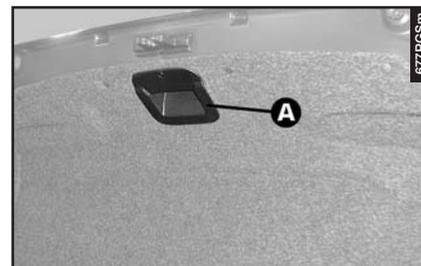


fig. 139

SECURING THE LOAD

The loads carried may be blocked with straps hooked to the special rings in the boot corners (**fig. 140**). The rings also serve to secure the luggage retaining net (available on request c/o Alfa Romeo Authorized Services).

IMPORTANT Travelling at night with a load in the boot it is necessary to adjust the height of the low beam headlights (see next paragraph "Headlights" in this chapter). For correct use of the aiming device, also make sure that the load does not exceed the values given in the same paragraph.

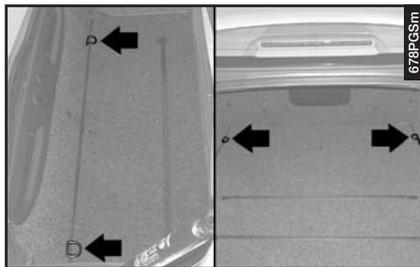


fig. 140



WARNING

Do not load the luggage compartment above the permitted maximum (see "Technical specifications"). Also make sure that the objects contained in the boot are well secured to prevent them from being thrown forward causing harm to the passengers in the event of sharp braking.



WARNING

A heavy load that has not been secured may cause serious harm to passengers in the event of an accident.

BONNET

The lever used to open the bonnet is located under the left end of the dashboard.

To open:

— Pull the lever (**A-fig. 141**) until the bonnet clicks open.



WARNING

Do this only with the car stationary.

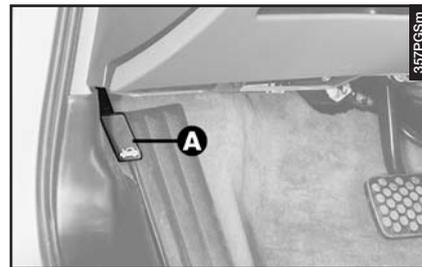


fig. 141

- Raise the safety lever upwards (**B**-fig. 142).
- Raise the bonnet.

 **WARNING**
DANGER-SERIOUS INJURY. *When carrying out checks or maintenance operations in the engine compartment, take special care not to bump the head on the raised bonnet.*

IMPORTANT Bonnet raising is aided by two gas springs. Do not tamper with these springs and always accompany the bonnet while raising it.

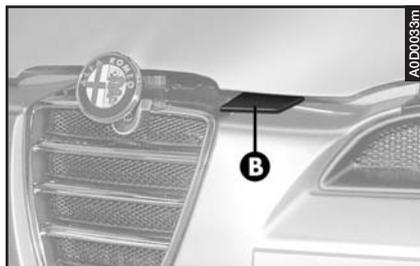


fig. 142

To close:

– Lower the bonnet to approx. 20 cm. from the engine bay, then let it drop. Try lifting it to make sure that it is shut completely and not simply caught in the safety position.

If the bonnet does not close properly do not push it down but open it again and repeat the above procedure.

 **WARNING**
For safety reasons the bonnet shall always be perfectly closed when travelling. Always check for proper bonnet locking. If the bonnet is left inadvertently open, stop the car immediately and close the bonnet.

HEADLIGHTS

IMPORTANT On the inside surface of the headlight there could appear a slight coat of fogging; this does not show a defect, since it is a natural occurrence due to low temperature and to the degree of humidity in the air; it will soon disappear as soon as the lights are turned on. The presence of drops inside the headlight shows water seepage, refer to the Alfa Romeo Dealership.

GAS DISCHARGE HEADLIGHTS

(optional for versions/markets where applicable)

Gas discharge headlights (xenon) work with a voltaic arc, in an atmosphere saturated with pressurised xenon gas, instead of the incandescent filament.

The lighting produced is remarkably higher than that of the conventional light in both terms of the quality of the light (lighter) and of the amplitude and position of the lit area.

The advantages offered by better lighting are noted (due to less sight fatigue and better orientation capability of the driver, thus of travelling safety) especially in bad weather, fog and/or insufficient signs, because of the higher lighting of the side beams which are normally shaded.

The heavy increase of lighting in the side beams considerably increases driving safety because it allows the driver to better see other users at the sides of the road (pedestrians, cyclists and motorcyclists).

Very high voltage is needed to trigger the voltaic arc, after which the supply can be at low voltage.

The headlights reach their maximum intensity after about 15 seconds from switching on.

The high luminosity produced by this type of headlight calls for the use of an automatic system to keep the headlight beam aiming constant and prevent dazzling other vehicles when braking, accelerating and carrying loads.

The electromechanical system for automatic constant beam aiming makes the headlight aiming device superfluous.

Xenon lights are very long-lasting and failure is unlikely.



WARNING

If necessary, have the system checked and any repairs done only by Authorized Alfa Romeo Services.

AIMING LOW BEAM HEADLAMPS FOR LEFT/RIGHT CIRCULATION

(only for versions with gas discharge headlamps)

On cars fitted with gas discharge headlamps (xenon bulbs) (optional for versions/markets where applicable) with high lighting power, when passing from a country with right circulation to one with left circulation or vice versa it is necessary to change the aiming of the low beams, to optimise lighting of the edge of the road and avoid glaring vehicles met.

IMPORTANT Contact Alfa Romeo Authorised Services to have low beam headlamps correctly adjusted.



WARNING

When returning to the country of origin, remember to change the low beam aiming again.

BEAM AIMING

(excluding versions with gas discharge headlights)

The adjustment of the headlights is vital to your safety and comfort and to that of other road users.

The adjustment of the headlights is also governed by precise regulations.

Contact Alfa Romeo Authorized Services to have the headlights correctly adjusted.

ADJUSTING THE FRONT FOGLIGHTS (fig. 143)

To adjust the height of the beam of the front foglight adjust screw (A).



To have the position checked and if necessary adjusted, contact Alfa Romeo Authorized Services.

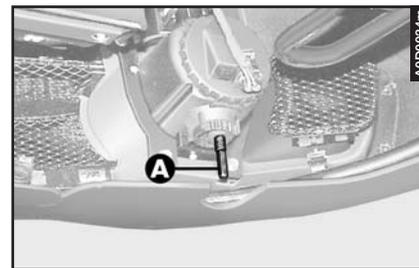


fig. 143

ENGINE CONTROL SYSTEM (EOBD)

(versions in compliance with Directive 98/69/EC – EURO3 or Directive 2001/1/EC level B – EURO4)

The EOBD (European On Board Diagnosis) system fitted on the car conforms with the 98/69/EC (EURO3) Directive for 2.0 T.SPARK, 2.5 V6 24V, 3.0 V6 24V (Sportronic), JTD, JTD 20V Multijet and JTD 20V Multijet (Sportronic) versions and with the 2001/1/EC level B (EURO4) Directive for 3.2 V6 24V version.

This system continuously monitors the components of the vehicle related to emissions; it also indicates, when the  warning light comes on on the instrument panel, that the components in question are in poor condition.

The objective is the following:

- to keep under control the efficiency of the system;
- to indicate when a malfunction causes an increase in the emissions beyond the threshold established by European regulations;
- to indicate the need to replace the deteriorated components.

The system also has a diagnostic connector, which can be interfaced with adequate instruments, that enables the error codes stored in the control unit to be read, together with a series of specific parameters concerning the operation and diagnosis of the engine.



If, when the ignition key is turned to MAR, the  warning light does not come on or if, when driving, it lights up and emits a fixed light or a flashing one, contact an Alfa Romeo Authorized Service Station as soon as possible.

IMPORTANT After the problem has been resolved, to completely check the system, the Alfa Romeo Authorized Service Station must carry out tests on a test bench and, if necessary, road tests that could be long.

ABS

The car is fitted with an ABS system which prevents wheel lock when braking, better exploits wheel grip and keeps the vehicle controllable within the limits of the available grip also during emergency braking.

The driver can feel that the ABS is operational by a light pulsing of the brake pedal, accompanied by noise.

This should not be interpreted as malfunctioning of the brakes, but it is the signal to the driver that the ABS system is working: it is the warning that the car is travelling at the limit of grip and that it is therefore necessary to adapt the speed to the type of road on which you are travelling.

The ABS system is an additional part of the basic braking system; in the event of a fault it is disabled, leaving the braking system in the same conditions as a car without ABS.

In the event of a failure, though being unable to rely on the antilock effect, there is absolutely no adverse effect on vehicle braking performance in terms of braking capacity.

If you have never used a car with ABS before, you are advised to learn how to use it with a few preliminary trials on a slippery surface, naturally under safety conditions and fully adhering to the Highway Code of the country concerned. You are also advised to carefully read the following information.

The advantage of the ABS compared with the conventional system is that it makes it possible to maintain maximum vehicle handling performance also in the case of hard braking under grip limit conditions, avoiding wheel lock.

Do not however expect the braking distance always to be reduced with the ABS system: for example, on soft surfaces such as gravel or fresh snow on slippery surfaces, the distance might increase.

In order to be able to exploit as far as possible the possibility of the antilock system in the case of need, it is wise to follow a few pieces of advice.



WARNING

The ABS exploits the available grip in full, but it cannot increase it; therefore caution is required on slippery surfaces, without running un-necessary risks.

**WARNING**

If the ABS cuts in, it means that the grip limit between the tyres and the road surface has been reached: it is necessary to slow down and adapt driving to the grip available.

**WARNING**

In the event of a system fault, with lighting up of the  warning light, have the vehicle checked immediately by Authorized Alfa Romeo Services, driving slowly to be able to regain full system performance.

Braking on corners always requires the utmost caution, even with the help of the ABS.

The most important piece of advice however, is the following:

**WARNING**

When the ABS cuts in and you feel the pedal pulse, do not reduce the pressure, but keep the brake pedal firmly pressed with no fear; this way you will stop in the shortest space possible, compatibly with the conditions of the road surface.

Following these instructions you will be in a condition to obtain peak braking performance at all times.

WARNING Cars fitted with ABS must only be fitted with wheel rims, tyres and brake linings of the type and brand approved by the Manufacturer.

The braking system is completed by the EBD (Electronic Brake Distributor) which distributes the braking action through the ABS control unit and sensors.

**WARNING**

The car is fitted with an electronic brake distributor (EBD). If the  and  warning lights come on at the same time when the engine is running, there is an EBD system fault; in this case, violent braking may lock the rear wheels too early, with the possibility of skidding. Drive extremely carefully to the nearest Authorized Alfa Romeo Services to have the system checked over.



WARNING

The turning on of the  warning light with the engine running normally indicates an ABS system fault. In this case the braking system preserves its effectiveness, without however making use of the antilock device. Under these circumstances, the EBD system may fail to give top performance. In this case, too, you are recommended to contact Authorized Alfa Romeo Services immediately driving in such a way as to avoid abrupt braking, to have the system checked.



WARNING

If the  low brake fluid level warning light comes on, stop the car immediately and contact the nearest Authorized Alfa Romeo Services. Indeed, any leak of fluid from the hydraulic system compromises the effectiveness of both the conventional brake system and the system with antilock system.

BRAKE ASSIST (Brake assist in an emergency)

This system, that cannot be cut out, recognizes emergency braking on the ground of the brake pedal operation speed and allows to speed up the braking action.

On versions fitted with VDC system, Brake Assist is deactivated in the event of VDC system failure (indicated by the switching on of the relevant warning light).

VDC AND ASR SYSTEMS

(on request for versions/markets where applicable)

VDC SYSTEM (VEHICLE DYNAMICS CONTROL): GENERAL

The VDC is an electronic vehicle stability control system which, acting on the torque and braking the wheels in a differentiated manner, helps to bring the car back to the correct course in the event of loss of grip.

While travelling the car is subjected to lateral and longitudinal forces that may be controlled by the driver up to when the tyres offer adequate road-holding; when this falls below the minimum level, the car starts to deviate from the course required by the driver.

Above all on rough surfaces (such as cobbles, or due to the presence of water, ice or soil), changes in speed (when accelerating or braking) and/or course (bends or the need to avoid obstacles) can cause the tyres to lose grip.

When the sensors detect the conditions that would lead to skidding, the VDC system acts on the engine and brakes generating a stabilising torque.



WARNING

The system performance levels, in terms of active safety, should not induce the driver to run pointless and unjustified risks. Driving conduct should always be suited to the conditions of the road surface, vision and traffic. The responsibility for road safety is always and anyway the vehicle driver's concern.

The VDC system helps the driver to keep control of the car in the event of loss of tyre grip.

The forces induced by the VDC system to control the lack of stability of the car always and anyway depend on the grip between the tyre and the road surface.

VDC SYSTEM OPERATION

The VDC system turns on automatically when the car is started and cannot be switched off. It is however possible to cut off operation of the ASR system pressing the corresponding button on the centre console.

The main components of the VDC system are:

- an electronic control unit which processes the signals received from the various sensors and brings about the most appropriate strategy;
- a sensor that detects the position of the steering wheel;
- four sensors that detect the rotation speed of each wheel;
- a sensor that detects rotation of the car around the vertical axis;
- a sensor that detects lateral acceleration (centrifugal force).

The heart of the VDC system is a sensor that originates from the field of aeronautics, which detects rotations of the car around its vertical axis. The centrifugal forces generated when the car runs on a bend are detected by a highly sensitive, lateral acceleration sensor.

The stabilising action of the VDC system is based on calculations made by the system's electronic control unit which processes the signals received from the steering wheel rotation, lateral acceleration and individual wheel rotation sensors. These signals allow the control unit to recognise the manoeuvre the driver intends to do when turning the steering wheel.

The control unit processes the information received from the sensors and is therefore capable of detecting the position of the car and comparing it with the trajectory the driver would like to follow instant by instant. In the event of a discrepancy, the control unit chooses and commands the most suitable action to bring the car back to the required course within a fraction of a second: braking one or more wheels at a different braking force and, if necessary it reduces the power transmitted by the engine.

The corrective actions are changed and controlled continuously until the car returns to the required course.

The action of the VDC system considerably increases the active safety of the vehicle under many critical situations and it is particularly useful also when the road surface grip conditions change.



WARNING

For the VDC, ASR and ABS systems to work correctly, the tyres must be of the same brand and type on all wheels, in perfect conditions and above all of the specified type, brand and size.

ASR FUNCTION (ANTISLIP REGULATION): GENERAL

The ASR system integrates the VDC system controlling the vehicle drive and coming into operation automatically each time one or both driving wheels skid.

Two different control systems are activated, depending on the skidding conditions:

- If skidding concerns both driving wheels, because it is caused by the excessive power transmitted, the ASR system cuts in reducing the power transmitted by the engine.
- If skidding concerns only one driving wheel, the ASR system cuts in automatically braking the skidding wheel, with an effect similar to that of a self-locking differential.

The action of the ASR system is particularly helpful under the following conditions:

- Skidding of the inner wheel on a bend, due to the effect of the dynamic changes of the load or over-accelerating.
- Excessive power transmitted to the wheels, also in relation to the conditions of the road surface.
- Acceleration on slippery, snowy or icy surfaces.
- In the case of loss of grip on a wet surface (aquaplaning).

TURNING ON THE ASR FUNCTION

The ASR function turns on automatically each time the engine is started.

When travelling it is possible to switch the system off and on again pressing the switch (**A-fig. 144**) on the centre console.

The warning light (**B-fig. 144**) on the switch turns on to indicate that the system is off.

If the function is turned off while travelling, it will turn on again automatically the next time the engine is started.

IMPORTANT When driving on snow, with snow chains fitted, it may be helpful to switch off the ASR function: in these conditions in fact, skidding of the driving wheels when moving off helps to obtain better traction.

CUTTING IN OF THE VDC SYSTEM

The cutting in of the VDC system is indicated by the flashing of the warning light (**A-fig. 145**) on the instrument cluster, to inform the driver that the car is in critical conditions of stability and grip.

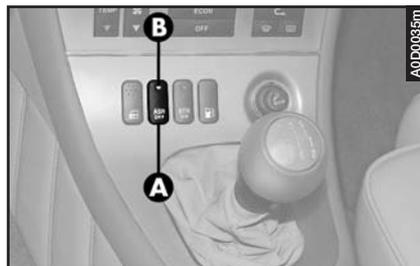


fig. 144

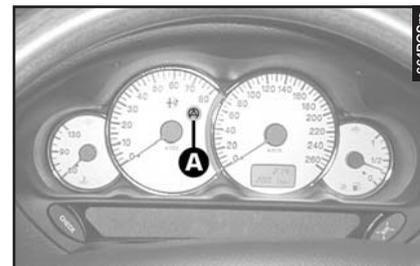


fig. 145

VDC AND ASR SYSTEM FAILURE WARNINGS

In the event of failures the VDC and ASR systems switch off automatically and the warning light (**A-fig. 145**) on the instrument cluster turn on glowing steadily.

The table below summarises the indications given by the warning lights in the different operating conditions.

In the event of a failure to the VDC or ASR systems, the car behaves like the version not equipped with these systems: at all events, you are recommended to contact Authorised Alfa Romeo Services as soon as possible.

Conditions of use or fault	System status	ASR warning light on button	VDC warning light on cluster	ABS warning light on cluster	EBD warning light on cluster
Engine starting (turning key to MAR)	Lamp check	On for about 4 seconds	On for about 4 seconds	On for about 4 seconds	On for about 4 seconds
Driving in Normal Conditions	ASR on	ASR enabled VDC enabled	Off	Off	Off
	ASR off Manually	ASR disabled VDC enabled	On	Off	Off
Driving in Conditions that might cause skidding	ASR on	ASR active VDC active	Off	Flashing	Off
	ASR off Manually	ASR disabled VDC active	On	Flashing	Off
ASR system fault	ASR disabled	On	On	Off	Off
Fault VDC	VDC disabled	Off	On	Off	Off
Fault VDC/ASR	VDC/ASR disabled	On	On	Off	Off
Fault ABS	ABS/VDC/ASR disabled	On	On	On	Off
Fault EBD	ABS/VDC/ASR/EBD disabled	On	On	On	On

SOUND SYSTEM

The vehicle is fitted with a complete radio system.

The radio is integrated in the Alfa Romeo I.C.S. system and, optional for versions/markets where applicable, it can be integrated with the DSP (Digital Sound Processing System) and Compact Disc player.

The features of the radio, DSP (Digital Sound Programming) system and Compact Disc player are described in the Alfa Romeo I.C.S. supplement enclosed here-with.

FRONT SPEAKERS (fig. 146)

The front speakers are housed in the front door panels

- A** - Tweeter
- B** - Woofer.

REAR SPEAKERS (fig. 147)

The speakers are housed on the rear door panels.

- A** - Tweeter
- B** - Woofer.

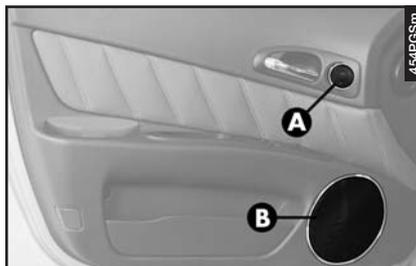


fig. 146

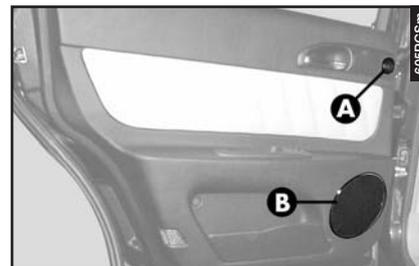


fig. 147

SPEAKERS ON PARCEL SHELF

(fig. 148) (optional for versions/
markets where applicable)

When the complete sound system (DSP - Digital Sound Processing system and Compact Disc player) is required the car is supplied with a parcel shelf fitted with speakers housed at the ends of the parcel shelf.



fig. 148

COMPACT DISC PLAYER

(fig. 149) (optional for versions/
markets where applicable)

The Compact Disc player is housed in the special compartment (A) on the left-hand side of the boot, under the CD player for the Alfa Romeo I.C.S. navigation system.

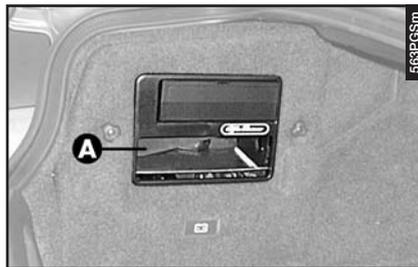


fig. 149

REFUELLING

PETROL ENGINES

In order to prevent the vehicle being



The anti-pollution devices present on the vehicle impose the use of four-star unleaded fuel with an octane number (R.O.N.) above 95.

Filled with leaded petrol the diameter of the filler neck is smaller than the nozzle used on pumps delivering leaded petrol.



If the catalyst is not working properly harmful emissions reach the exhaust resulting in environment pollution.



Under no circumstances should conventional leaded petrol be used as this would irreparably damage the catalyst. If the tank is accidentally filled with leaded fuel, even in minute quantity, DO NOT START THE ENGINE. Do not attempt to dilute the petrol with lead free fuel. Drain the entire fuel circuit and tank.

DIESEL ENGINES



The car must be refuelled only with fuel oil for motor vehicles, in conformity with European specification EN590. The use of other products or mixtures may damage the engine irreparably resulting in invalidation of the warranty for the damage caused. If another type of fuel is accidentally added to the fuel tank do not start the engine. Drain the tank. If the engine has been run even for an extremely brief period the supply circuit must be drained together with the tank.

If these precautions are not observed the engine will suffer serious damage.

Fill the fuel tank before it is completely empty in order to prevent air from getting into the circuit.

During cold weather (external temperature below -10°C) the additive **DIESEL MIX** should be used especially if the vehicle is lying inactive for long periods. This product should be mixed with the diesel fuel in the quantities specified on the bottle.

FUEL CAP

The fuel cap is released from inside the car pushing the button (A-fig. 150) with the engine off.

When refuelling the cap can be hung to the flap (A-fig. 151) using the hook provided.

To avoid misplacing it when refuelling, the cap is connected to the filler neck with a cord.

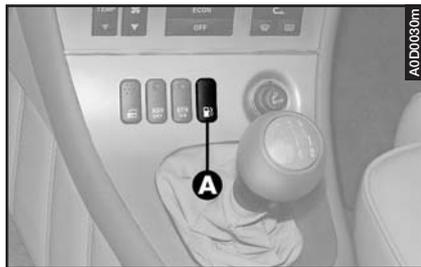


fig. 150



WARNING

Do not go near the fuel filler with naked flames or lit cigarettes: danger of fire. Also avoid going too near the filler with the face to avoid inhaling harmful vapours.



If necessary, replace the fuel filler cap only by another original one, otherwise the efficiency of the fuel vapour recovery system could be compromised.

IMPORTANT The fuel tank is sealed hermetically and pressure may build up inside. Any noise of rushing air when the cap is removed is perfectly normal.

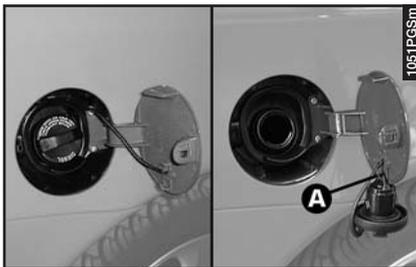


fig. 151

EMERGENCY FLAP OPENING DEVICE

If the electrical control fails to work it is still possible to open the flap by pulling the cord (A-fig. 152) on the right-hand side of the luggage compartment.

Access to the cord is gained opening the lid (B).

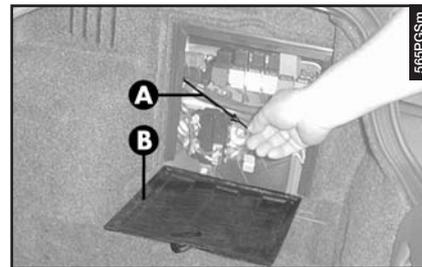


fig. 152

AUTOMATIC FUEL CUT-OFF SWITCH

The car is equipped with a safety switch which is triggered in the event of a crash to interrupt the flow of fuel and stopping the engine as a consequence. This also prevents fuel leaks due to fuel lines breaking.

After the crash, remember to turn the ignition key to **STOP** to prevent the battery running down.

If no leaks or damages to electric devices (e.g.: headlights) are found and the car can be restarted, reactivate the fuel cut-off switch. Follow the instructions given below.



WARNING

If, after an accident, you can smell petrol or see that the fuel feed system is leaking, do not reset the switches to avoid the risk of fire.

DOOR UNLOCKING IN CASE OF ACCIDENT

In case of accident with activation of the inertial switch as a consequence, door locks are automatically unlocked to let rescuers reach the passenger compartment from the outside.



WARNING

Anyway, door opening from the outside depends on their conditions after the accident: if a door is distorted it might be impossible to open it even if it is unlocked. In this case try to open the other car doors.

RESETTING THE FUEL CUT-OFF SWITCH

To reactivate the automatic fuel cut-off switch, press button (fig. 153) under the driver's seat.



WARNING

Before resetting the fuel cut-off switch, carefully check for any fuel leaks or damages to the car electric devices (e.g.: headlights).

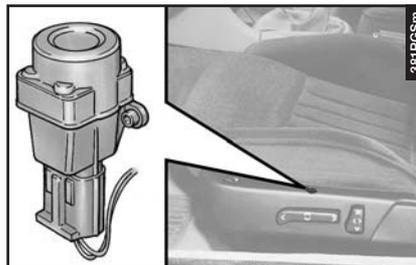


fig. 153

ENVIRONMENTAL PROTECTION

The design and construction of the vehicle have not only been developed with the traditional aspects of performance and safety in mind but also take into account the increasingly pressing problems tied to protecting the environment.

The choice of materials, techniques and particular devices are the result of work which has made it possible to drastically reduce the harmful effects on the environment and guarantee respect for the severest international norms.

USE OF NON-TOXIC MATERIALS

None of the components of the vehicle contain asbestos. The padding and the climate control system do not contain CFCs which are held to be responsible for the destruction of the ozone layer.

The colouring agents and the corrosion inhibitors used on the nuts, screws and bolts do not contain cadmium or chrome which could pollute the atmosphere or water tables.

EMISSION REDUCING DEVICES

(Petrol engines)

Catalysts

The exhaust system is fitted with a system of catalysts formed of precious metal alloys housed in a stainless steel container which withstand high operating temperatures.

The catalysts convert unburned hydrocarbons, carbon monoxide and nitric oxides in the exhaust gas (even in minimal quantity, thanks to the electronic ignition and injection systems) into non polluting compounds.



WARNING

Due to the high temperature reached while the catalysts are working, it is advisable not to park the car over inflammable material (paper, fuel oils, grass, dry leaves, etc.).

Lambda sensors

The lambda sensors detect the oxygen content in the exhaust gas.

The signals transmitted by the Lambda sensors are used by the electronic control unit of the injection-ignition system to adjust the air-fuel mixture.

Anti-evaporation system

(only petrol versions)

As it is impossible, even when the engine is switched off, to prevent the formation of fuel vapours, a system has been devised which traps them in a special carbon container.

During operation of the engine these vapours are withdrawn and sent to combustion.

EMISSION REDUCING DEVICES

(diesel engines)

Oxidising catalytic converter

Converts the polluting substance in the exhaust gases (carbon monoxide, unburnt hydrocarbons and particulate), thus reducing the fumes and smell that are typical of diesel engines.

The catalytic converter consists of a stainless steel case that houses a ceramic honeycomb coated with noble metal used as a catalyst.

Exhaust gas recirculation system (E.G.R.)

This system recycles, i.e. re-uses, a varying percentage of the exhaust gases depending on engine operating conditions.

It is used, when necessary, to control nitric oxides.

