

OWNER'S MANUAL


• 33

• Sport Wagon



SERVICE

Dear Customer,

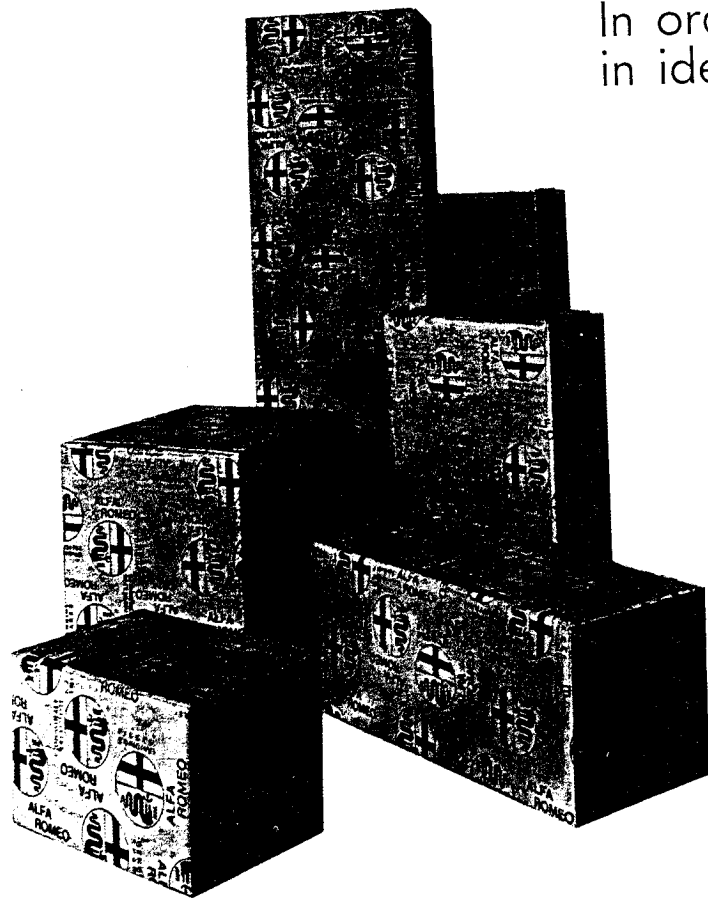
We wish to thank you for your decision to purchase an Alfa Romeo and to welcome you to the world of *Alfa Romeo* . Your selection was one of prestige, quality and long service life. This publication, which we ask you to read carefully and to keep nearby for reference, will tell you all you need to know to get the most enjoyment out of your Alfa Romeo, as well as supplying instructions and hints on correct maintenance, which will enable you always to get the best performance and prolong the car's safety and reliability, with the quality of all its components.

We recommend that you have all maintenance and repairs performed at **AUTHORIZED ALFA ROMEO SERVICE CENTERS**, which with their specially trained personnel, constant technical updating and specific equipment can ensure the utmost quality of all their work.

The **ALFA ROMEO** service network is at your disposal for any assistance you may require: a complete, up-to-date list of Service Centers is provided in the "Service" Guide provided with our car.



SERVICE



In order to maintain your motor car in ideal condition, as conceived and manufactured by Alfa Romeo, it is necessary to fit original parts that are supplied exclusively in these trade-marked boxes, through the official network of Alfa Romeo.



GENUINE SPARES

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Driver's position
Vehicle interior
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Car bonnet and boot
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GUARANTEE AND MAINTENANCE SCHEDULE BOOKLET

You were furnished a **Guarantee and Maintenance Schedule Booklet** with your new Alfa Romeo. It contains complete information on the operation of Alfa Romeo Service Centers and the conditions of your warranty.

We recommend that you have the Alfa Romeo Service Network perform all the maintenance and tune-up operations listed in the Guarantee and Maintenance Schedule Booklet: this an essential condition to ensure longer life to your car's mechanical parts (resulting in lower operating costs) and also a significant saving in fuel consumption.

SERVICE NETWORK

Alfa Romeo Services in Italy and abroad are listed in the "Service" Guide supplied with every vehicle.

Always rely on your Alfa Romeo Dealer, who displays the shield with the Alfa Romeo emblem and name.

Alfa Romeo Services in Italy are also entered in the telephone directory under "Alfa Romeo".

If you should have a problem concerning the servicing of your car, write or phone either your dealer or your local Alfa Romeo Distributor.

Features and data are approximate only; Alfa Romeo reserves the right to alter any features and data given in this manual without notice.

Some equipment features are optional extras.

Refer to price list for comprehensive list of options.

Descriptions, illustrations and specifications are those of the vehicle at the date of printing of this manual.

Please note that this manual applies to all models in this range; some models, however, may not be available in all market areas. For detailed information, please contact your Dealer.

Driver's position

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A DASHBOARD

Horn

Switches for utilizers

Side vent

Control lever for external lights

Ignition block/
Steering lock

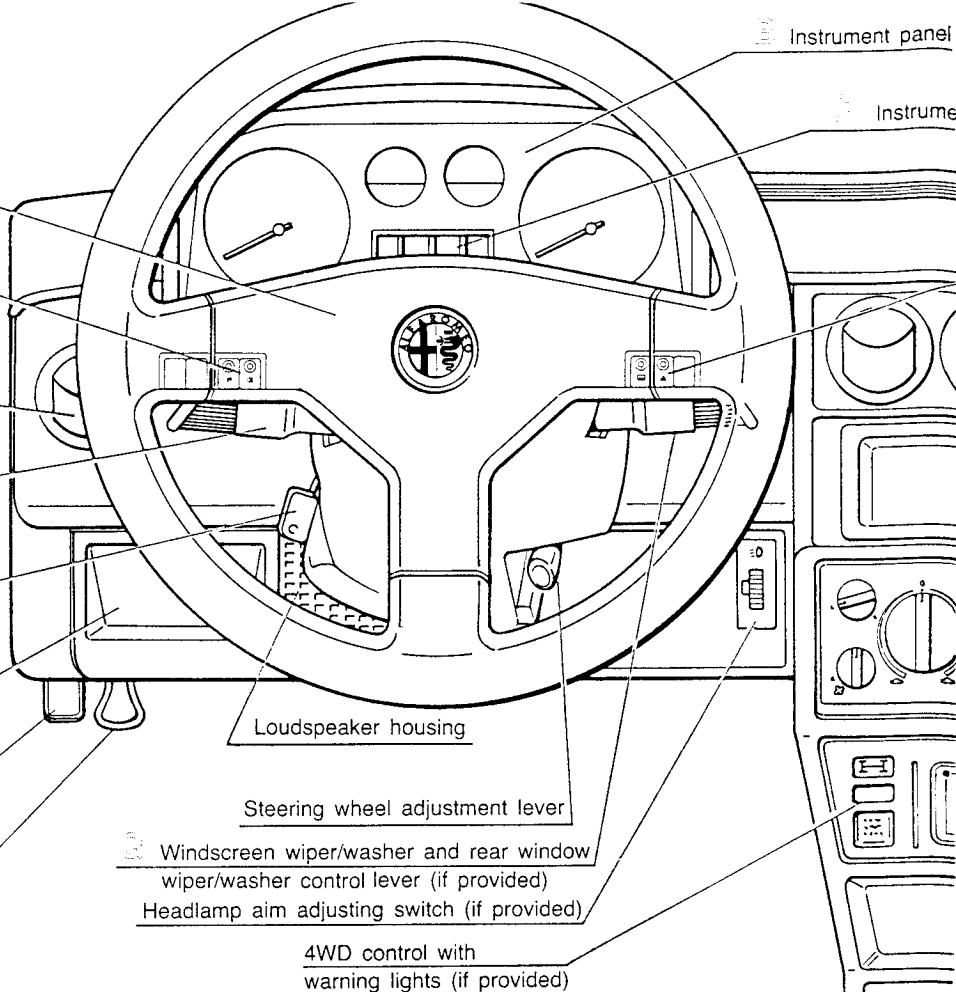
Glovebox/
Fuse and relay box cover

Engine bonnet opening lever

Engine bonnet emergency opening lever

Instrument panel

Instrume

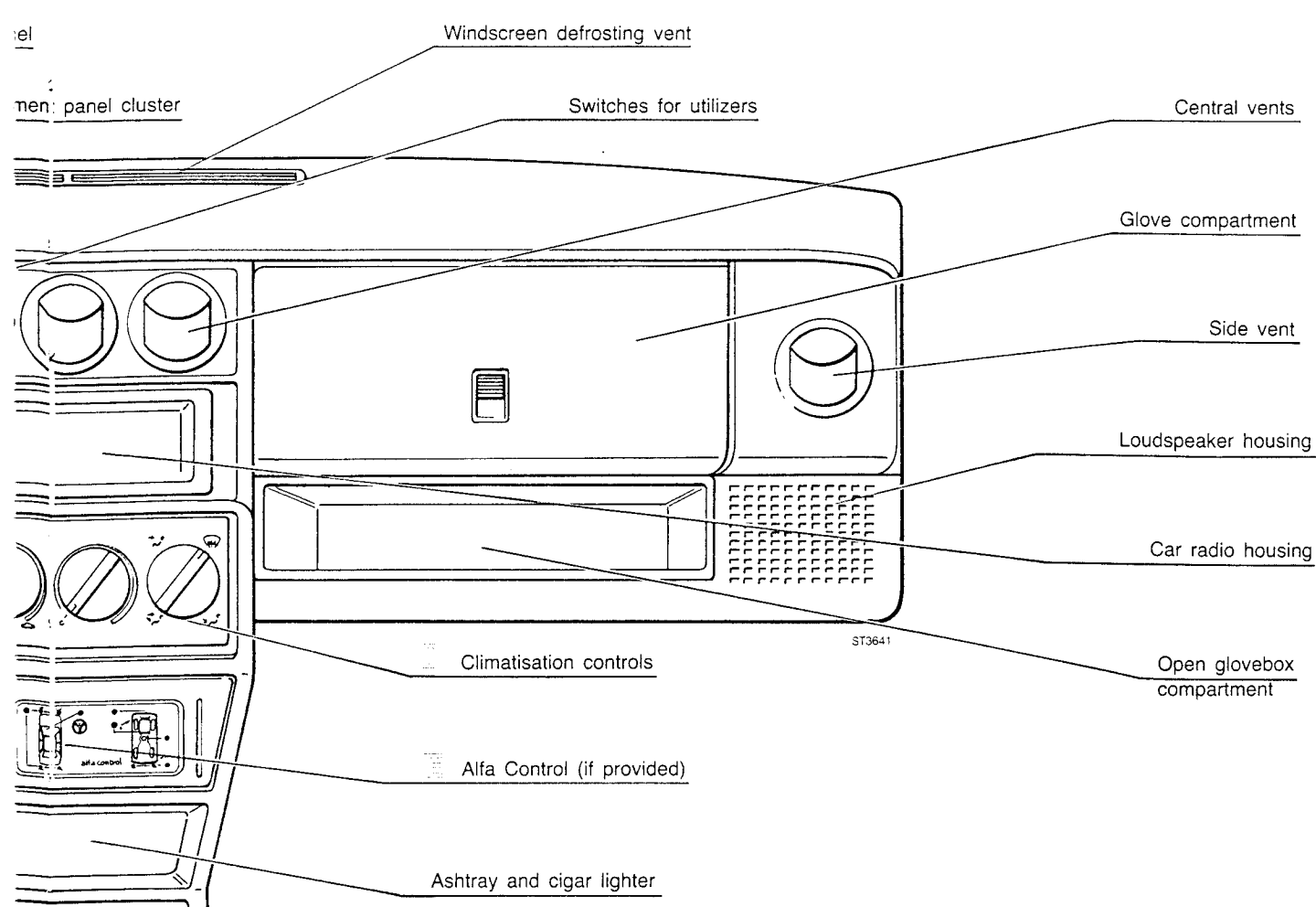


Loudspeaker housing

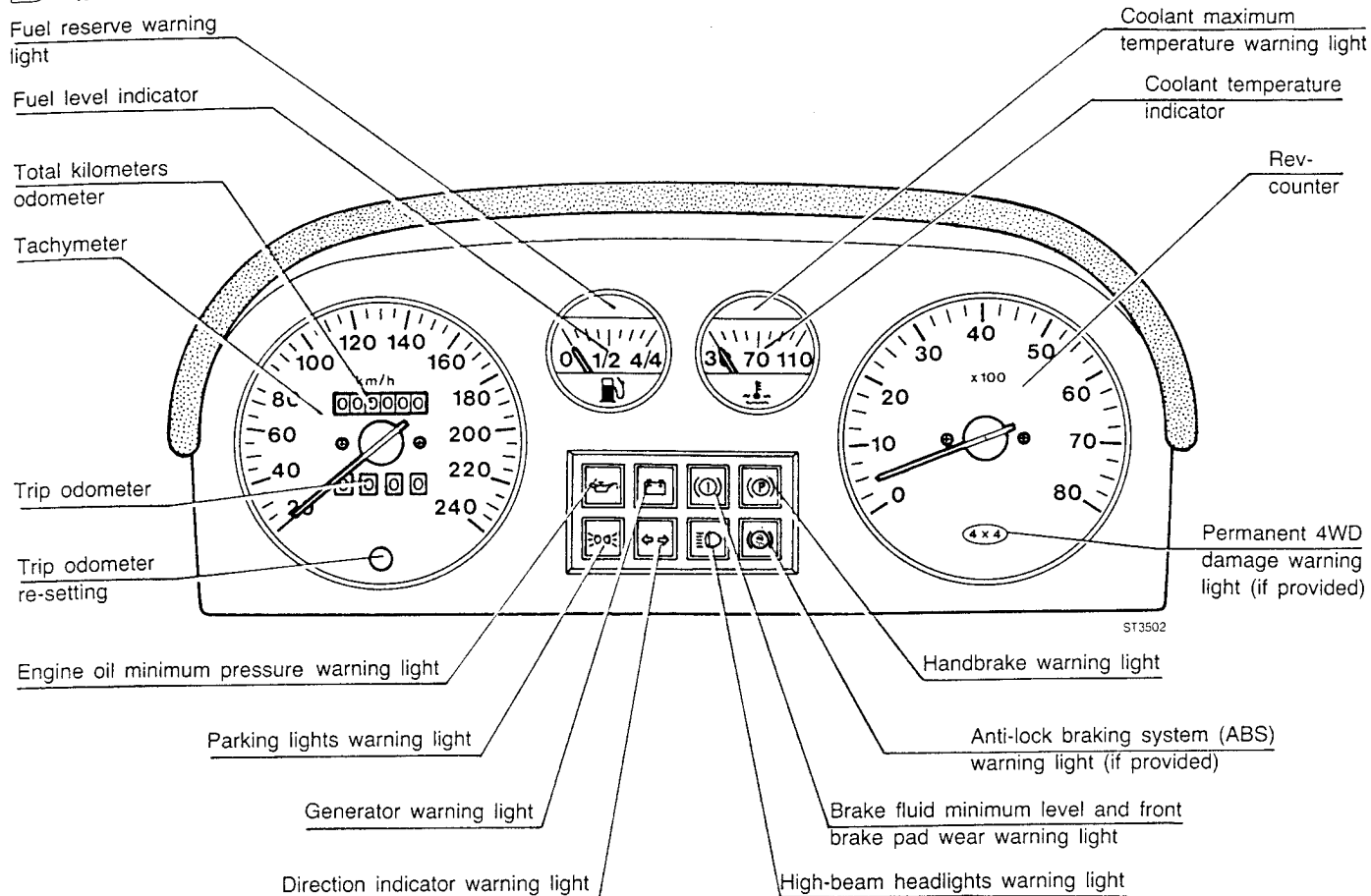
Steering wheel adjustment lever

Windscreen wiper/washer and rear window wiper/washer control lever (if provided)
Headlamp aim adjusting switch (if provided)

4WD control with warning lights (if provided)



B INSTRUMENT PANEL





INSTRUMENT PANEL CLUSTER



Engine oil minimum pressure warning light
If this lights up with the engine running, stop the vehicle immediately and check oil level.



Handbrake inserted warning light
This indicates that the handbrake is inserted; deactivate it before moving the vehicle.



Generator warning light
If this lights up with the engine running, it indicates the irregular functioning of the power supply circuit.



Parking lights warning light
It Indicates that external lights are on.



Brake fluid minimum level and front brake pad wear warning lamp (excluding models with Alfa Control)
The lamp signals that the level of brake fluid in the reservoir is insufficient with liquid possibly leaking from the circuit: If the lamp comes on continuously or intermittently during braking it indicates that the front brake pads are worn. As the vehicle is only equipped with wear detectors applicable to the front brake pads, when substituting these, the condition of the rear brake pads should also be checked. The rear brake pads however, due to their use on the vehicle will not require immediate substitution though a further check should be made at a later date.



Direction indicator warning light
It signals that direction indicators or hazard lights are on.



High-beam warning light

It signals that high-beam headlights are on.



Anti-lock braking system (ABS) warning light (if provided)

By turning the ignition key to RUN position, this must remain lit for a few seconds; if it lights up during running, it signals a system malfunction.



Fuel reserve warning light

When this lights up, it signals the presence of about 6.5 litres (1.7 gals) of fuel in the tank.



Coolant maximum temperature warning light

If this lights up, it signals engine overheating; stop the vehicle immediately, allow the engine to cool down completely, and check coolant level and condition of the water pump actioning belt.



Permanent 4WD failure warning light (if provided)

By turning the ignition key to RUN position, this must remain lit for a few seconds; if it lights up during running, it signals a system malfunction.

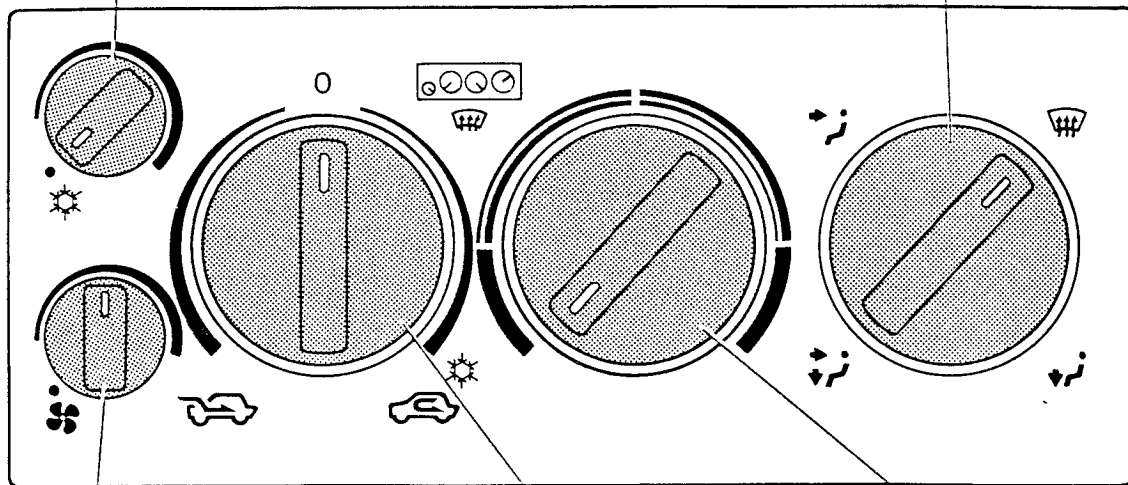
D CLIMATE CONTROLS

Air conditioner control (where fitted)

At position ● the air conditioner is off; turning the knob clockwise starts the air conditioner and adjusts the temperature as required.

Air flow distribution control

Distributes air flow between the various air vents (except those receiving air directly from outside).



PG 0167

Fan control

At position ● the fan is off; to operate it, turn the knob clockwise. The speed increases gradually as the knob is turned: the highest speed is obtained when the knob has been turned fully to the right.

Outside air or recirculation control

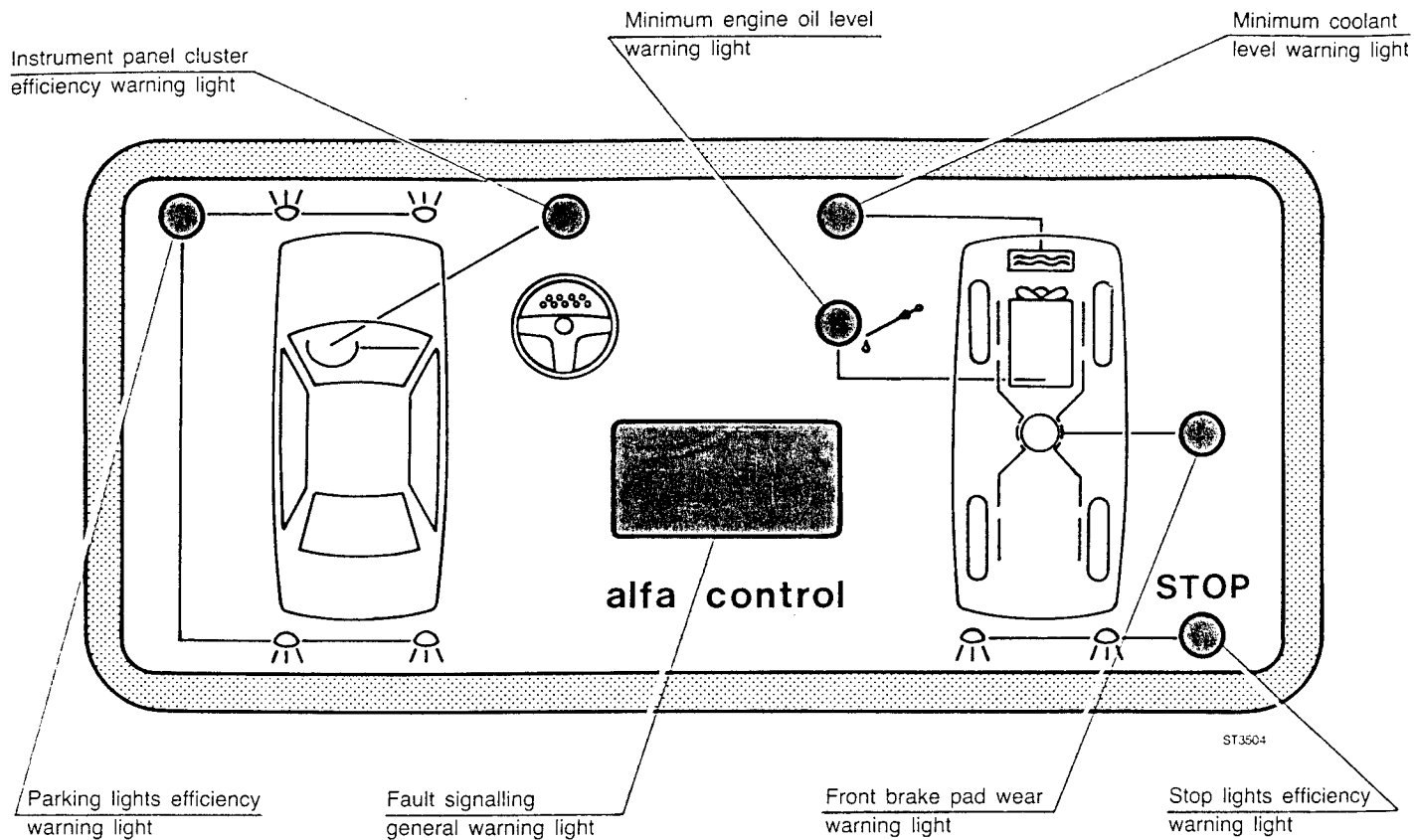
At position 0, the air flow is shut off; turning the knob to the left the amount of outside air admitted to the passenger compartment is adjusted; turning the knob to the right, the amount of recirculating air is adjusted.

Control for adjusting the temperature of the air

Heating is turned off when the knob is turned fully to the left; the temperature is gradually increased turning the knob to the right; maximum heating is obtained when the knob is turned fully to the right.

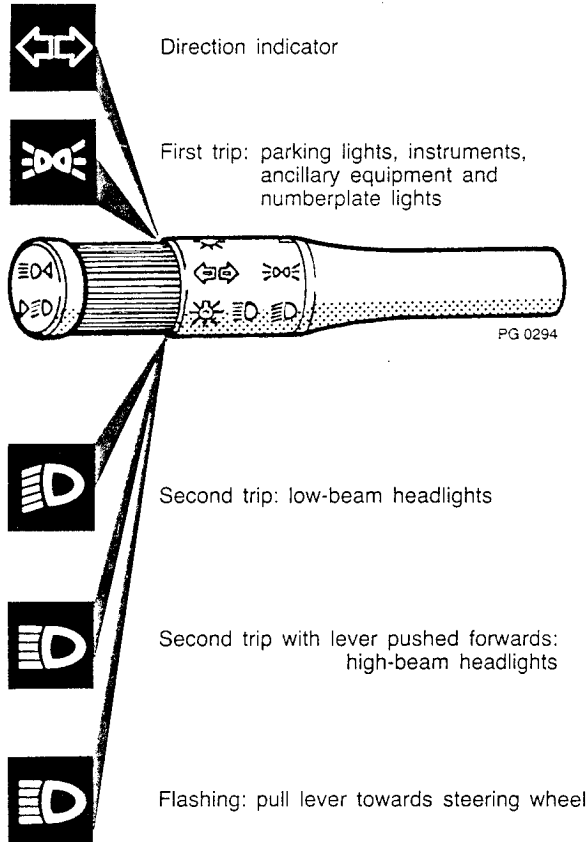


ALFA CONTROL (if provided)





EXTERNAL LIGHTS CONTROL LEVER

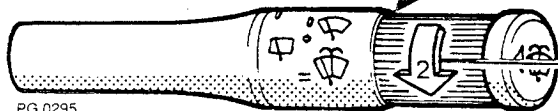




WINDSCREEN AND REAR WINDOW WIPER/WASHER CONTROL LEVER (if provided)

Windscreen washer:
pull lever toward steering wheel

Rear window washer (if provided):
push lever toward dashboard



PG 0295

Windscreen wiper:
First trip = intermittent

Second trip = 1st speed

Third trip = 2nd speed

Rear window wiper (if provided):
turn lever to position 2 and actuate
together with the windscreen wiper



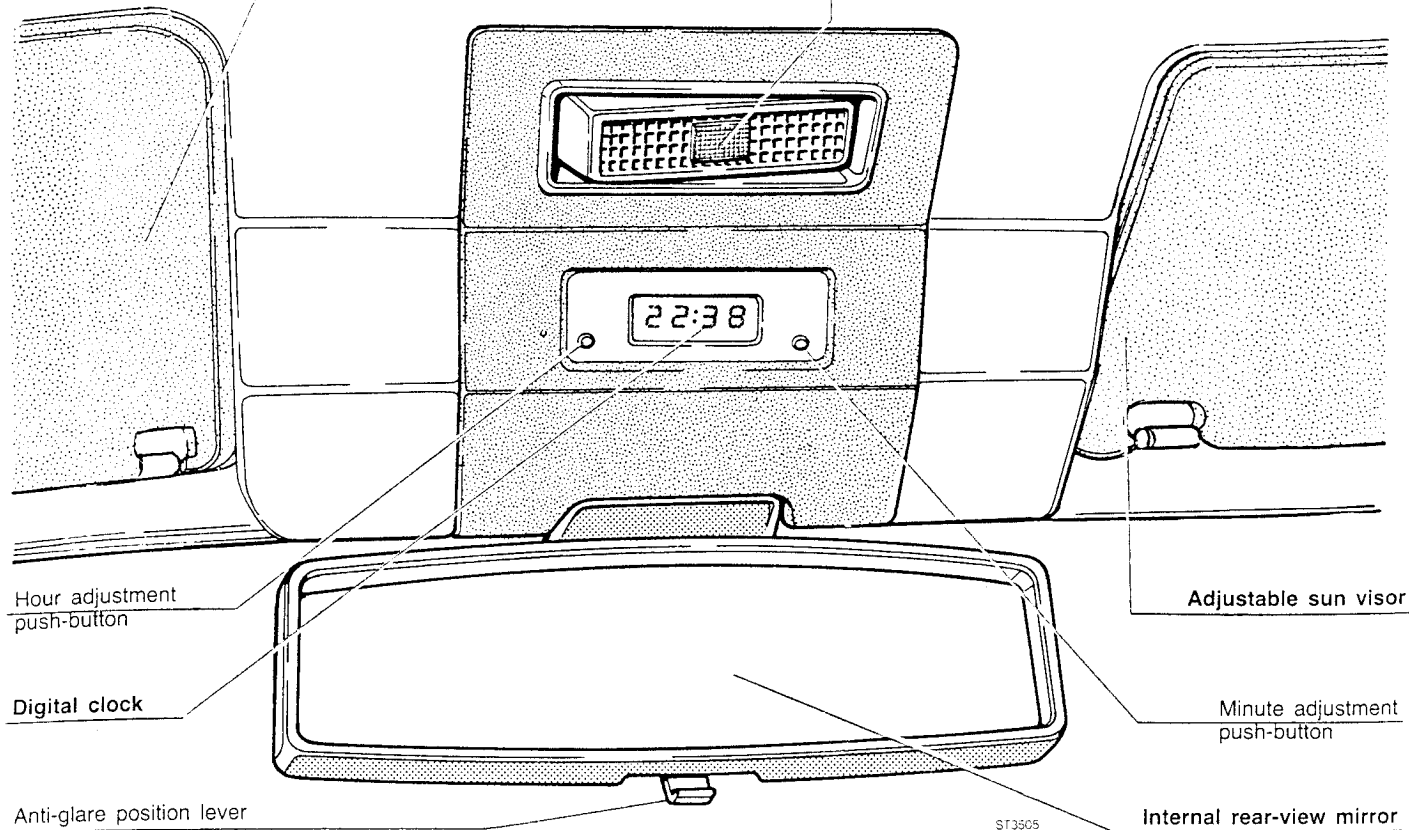
ANCILLARY EQUIPMENT ON ROOF PANEL

Adjustable sun visor

2-position roof light:

Central position - lit with door open

Pressed at its sides - always on or off



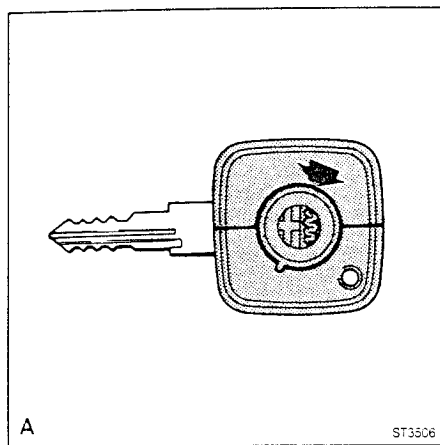
ST3905

Internal rear-view mirror

Vehicle interior

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A KEYS

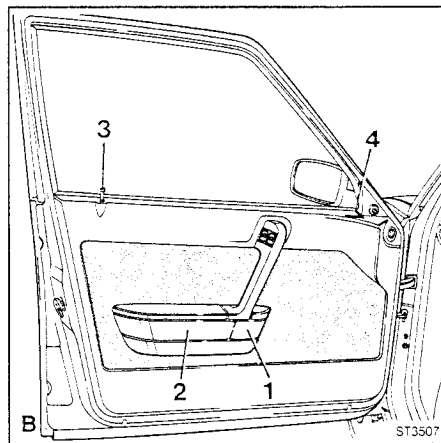


The key is valid for all the locks:

- ignition;
- steering lock;
- doors;
- fuel filter cap.

On some versions the key has a light.
To switch on, press button on key holder.

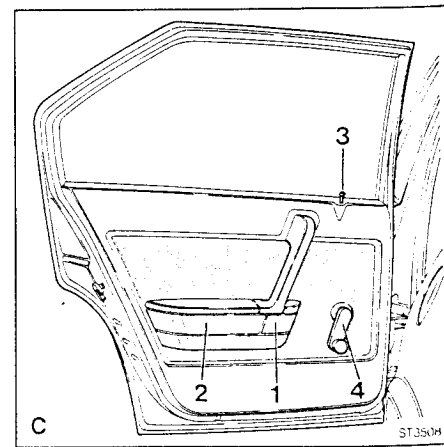
B - C DOORS



The doors are opened and closed from the outside by means of the key.

Front doors

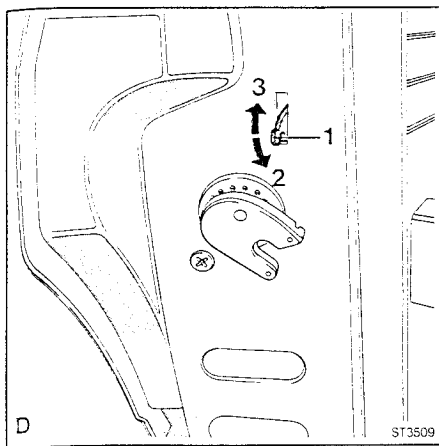
- 1 - Door opening lever (pull to open).
- 2 - Armrest.
- 3 - Inside door locking button.
- 4 - Side window demisting outlets.



Rear doors

- 1 - Door opening lever (with safety lock disengaged, pull to open).
- 2 - Armrest.
- 3 - Inside door locking button.
- 4 - Winder for manual window opening.

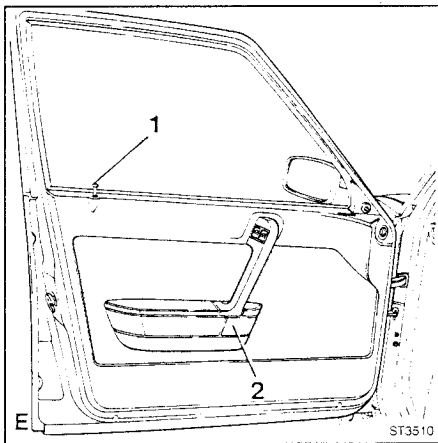
D CHILD-SAFETY (REAR DOORS)



Lever 1 makes it impossible to open the rear doors from the inside, even if they are unlocked:

position 2: unlocked
position 3: locked.

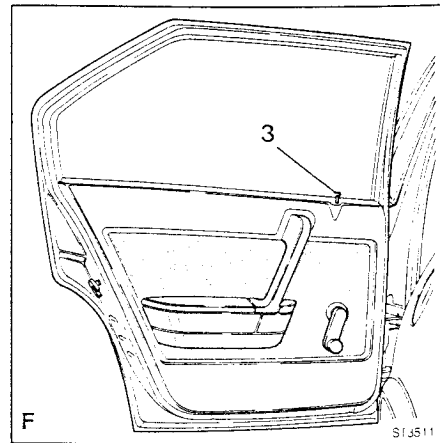
E - F CENTRALISED DOOR-LOCKING



(On request only on some versions)

All 4 doors may be locked or unlocked simultaneously by the door locking system.

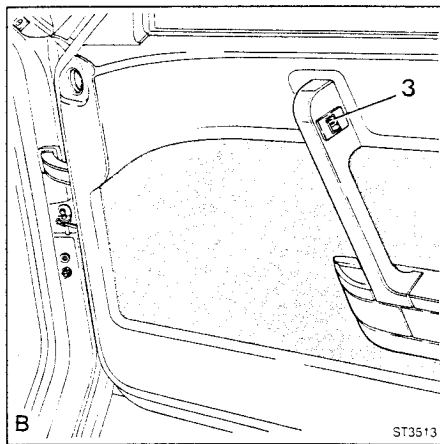
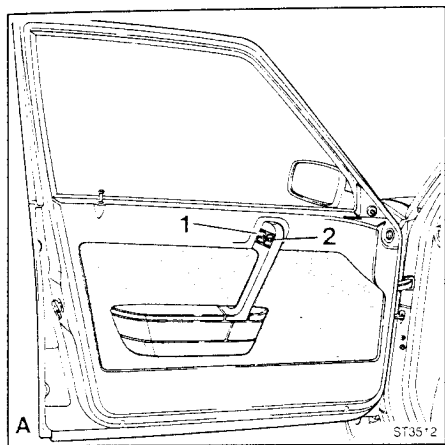
To activate (or de-activate) the safety mechanism of all 4 doors, close (or open) from the outside by turning the lock of one of the front doors, or from the inside by raising or lowering the locking button 1 on one of the front doors.



Notes:

- It is not possible to lower the lock 1 of the front doors when the door is open.
- If lever 2, of the front doors, is pulled, the safety mechanisms of all 4 doors are disengaged.
- If lock 3 of one of the rear doors is raised, only the door involved will be locked or unlocked.
- if one of the rear doors remains open, locking one of the front doors with the key or by pushing lock 1, will activate (or deactivate) the safety mechanisms of all 4 doors, including the open one.

A - B POWER WINDOWS



(Not standard on all models)

To raise or lower power windows, act on switches 1, 2 or 3 mounted onto the front door panels.

Switch 1: front left window

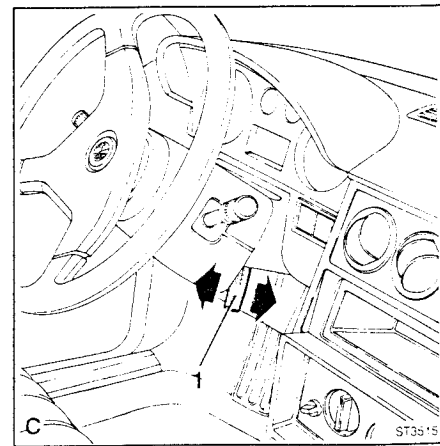
Switch 2 or 3: front right window.

Power window operation is possible only when the engine is running and the electric contact inserted (key in position 2 - see page 34).

Important

- Power windows must be used with care - do not keep pressing the switch when the window is completely open or closed.
- When leaving passengers alone on the vehicle remove the ignition key from the lock to avoid injury to persons (especially children) by accidentally closing the windows.

C STEERING WHEEL ADJUSTMENT



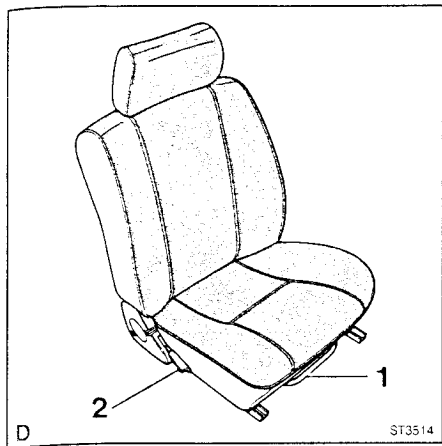
The adjustable steering column can be set in a position to suit your preference.

Position changes can be made as follows:

- Pull the release lever 1 toward steering wheel (the steering column is unlocked).
- Move the steering wheel to the desired position.
- Lock in place the wheel by pushing lever 1 toward the dashboard (the steering column is locked).

Warning: Effectuate adjustment **only** with the vehicle **at rest**.

D - E - F FRONT SEATS

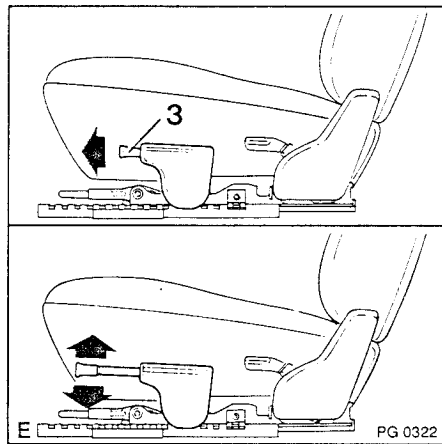


- 1 - Seat longitudinal adjustment.
- 2 - Backrest inclination adjustment.

To consent the seat to move on its runners, pull lever 1 upwards (see figure); by releasing it the seat is blocked into position. Backrest inclination is adjusted by raising lever 2 located at the side of each seat; if the backrest is completely lowered, **accompany it home after having actuated the lever.**

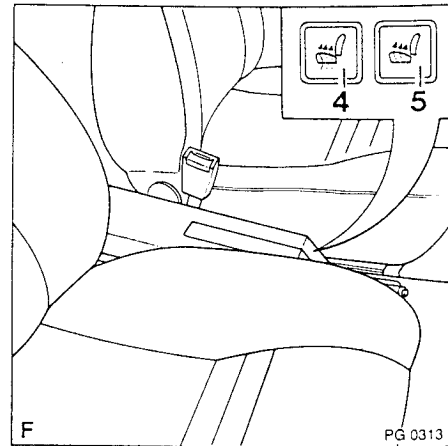
On some versions the front seat are equipped with height adjustable headrests.

Warning: The driver must effectuate seat adjustment **with the car at rest**, always ensuring that the seat is in a blocked position **before** driving.



Driver's seat height adjustment (optional where applicable)

To adjust the height of the seat pull out completely lever 3 and move it up or down until the required height is obtained, then reposition lever.



Heated seats (optional only for some versions)

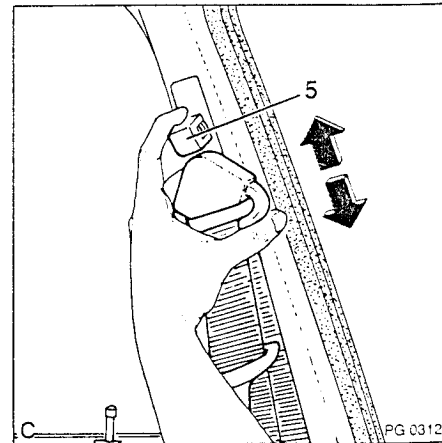
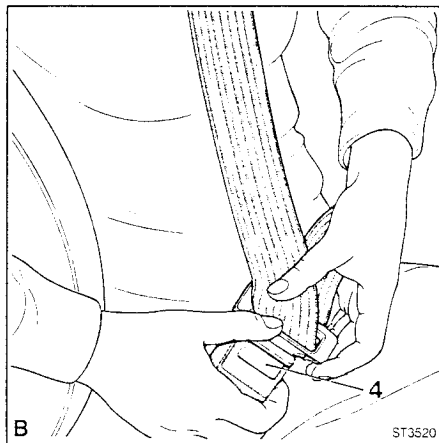
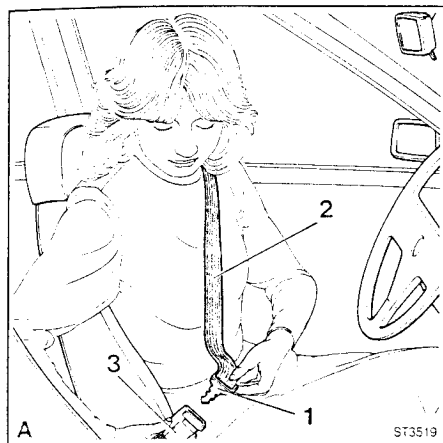
To obtain the front seat heating, push the corresponding switch on the central console.

4 - Right-hand seat heating.

5 - Driver's seat heating.

To throw out the heating, push again the corresponding switch.

A - B - C SEAT BELTS: Front seats



Front seat belts are equipped with automatic rewinding devices.

Grip attachment hook 1 and withdraw belt 2 (sliding the buckle along the same) and insert the hook into block 3 anchored at the central tunnel. Ensure that the hook is completely inserted into the block and that the seat belt is not twisted.

The seat belts normally allow ample freedom of movement; it is however to be noted that eventual harsh movements will cause the safety blocking device to go into action.

To unfasten the belts push button 4 on the central anchor block.

Take care not to let belt twist during rewinding. Slide belt buckle along belt to facilitate full rewinding.

Adjustable upper attachment point

The upper attachment point can be adjusted to suit the height of the passenger.

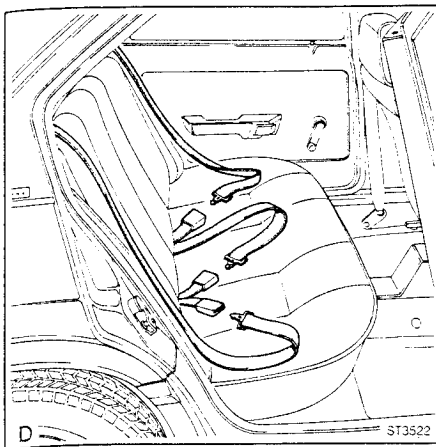
To adjust the upper attachment point, press the unlocking lever (5) and move the assembly up or down to the desired position. Release the lever (5). The lever must stop at one of the preset points.

Check that the assembly is correctly locked into position pushing it up or down.

If not previously locked, the assembly must lock after being moved for a short stretch.

It is dangerous to use the seat belts with the upper attachment point incorrectly locked.

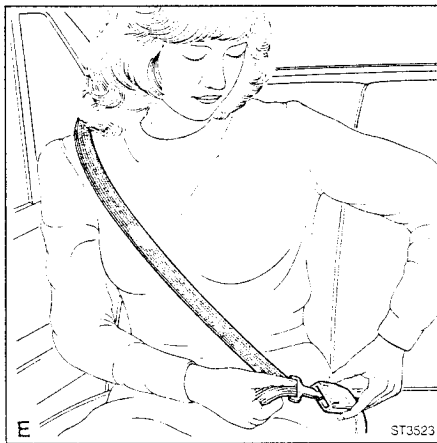
D E SAFETY BELTS: Rear seats



When foreseen by Local Legislations, cars are equipped with rear diagonal lap seat belts for side seats and with lap seat belts for the central seat.

To fasten the side belts, grip the hook and withdraw the belt until it is possible to insert the hook it **completely** into the block.

To fasten the central seat belt, adjust belt length by acting on the appropriate buckle and insert the hook completely into the block.



To unfasten seat belts, press the push-button located on the insertion block.

The side seat belts must be accompanied home during re-winding to prevent twisting.

Important note

Seat belts are designed for use by persons of adult height.

It should also be borne in mind that seat belts should never be worn by a child seated on the knees of a passenger.

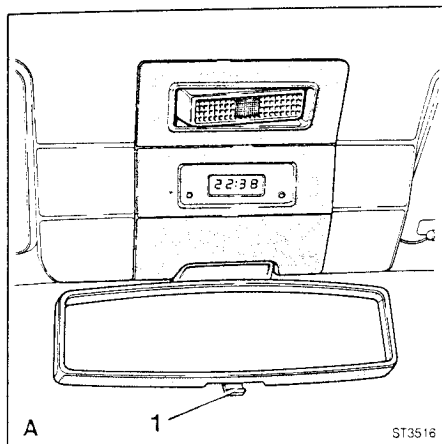
Have the seat belts checked if they show signs of wear or malfunction.

Should the belt webbing need cleaning, use only warm water and mild soap.

Never use chemical detergents or solvents which may adversely affect the belt strength.

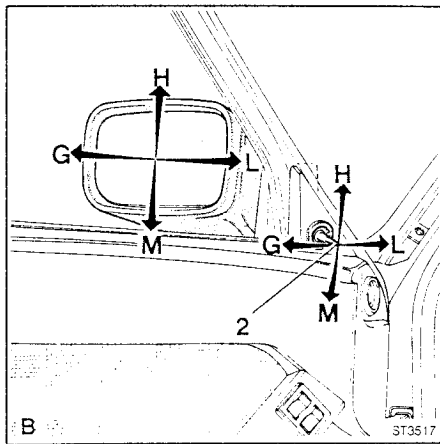
Replace any belt that has been subjected to severe strain in a collision, even if it shows no evidence of damage or defects.

A INTERNAL REARVIEW MIRROR



This has a day/night antidazzle device. To prevent dazzling at night by vehicles behind set the mirror to night using lever 1 at the base of the frame.

B DOORS MIRRORS

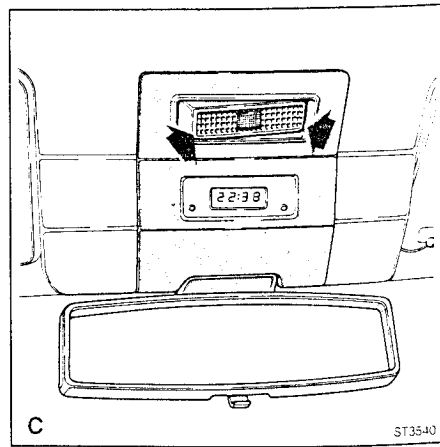


The door mirror can be adjusted directly from the interior by acting on lever 2 (illustrated). The 4 positions of the lever correspond to 4 mirror positions.

Door mirror - passenger side (optional for some versions)

The right door mirror can be adjusted in the 4 positions by acting in the same way as for the left-hand mirror.

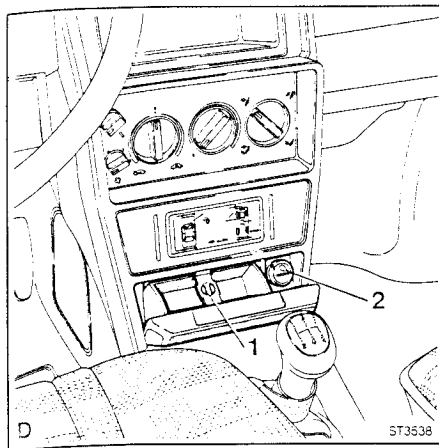
C PASSENGER COMPARTMENT LIGHTS



The passenger compartment lights have three functioning positions; select by pressing transparent cover:

Centre position: on when opening doors
Sides: always off or always on.

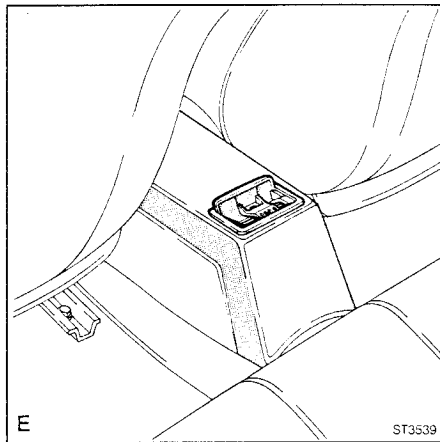
D - E ASHTRAY - CIGAR LIGHTER



To open the front ashtray, pull it out from the upper grip.

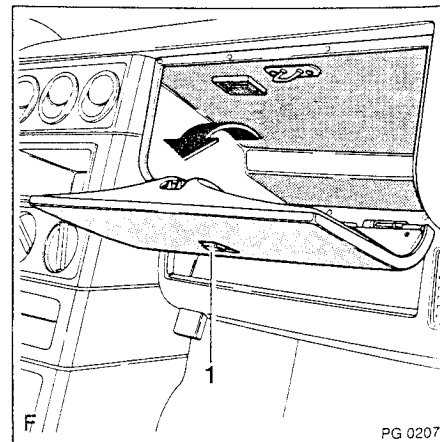
To empty it, press on the retaining tab 1 and withdraw it.

The cigar lighter is placed inside the front ashtray. Press the knob 2 fully in and wait for the partial ejection which indicates that the resistance has reached the required temperature.



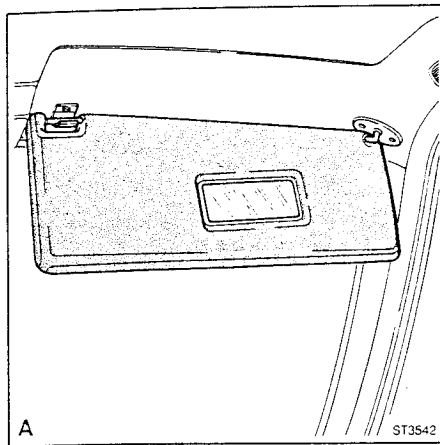
The rear ashtray is located on the console. To extract pull up.

F GLOVE COMPARTMENT



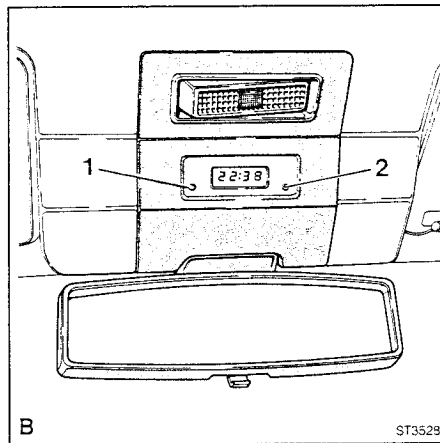
To open hatch of glove compartment pull handle 1 up wards.

A SUN VISORS



The front seats are equipped with padded laterally adjustable sun visors. The driver's visor has a pocket for documents. The passenger's visor is provided with a vanity mirror.

B CLOCK



- 1 - Hours-set button.
- 2 - Minutes-set button.

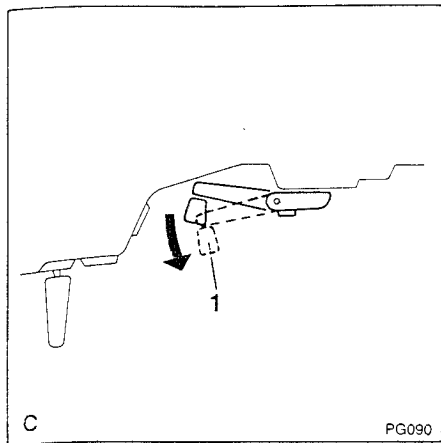
Supplies numerical indication of hours and minutes.

To reset the clock, first depress hours-set button 1 (with the tip of a pen) until the correct reading is obtained; then depress the minutes-set button 2 (digits change at a slower rate) until the minute reading is corrected.

By depressing buttons 1 and 2 simultaneously all four digits are set to zero.

Note: In the event of power interruption (e.g. for battery removal, blown fuse) the clock circuitry stops operating.

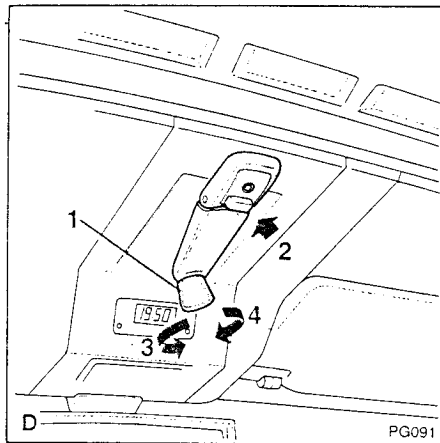
When power is supplied again, the clock needs resetting.



Positioning the control lever

This is done by pulling the control lever 1 downwards. At this point it can be used to position the sunroof.

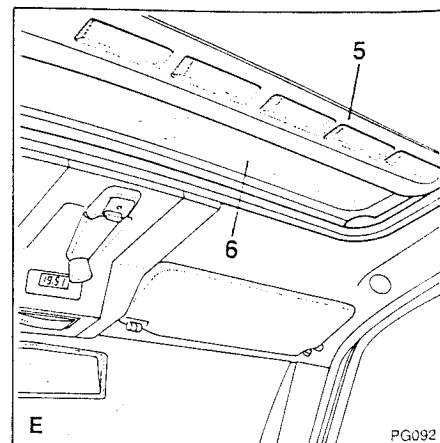
After use, push the control lever back up into its housing.



Opening-closing

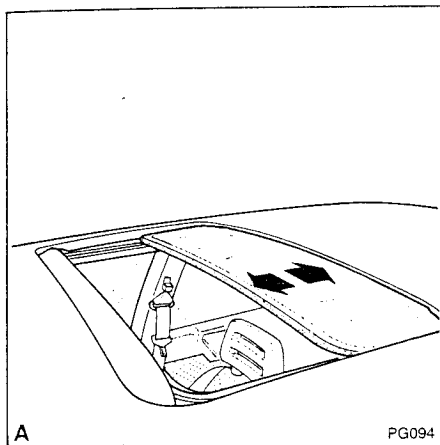
This is done by turning the control lever 1 and pressing button 2 at the same time.

By turning in the direction of 3 or 4, all the possible position indicated on the following page may be obtained.



5 - top (only for 33 vehicles)

6 - sunroof (transparent on the 33 vehicles)

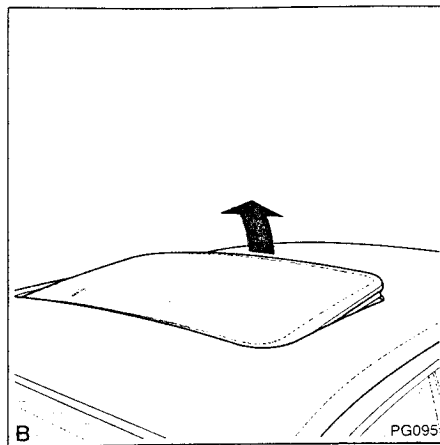


Opening

This is obtained pressing button 2 and turning lever 1 counterclockwise 3; the sunroof and top (where fitted) open simultaneously to the position required.

Turning clockwise 4 (without pressing button 2) the sunroof closes. The top (where fitted) must be closed sliding it by hand.

After use, push the control lever back up into its housing.

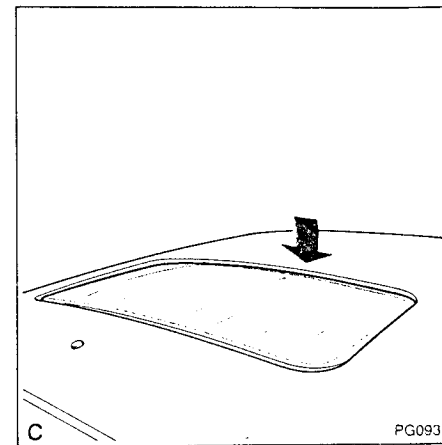


Air circulation

This is obtained by pressing button 2 and turning lever 1 clockwise 4; the rear section of the sunroof rises to the end of its stroke.

Turning the lever counterclockwise 3 (without pressing button 2) the opposite is obtained.

Note: Except for opening, the top (where fitted) should always be moved by hand.



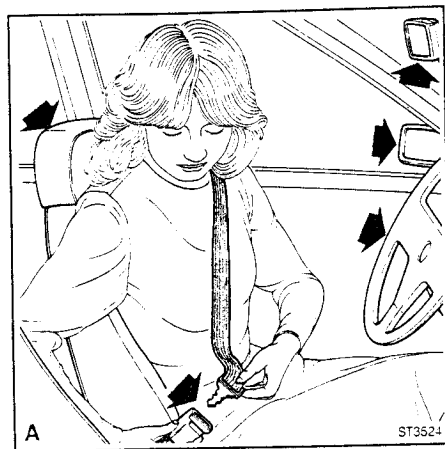
Locking

This is obtained pressing button 2 and turning lever 1 one turn counterclockwise 3; the rear section of the sunroof lowers and the mechanism locks.

Commandes

| | |
|---|----|
| Before starting | 32 |
| Starting the engine | 33 |
| Engine starting block - Engine stop/steering-lock | 34 |
| Alfa Control | 35 |
| External lights | 37 |
| Direction indicators - Windscreen wiper - Rear window wiper - Windscreen/rear window and headlight washers | 38 |
| Road hazard lights - Rear fog light - Fog lights | 39 |
| Heated rear window - Gear lever - Handbrake lever | 40 |
| Four-wheel drive | 41 |
| Permanent four-wheel drive - Headlamp aim adjusting switch | 42 |

A BEFORE STARTING



WARNING!

Beware of the danger of carbon monoxide, a deadly gas contained in the exhaust fumes. Never run the engine in an enclosed space. Carbon monoxide is particularly dangerous as, being colourless, odourless and tasteless, its presence is very difficult to detect.

Before starting adjust the following in order to obtain the most comfortable driving position:

- the seat for reach and the backrest for rake;
- the steering wheel;
- the interior rearview mirror and the wing mirror.

Always fasten the seat belts and make sure the doors are properly shut.

STARTING THE ENGINE

The vehicle's fuel injection system is equipped with devices which, in addition to facilitate starting from cold, permit the engine to reach its operating temperature in a short time.

Starting with a cold engine

To facilitate starting (especially during the winter) depress clutch pedal right down without depressing the accelerator pedal.

During cold starting on the 16 valve versions, first lightly depress the accelerator pedal when the outside temperature is less than -10°C .

Fully depress the clutch pedal.

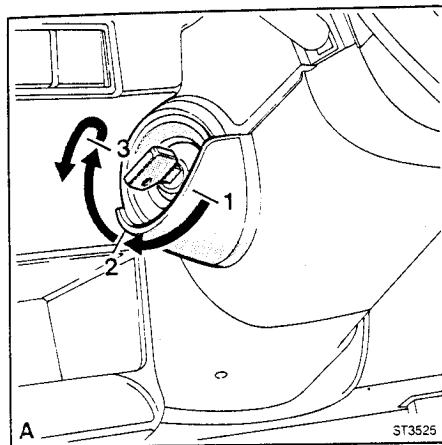
If the engine does not start immediately, wait for a few minutes and try again.

Do not subject the engine to sudden acceleration until it has warmed up to operating temperature.

Starting with a hot engine

Press the clutch pedal right down. If the engine is already hot depress the accelerator pedal slightly only if the engine does not start the first time.

A ENGINE STARTER BLOCK



Position 1: utilities cut out.
Position 2: utilities cut in.
Position 3: starting.

Insert the key in the ignition switch and turn it clockwise to position 3 (starting). While doing it, when the key is at position 2 (ignition on), the warning lights for alternator, engine oil pressure, coolant temperature, fuel reserve and brake fluid level should come on.

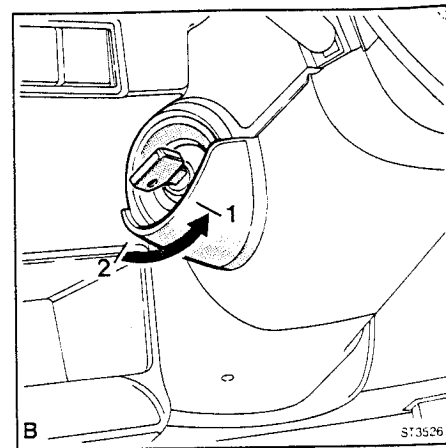
The last three lights stay lit for a pre-set time only, after the engine started, as a check that the relevant indicating devices are operating properly.

As soon as the engine starts, release the key. If the engine fails to start, the key must be returned to position 1 and the operation repeated.

When the engine is running, the alternator warning light and the engine oil pressure warning light should go off.

For models equipped with Alfa Control consult following pages.

B ENGINE STOP/ STEERING-LOCK



Return the key anticlockwise to position 1 (left in).
Note: The key must remain in position 1 (left in) even when the vehicle is being towed (see page 76).

Anti-theft/steering lock

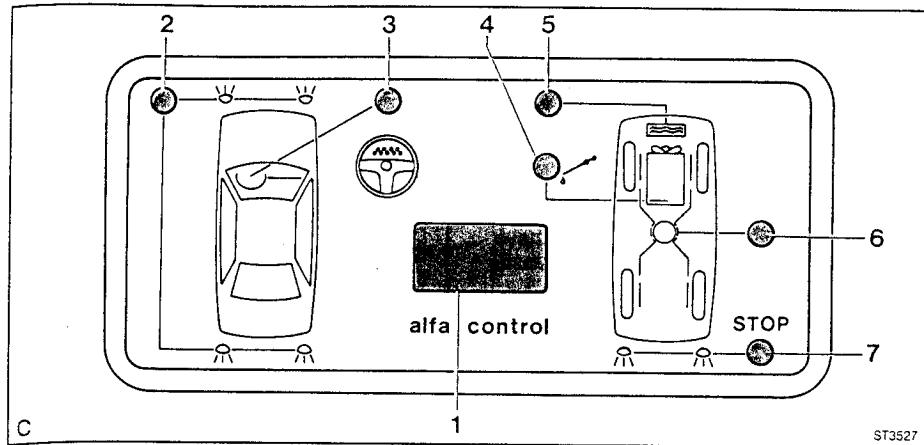
Turn the key anticlockwise back to position 1 (stop). By withdrawing the key the steering is locked; to engage the lock properly slightly rotate the wheel in both directions.

Warning: Do not withdraw the key when the vehicle is running, otherwise any movement of the steering wheel, even the smallest, could cause the steering lock to inadvertently engage.

To release the steering lock, insert the key and turn it clockwise. To ease this operation, slightly rotate the wheel in both directions.

C

ALFA CONTROL (not present on all models)



- 1 - General warning light signalling a fault individuated by the Alfa Control.
- 2 - Side lights efficiency warning light.
- 3 - Instrument panel cluster efficiency warning light.
- 4 - Engine oil level warning light.
- 5 - Coolant fluid warning light.
- 6 - Front brake pad wear warning light.
- 7 - Stop lights efficiency warning light.

The Alfa Control electronic device gives the immediate and centralized control of the most important vehicle and engine parameters, circuits and services.

The check is executed in two phases:

- with the engine at rest and contact inserted;
- with the engine running.

Check with the engine at rest

By turning the key to position 1, the following warning lights light up on the instrument panel:

- generator,
- coolant maximum temperature,
- fuel reserve,
- brake fluid level,
- engine oil minimum pressure.

On the Alfa Control device, general warning light (1) signalling a fault, lights up together with the warning light relative to the eventual parameter or circuit presenting the malfunction.

During this control phase, the wheel anti-lock braking system (ABS) warning light (if provided) lights up but this is independent from the Alfa Control device as it is controlled directly by the ABS control unit.

In order to check side lights (warning light 2) it is necessary to turn the lights on; to check the stop lights and brake pads it is necessary to press the brake pedal.

After this check phase, and with the engine at rest, all the indicators turn off, except for the generator warning light and the engine oil minimum pressure warning light, for the vehicle services inserted and for eventual faulty services.

Check with the engine running

Starting the engine, the device controls not only those parameters previously listed, but also engine oil minimum pressure, generator and coolant maximum temperature.

Any malfunction of one or more of the above mentioned parameters is signalled by the lighting up of the fault signalling general warning light (1) on the Alfa Control, and of the relative warning light on the instrument panel.

If the engine is **immediately** started without effectuating the check phase with the engine at rest and contact inserted, the Alfa Control device follows this procedure:

- lighting up of the warning lights for a few seconds to check correct functioning;
- subsequent turning off if the units under control are functioning correctly;
- lighting up of one or more warning lights in case of malfunctions.

Warning in case of malfunction signalling

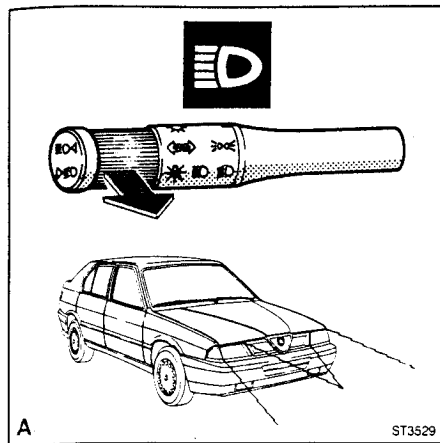
If one of the warning lights 4 - 5 lights up, check the relative level. If the level is correct, the malfunction is to be searched for within the control circuit.

Warning light 6 checks front brake pad wear conditions; two cases may occur:

- the warning light lights up only during brake actioning: the front brake pads have reached their wear limit and must be substituted as soon as possible;
- warning light 6 remains constantly lit: maximum permissible front brake pad wear requiring **immediate replacement** of brake pads.

As the vehicle is only equipped with wear detectors applicable to the front brake pads, when substituting these, the condition of the rear brake pads should also be checked. The rear brake pads however, due to their use on the vehicle will not require immediate substitution though a further check should be made at a later date.

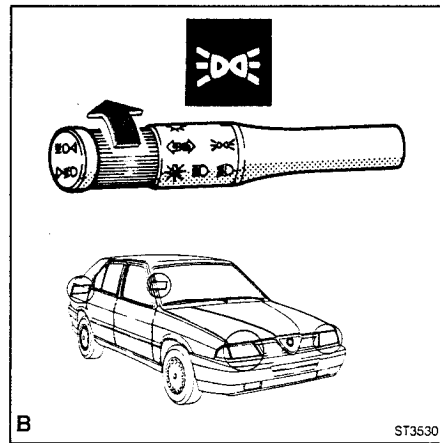
A - B - C EXTERNAL LIGHTS



The external lights are wired independently of the ignition switch.

Flashing

Pull the lever toward the steering wheel (flashing is possible either when headlights are off or parking lights are on).

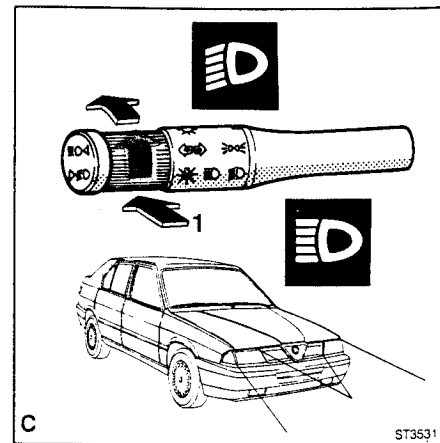


Parking lights and number plate lights

To switch these on turn the lever knob to the first notch. The lamps for illumination of instruments, heater controls, ashtray and lighter will also light.

The relevant warning light (green) on the dashboard will light up.

With the ignition contact deactivated, opening the driver's side door, a buzzer signals when the lights have been accidentally left on.



Low-beam/high-beam headlights

Low-beam headlights are turned on by rotating the lever knob two trips.

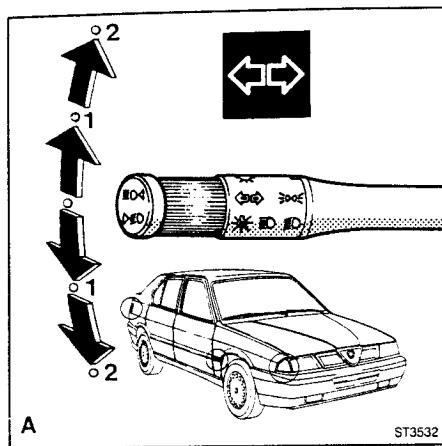
With the low-beam on, the switching on of the high-beam is obtained by pushing the lever in the direction indicated by the arrow 1.

The actuation of the high-beam headlights is signalled by the lighting of the light-blue dashboard warning light.

Switching off of the high-beam headlights is obtained by bringing the lever back to its original position.

The return to lights off position is achieved (with high-beam headlights off) by rotating the lever knob back two trips.

A DIRECTION INDICATORS



Direction indicators are controlled by the external light lever.

Move the lever:

- up, to signal a right turn;
- down, to signal a left turn.

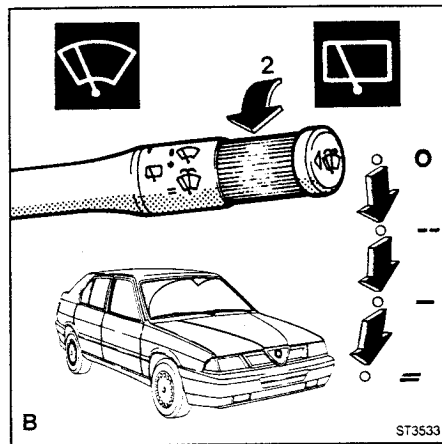
The warning light on the dashboard will flash (on and off).

With the lever in position 1 the direction indicators will remain on as long as the lever is left in "on" position and will stop flashing when it is moved back.

In position 2 the indicators continue flashing even when the lever is released.

It will return to its central position (and the indicators will go off) when the steering wheel is tightened.

B WINDSCREEN WIPER - REAR WINDOW WIPER*



* Not standard on all models

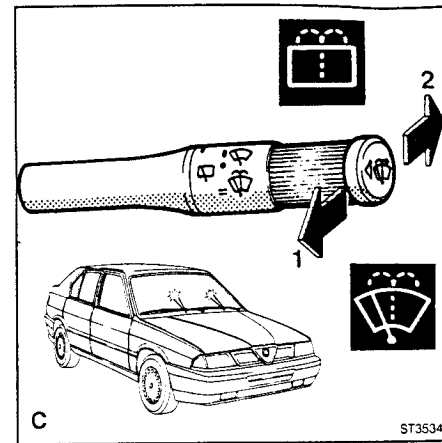
The windscreen wiper is controlled by a lever which has three positions:

- lever lowered to the first notch, intermittent operation. Wipers operate automatically through a single wipe at a preset time interval;
- lever lowered to the second or third notch, wipers operate at normal or high speed (continuous);

By turning the lever to position 2, the rear window wiper (if provided) is actuated as well as the windscreen wiper, then the speed is selected as described above.

The windscreen wiper/rear window wiper function only with the ignition key in RUN position or with the engine running.

C WINDSCREEN/REAR WINDOW* AND HEADLIGHT WASHERS



Windscreen washer - Rear window washer*

* Not standard on all models

By pulling the lever towards the steering wheel (1) the electric windscreen washer pump is activated and the windscreen wiper function is automatically achieved.

Pushing the lever in direction (2), the rear window washer is actuated (if provided).

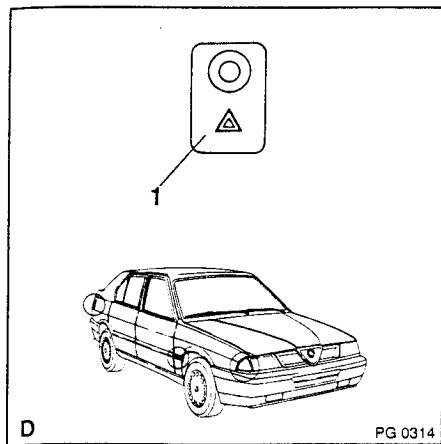
Note: Do not keep the pump working for too long.

Headlight washers

(fitted only in some countries)

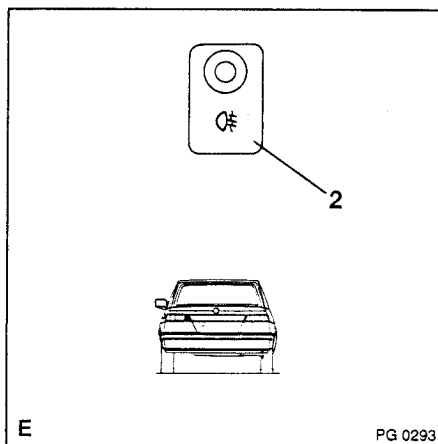
The headlight washers and the screen washer pump are operated simultaneously provided the external lights are lit.

D ROAD HAZARD LIGHTS



The road hazard lights are switched on by pressing switch 1.

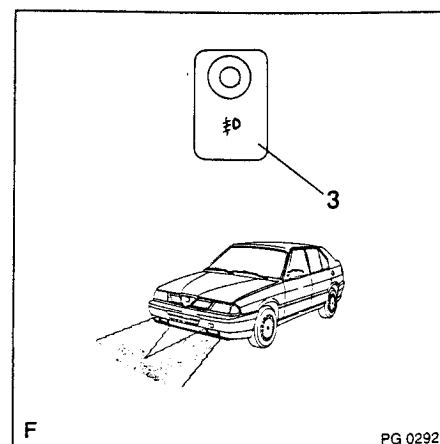
E REAR FOG LIGHT



The rear fog light is actuated by pressing switch 2.

Note: Rear fog light can only be lit when the low-beam headlights are on.
The rear fog light system meet the relevant EEC regulations.

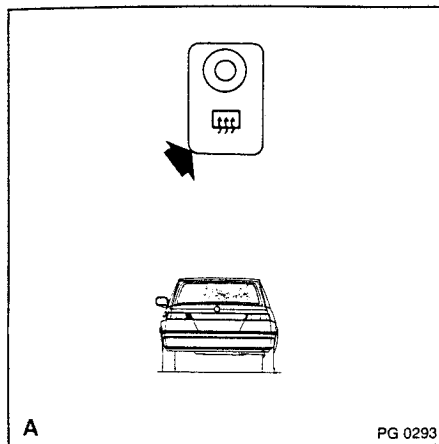
F FOG LIGHTS



The fog lights (not standard) are operated by means of switch 3.

Note: Use the fog lights only as legally permitted.
The fog lights system meet the relevant EEC regulations.

A HEATED REAR WINDOW

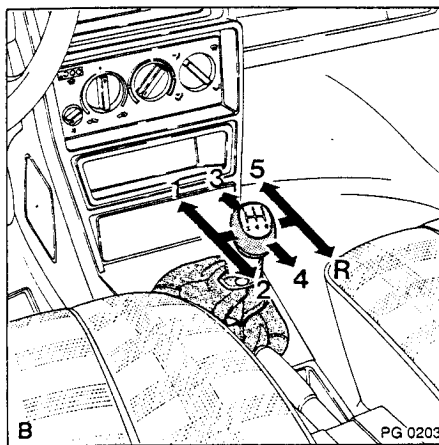


To turn the resistance wires on and demist the rear window press the switch shown in the illustration.

It should be switched off as soon as the window has been demisted.

Note: To avoid discharging the battery never leave the rear window heating on when the engine is off and the ignition on.

B GEAR LEVER

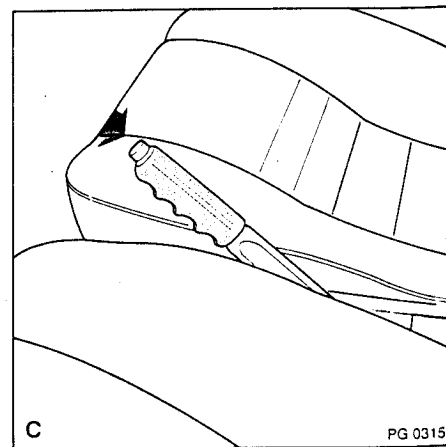


The gear changing diagram is as shown on the top of the lever knob.

When changing gear, take care to depress the clutch pedal fully.

The reverse gear (R on lever knob) should be engaged only when the car is standing still. Changing into reverse will automatically switch on the reversing lights (key in position 2 - see page 34).

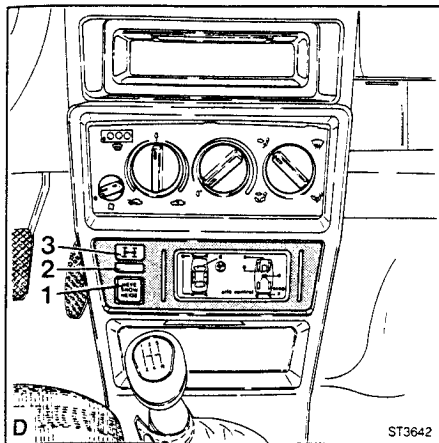
C HANDBRAKE LEVER



To set the handbrake to the "at rest" position, raise the lever until it locks.

To release the lever, raise it a little and press the button on the grip in order to release the detent. Lower the lever with the button pressed.

It is advisable to keep the button pressed for "emergency" operation.

D**FOUR-WHEEL DRIVE (if provided excluding the permanent four-wheel drive version)**

- 1 - Push-button to engage 4WD
- 2 - Self-diagnosis system warning light
- 3 - 4-wheel drive engagement warning light.

The system is composed of a rear differential coupled to the engine unit by a propeller shaft fitted with an electromagnetic coupling; this mechanical device is controlled by an electronic control unit.

Engagement of 4WD is possible **at any vehicle speed** and is actuated by a push-button (1).

Avoid manoeuvring on high-adhesion road surfaces with the wheels steered to locks and the **4WD engaged**. Under this condition, even though the reliability and strain resisting

capabilities of the car's mechanical components are not impaired, the vehicle will result in a braking action.

The device is provided with a self-diagnosis system and a special warning light (2) on the dashboard, signalling any possible faulty condition of the control unit, the electromagnetic coupling and the sensors.

In such a case, 4WD is automatically disengaged thus preserving safety and reliability levels.

4WD engagement is signalled by warning light (3).

Note

Thanks to a series of sensors, the system optimizes functionality and reliability in any condition:

- inhibiting engagement in case of speed difference between front and rear wheels;
- disengaging 4WD in case of sharp braking and automatically engaging it when the brake pedal is released.

The system is also fitted with a mesh-control safety device, the operation of which is based on the detection, performed by a coil installed near the coupling, of electromagnetic noises due to mesh failure.

Said safety device operates upon engagement driven either by the push-button switch or by brake pedal release (after intervention of brake safety device).

How to choose which drive to utilize

Front-wheel drive only: this is most suitable on normal, dry roads, as it allows maximum savings in fuel consumption, a more comfortable drive and lower wear of mechanical parts.

4WD: this must be utilized in all those circumstances when the road presents low adhesion values, i.e. disconnected, wet, snowy or muddy roads and on sandy or muddy routes.

In general: it is recommended to utilize frontwheel drive whenever road or atmospheric conditions do not expressly required the use of 4WD.

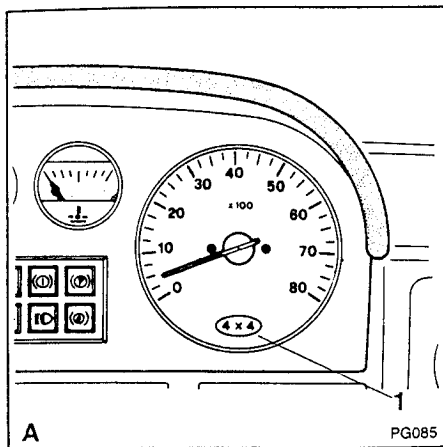
Warning

Avoid utilizing the vehicle in a manner different to that for which it was designed: it is therefore recommended not to use it as an "all terrain" vehicle.

Furthermore follow the precautions listed hereunder:

- utilize tyres of the same type and dimensions on all four wheels and ensure that inflation pressures are always those prescribed;
- always check brake efficiency after having crossed muddy, sandy or wet terrains;
- when the fitting of snow-chains is required, remember that these must be mounted on to the front wheels without engaging 4WD.

A PERMANENT 4WD (if provided)



1 - Permanent 4WD failure warning light.

The system comprises an electromagnetic coupling controlled by an electronic control unit for engaging the drive.

The system has a self-diagnosis unit and a special warning light (1) to alert the driver in the event of any system failures.

Drive transmission also takes place through a viscous joint in an intermediate position from the propeller shaft.

Warning: The electromagnetic coupling is engaged by turning the ignition key to position 2 (key-controlled services ON).

If the vehicle is to be towed, turn the ignition key to position 1 (key-controlled services OFF) **without removing the key** so as to disengage the electromagnetic coupling.

Warning

Avoid utilizing the vehicle in a manner different to that for which it was designed: it is therefore recommended not to use it as an "all terrain" vehicle.

Furthermore follow the precautions listed hereunder:

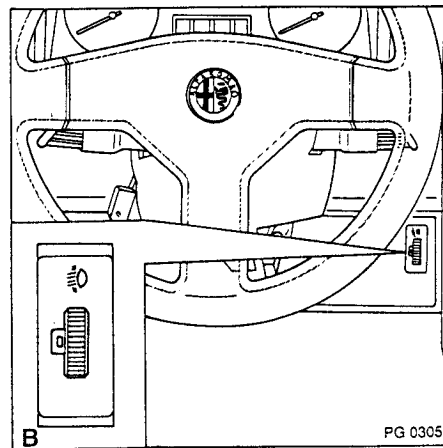
- utilize tyres of the same type and dimensions on all four wheels and ensure that inflation pressures are always those prescribed;
- always check brake efficiency after having crossed muddy, sandy or wet terrains;
- when the fitting of snow-chains is required, remember that these must be mounted onto the front wheels;
- **never tow the vehicle by raising the rear wheels only (front wheels in contact with the ground) to avoid serious damage to the mechanics.**

In the case of absolute necessity only, tow the vehicle in this way only after insertion of a rotating platform under the front wheels and with the ignition key in position 1 (key controlled services OFF and electromagnetic coupling disengaged);

- **dynamic balancing, with wheels installed on the vehicle, must be carried out with the ignition key in position 1 (ignition controlled functions cut out) in order to disconnect the electromagnetic coupling;**
- **before carrying out power or brake testing with a roller test bench, remove the fuse protecting the electromagnetic coupling in order to disconnect it.**

These operations should be carried out by an Authorized Alfa Romeo Service Station.

B HEADLAMP AIM ADJUSTING SWITCH



Optional only in some countries

When the car is loaded (and its trim altered) the headlamps must be restored to their original aim.

Position 0: 1 person or 2 people on front seats, fuel tank full, on-board outfit;

Position 1: 5 people, fuel tank full, on-board outfit;

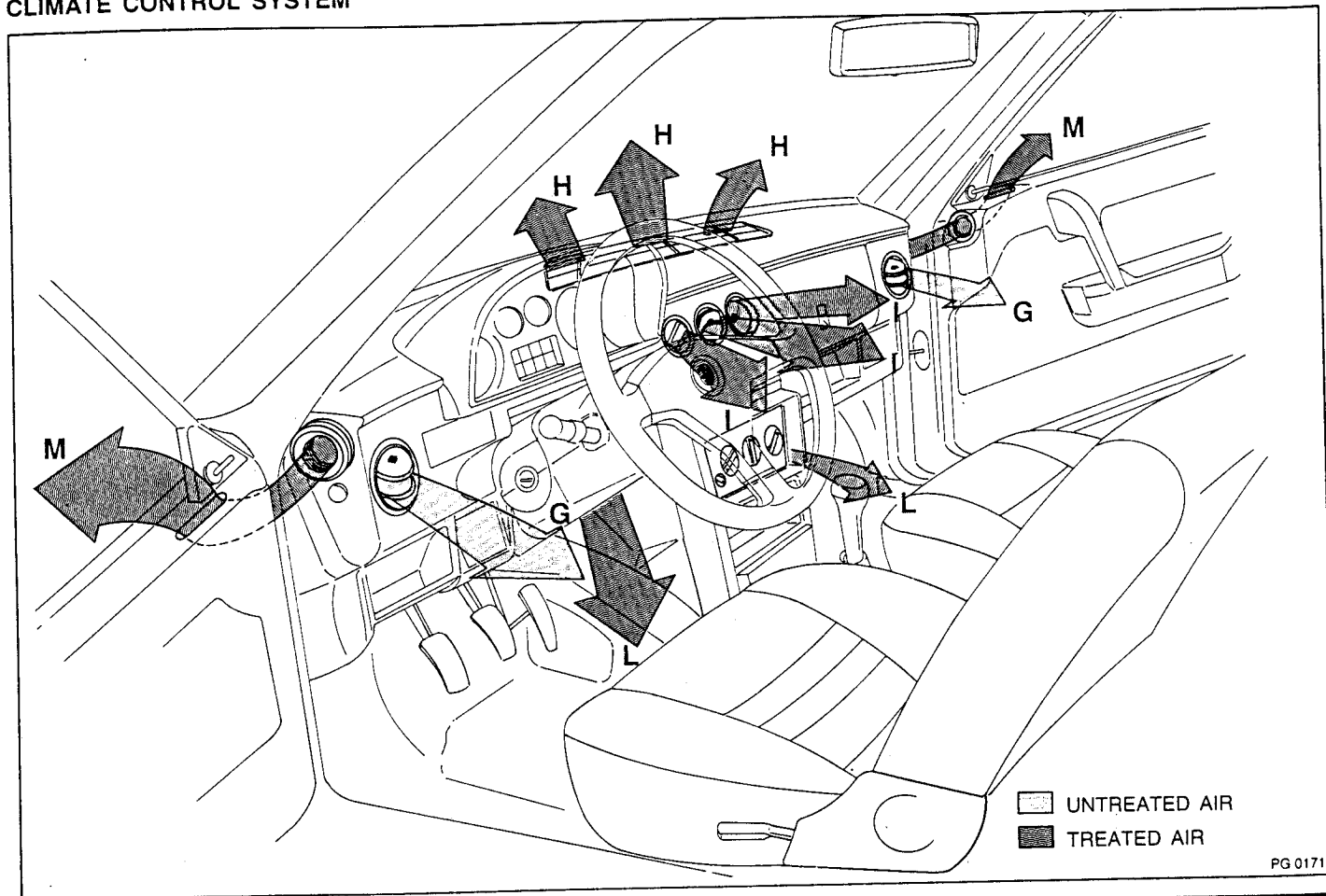
Position 2: 5 people with luggage compartment full (approx. 50 kg), fuel tank full, on-board outfit;

Position 3: 1 person (the driver) with 300 kg all located in the luggage compartment, fuel tank full, on-board outfit.

Climatisation

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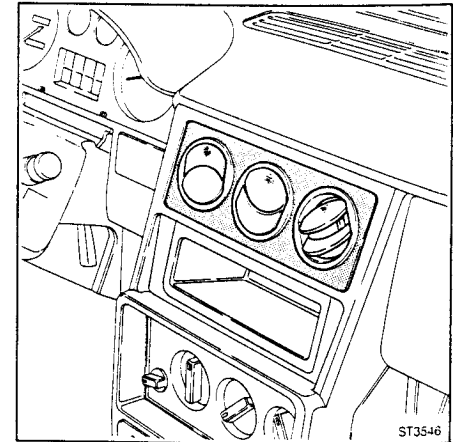
CLIMATE CONTROL SYSTEM



ADJUSTABLE VENTS

Instructions for use are to be found under the following paragraphs:

- A** CONTROLS
- B** VENTILATION/HEATING
- C** FAST DEFROSTING



The air entering the vehicle through vents G comes directly from outside, without passing through the vehicle air heating system and therefore without temperature variation.

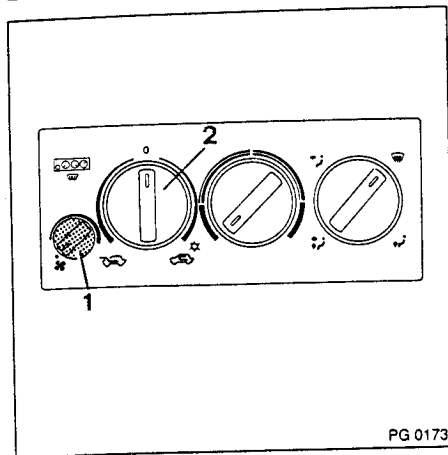
The air entering through vents H, I, M and from lower outlet L passes through the vehicle air heating system and is conditioned (depending on the control setting) to make it suitable for normal ventilation, heating or defrosting.

Move the vents to director shut off the air flow as required.

Pressing the fins on the outlets changes the opening angle and turning the ring directs the flow of air.

A CONTROLS

Electric fan

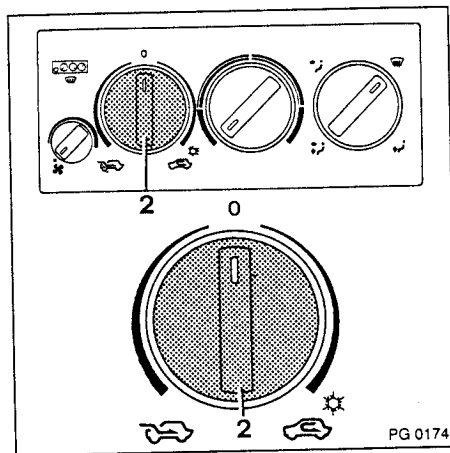


Knob 1 controls the operation of the fan, which adjusts forced air circulation within the car. When the knob is completely rotated to the left, the fan is off.

By rotating the control to the right, the electric fan is turned on and its speed increases progressively with the rotation of the knob; maximum fan speed is obtained when the knob has been completely rotated to the right.

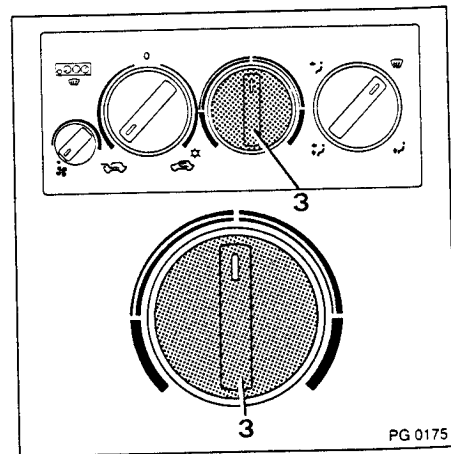
Note: Knob 2 must never be at 0 with the electric fan on.

Ventilation and air recirculation



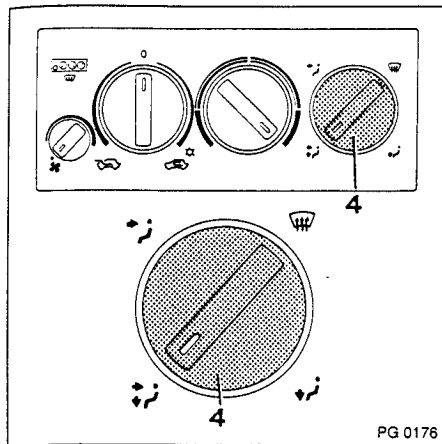
Knob 2 adjusts the amount of outside air admitted into the car and the flow of recirculating air.

Air temperature adjustment

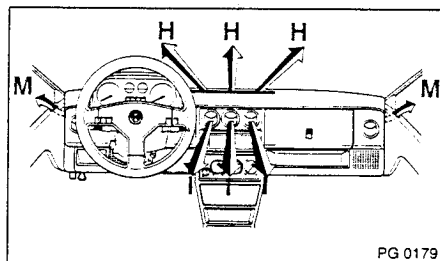


Knob 3 controls air temperature adjustment.

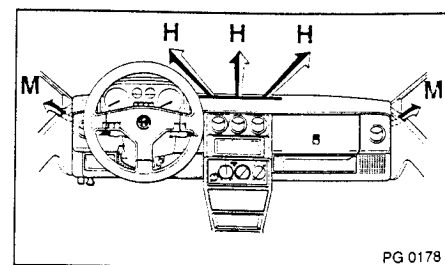
Air flow distribution



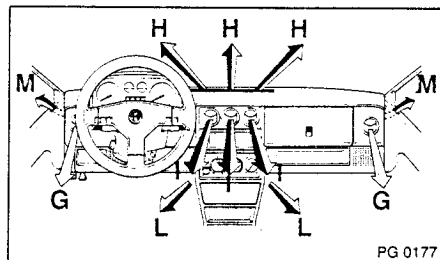
Knob 4 divides the air flow among the various vents as described hereunder. The air entering the vehicle from vents G is taken directly from outside without passing through the vehicle's climatisation system, therefore the quantity of air blown in depends only on the vehicle's speed.



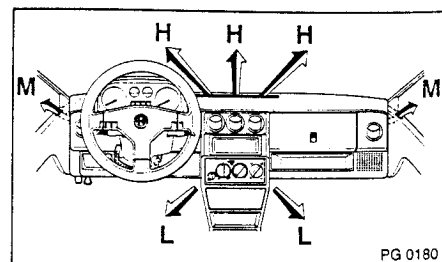
With the control in this position, the air is directed to vents I, H and M (for side windows).



With the control in this position, the entire air flow is directed to vents H and M (for side windows).



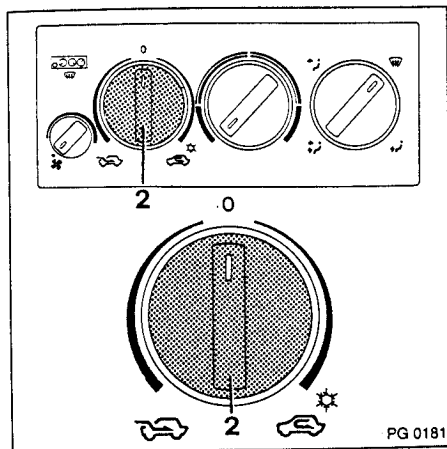
Placing control 4 in this position, the air is directed to vents I, L, H and M (for side windows).



Setting the control in this position, the air flow is directed to vents H, L and M. If knob 4 is in a position between two symbols, the air flow will be distributed at a medium rate.

B VENTILATION/HEATING

Ventilation and air recirculation



Knob 2 operates as follows:

- admitting outside air (turned counterclockwise);
- shutting the air flow off (position 0)

Important: In this condition, the fan must be off.

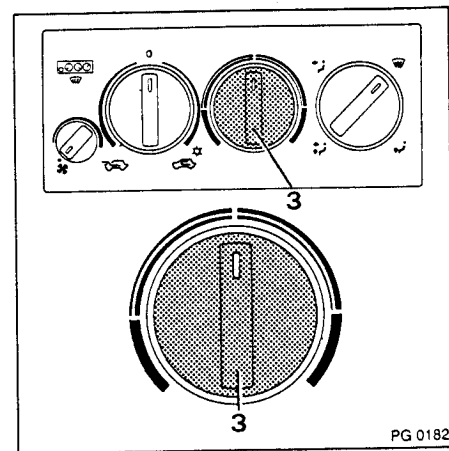
- passenger compartment air recirculation (fully to the right).

In these conditions, the system withdraws the air to be treated directly from the passenger compartment and the fan operates at 1st speed.

Use the fan control knob to increase the amount of air.

After having positioned the knob in relation to the air quantity required, adjust the various vents to direct or control the air flow according to requirements.

Air temperature adjustment



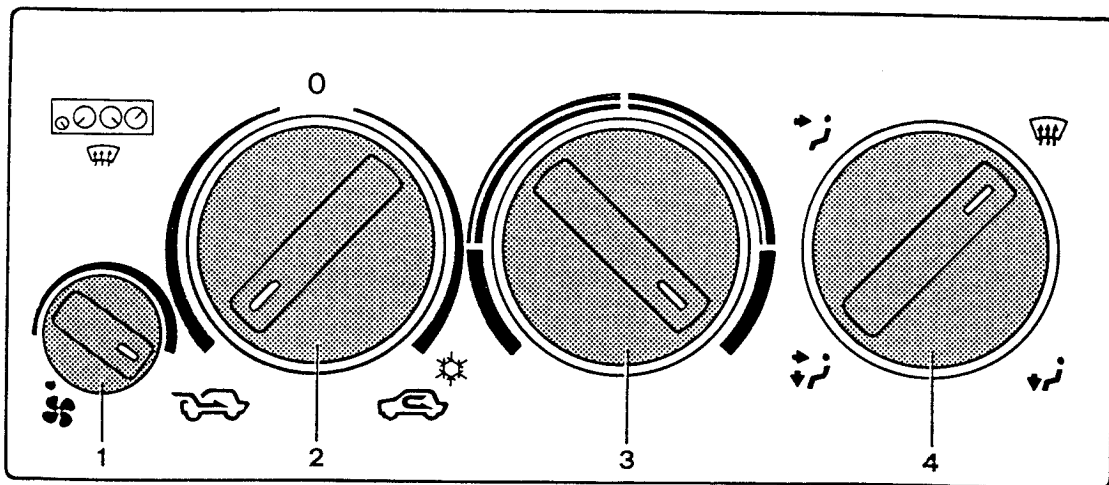
Knob 3 adjusts the temperature of air entering the passenger compartment.

By rotating the control completely to the left, heating is excluded; by rotating it to the right, a gradual increase of air temperature is obtained.

Maximum heating is obtained by rotating the knob completely to the right.

To heat the passenger compartment act on knob 3 to adjust the temperature and on knob 2 to adjust the quantity of external or recycled air.

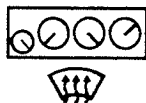
C FAST DEFROSTING



PG 0183

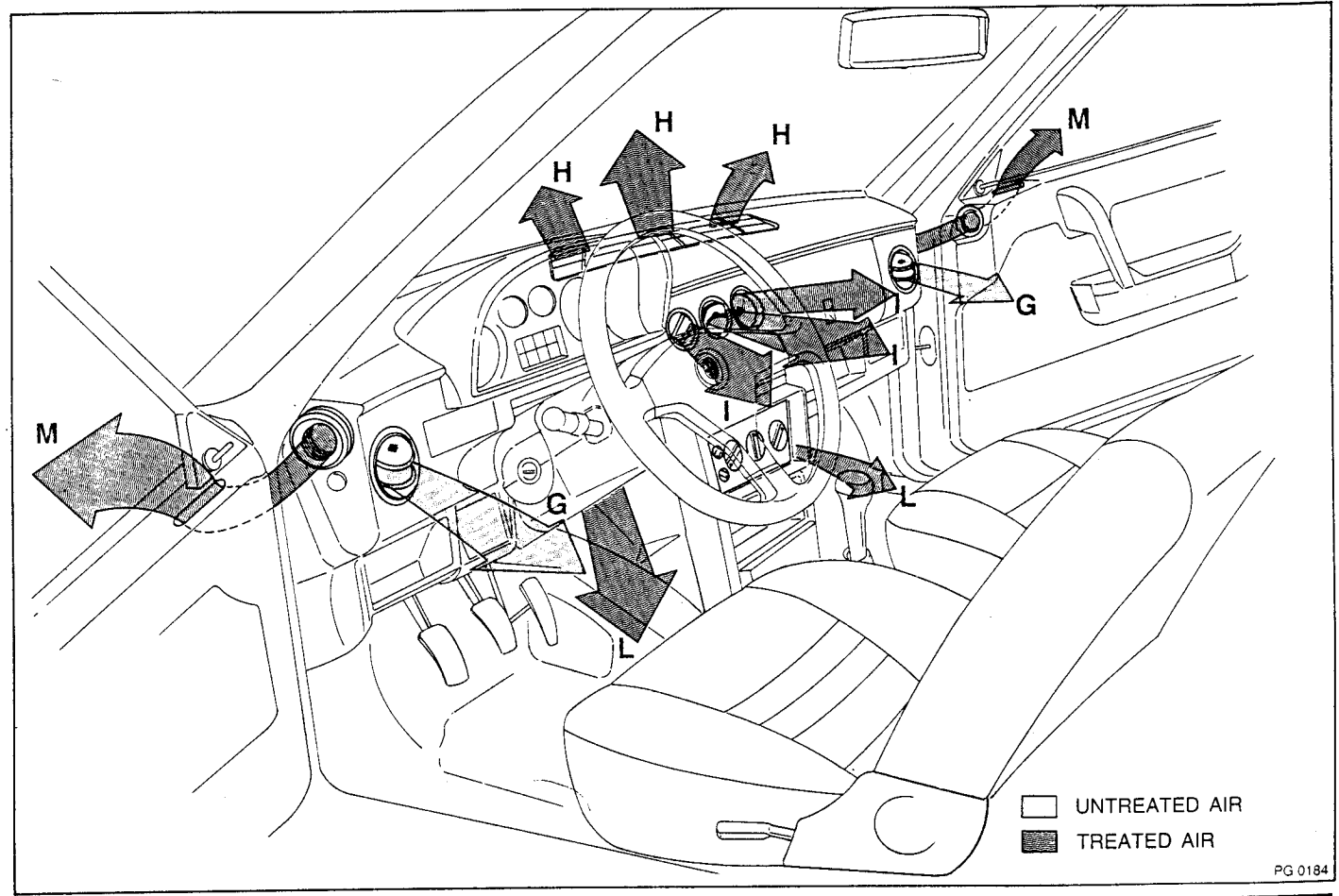
To obtain the fast defrosting of the windscreen and side windows, position the controls as illustrated on the climatisation template:

- fan control 1 on maximum speed;
- ventilation control 2 rotated completely to the left;
- heating control 3 rotated completely to the right (maximum heating);
- knob 4 for air flow distribution in position:



Important: To obtain an efficient defrosting action, with very low external temperatures it is best to start the engine and wait for a few minutes until the required temperature is reached. In the case of demisting, it is sufficient to allow the entry of cold external air.

CLIMATE CONTROL WITH AIR CONDITIONING SYSTEM



ADJUSTABLE VENTS

Introduction

The climatization system with air conditioner ensures that optimal conditions in the passenger compartment in relation to the outside weather are achieved through the combined use of the controls described.

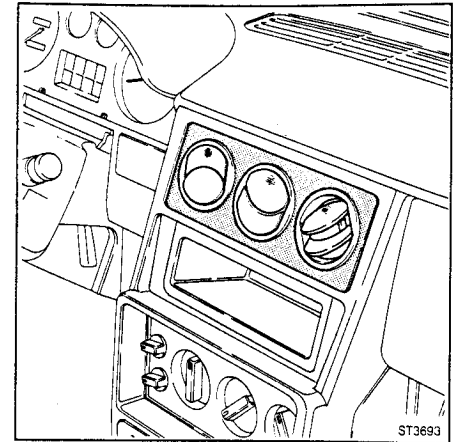
- A CONTROLS**
- B CONDITIONING**
- C VENTILATION/HEATING**
- D DEMISTING WITH AIR CONDITIONER**
- E FAST DEFROSTING WITH CONDITIONER OFF**
- F MAINTENANCE**

The air entering the vehicle through vents G comes directly from outside, without passing through the vehicle air-conditioning system and therefore without varying its temperature, entry speed or humidity.

When the conditioner is turned on, vents G should be closed to improve its efficiency.

Air entering through vents H, I, M and from lower vent L, passes first through the vehicle conditioning and heating system which modifies its temperature and humidity, thus permitting heating, defrosting, dehumidification, cooling or simple ventilation, in relation to the control positions.

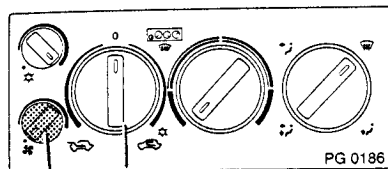
Move the vents to direct or shut off the air flow as required.



Pressing the fins of the vents changes their opening angle, whereas turning the knob directs the air flow.

A CONTROLS

Electric fan

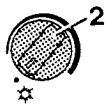
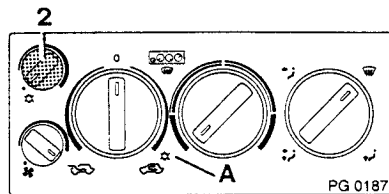


Knob 1 controls the operation of the fan, which adjusts forced air circulation within the car.

When the knob is completely rotated to the left, the fan is off. By rotating the control to the right, the electric fan is turned on and its speed increases progressively with the rotation of the knob; maximum fan speed is obtained when the knob has been completely rotated to the right.

Note - The electric fan can only operate when knob 3 is rotated completely to the left (external air) or to the right (air recirculation).

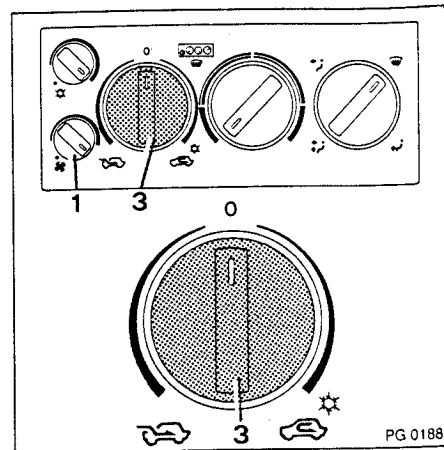
Air conditioner



Knob 2 adjusts the temperature of the conditioned air (at ● the conditioner is off).

Operation of the air conditioner is indicated by illumination of warning light A. The air conditioner can only function when the fan is activated.

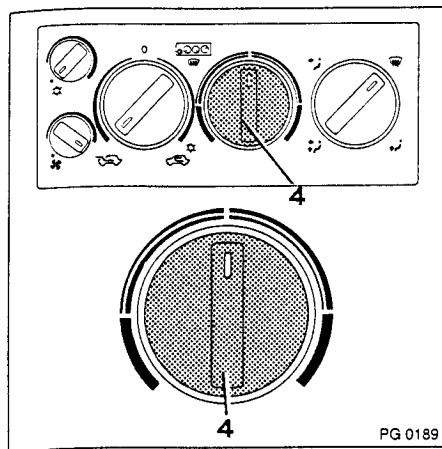
Outside air or recirculation adjustment



Knob 3 allows only outside air to be admitted when it is turned fully to the left; when it is turned fully to the right, air recirculation is selected and the fan is turned on at low speed.

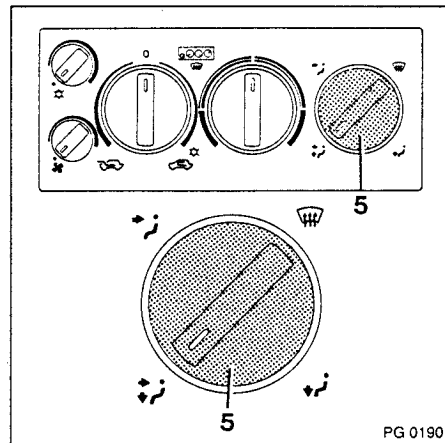
Positioning the knob in position 0 excludes air recirculation and as a result also the fan.

Air temperature adjustment

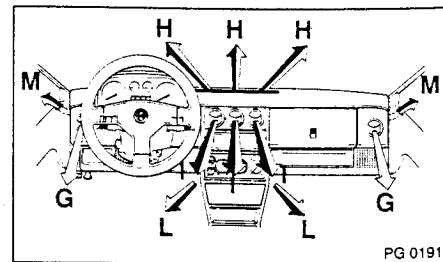


Knob 4 controls heated air temperature adjustment (when the conditioner is turned on the knob must be completely rotated to the left, except when demisting with the air-conditioner).

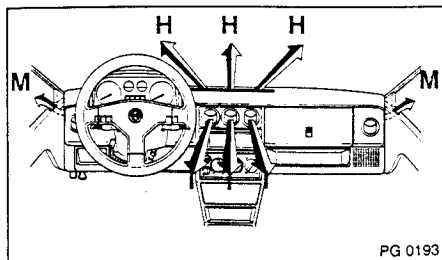
Air flow distribution



Knob 5 divides the air flow amongst the various vents as described hereunder.
Air entering the vehicle from vents G comes directly from outside without passing through the vehicle's climatisation system, therefore the quantity of air entering depends only upon car speed.

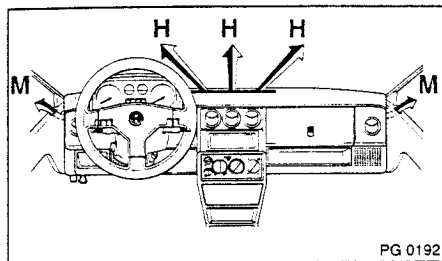


Placing knob 5 in this position, air is directed to vents I, L, H and M (for side windows).

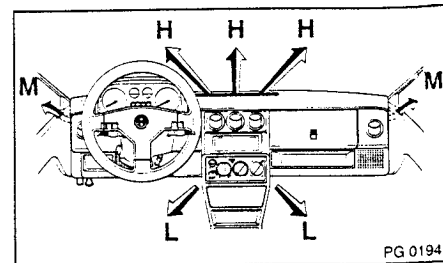


➤ With the control in this position, air is directed to vents I, H and M (for side windows).

Use the vents to direct and control the flow as needed.



☰ With the control in this position, the entire air flow is directed to vents H and M (for side windows).

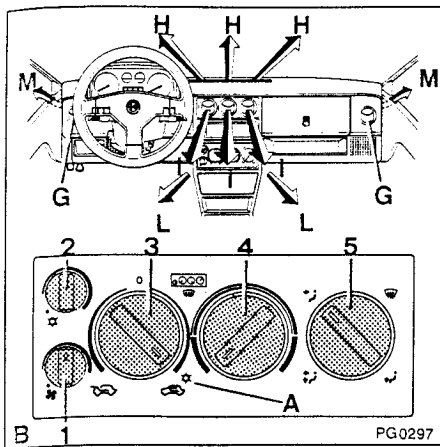


➤ Placing this control in the position indicated, the air flow is directed to vents, H, L and M.

If knob 5 is in a position between two symbols, the air flow will be distributed at a medium rate.


B

CONDITIONING




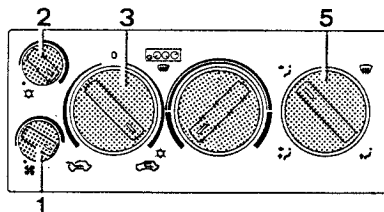
To operate the air-conditioning proceed as follows:

- start the engine;
- close all the windows, the sunroof and the vents G for dynamic ventilation;
- turn knob 3 as far as possible to the right (air recirculation) or as far as possible to the left (external air); Knob 3 **must not** be in position 0;
- check that knob 4 is turned as far as possible to the left (at the end of the blue area).


 2 Start the air-conditioner by turning knob 2 clockwise and regulate it to vary the temperature; the operation of the air-conditioning is indicated by illumination of warning lamp A.

Note: When the air conditioner is on, the electric fan will automatically cut in at the lowest speed.

 1 To increase the quantity of air rotate the electric fan knob 1 clockwise.



For maximum efficiency of the system the following positions are advised: Knob 5 to front air flow (fully open the vent 1) and knobs 1, 2 and 3 fully to the right.

 2 To exclude the air-conditioning, rotate knob 2 anticlockwise to position ●.

Note: The air-conditioning is also excluded by positioning knob 3 to 0.

Note:

The air-conditioner must be activated only when knob 3 is turned fully to the left (external air) or to the right (air recirculation).

Warnings and advice

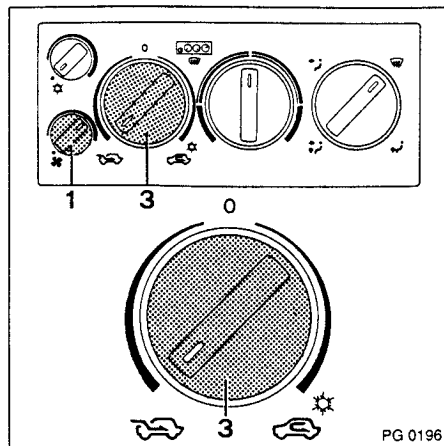
The air-conditioner will only work if the engine is running.

During travel the external environmental conditions and the speed of the vehicle may vary: as a result controls 1 and 2 should be used to regulate the interior temperature.

Avoid keeping control 2 at maximum with the fan at low speed when the vehicle is moving at high speed and when knob 3 is turned fully to the right (air recirculation).

After the vehicle has been at rest and exposed to the sun for long periods, the air-conditioner should be set to maximum for a few minutes, with the windows down, in order to ventilate the passenger compartment.

Outside air or recirculation adjustment

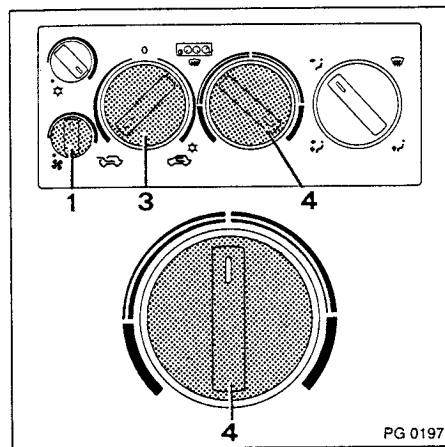


Passenger compartment ventilation can be obtained (even with the car windows closed) by introducing external temperature air into the vehicle, and not conditioned air, by using knob 3.

Turn knob 3 completely to the left, to admit only outside air to the passenger compartment; then adjust the different vents to direct or shut off the air flow as required.

By turning knob 3 completely to the right, the entry of external air is shut off: in these conditions, the system takes air directly from the passenger compartment and the fan operates at minimum speed. Control 3 should be kept in this position when the conditioner is on.

Heating



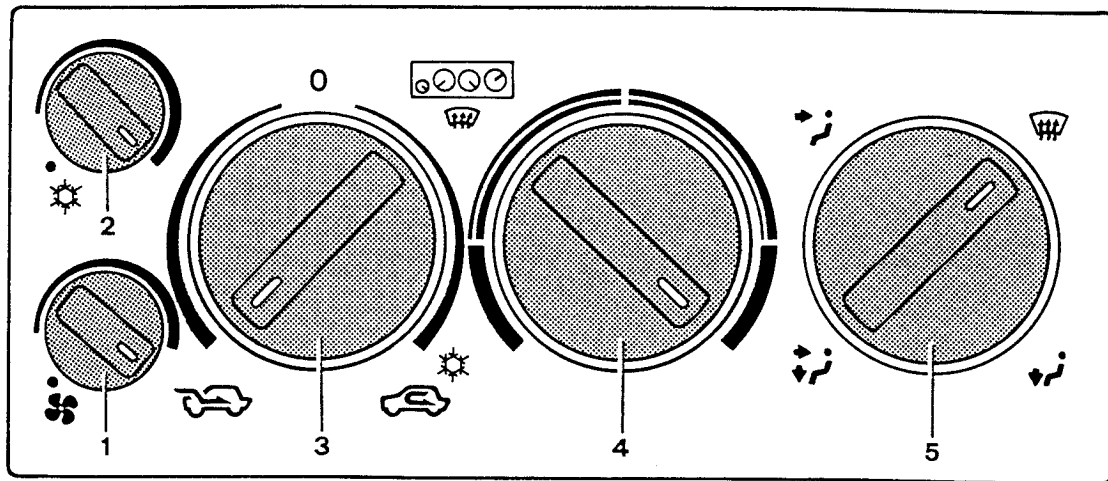
Knob 4 adjust the heating of air entering the passenger compartment.

By turning the knob completely to the left, heating is turned off; by turning it to the right a gradual temperature increase is obtained.

Maximum heating is obtained by turning the knob all the way to the right.

To heat the passenger compartment, use knob 4 to adjust the temperature and on knob 3 to select air flow from outside or recirculation. Then use on the various vents to direct and control the air flow according to requirements.

Note: With the heating on, the air conditioning must be off except when demisting with the air conditioner.



With high humidity levels both inside and outside the vehicle, to obtain a faster demisting action on the windows utilize the conditioning and heating systems simultaneously. In this case position the controls as follows:

- fan control 1 on maximum speed;
- conditioner control 2 rotated completely to the right;
- ventilation control 3 rotated completely to the left;
- heating control 4 rotated completely to the right;
- knob 5 for air flow distribution in position

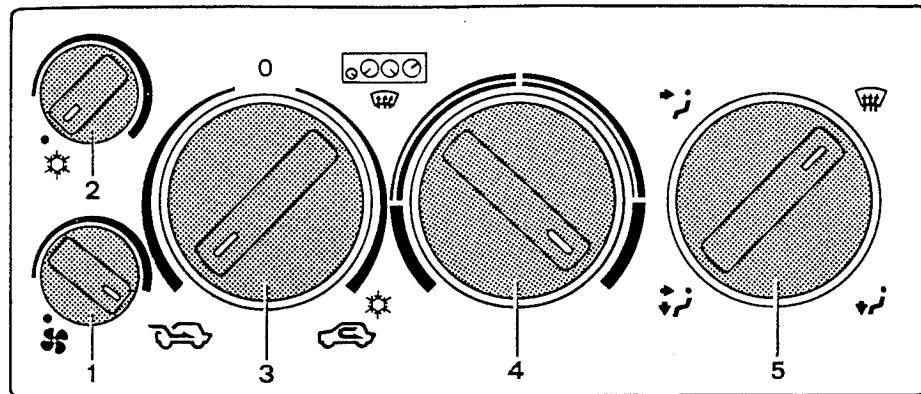


Warning!

PG 0323

If the system functions in these conditions (simultaneous actuation of the conditioner and heating systems), when demisting is achieved it is important to **turn the heating off before the conditioner**. That is, first rotate control 4 completely to the left and **subsequently** deactivate the conditioner by rotating knob 2 completely to the left. This prevents the quick and dangerous misting of the windows.

Note: in the case of very high external humidity, it is normal for condensate to form and to discharge along the outside of the vehicle.



PG 0199

To obtain the fast defrosting of the wind-screen and side windows, position the controls as follows:

- fan control 1 on maximum speed;
- conditioner control 2 rotated completely to the left (conditioner off);
- ventilation control 3 rotated completely to the left;

- heating control 4 rotated completely to the right (maximum heating);
- knob 5 for air flow distribution in position



Important: To obtain an efficient defrosting action, with very low external temperatures, start the engine and wait for a few minutes until the set temperature is reached. In the case of demisting, the entry of cold external air is sufficient.

At intervals:

- Check compressor drive belt tension.
- Clean condensers; if cleaning is carried out with a pressurized air or water jet, **take care that the jet is perpendicular to the condenser blade block.**

Once a year:

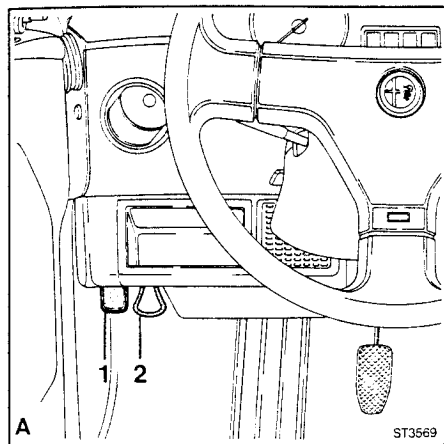
Preferably at the beginning of the summer season, check compressor oil level and conditioning system load conditions at an authorised Alfa Romeo Service Center.

Warning: Whenever the conditioner remains unused for long periods (especially during the winter season) it is necessary to turn it on for a few minutes once a week, to keep the system components sufficiently lubricated.

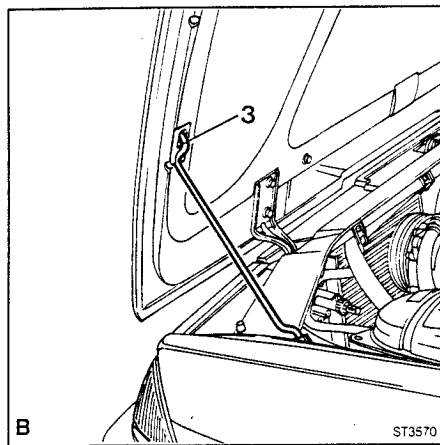
Car bonnet and boot

| | |
|--|----|
| Bonnet | 60 |
| Boot | 61 |
| Rear seat backrest and rear window shelves (33 Models) | 62 |
| Rear seat backrest and hatch-Ltd trays in luggage compartment (Sport Wagon Models) | 63 |
| Retractable/Removable backshelf (Sport Wagon models) | 64 |

A - B BONNET

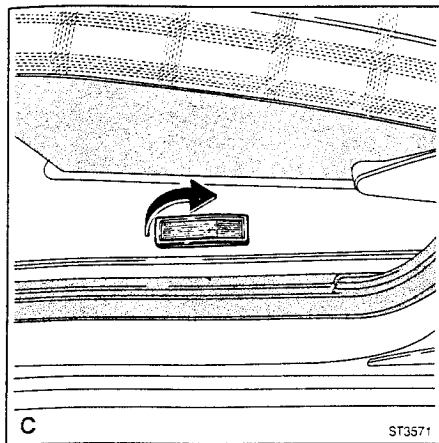


To open the bonnet pull lever 1 located under the dashboard (at left).
If necessary the bonnet may also be opened by pulling emergency ring 2.

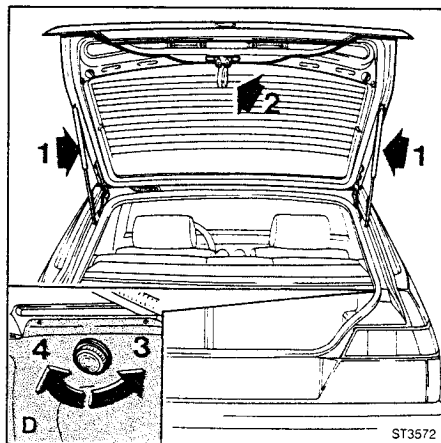


Raise the bonnet and insert support rod 3 in its lug.

C - D BOOT



The boot lid is unlocked by pulling up the lever on the floor to the left of the driver's seat.



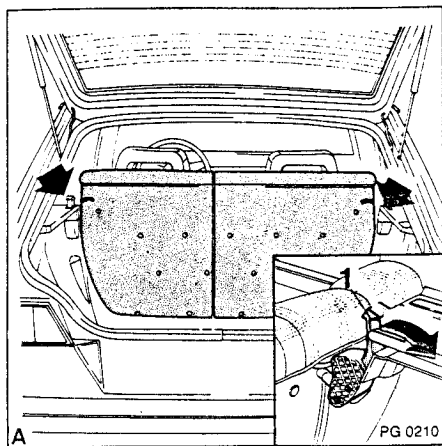
The raising of the boot lid is pressure gas assisted (1).

Do not tamper with the gas devices.

To make locking easier, the hatchback is provided with a handle (2).

Only 33 models

When the parking lights are on, the boot compartment will be illuminated when the lamp is turned to position 3. The courtesy lamp is turned off in position 4.



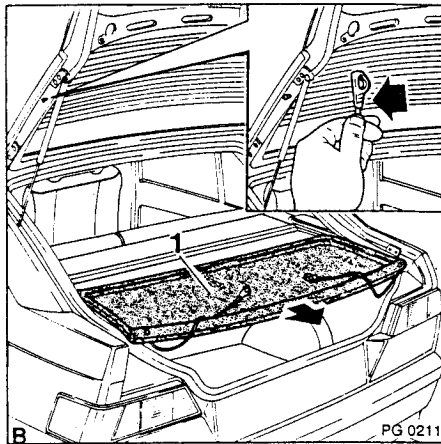
Tip-forward rear seat backrest

The backrest of the rear seat may be tilted forward to increase the capacity of the luggage compartment.

On request, some models are equipped with a backrest divided into two asymmetrical parts, so that the backrest can be tipped forward also partially.

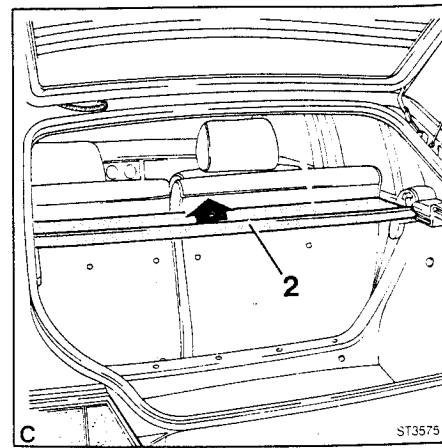
To free the two parts of the backrest from the grips, push lever 1 backwards and then tip the backrest forwards.

It is also possible to remove completely the rear under-window shelves of the luggage compartment to make space for cumbersome objects (see following paragraph).



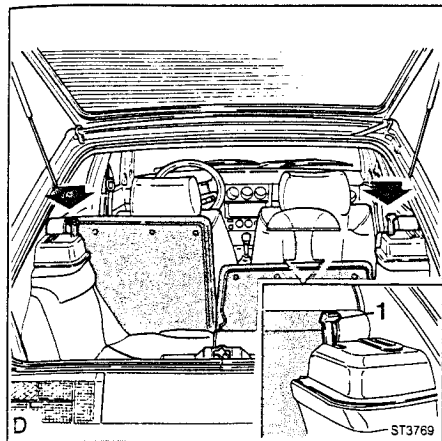
Removal of rear window shelves

To remove the main rear window shelf 1, slide it out from the rear of the vehicle after first raising the luggage compartment boot lid and releasing the rubber stays.



To remove rear under-window front shelf 2, it is necessary to lower the rear seat backrest or backrests, then withdraw the shelf from its housing by pushing it forwards.

D - E - F REAR SEAT BACKREST AND HATCH-LID TRAYS IN LUGGAGE COMPARTMENT (Sport Wagon models)

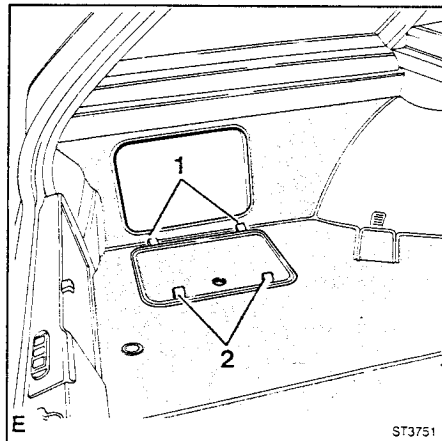


Tip-forward rear seat backrest

The backrest of the rear seat may be tilted forward to increase the capacity of the luggage compartment.

On request, some versions are equipped with a backrest divided into two asymmetrical parts, so that the backrest can be tipped forward also partially.

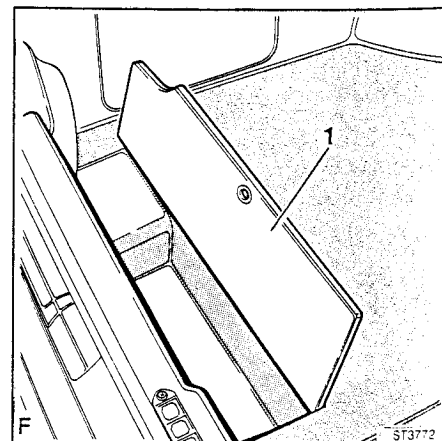
To free the 2 parts of the rear seat backrest push the levers 1 towards the back and then tilt the backrest forward.



Side hatch-lid tray

The locker lid is held in place by tongues 1 and springs 2.

The lid is reinstalled by fitting tongues 1 into the side panel and applying pressure to the lid top until springs 2 are engaged.

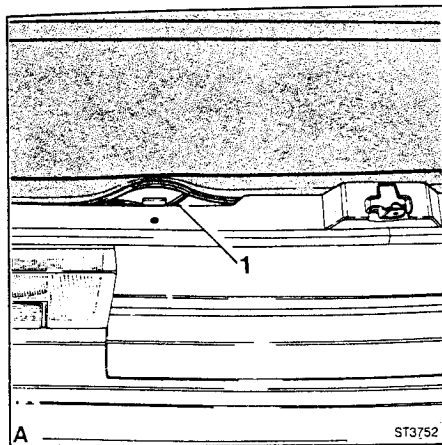


Rear hatch-lid tray 4WD versions only

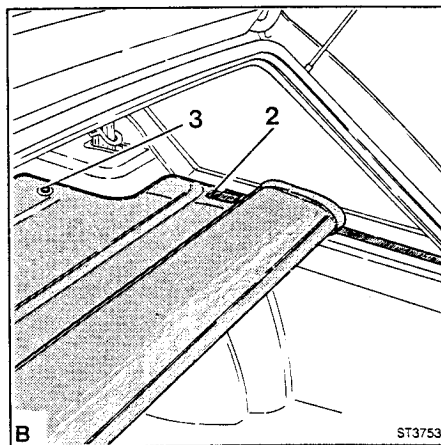
Access to the rear parcel bin is gained by opening the lid 1 as shown.

If necessary the backshelf can be placed into the rear parcel bin.

A - B RETRACTABLE/REMOVABLE BACKSHELF (Sport Wagon models)



To gain access to the luggage compartment, raise the rear end of shelf, after having released catches 1, and roll it up by detaching the side adhesive strips, then, make the trips adhere to the two blocks 2 near the rear seat squab.



The backshelf may also be removed completely by slackening the snap fasteners 3. To spread down the shelf, unroll it and apply pressure downward to the sides so as to ensure adhesion and secure it with catches 1. Do not put heavy parcels on the self.

Warnings and cautions

| | |
|------------------------------------|----|
| While driving | 66 |
| Parking - Long trips | 67 |
| Winter operation | 68 |
| Catalytic converter - Wheels | 69 |
| Tyre rotation | 70 |

Suggestion

The following notes will enable you to get the maximum from your vehicle in terms of performance, reliability and lifespan. In addition, during the first period of use, we advise you not to demand maximum performance from your vehicle (e.g. extreme acceleration at maximum engine speed, excessively intense braking, etc.).

WHILE DRIVING

Coolant temperature



Check coolant temperature warning light on dashboard. If light comes on while driving the vehicle, this indicates a malfunction in the cooling system (engine overheating). In this case, stop engine immediately and have the cooling system checked by an authorized Alfa Romeo Service Dealer.

Engine oil pressure



Check the oil pressure warning light. It is possible for the warning light to blink (especially when the vehicle is cornering). This is an indication of low oil level and topping up is required.

Note: Unless the oil has been topped up, the vehicle should be driven at low speed.

Warning: If the warning light stays lit continuously, it is an indication of a fault in the lubricating system; in this case, stop the engine and get the lubricating system checked by an Alfa Romeo Service Dealer. Do not drive at high speed until the oil in the

engine and in the gearbox/differential unit has warmed up properly.

Generator



The generator warning light must always be off; if it comes on stop the vehicle as soon as possible and have the power supply circuit fault traced and remedied.

Tachometer

Never rev engine above maximum permissible RPM (revolutions per minute). Furthermore avoid running for a long time with rev-counter indicator on the warning sector.

Maximum engine r.p.m. limitation

The vehicle is equipped with a device that interrupts fuel supply in the event of excessive engine speed and restores it only when engine speed drops to a safe limit.

Parking brake



Before starting, make sure that the parking brake is not engaged and that the warning light is off.

Brake fluid minimum level - Front brake pads wear



Check the brake fluid minimum level warning light; if the light comes on, it means that the brake system is developing trouble. In this case, stop the vehicle and check the brake fluid level in the reservoir (refer to page 86-87). Illumination of the warning lamp during braking indicates wear of the front brake pads: two possible situations may arise:

- the warning lamp comes on only during braking: the front brake pads have reached

the maximum limit of wear and must be substituted as soon as possible.

- The warning lamp stays on continuously: the front brake pads have reached the maximum admissible level of wear and must be **immediately substituted**.

As the vehicle is only equipped with wear detectors applicable to the front brake pads, when substituting these, the condition of the rear brake pads should also be checked. The rear brake pads however, due to their use on the vehicle will not require immediate substitution though a further check should be made at a later date.

Permanent 4WD failure warning light (if provided)



By turning the ignition key to RUN position, this must remain lit for a few seconds; if it lights up during running, it signals a system malfunction. In this case have the system checked by an **Alfa Romeo Service Dealer**.

Power assisted brakes



Never drive downhill with engine off. When vehicle is moving with engine off, more force on the brake pedal is required to bring the vehicle to a stop.

Anti-lock braking system (if provided)

If the vehicle is equipped with the Anti-lock braking system (ABS), refer to pages 144 and 145 for information and operation of the ABS warning lamp.

Power steering (if provided)



The vehicle is equipped with an engine-operated power steering. When the engine is stopped the power steering does not work, consequently a much higher steering effort is necessary.

As the steering gear is a mechanical unit in strict relation with safety driving conditions, it is necessary to stop the vehicle and directly contact an **Alfa Romeo Service Dealer** even in case of a suspected fault.

Windscreen wipers



Periodically check the wiper blades. Dirty or worn wiper blades will reduce visibility.

Cleaning regularly the windscreen and removing road film, oils and tars will increase wiper blade life. Always remove snow and ice prior to operation of the wipers.

Windows



Never apply decals or other writings on the windows, as these may distract or impair vision.

PARKING



Never leave key in position "2" (ignition on) as this discharges the battery.

LONG TRIPS

Prior departing



Check all lights and windscreen wipers.
Check condition of tyres and their pressure.

- Check under vehicle for leaks of any liquid or oil.
- Make sure all luggage are properly secure.
- **If a roof rack is to be used**, observe the following instruction:
 - Distribute weight evenly, avoid placing too much weight to either side of vehicle.

Ensure that the roof rack is well anchored and firmly fasten luggage so that it can not move.

In windy conditions, steering will be greatly influenced due to sudden lateral gusts. Remove roof rack at end of trip.

Never exceed recommended roof loads (see chapter on "Technical Data").

On the road



Drive safely and stay on the right lane.

Always use indicators when turning.

- turn on lights at sunset.
- keep a safe distance from the vehicle in front, varying it according to speed, weather and road conditions.
- Reduce speed at night or in bad weather. Observe posted speed limits and roads signs.
- Never drive in neutral. It's a good rule to use the same gear going down a hill as going up.
- Don't drive with one hand on the gearshift lever.
- Don't keep a foot on the clutch; any slight pressure on the clutch pedal may affect wear on these components.
- In the event of breakdowns, always park the vehicle safely off the side of the road, turn on the emergency flashers and put out the triangle to warn other drivers of the presence of the vehicle.

Warning: Never carry additional fuel containers in the vehicle. Such containers may leak, cause an explosion or result in fire in case of a collision.

Travelling with children



To install and utilize child safety seats, scrupulously follow legislation foreseen and manufacturer's instructions.

Furthermore, it is advisable:

- When closing doors, check that hands or feet aren't in the way of closing, especially with children.
- Close rear door with the device labeled "Child safety" (see page 21).
- Never let a child seated in the rear lean forward between the seats.
- During the hot season, in the event the windows aren't tinted, use the optional sun shades made for the rear window; the sun may bother the children. Never leave children in the vehicle parked under the sun with the windows closed; temperatures inside may get quite elevated.
- Don't lower windows more than one third, to avoid children hanging out of the vehicle.

Driving economically

Fuel consumption is strictly dependent on driving conditions and habits. Here are some suggestions for better fuel economy:

- With engine cold, avoid full throttle. When stopped, do not rev engine needlessly.
- Drive smoothly, avoid sudden changes in speed and sudden stops. Shift up early.
- Do not overload the vehicle. Moreover, the use of a roof rack reduces fuel economy by increasing wind resistance.

- Remove roof and ski racks when not in use.
- Do not drive for long periods with the windows down; it is more economical (and more comfortable) to use correct setting of the vent controls.
- Keep tyres inflated to the recommended pressure.
- Follow the factory recommended maintenance schedule; it is essential not only for the life of all mechanical parts, but it will also save fuel.

WINTER OPERATION



The Alfa Romeo antifreeze mixture in the cooling system assures full protection against freezing temperatures of -40°C . If it becomes necessary to top-up the system, **ALFA ROMEO CLIMAFLUID PERMANENT -40°C** antifreeze in the special packs available from **Alfa Romeo Authorized Service Stations** should be added to the expansion tank only.

Snow chains

For mounting, follow manufacturer's instructions. The skid chains must be fitted on the front driving wheels (on the 4WD versions **without** inserting four-wheel drive). Chains must not protrude more than 16 mm (0.6 in.) from the sidewalls.

Note: To avoid tyre damage and the unnecessary wear of the chains remove chains when roads are free of snow.

Windscreen washer fluid

Utilize a liquid detergent antifreeze properties in the windscreen washer tank.

Windscreen and rear wipers

Before operating the wipers, defrost the glass with the aid of heated air (for the windscreen) and heated rear window, or the use of an ice scraper.

Parking brake

Avoid the use of the parking brake if the vehicle will be parked for long periods in very low temperatures.

The mechanism may freeze and will make it difficult to release the parking brake.

Battery

Battery must be fully charged; charged condition must be checked often in winter. Electrolyte tends to freeze quicker when battery is not fully charged.

Bodywork

At the end of winter, the vehicle must be thoroughly washed, with particular note to the underside and wheel housings (see chapter on "Maintenance: Bodywork").

CATALYTIC CONVERTER

The exhaust system is equipped with a catalyst, made with special alloys of noble metals; it is housed in a stainless steel container that resists the high operating temperatures.

The catalyst converts (even if small amounts, thanks to the use of the electronic ignition and injection systems) the unburned hydrocarbons, carbon monoxides and nitric oxides present in the exhaust gases, to harmless and non-polluting compounds.

The efficiency of the system is such as to guarantee trouble-free operation while limiting polluting emissions and allowing superior performance.

Important

In order to reduce wear on components (such as the catalyst) and to keep the vehicle efficient in performance, reliability and longevity it is necessary to follow some elementary precautions:

- **Use unleaded fuel only.**
- Use the most suitable gear according to road and traffic conditions, to avoid overloading the engine.
- When the fuel reserve light goes on, refuel the vehicle at the earliest possible convenience; this will ensure the highest efficiency of the fuel system.
- In the event the engine doesn't start normally, do not attempt a push or roll start (such as towing, down hill, etc.); this will allow the unburned fuel to reach the catalyst causing permanent damage.
- During normal operation the catalyst reaches very high temperatures, therefore,

it is good practice to never park the vehicle over combustible materials (i.e. dry grass, etc.).

- Whenever maintenance is necessary, always contact an **Alfa Romeo Service Dealer**.

POWER AND BRAKE TESTING ON A ROLLER TEST BENCH

Warning: On the Permanent 4, the fuse protecting the electromagnetic coupling circuit should be removed in order to disconnect it before carrying out power or brake testing on a roller bench.

These operations should be carried out by **Alfa Romeo Authorized Services**.

WHEELS

Wheel balancing



Each wheel is both statically and dynamically balanced at the factory. When replacing a tyre, have it balanced to avoid instability while driving, wear of steering components and uneven tyre wear.

Indications for the Permanent 4: Dynamic wheel balancing with the wheels installed on the vehicle must be carried out with the ignition key in position 1 (ignition controlled functions cut out) in order to disconnect the electromagnetic coupling.

Note: When balancing a light alloy wheel, use **only original Alfa Romeo weights**.

Rims

Steel and light alloy rims must be mounted with specific bolts for each type of rim. It is therefore important that when replacing a steel rim with a light alloy one (or vice versa) it is important to use the correct mounting bolt.

Tyres

The tyres mounted on the vehicle are the "tubeless" type, that is without an inner tube. For type and pressure, see pages 166 and 167.

- Drive new tyres for at least 100 km (60 miles) before using excessive speeds.
- Reduce speed when approaching tight curves.
- Avoid unnecessary sudden starts and stops.
- Don't drive for long periods at excessive speeds.
- Check tyre balance and front and rear alignment.
- Avoid sidewall collisions, such as when parking the vehicle on the pavement.
- Don't tamper with the tyre inflator valve.
- Never put any type of tools between tyre and rim.
- If rim shows signs of deformation, replace immediately.
- In the event of abnormal loss of pressure, replace wheel immediately and have it checked for leaks.
- Always use weights made for tubeless tyres when balancing.
- In case of tyre replacement, it is opportune to replace also the inflation valve.
- Frequently check tyre tread wear. Several types of tyres are equipped with tread wear indicators; effectuate tyre replacement as soon as these indicators become visible.

Tyre pressure

Check tyre pressure regularly, especially before long trips. Pressure is always checked **with the cold tyre**; a hot tyre will show a pressure as much as 0.3 bar (4 psi) higher.

A correct tyre pressure will assure longer life and optimum tyre performance, because tyre tread is in full contact with the road surface, therefore wear is more uniform. A correct tyre pressure will influence the following:

- Better road holding.
- Smooth and precise steering.
- Better fuel economy, due to lower rolling resistance.

An underinflated tyre will:

- Result in shorter tread and sidewall life.
- Overheat, that will conduce to separation of tyre components and damage to the carcass, resulting in sudden deflation or explosion.

An overinflated tyre will:

- Show abnormal wear of tread, especially in the centre of the tyre.
- Have an uncomfortable ride.
- Have less resistance to bumps and collisions.

Bumps with the border of the pavement



Bumps taken from tyres hitting the border of the pavement (such as when parking on the pavement) may cause notable tyre carcass damage from its deflection, with possible sidewall deformation, dubbling or invisible cuts that will lead to sudden loss of tyre pressure or explosion.

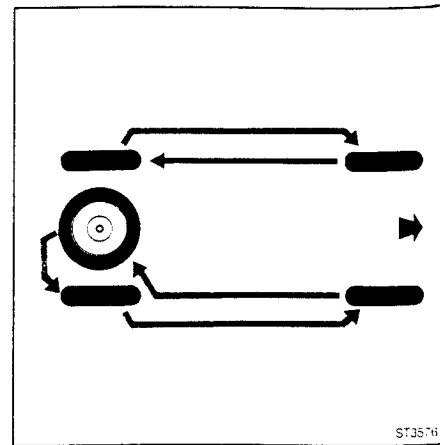
Pot-holes



Hitting a pot-hole at excessive speeds may cause damage to both the tyre and rim, usually on the inner side (and therefore not visible).

This type of damage will progressively get worse with continued use of the wheel, in the area where damage occurred, with eventual sudden loss of tyre pressure or explosion.

TYRE ROTATION



Tyre rotation should be executed according to the sketch. Once finished, tyre pressure should be checked.

Tyre rotation should be performed every 5000 km (3100 miles) to avoid excessive or uneven wear.

When rotating tyres, check for overall conditions and damages caused from bumps and/or collisions.

In case of emergency

| | |
|--|----|
| Spare wheel and jack | 72 |
| Tool bag | 73 |
| Compact spare wheel - Wheel change | 74 |
| Jump-starting with an emergency battery | 75 |
| Getting towed and towing | 76 |

A - B - C - D SPARE WHEEL AND JACK

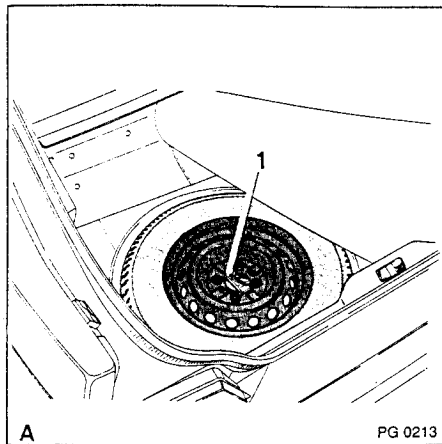


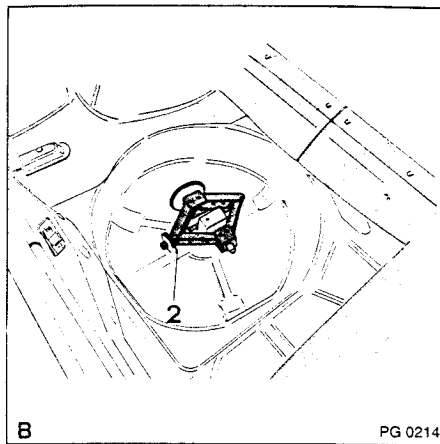
Fig. A-B: except 4WD versions

The spare wheel and jack are located in the luggage compartment under the mat.

To remove the wheel, slacken nut 1 (figure A) counterclockwise.

The jack is housed **under** the spare wheel. To remove it, turn ringnut 2 (figure B) counterclockwise.

Once the wheel has been changed, put the jack on its support and **lock** it in place turning ringnut 2 clockwise.



Caution: Check the spare wheel inflation pressure each time the pressure of the other tyres is checked.

Attention: If the vehicle is equipped with a compact spare wheel, read carefully the information on page 74.

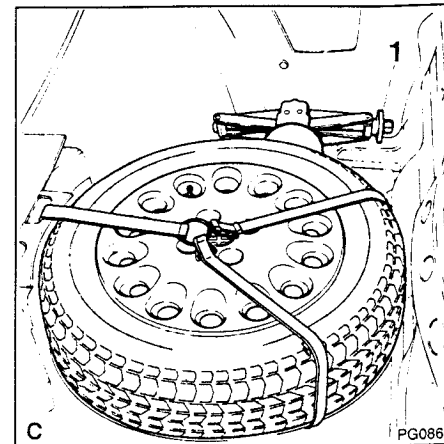


Fig. C-D: 4WD versions

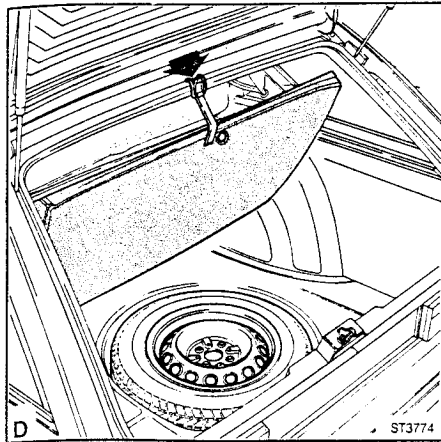
In the luggage compartment are found:

- spare wheel, located under the carpet;
- tool bag;
- jack fixed to the right side of the platform.

To remove the jack, release it from its support rotating ring nut 1 counterclockwise.

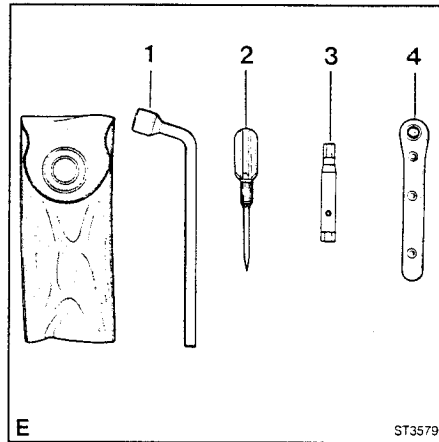
Note: In some versions the spare wheel is held in place with special belts.

E - F TOOL BAG



To hold the spare tyre well cover in raised position, secure the supporting strap as shown in the figure D.

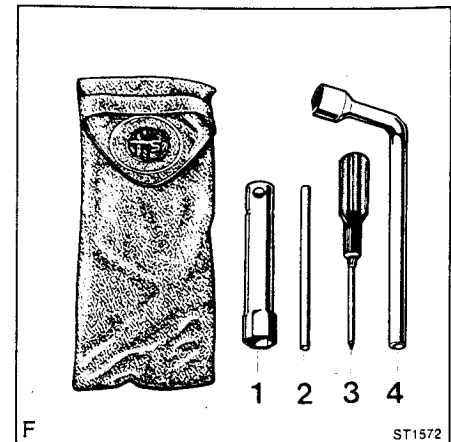
Attention: If the vehicle is equipped with a compact spare wheel, read carefully the information of page 74.



16 valve versions (Fig. E)

The tool bag contains:

- key 1 for jack and wheel bolts;
- double use screwdriver 2;
- key 3 for spark plugs;
- jack 4 for spark plug key.



For other versions (Fig. F)

The tool bag contains:

- key 1 for spark plugs and its tommy bar 2;
- double use screwdriver 3;
- key 4 for jack and wheel bolts.

COMPACT SPARE WHEEL (only on some versions)

The compact spare wheel must be used only in emergencies.

Use of the compact spare wheel must be reduced to a minimum and car speed must not exceed more than 80 km/h.

The compact spare wheel has a life of 3000 kilometres, after which it must be replaced with a compact spare wheel of the same type.

Tyre pressure: 2.8 bar (kg/cm²).

Have the wheel that has been replaced repaired and remounted as soon as possible.

Warning!

Always make sure that tyre pressure is 2.8 bar (kg/cm²).

As mounting of the compact spare wheel modifies car driving characteristics, avoid any sharp manoeuvres and do not exceed a speed of 80 km/h.

Always replace the compact spare wheel with one of the same type suitable for the type of rim used:

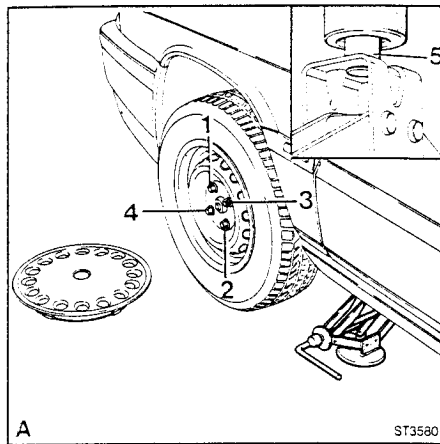
Rim 14" × 4B

Tyres: FIRESTONE 135/80 B14

PIRELLI 135/80 B14

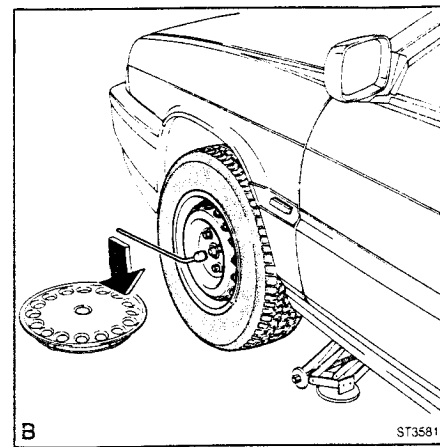
Never install a conventional tyre on a rim designed for use as compact spare wheel. Use of two or more compact wheels at the same time is not allowed.

A - B WHEEL CHANGE



When it is necessary to remove a wheel move to the side of the road to an easily visible position where the vehicle does not constitute a danger or infringe local regulations, then:

- Apply the handbrake.
- Remove wheel cover (where present) and loosen bolts of wheel to be removed, using the special wrench.
- Slacken the wheel fixing bolts by one turn; turn anticlockwise to unscrew (use the key for wheel bolts).
- Raise the vehicle by inserting the jack 5 in the socket provided on the underside of the body near the wheel. Turn the jack key clockwise to raise vehicle.
- Unscrew completely and remove the four wheel bolts and the wheel.



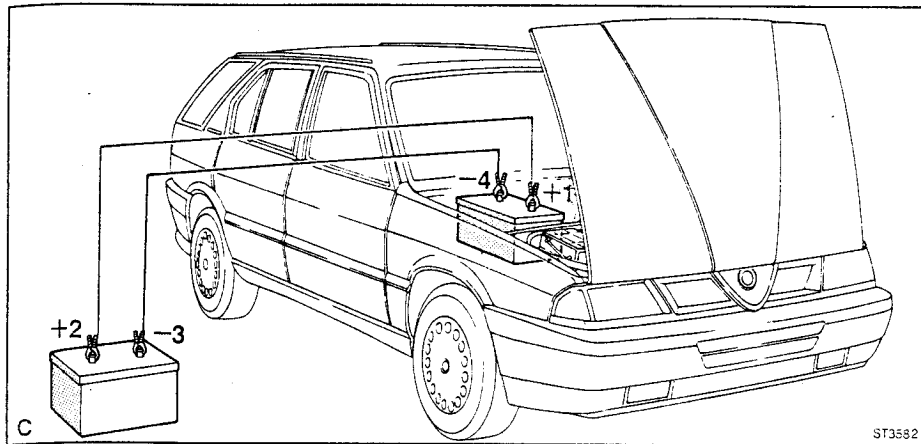
Remounting

- Fit spare wheel in position, threading on the bolts by hand.
- Tighten the bolts carefully in diagonal order (see diagram in figure A) with the key for wheel bolts.
- Check the tightness of the bolts again according to the sequence shown (1-2-3-4), after lowering the jack by rotating the jack key counterclockwise.
- Refit wheel cover (where present).
- Replace tools and wheel in boot.
- Release the handbrake.

As soon as possible, check that the tyre pressure is as specified.

After the wheel has covered 1,000 km (600 miles) check that the bolts are fully tightened.

C JUMP-STARTING WITH AN EMERGENCY BATTERY



In an emergency, the engine can be jump-started by connecting the stalled vehicle's battery to the battery of another vehicle.

Caution!

This operation must be performed by expert personnel, because incorrect maneuvers can cause high-energy electrical discharges.

Warning

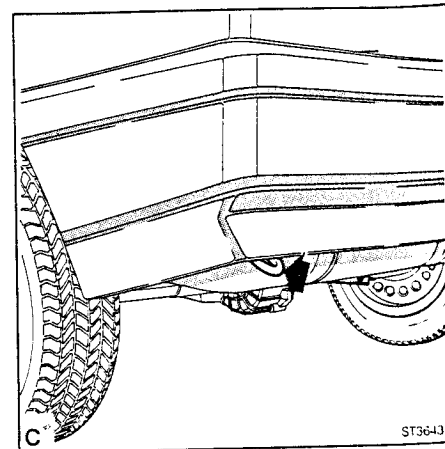
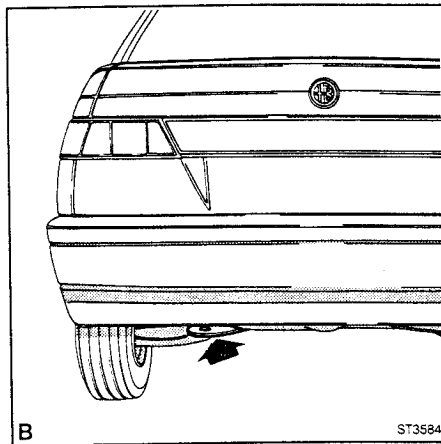
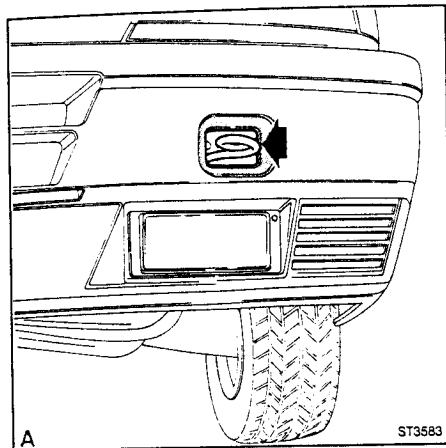
- Never bring open flames or lighted cigarettes near the battery.
- To avoid damage to the vehicle's electrical system, carefully follow the instructions attached to the jumper cables. The cable must be long enough so that the vehicles do not touch.

How to use jumper cables

Follow the operations in this order:

- 1) Secure one end of a jumper cable to the positive terminal of the dead battery.
- 2) Secure the other end of the cable to the positive terminal of the charged battery.
- 3) Secure one end of the other cable to the negative terminal of the charged battery.
- 4) Secure the other end of the cable to the engine block of the stalled vehicle.
- 5) Start engine. If the engine fails to start, do not persist: contact the nearest **authorized Alfa Romeo Service Dealer**.
- 6) When the engine starts, disconnect the cables by performing operations 1 to 4 in reverse sequence.

A - B - C GETTING TOWED AND TOWING



Getting towed

When being towed, secure the towing link to the bracket shown in figure A. Turn the steering lock/ignition switch key to the position "1" (see page 34) and **left in** (key controlled services OFF and for Permanent 4 version electromagnetic coupling **disengaged**).

Warning

- When towing, care should be taken that any hauling local regulation is strictly adhered to.
- When the vehicle is being towed no power assistance is available to the brake system; a substantially greater pedal effort will therefore be needed to obtain effective braking.

- If the vehicle is equipped with power steering, the circuit is not active with the engine at rest and it is therefore necessary to exercise more force on the steering wheel.
- Never withdraw the key from the steering lock/ignition switch because it is possible for the steering lock to engage accidentally.
- Never tow the vehicle with only the rear wheels raised from the ground (front drive wheels on the road) to avoid serious mechanical damage.
If it cannot be avoided use this system only after placing a rotating platform under the front wheels and turn the steering lock/ignition switch key to the position "1" (key controlled services OFF and for Permanent

- 4 version electromagnetic coupling **disengaged**).
- When getting towed, on 4WD version, **disengage** the four wheel drive.

Towing

When taking another vehicle in tow, secure the towing link to the bracket on the underside of the boot as shown in figure B or C (4WD versions).

Note for 4WD versions

To facilitate towing of another vehicle, it is advisable to **engage** the for-wheel drive.

Maintenance

| | | | |
|--|-------|---|---------|
| Programmed maintenance | 78 | Rear window washer liquid reservoir (if provided) | 90 |
| Warning | 81 | Battery - Spark plugs | 91 |
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| Engine oil and filter - Air filter | 84-85 | Bulb replacement - Power of lamps .. | 97-104 |
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| Brake and clutch fluid reservoir | 86 | Car inactivity | 106 |
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| Rear differential oil | 88 | | |
| Propeller shaft slip yoke-Windscreen and headlights washer liquid | 89 | | |

PROGRAMMED MAINTENANCE

The life, reliability and performance of a motor vehicle are strictly dependent on design criteria, the employment of the most up-to-date manufacturing technology and to a considerable extent on the care and attention that is given to maintenance operations. Owners are strongly advised therefore to follow the programmed maintenance schedule described in the Guarantee and Maintenance Schedule Booklet. The **Alfa Romeo Service Dealers** exists for this purpose.

Some of the operations that form part of programmed maintenance, described under this heading, can be distinguished by the presence of the following symbol:



WARNING

In order to keep the vehicle in good running order it is also necessary to observe the following:

Every 300 miles (500 km) or when refueling check:

- the level of the engine oil;
- the level of the coolant in the radiator;
- the level of the brake-clutch fluid;
- the tyre pressures;
- the level of the windscreen and headlights washer liquid.

Engine oil and filter

These should be replaced at the recommended intervals. With limited mileage these should be replaced at least one a year. For recommended lubricants and quantities see heading "Service station".

Important: In Countries where the recommended lubricants (listed at page 164) aren't available and otherwise when necessary it is possible to replace them with oils of other brands, provided that they are in accordance with the grades (they meet all the specifications and correspond to the classification and viscosity) prescribed by Alfa Romeo at 6,000 miles (10,000 km) intervals.

Development and Research programs implemented by Manufacturing Industries of Lubricants and the constant technological updating as well, can give rise to trade marks, either new or in any case different from those listed at page 164.

If in doubt, consult an **Alfa Romeo Service Dealer**, it being understood that lubricants complying with the **Recommended grade** shall be used (page 164).

Air filter

When driving frequently in dusty conditions, the air filter should be checked at shorter intervals than those recommended.

Brake pads

Wear of the brake pads is indicated by the illumination of a warning lamp on the dashboard (see page 11). As the vehicle is only equipped with wear detectors applicable to the front brake pads, when substituting these, the condition of the rear brake pads should also be checked. The rear brake pads however, due to their use on the vehicle will not require immediate substitution though a further check should be made at a later date.

Brake and clutch fluid

The brake fluid is hygroscopic, which means it absorbs water. In order to prevent faults, the brake fluid should be replaced every two years regardless of the mileage.

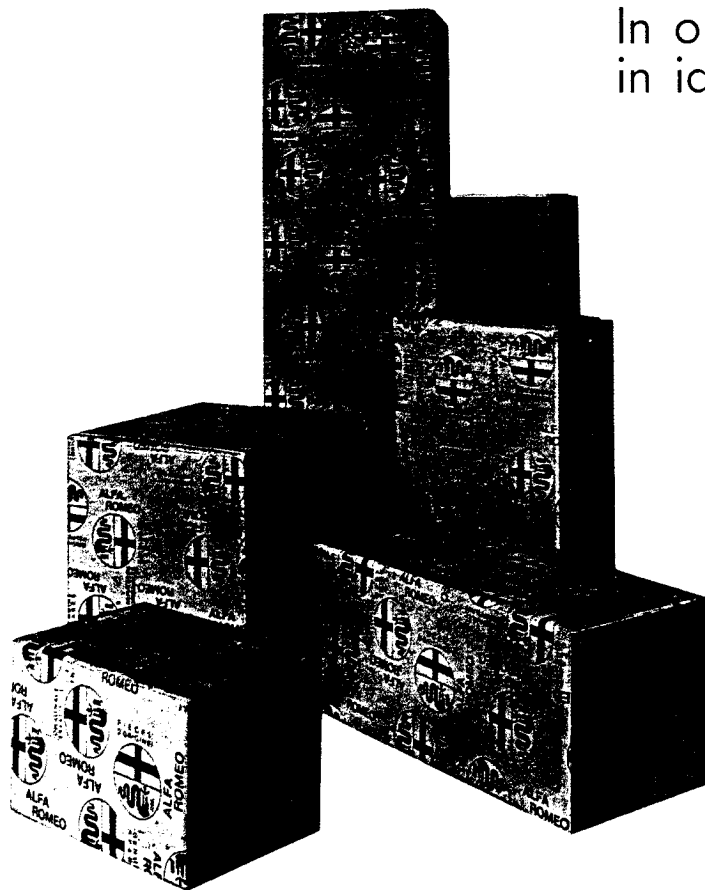
Battery

Check the level of the electrolyte frequently in summer and during warm weather.

Antifreeze

In any case this should be replaced every two years. In order to maintain the protection characteristics of the mixture **ALFA ROMEO CLIMAFLUID PERMANENT -40°C** antifreeze should be used to top-up the system.

Note: If the vehicle is driven in unusual conditions (for example on roads where salt and/or corrosive substances have been laid or on uneven roads surfaces) C.V. joints and steering linkage protective boots should be checked with more frequency and also cleaning and lubrication of boot lid, bonnet and door hinges and catches should be carried out more frequently.



In order to maintain your motor car in ideal condition, as conceived and manufactured by Alfa Romeo, it is necessary to fit original parts that are supplied exclusively in these trade-marked boxes, through the official network of Alfa Romeo.



GENUINE SPARES

WARNING

It is dangerous to put hands or tools near the cooling fan when the engine is running or the ignition is on since the fan could start automatically if the engine is overheated.

Under no circumstances must the header tank cap be removed when the engine is hot. Before doing this wait until the coolant is at ambient temperature.
(See also "Cooling System").

WARNING

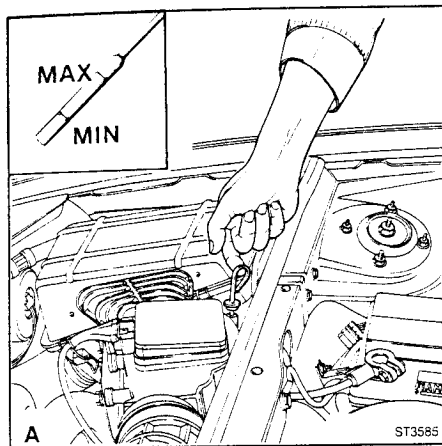
Extreme caution should however be exercised when performing any inspection, maintenance or minor repair so as to prevent accidental injury; the following precautions should always be observed:

- To avoid the danger of being burned, do not work on the engine when still hot.
- Should work have to be done while the engine is running or the ignition key is turned to "ignition on", caution must be taken around rotating V-belts, fan and pulleys. Clothing and jewelry must be secured and out of the way when performing this work. Electric cooling fan switch on automatically according to engine temperature. Even if fan is off, it is not safe to handle unless engine is off and key removed.
- Never get beneath the vehicle when is it supported only by the jack; the vehicle should always be securely blocked and braked to prevent it from rolling.
- Do not smoke; keep open flames away from petrol supply and battery.
- Never connect or disconnect the battery and/or ignition system components when the ignition key is in "on" position.
- When replacing or topping up oils or fluids, use only products recommended under "Service Station".

Improper or incomplete servicing could result in operational problems which may lead to serious damage to the car. Should you have any question about performing any service, entrust it to an **Alfa Romeo Service Dealer**.

A - B - C - D

16 VALVE VERSIONS ENGINE OIL AND FILTER



Oil level check

Fig. A: Versions without Alfa Control



Withdraw the dipstick, clean it, push it fully into its housing then withdraw it again to check whether the oil level falls within MIN and MAX marks.

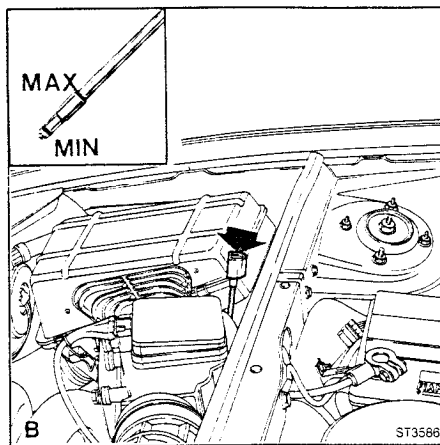
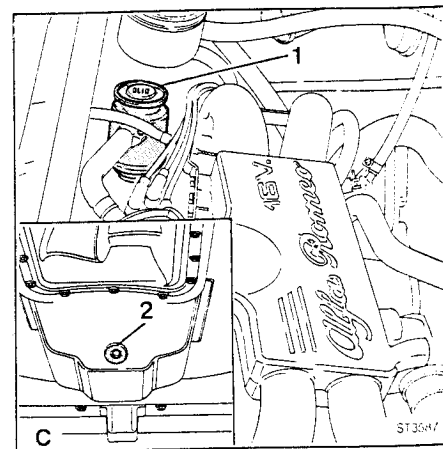


Fig. B: Versions with Alfa Control



When an Alfa Control is fitted, low oil level is monitored by the warning light 4 (see page 35); for safety sake, oil level should never be allowed to fall below MIN mark.

Prior to extract the dipstick for a visual check, disconnect the oil level sensor connector.



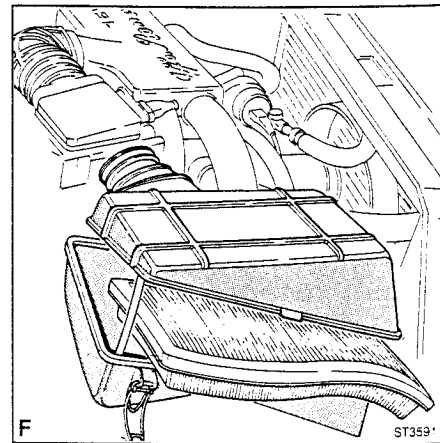
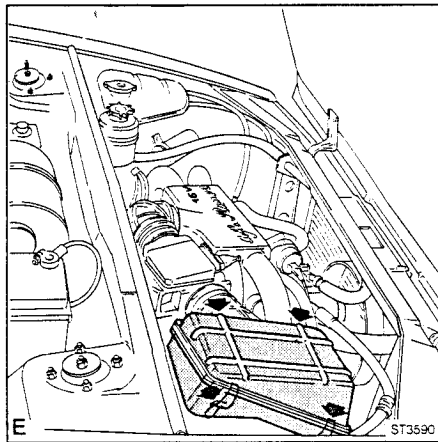
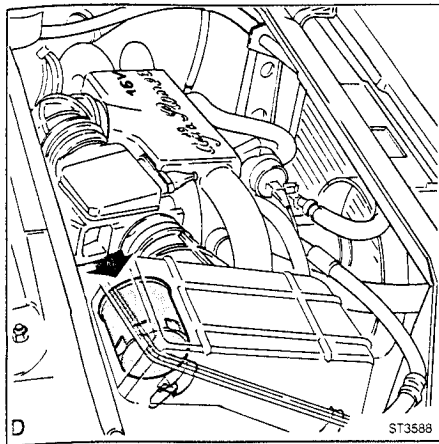
Oil change



To replace oil in the sump and the filter (when the engine is hot) proceed as follows: with the engine stopped, drain off old oil thoroughly by removing the oil filler cap 1, the dipstick and the drain plug 2.

- Replace the oil filter (see next paragraph).
- Clean the drain plug 2 and refit it.
- Refill with new oil and refit the filler cap 1.
- Clean the dipstick, insert it and check that the oil level does not exceed the MAX mark. Push the dipstick fully home.

E - F 16 VALVE VERSIONS AIR FILTER



Filter replacement



Slacken the filter with a suitable spanner and remove. Lubricate the new filter gaskets with engine oil. Mount the new filter by hand, then tighten securely in place to prevent oil leaks.

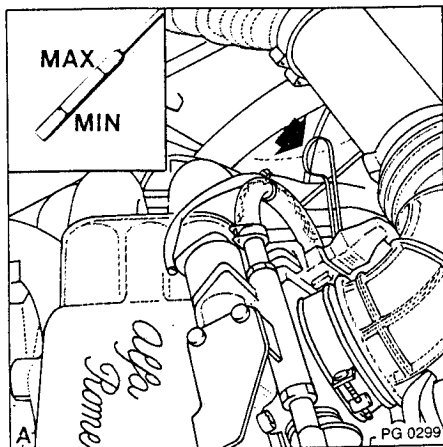


Loosen the clips fastening the filter cover to the intake manifold. Raise the cover and take out the element.

- Clean the element with low pressure compressed air blown through from the bottom (opposite part to that marked with the arrow).
- Fit element into the filter in the correct position ("top" is marked with an arrow).
- Fit cover to filter properly and secure it with clips.

Note: The filter should never be cleaned with petrol, solvents or oil.

A - B - C - D 8 VALVE VERSIONS ENGINE OIL AND FILTER



Oil level check

Fig. A: Versions without Alfa Control



Withdraw the dipstick, clean it, push it fully into its housing then withdraw it again to check whether the oil level falls within MIN and MAX marks.

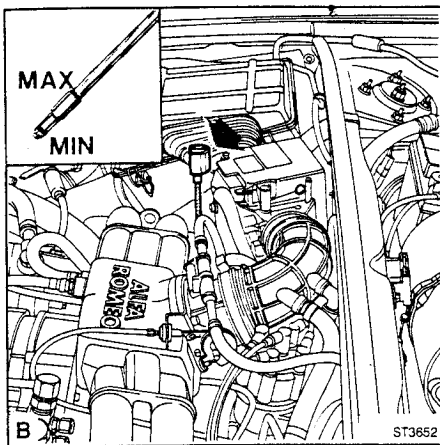
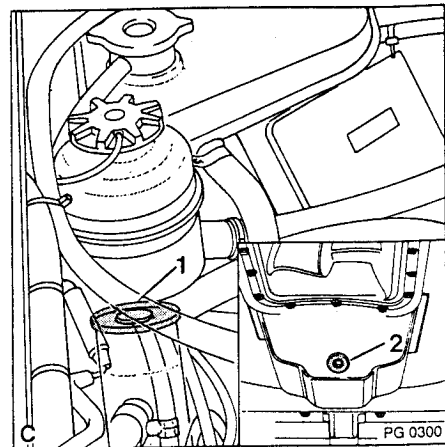


Fig. B: Versions with Alfa Control



When an Alfa Control is fitted, low oil level is monitored by the warning light 4 (see page 35); for safety sake, oil level should never be allowed to fall below MIN mark.

Prior to extract the dipstick for a visual check, disconnect the oil level sensor connector.



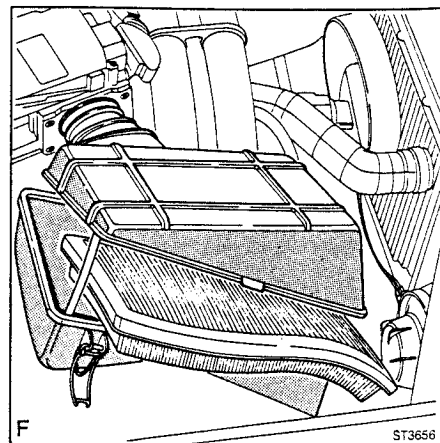
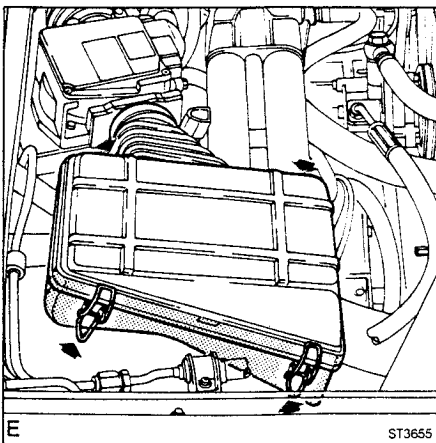
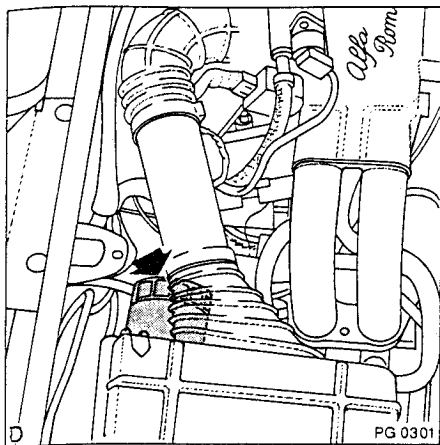
Oil change



To replace oil in the sump and the filter (when the engine is hot) proceed as follows: with the engine stopped, drain off old oil thoroughly by removing the oil filler cap 1, the dipstick and the drain plug 2.

- Replace the oil filter (see next paragraph).
- Clean the drain plug 2 and refit it.
- Refill with new oil and refit the filler cap 1.
- Clean the dipstick, insert it and check that the oil level does not exceed the MAX mark. Push the dipstick fully home.

E - F 8 VALVE VERSIONS AIR FILTER



Filter replacement



Slacken the filter with a suitable spanner and remove. Lubricate the new filter gaskets with engine oil. Mount the new filter by hand, then tighten securely in place to prevent oil leaks.

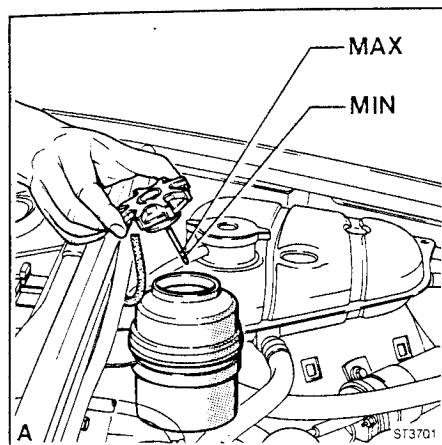


Loosen the clips fastening the filter cover to the intake manifold. Raise the cover and take out the element.

- Clean the element with low pressure compressed air blown through from the bottom (opposite part to that marked with the arrow).
- Fit element into the filter in the correct position ("top" is marked with an arrow).
- Fit cover to filter properly and secure it with clips.

Note: The filter should never be cleaned with petrol, solvents or oil.

A POWER-STEERING FLUID RESERVOIR



To check the level of the liquid in the supply tank, proceed as follows:

- Position the vehicle on level ground with the wheels straight (not turned).
- Clean the cover of the tank and the surrounding areas.
- Pull off the breather pipe from the cover and remove the cover.
- Respecting the above conditions, the liquid must be on a level with the MAX notch.

If not, top up with one of the products specified (see table "Lubricants", page 154), proceeding as follows:

- Start the engine and allow the fluid level in the reservoir to stabilize.
- With the engine running, turn the steering wheel lock-to-lock several times.
- Straighten the steering wheel checking that the wheels are perfectly aligned and replenish until fluid comes up to MAX reference mark.
- Insert the breather pipe as far as possible and replace the tank cover.

Note: Contact an **Authorized Alfa Romeo Service Dealer** for any maintenance or repairs.

B - C BRAKE AND CLUTCH FLUID RESERVOIR

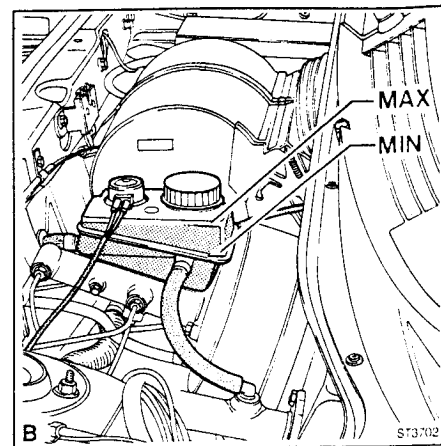


Fig. A: Version without ABS



Care should be taken to prevent the level of fluid in the reservoir from falling by more than a quarter below the maximum level.

Renew the fluid at the recommended intervals.

For renewal or topping up, it is absolutely essential to use only the specified fluid drawn from sealed container (see paragraph "Service station").

When adding fluid, leave the stainer in place.

D COOLANT RESERVOIR

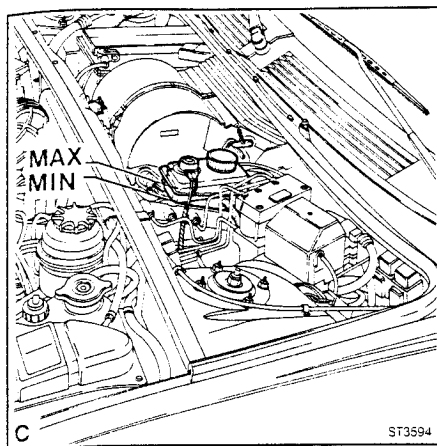
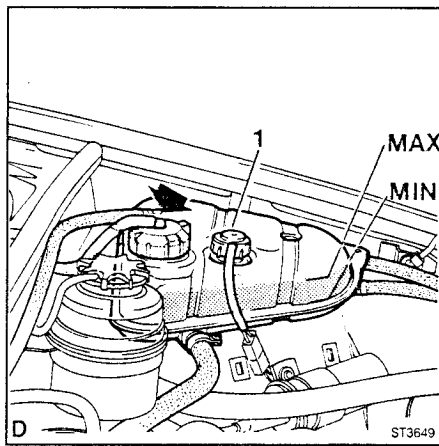


Fig. C: Version with ABS

Warning

- For effective and reliable operation of the brake system, the pipes must always be full of fluid and free of air bubbles.
- **Excessive and spongy brake pedal actions is an indication of the presence of air bubbles in the system.**
- In case of accident or damage to the chassis check that the power brake is undamaged, since even slight body damage may seriously impair the operation of the brakes.



At the recommended intervals, check the level of coolant in the reservoir. This should be done **only with a cold engine** as with a hot engine the level can increase considerably even with the engine at a standstill.

The level of the liquid in the reservoir should be between MIN and MAX. If it becomes necessary to top-up the system, **ALFA ROMEO CLIMAFLUID PERMANENT - 40°C** antifreeze in the special packs available from **Alfa Romeo Authorized Service Stations** should be added to the expansion tank only.

Replace all coolant mixture at the recommended intervals (or every two years whichever occurs first).

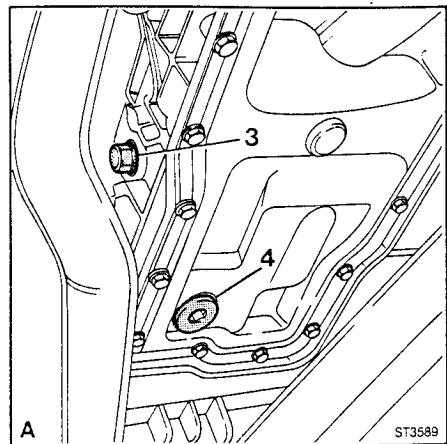
The above stated servicing should be entrusted to **Alfa Romeo Service Dealers**. For antifreeze mixture refer to paragraph "Service station".

(Only for models with Alfa Control)

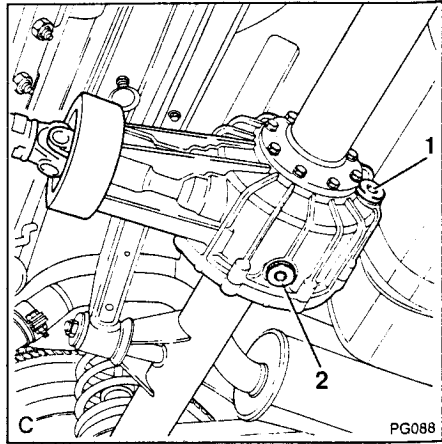
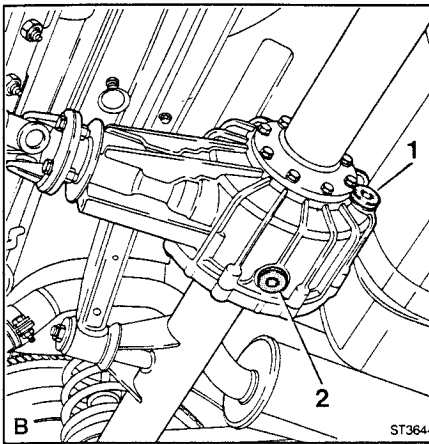
Never open or tamper with cap 1 of coolant minimum-level indicator.

If necessary consult an **Alfa Romeo Service Dealer**.

A GEARBOX/DIFFERENTIAL ASSEMBLY OIL



B - C FOUR-WHEEL DRIVE VERSION REAR DIFFERENTIAL OIL



To check the gearbox/differential oil level at the recommended intervals, remove filler plug 3; the oil level should be at the edge of the filler orifice.

When changing the oil (when the gearbox/differential unit is hot), proceed as follows:

- Drain off the old oil by removing drain plug 4 and filler plug 3.
- Clean and refit drain plug 4.
- Replenish with oil of the recommended type and quantity through filler plug 3.

Check that the oil level is at the edge of the filler orifice; clean and refit the filler plug.



To check, at the recommended intervals, the level off the oil in the rear differential remove filler plug 1 - the oil level should just reach the lower part of the hole.

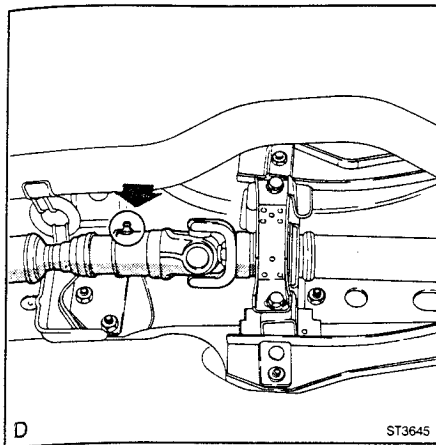
To change the lubricant proceed as follows:
- Remove filler plug 1 and drain plug 2 and drain off all the oil.

- Clean drain plug 2 and screw it back on.
- Replenish with oil (recommended type and quantity) through filler hole 1. Ensure that the oil level reaches the lower part of the hole. Clean the plug and refit.

Fig. B: Four-wheel drive version (not permanent)

Fig. C: Permanent four-wheel drive version

D - E FOUR-WHEEL DRIVE VERSION PROPELLER SHAFT SLIP YOKE



At the recommended intervals it is necessary to grease the slip yoke of the propeller shaft (see illustration).

This must be done only by an Authorized Alfa Romeo Service Dealer.

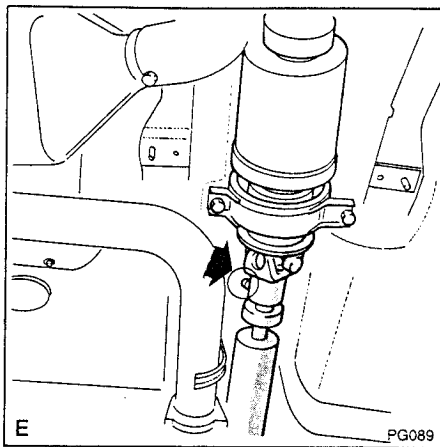
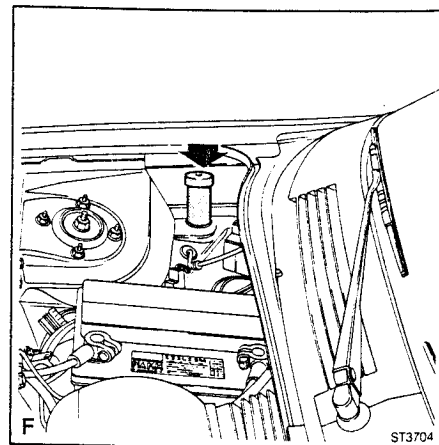


Fig. D: Four-wheel drive version (not permanent)

Fig. E: Permanent four-wheel drive version

F WINDSCREEN AND HEADLIGHTS WASHER LIQUID



On refuelling, check the level of the liquid in screen washer container and replenish if necessary.

If the container is empty, do not continue to operate the washer as this will damage the electric pump.

For refilling the screen washer container, it is recommended that suitable screen jet fluids available on the market be used so as to prevent the jet nozzles obstruction by hard water deposits.

A - B - C REAR WINDOW WASHER LIQUID RESERVOIR (if provided)

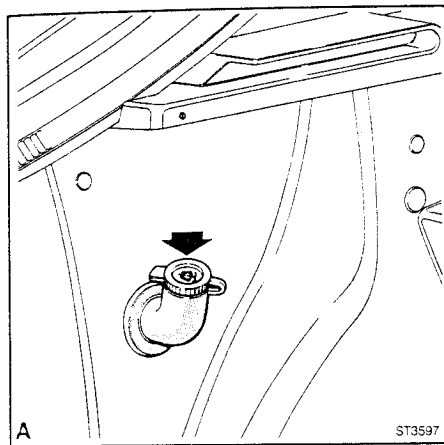


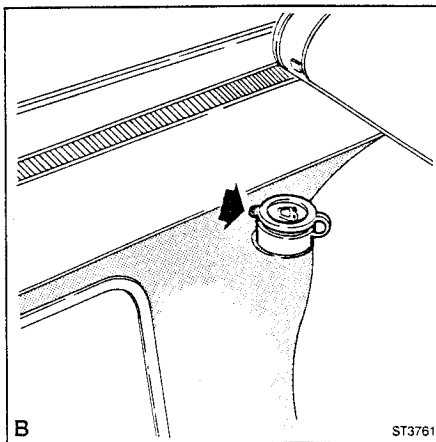
Fig. A: 33 models - Front-wheel drive versions.

Fig. B: Sport Wagon models - Front-wheel drive versions.

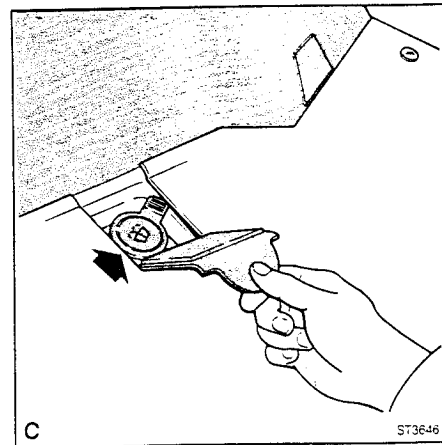
Fig. C: Four-wheel drive versions.

The rear window washing liquid reservoir is located in the boot on the left side.

Top up the liquid in the reservoir through the plug which can be reached by opening the small hinged panel (illustrated).

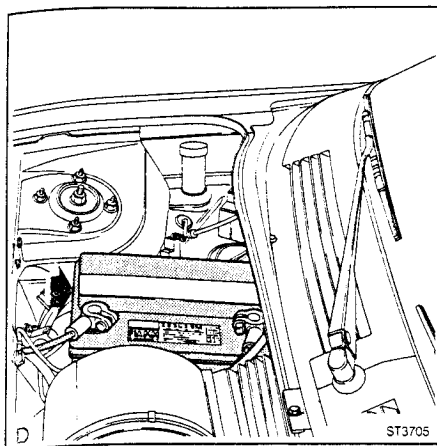


If the container is empty, do not continue to operate the washer as this will damage the electric pump.



For refilling the screen washer container, it is recommended that suitable screen jet fluids available on the market be used so as to prevent the jet nozzles obstruction by hard water deposits.

D BATTERY



The battery electrolyte level should be more than 4-5 mm (3/16 in.) above the plate.

When filling up the battery, use only distilled water; **never add acid.**

Some models are equipped with a "maintenance-free" battery which requires no filling up with electrolyte.

Make sure that terminals are tight and are sufficiently coated with pure vaseline.

The following recommendations and precautions should also be observed;

- When recharging the battery completely disconnect it from car's circuitry.
- Never reverse battery polarity, as this will damage the alternator diodes.
- When electric welding is carried out on car, disconnect battery making sure the positive terminal is properly insulated.
The engine must be stopped.
- Never disconnect the battery terminals while the engine is running or the electronic components will be seriously damaged.

SPARK PLUGS



When spark plugs are removed or changed, with a cold engine, tighten to a torque of 2.5 to 3.5 kgm after having lubricated the thread.

Adhere to the following instructions with regard to the types of spark plugs and their replacement times.

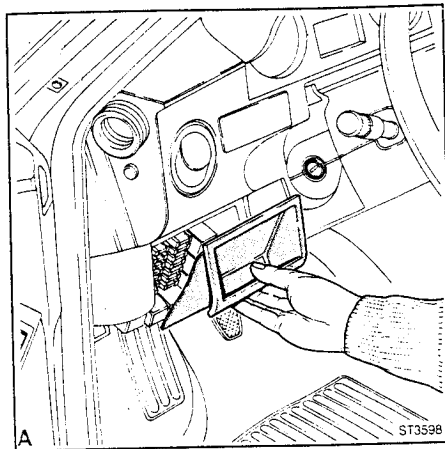
16 valve versions

| | |
|----------------------|---------------|
| Type of spark plugs: | Change every: |
| NGK PFR6B | 100.000 km |

8 valve versions

| | |
|----------------------|---------------|
| Type of spark plugs: | Change every: |
| LODGE 25HL | 40.000 km |

A - B - C - D FUSES AND RELAYS

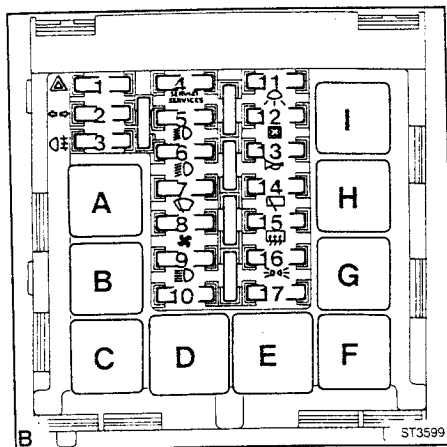


Fuses and relays box

The box is located in the lower left side of the dashboard, behind the glovebox. To have access to the fuses and relays, it is necessary to remove said glovebox which is pressure inserted (see figure A).

To identify the circuits protected by fuses, refer to the table alongside. On the box there are four vertically disposed spare fuses.

If one or more fuses must be replaced, **It is absolutely indispensable to respect the specified amp values**; very serious damage may otherwise occur.



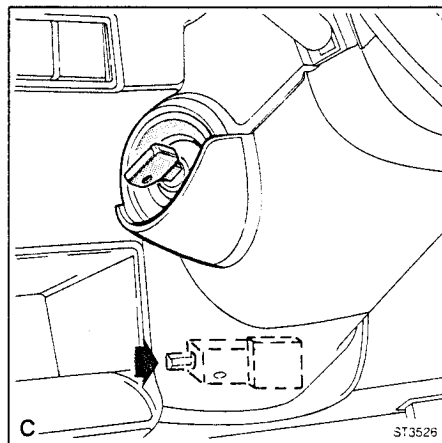
It is recommended to substitute the spare fuses with **Original Alfa Romeo Spare Parts** after any eventual replacement. The utilization of similar fuses, with even slightly different characteristics, can compromise the vehicle's functioning and safe operation.

Warning: Before replacing a fuse, deactivate all the lights and accessories and remove the ignition key to avoid damaging the electrical system.

Fuses (fig. B)

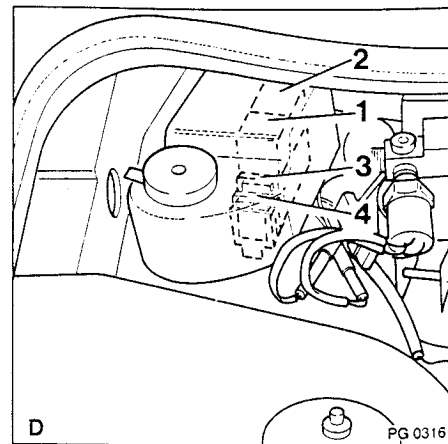
| | |
|--|-------------------|
| 1 Hazard lights | 10A |
| 2 Direction indicators - Electric front power window relay - +15 switched lights united - +15 Alfa Control (only on some versions) | 7.5A 7.5A |
| 3 Rear fog light | 7.5A |
| 4 Instruments - Four-wheel drive unit - +15 four-wheel drive system relay - Four-wheel drive failure warning light - Four-wheel drive warning light on - Stop-lights additional switch | 10A 10A 10A |
| 5 Left low-beam headlight | 10A |
| 6 Right low-beam headlight | 10A |
| 7 Windscreen wiper - Rear window wiper - Windscreen and rear window washer electric pump - Headlight washers permit | 20A |
| 8 Electric heater - Conditioner | 7.5A |
| 9 Left high-beam headlight - High-beam warning light | 10A 10A |
| 10 Right high-beam headlight | 10A |
| 11 +30 Clock - Passenger compartment front lamps - Passenger compartment central lamp (Sport Wagon versions) - Passenger compartment rear lamp - Fuse holder box lighting - Centralized door-locking | 20A 25A |
| 12 Engine cooling electric fan | 25A |
| 13 Horn - Stop lights - Cigar lighter - Car radio | 20A |
| 14 +15 Clock - Rear window washer reset - Reversing light - Heated seats (where applicable) - +15 DIM DIP relay (where applicable) - +15 DAY LIGHT relay (where applicable) | 20A 20A |
| 15 Heated rear window | 20A |

- 16 Front left-hand and rear right-hand sidelights - Front right-hand and rear left-hand sidelights - Boot lamp - Headlight washers permit - Exclusion relay DIM DIP (where applicable) - Alfa Control (Front left-hand and rear right-hand sidelights (on some versions) - Alfa control lighting (on some versions) 10A
- 17 Front right-hand and rear left-hand sidelights - Front left-hand and rear right-hand sidelights (on some versions) - Sidelights warning light - Numberplate lights - Fog lights permit - Heater control lighting - Lighter and ashtray lighting - Glove compartment lamp - Instrument panel lighting - Clock lighting - Signalling unit and "lights on" permit - headlight alignment regulator - Alfa Control (Front right-hand and rear left-hand sidelights) (on some versions) - Exclusion relay DIM DIP (where applicable) - Instrument lights dimming rheostat (where applicable) 10A



Electric power window fuse (fig. C)

The front electric power windows fuse (30A) is located in the left-hand side of the dashboard, under the covering.



Air conditioner system fuses and relays (where applicable)

The air conditioner system fuses and relays are located on the right-hand side of the service tank, covered with a protective cover.

- 1 - Right-hand electric fan control relay.
- 2 - left-hand electric fan control and compressor magnetic joint relay.
- 3 - Right-hand electric fan protection relay (20A).
- 4 - Left-hand electric fan protection and compressor relay (25A).

Relays (fig. B)

- A - Low-beam headlights
- B - Services excluded at starting
- C - High-beam headlights
- D - Windscreen wiper timer
- E - Direction indicators intermittence
- F - Parking lights (where provided)
- G - Rear fog light
- H - Heated rear window
- I - Horn

GENERATOR

The generator requires special care:

- It should not be tampered with.
- Never disconnect the battery or generator terminals while the engine is running.
- It is recommended that any inspection or repair work be entrusted to **Alfa Romeo Service Dealers**.

ELECTRONIC IGNITION SYSTEM

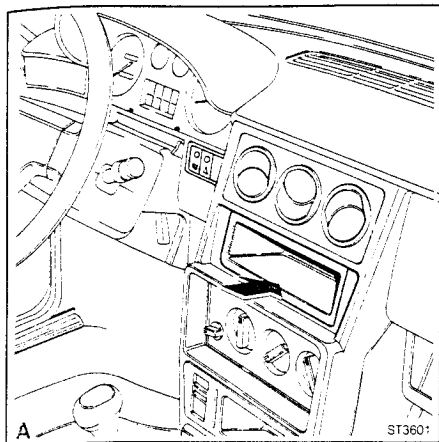
The electronic ignition system guarantees constant high level of performance under a wide range of operating conditions.

Important note

If the engine ignition system appears to be developing trouble, all inspection and servicing operations must be performed according to a specified procedure to prevent damaging the ignition system components and, above all, injuring the operator.

It is therefore recommended that the ignition system be checked for faults **only by Alfa Romeo Service Dealers**.

A - B - C CAR RADIO



The vehicle has provision for the installation of a car radio.

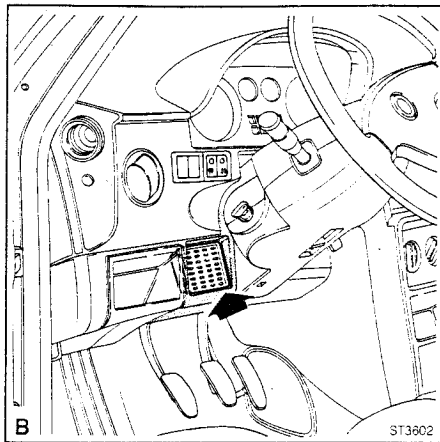
The housings for the components of the system are located as follows:

- In the case of the radio, in the compartment located above the climatization controls in the central console (figure A).

The speaker slots, placed on the either lower sides of the dashboard (figure B).

The standard wiring consists of:

- Spark plug leads and radio-interference filters.
- Power supply wires for the radio systems.
- Coaxial antenna cable. (Antenna is mounted on the front of the roof), (figure C).

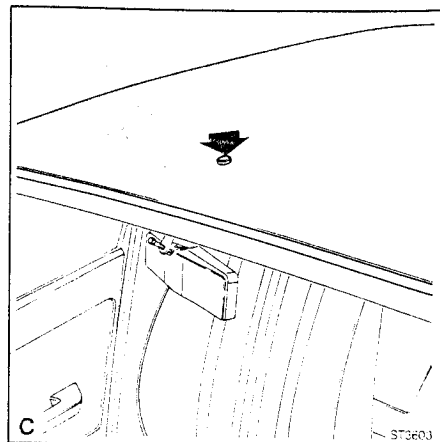


Some versions can be fitted with the following as optional:

- Two loudspeakers located in the front door panels.
- Antenna installed on the front of the car roof.

Some versions can be fitted with the following as optional:

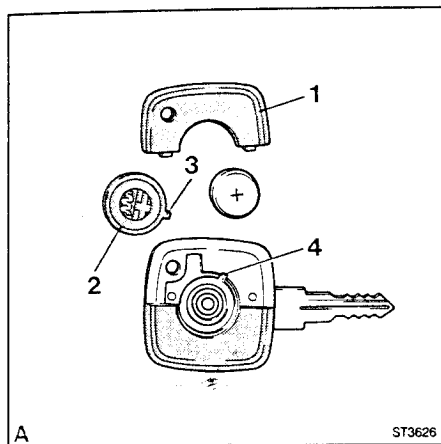
- Two supplementary speakers for the higher notes (tweeter) located in the front door panels.
- Two speakers in the rear door panels.



Note: Alfa Romeo sells the radio, speakers and antenna made specifically for each vehicle.

For installation of these components it is suggested to contact only **Alfa Romeo Service Dealers**, where proper installation will assure proper operation and warranty coverage.

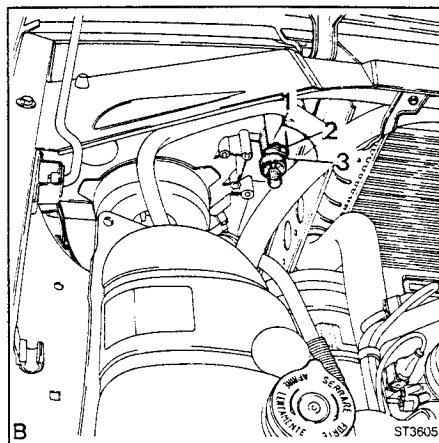
A ILLUMINATED KEY BATTERY REPLACEMENT



To replace battery:

- Withdraw cover 1 sidewise.
- Remove pushbutton 2.
- Replace battery: care should be taken to fit the new battery with positive (+) side upwards.
- Refit pushbutton 2; tab 3 should match groove 4.
- Fit cover.

B HEADLIGHT BEAM SETTING ACCORDING TO LOAD



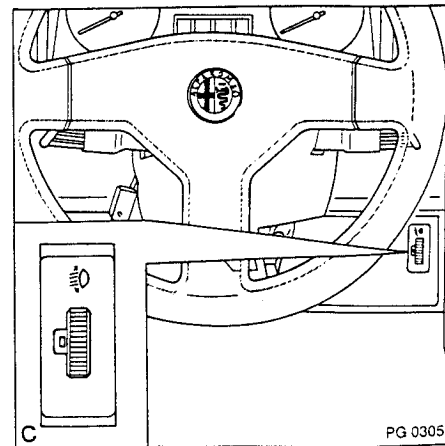
The lever shown in the figure allows to set the beam according to the load. Set both levers to position 1 when travelling unloaded; to 2 when partially loaded and to 3 when fully loaded.

HEADLAMP AIM

It is highly important to keep the headlamps properly aimed, to ensure driving safety and to comply with traffic regulations.

We suggest you have a periodic check made at an **Authorized Alfa Romeo Service Dealer** as they are properly equipped for a perfect adjustment.

C HEADLAMP AIM ADJUSTING SWITCH



Optional only in some countries

When the car is loaded (and its trim altered) the headlamps must be restored to their original aim.

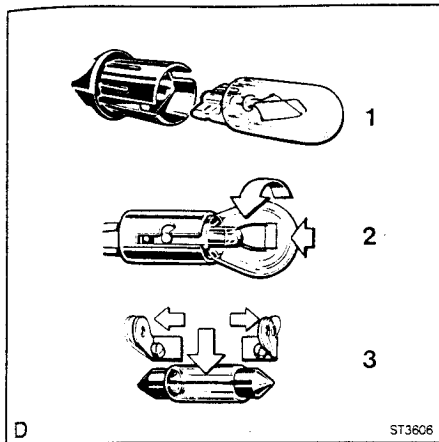
Position 0: 1 person or 2 people on front seats, fuel tank full, on-board outfit;

Position 1: 5 people, fuel tank full, on-board outfit;

Position 2: 5 people with luggage compartment full (approx. 50 kg), fuel tank full, on-board outfit;

Position 3: 1 person (the driver) with 300 kg all located in the luggage compartment, fuel tank full, on-board outfit.

D - E BULB REPLACEMENT



The vehicle is fitted with various types of bulbs (1-2-3-4).

They are inserted and removed as follows:

1 - ALL-GLASS BULBS

Merely push in and pull out.

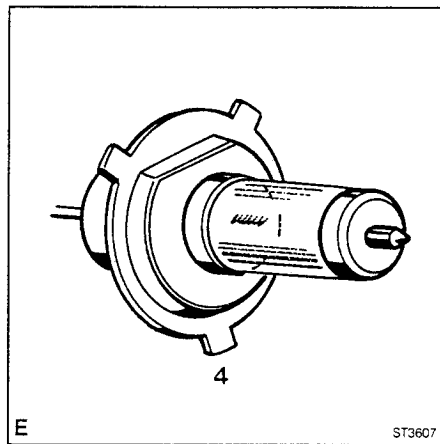
2 - BAYONET-TYPE BULBS

To extract: press the bulb into the seat, turn anticlockwise and remove.

3 - CYLINDRICAL BULBS

To extract free from the contacts by pulling upwards (perpendicular to contacts).

To fit bulbs proceed as above but in the reverse order.



4 - IODINE LAMPS (Figure E)

To remove lamp, release the bulb from the retaining springs. Never touch the glass part of the iodine lamp with your hands; in the event of contact, lamp must be cleaned with alcohol prior to mounting.

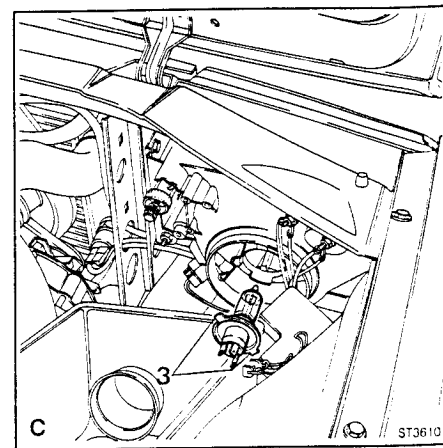
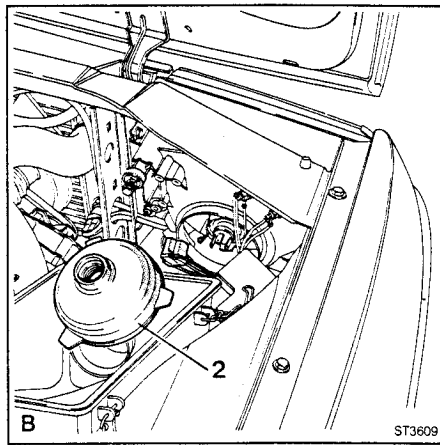
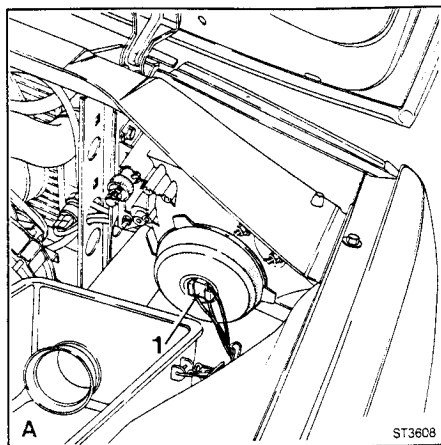
POWER OF LAMPS

| LAMPS | TYPE | W |
|------------------------------|------|-------|
| High-beam/low-beam | 4 | 55/60 |
| Front parking | 2 | 4 |
| Front direction | 2 | 21 |
| Side direction | 1 | 3 |
| Rear direction | 2 | 21 |
| Rear stop | 2 | 21/5 |
| Rear parking | 2 | 5 |
| Reversing | 2 | 21 |
| Rear fog light | 2 | 21 |
| Courtesy lamp | 3 | 10 |
| Number plate light | 2 | 5 |
| Fog lights* | 4 | 55 |
| Warning lights | 1 | 1.2 |

* Not standard

It is recommended to use only original replacement **ALFA ROMEO** lamps, and to go to an **authorized Alfa Romeo Service Dealer**, if possible, to replace the lamp.

A - B - C LOW-BEAM/HIGH-BEAM HEADLIGHTS



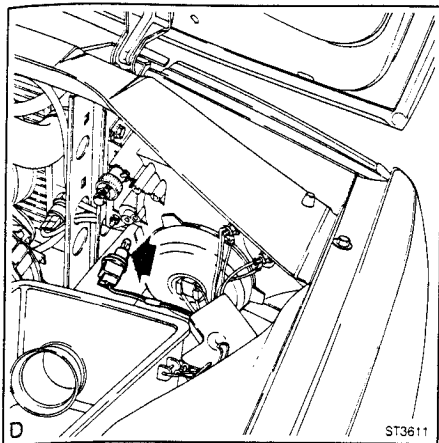
To replace the bulb, proceed as follows:

- Disconnect connector 1 (pressure fitted).
- Remove rubber protection cap 2.

- Release the bulb from the retaining springs and replace it. When refitting, take care to insert the bulb correctly, matching the notches 3 on the cup with those on the optic unit.

Warning: Never touch the glass part of the iodine lamp with your hands; in the event of contact, lamp must be cleaned with alcohol prior to mounting.

D FRONT PARKING LIGHTS



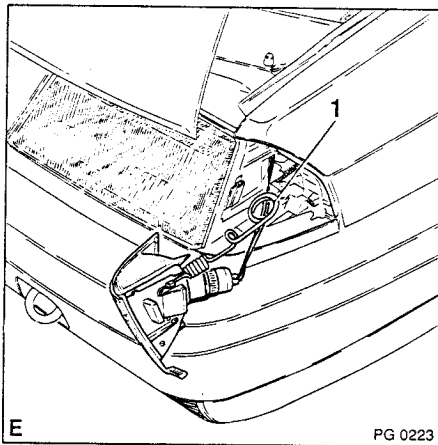
These are housed in the lower part of the front optic unit.

To remove the lampholder, rotate it counterclockwise and remove it.

Remove the bulb and replace it.

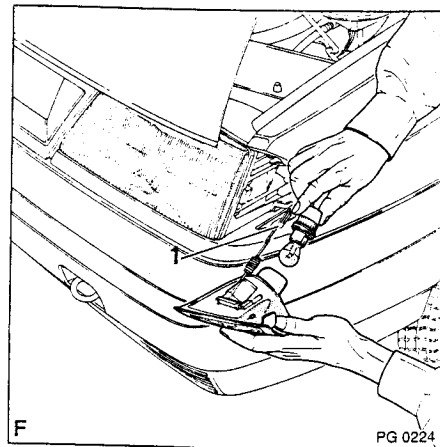
When refitting, match the notches on the lampholder with those on the optic unit, then press and rotate clockwise.

E - F FRONT DIRECTION INDICATOR LIGHTS



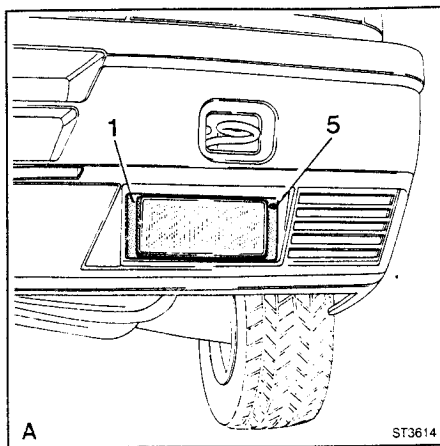
To replace the bulb, first remove the side optic unit, acting from inside the engine compartment:

- Grip optic unit retaining spring 1 and release it by pulling it towards the outside of the vehicle.
- To remove the lampholder, rotate it counterclockwise and extract it.
- Extract the bulb and replace it.



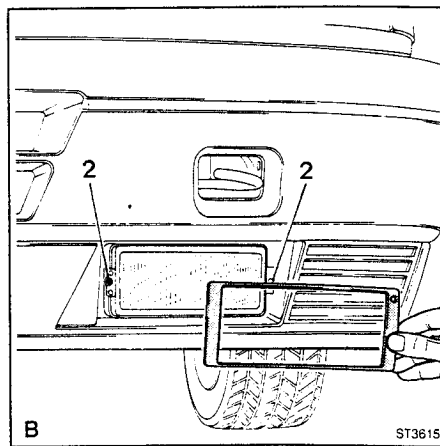
When reassembling, insert lamp bulb holder into its housing; then slide in optical unit, taking care that it fits properly into place. Working from inside the engine compartment, attach clip 1, pulling it towards the inside.

A - B - C FOG LIGHTS (On request where supplied)

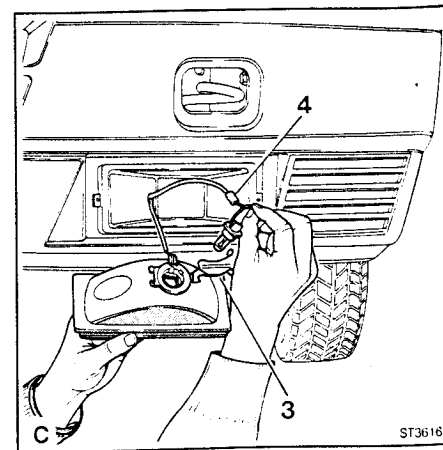


To replace the halogen bulb proceed as follows:

- Remove frame 1 (pressure fitted).
- Unscrew screws 2 with keep plates and remove the optic unit.
- Release retaining clip 3.
- Remove bulb and replace it, disconnecting connector 4.

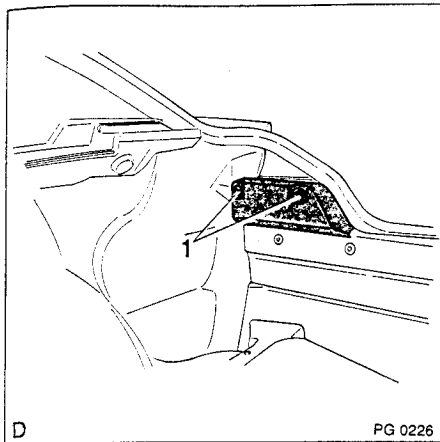


To direct the light beam, act on screw 5 (figure A) via the hole on the fog light frame.

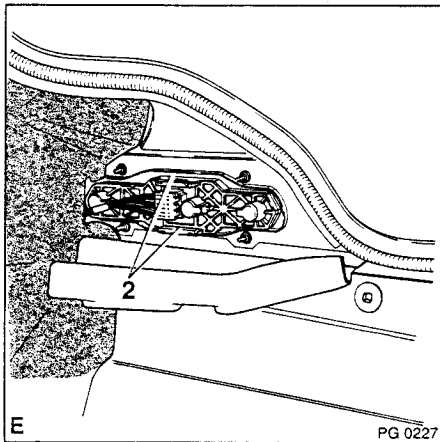


Warning: Never touch the glass part of the iodine lamp with your hands; in the event of contact, lamp must be cleaned with alcohol prior to mounting.

D - E - F REAR LIGHTS (33 models)

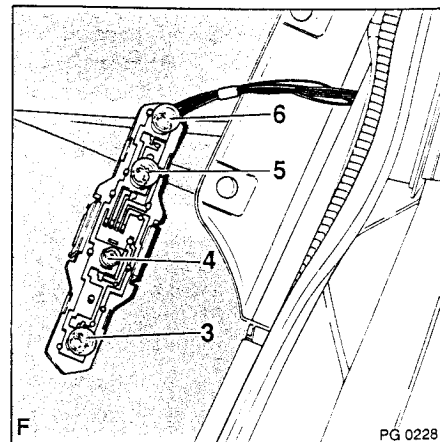


The rear lights can be reached from inside the luggage compartment.
The lights are protected by a cover which opens after the two nuts 1 have been unscrewed.



Take out lamp bulb holder by pressing on the flaps 2, without disconnecting the electrical connector.

Replace the faulty lamp bulb (bayonet type).



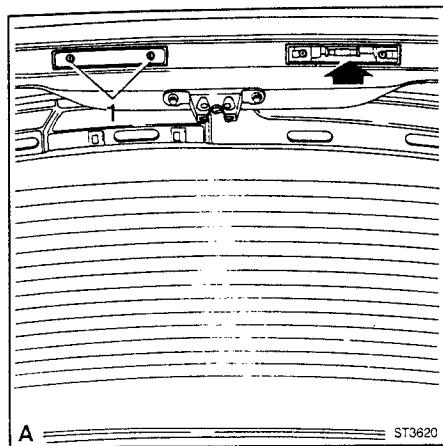
The arrangement of the bulbs in the RH optical unit is as follows:

- 3 - Reverse light
- 4 - Parking light
- 5 - Stop light
- 6 - Direction light.

The arrangement of the bulbs in the LH optical unit is symmetrical, except for:

- 3 - Rear foglight.

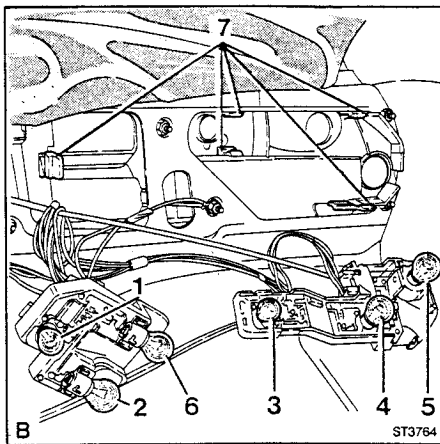
A NUMBERPLATE LIGHTS (33 models)



The two lights illuminating the numberplate are housed in the luggage compartment lid. To replace the bulb, unscrew the two fixing screws 1 and remove the transparent protection.

Now replace the bulb.

B - C REAR LIGHTS (Sport Wagon models)

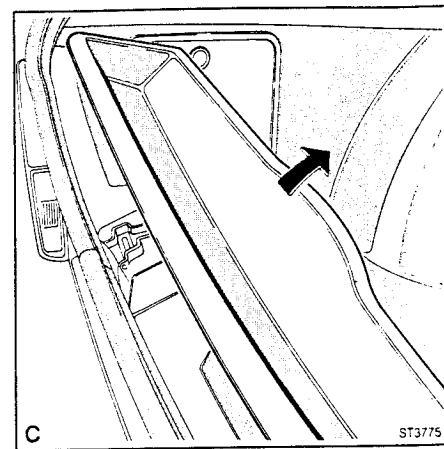


These are accessible from the inside of the boot.

Raise the rear carpet and extract the lampholder required by releasing springs 7.

The rear lights are:

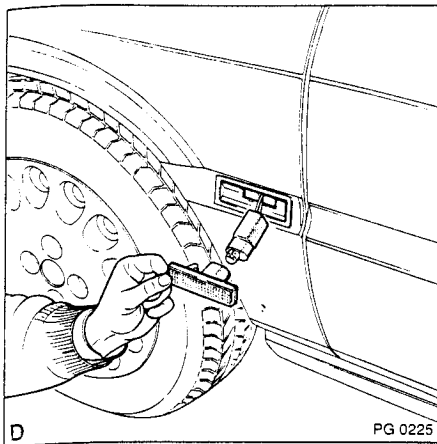
- 1 - Number plate light
- 2 - Rear fog lamp (at left side only)
- 3 - Side light
- 4 - Stop light
- 5 - Direction indicator
- 6 - Reversing light



4WD versions only (figure C)

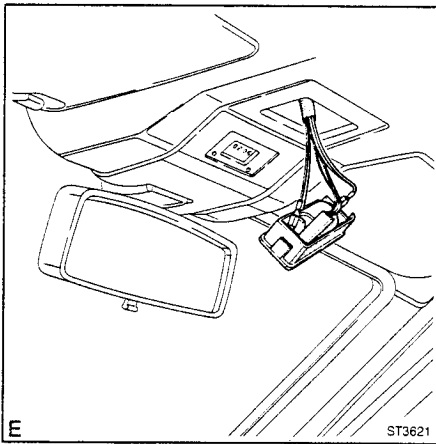
These are accessible from under the parcel bin which must be removed. Raise the rear carpet and proceed as previous described.

D SIDE DIRECTION INDICATOR LIGHT



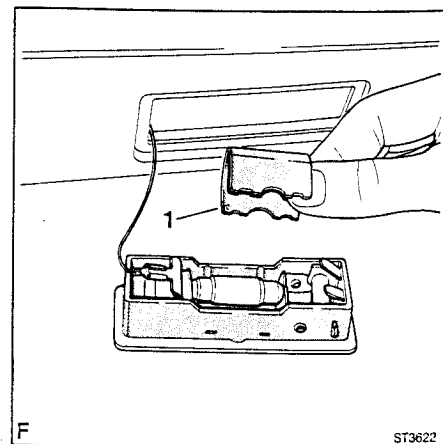
Remove the gem (pressure-fitted), extract the lampholder and replace the bulb.

E - F PASSENGER COMPARTMENT LIGHTS



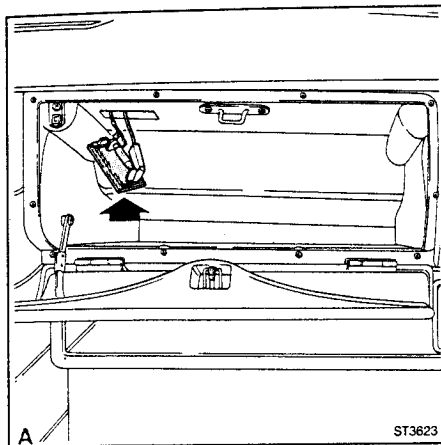
To replace the bulb, proceed as follows:

- Remove the pressure-fitted compartment light.



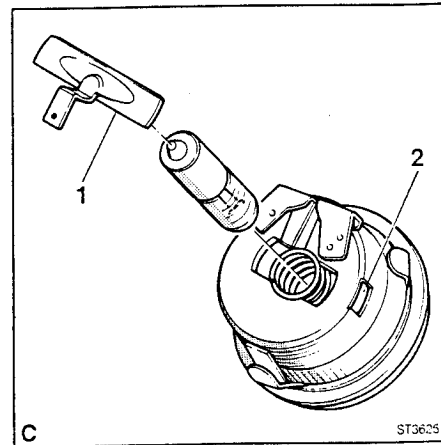
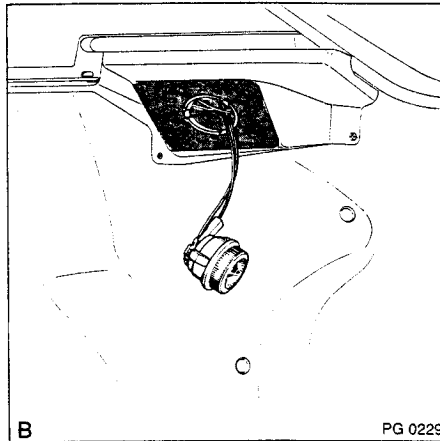
- Remove the metal cover 1 unhooking the four fixing clips and remove the bulb.

A GLOVEBOX COURTESY LAMP



To replace the bulb, remove the transparent cover (pressure-fitted).

B - C BOOT COURTESY LAMP (33 models)



To replace the bulb:

- Remove the courtesy lamp (pressure-fitted).
- Withdraw tongue 1 sidewise in the direction of the slit 2.
- Extract bulb and replace.
- Reassemble in the reverse order.

MAINTENANCE: BODYWORK

Bodywork

Alfa Romeo markets a complete line of products specifically developed for the care and cleaning of the cars we produce (shampoo, wax, paint stick for retouching, stain-remover, polish, etc.).

The characteristics of these products are compatible with the nature of the paints, gaskets and finishing of Alfa Romeo cars.

It is therefore advisable to have these products applied by expert personnel in our service organization: this will ensure the best results and avoid problems which could jeopardize your bodywork warranty.

Particular care should be devoted to removing any deposits of industrial or pollutant powders, tar spots, dead insects, etc.

Also avoid parking the car under trees: in certain seasons, in fact, trees drop sap, buds or leaves containing substances harmful to the paint.

In the above cases, the car should be washed as soon as possible.

When refuelling, do not allow fuel, oil, brake fluid, coolant or battery electrolyte to drip onto the bodywork.

Should this occur, clean the affected area of the bodywork immediately.

Underbody protection

The underbody of the vehicle has been treated with the application of a special protective material. In the event of it becoming necessary to renew the state of protection it is absolutely necessary to protect the discharge channel, the lambda probe and the catalytic converter (where fitted) from the contact with any waxy, oily, plastic and/or inflammable product. It is therefore advisable to have the intervention carried out at the **Authorized Alfa Romeo Services**.

Washing your car

The car should be washed as frequently as required by driving conditions, seasonal weather conditions and road conditions.

The car should be washed more frequently in winter, because dust and grime deposits are more difficult to remove from the bodywork. Also remember that in many areas in winter the roads may be sprinkled with anti-icing chemicals harmful to the bodywork.

Also be sure to clean less visible parts, such as fenders, wheel housings, under-panel, etc.

The car should be washed in the shade, whenever possible, with the following precautions:

- Do not wash the car immediately if it has been exposed to the sun or if the hood is warm.
- Clean the interior with a brush or vacuum-cleaner.
- Rinse off the entire carbody to remove dust and dirt.

- Prepare a solution of water and car shampoo and wash the entire body with a sponge.
- Finally, wash the road wheels and the bottom of the body sides.
- Rinse off the entire body with a jet of water.
- Dry with a chamois cloth.
- After drying, remove any residues of grease, oil or tar applying car wax to the affected areas, polishing then with a clean cloth.
Never use anything abrasive on the car body.
- Should it be necessary to remove dust, dirt, etc. from the rear lights (and/or lateral turn signals), only use a soft cloth soaked in a solution of water and neutral soap.
Never use chemical solvents and/or oil byproducts such as petrol, alcohol, ammonia, acetone, etc. which may deteriorate the material and reduce its transparency, thus compromising driving safety.

Note: It is preferable to wash the car manually; otherwise, make sure that dust and dirt are removed beforehand.

CAR INACTIVITY

If your car must remain inactive for long periods, the following instructions should be followed to the letter:

Body

Have the body washed and cleaned.

Tyres

If possible, the car should be blocked up and the tyres removed.

If this is not possible, put boards under the tyres.

Electric system

Disconnect the battery, check its charge periodically and recharge if necessary.

Putting the car back on the road

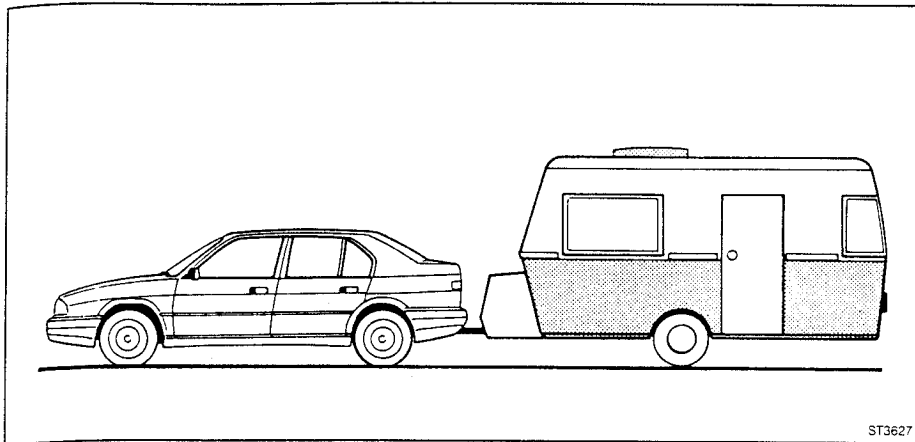
Before driving the car after a long period of inactivity, we recommend you perform the following operations:*

- Change oil and oil filter.
- Replace gearbox - differential oil and rear differential oil (where present).
- Change brake fluid.
- Change coolant.
- Check the fuel filter and change if necessary.
- Check tyre pressure and inspect tyres for damage such as cuts or cracking. Replace if necessary.
- Check the condition of engine belts.
- Connect the battery after checking its charge.

- Start the engine in neutral gear and let it idle for a few minutes. **Beware of carbon monoxide!** Perform this operation in the open air or in a large, well-ventilated area, making sure that the coolant reaches the proper temperature without overheating. Throttle the engine up for a few seconds until it reaches a speed of 2,500-3,000 rpm. Make sure all the service lights (head-lights, parking lights, etc.) function properly. Otherwise, read the related chapter in the Owner's Manual or consult an **Alfa Romeo Service Dealer**.

* **Note:** To perform correctly the operations listed, refer to the individual items mentioned in the "Maintenance" chapter.

INSTRUCTIONS FOR TRAILER TOWING



The vehicle is capable of towing through the use of a towing bracket.

Alfa Romeo sells an appropriate towing bracket in accordance with the safety characteristics and standards in force.

It is therefore suggested to have the towing bracket installed by an authorized **Alfa Romeo Service Dealer**, thus avoiding the possibility of compromising body warranty coverage.

The trailer brake system must be completely independent of the hydraulic system on the towing vehicle, which **must be not altered in any manner**.

Caution

Both vehicle and trailer must conform to all traffic laws.

Maximum towing weight is understood as the effective weight of the trailer fully loaded, including accessories and personal effects.

To avoid traffic violations, it is best to have the trailer weighed fully loaded.

In all cases, the vertical load transferred to the rear axle of the driving vehicle must not exceed the maximum limit specifications in the "Technical Data".

When connecting a caravan or other trailers, make sure that maximum towing weight (found on vehicle registration) or maximum weight allowed on the towing bracket ball of the driving vehicle (found on the embossed plate on the bracket) is greater than or equal to the total weight and the load on the towing eye.

Observe the following precautions:

Prior to departing

- Install a roof spoiler for better fuel economy and reduced air resistance.
- Check tyre pressure on both vehicle and trailer.
- Check turn and stop lights of the trailer.
- Test forward and backward maneuvers of the vehicle and trailer, in an appropriate open area.

On the road

- **Keep a moderate speed.**
- Downshift up and down a hill.
- Remember that stopping distances with additional loads are greater. Brake smoothly and progressively; avoid sudden pressure on the brake pedal.
- Remember the presence of the towing vehicle when overtaking; don't make sudden lane changes.
- In windy conditions steering will be greatly influenced due to sudden lateral gusts, especially along mountain bridges.

A - B - C - D BODY ATTACHMENT POINTS

The diagram shows the body attachment points for the towing bracket, which must be respected regardless of the shape and size of the bracket.

Fig. A = 33 model - Front-wheel drive versions.

Fig. B = 33 model - Four-wheel drive versions.

Fig. C = Sport Wagon model - Front-wheel drive versions.

Fig. D = Sport Wagon model - Four-wheel drive versions.

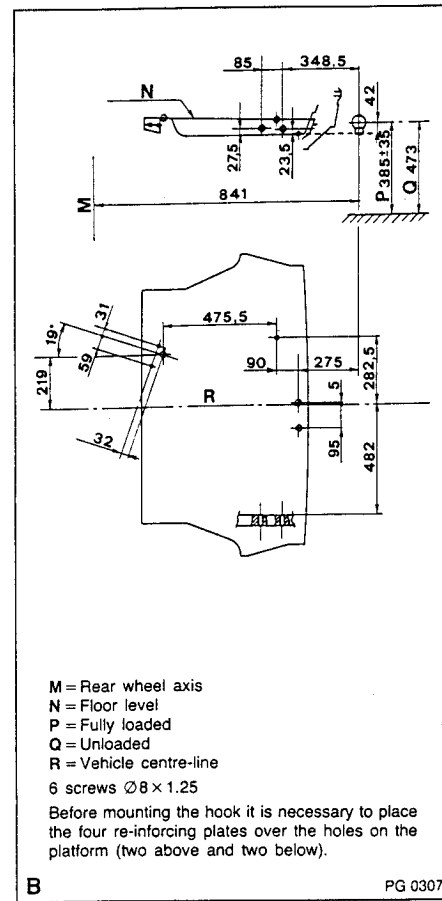
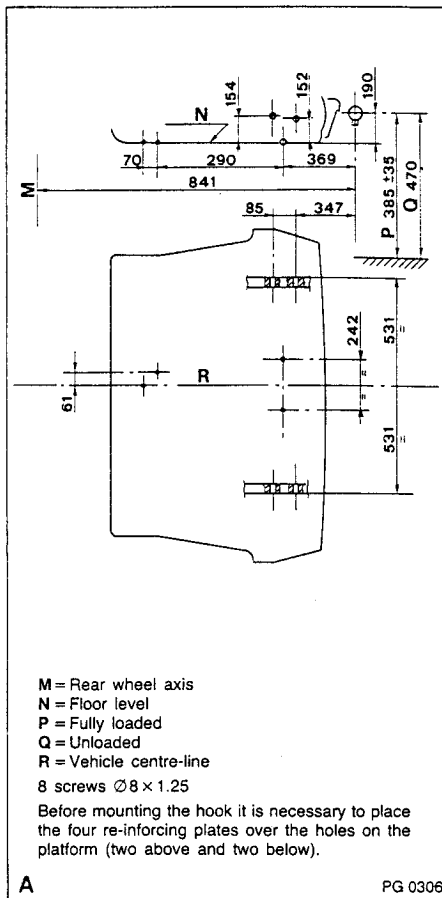
For the mechanical connection between the towing bracket attachment and the trailer, use:

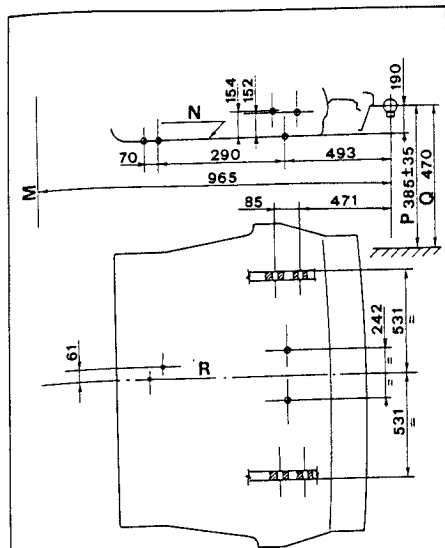
- "ISO 50" Ball-type (Italian CUNA Std. NC 138-30).

The electrical connecting wires joint to the trailer must be secured to the bracket support arm in the most suitable position.

For the electrical connection, use a 7-pole 12V joint ISO/DR 1724-1969 (CUNA NC 165-30).

Aparr from mandatory signal devices, a 15W max. light for internal tailer illumination and possibly an electric brake, which must be powered directly off the battery, using a cable with a min. section of 2.5 mm², **it is forbidden to connect the services on the trailer (fan, refrigerator, internal lighting, etc.) to the vehicle's electrical system.**





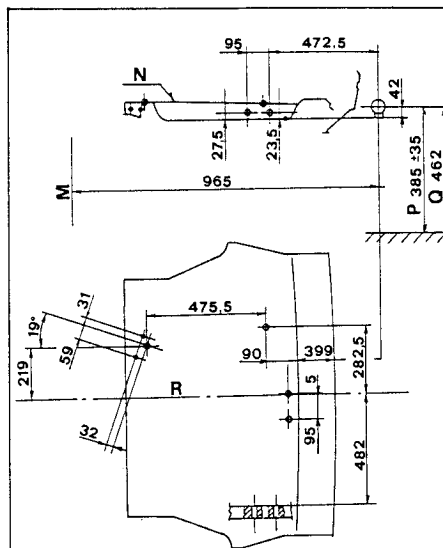
M = Rear wheel axis
 N = Floor level
 P = Fully loaded
 Q = Unloaded
 R = Vehicle centre-line

8 screws $\varnothing 8 \times 1.25$

Before mounting the hook it is necessary to place the four re-inforcing plates over the holes on the platform (two above and two below).

C

PG 0308



M = Rear wheel axis
 N = Floor level
 P = Fully loaded
 Q = Unloaded
 R = Vehicle centre-line

6 screws $\varnothing 8 \times 1.25$

Before mounting the hook it is necessary to place the four re-inforcing plates over the holes on the platform (two above and two below).

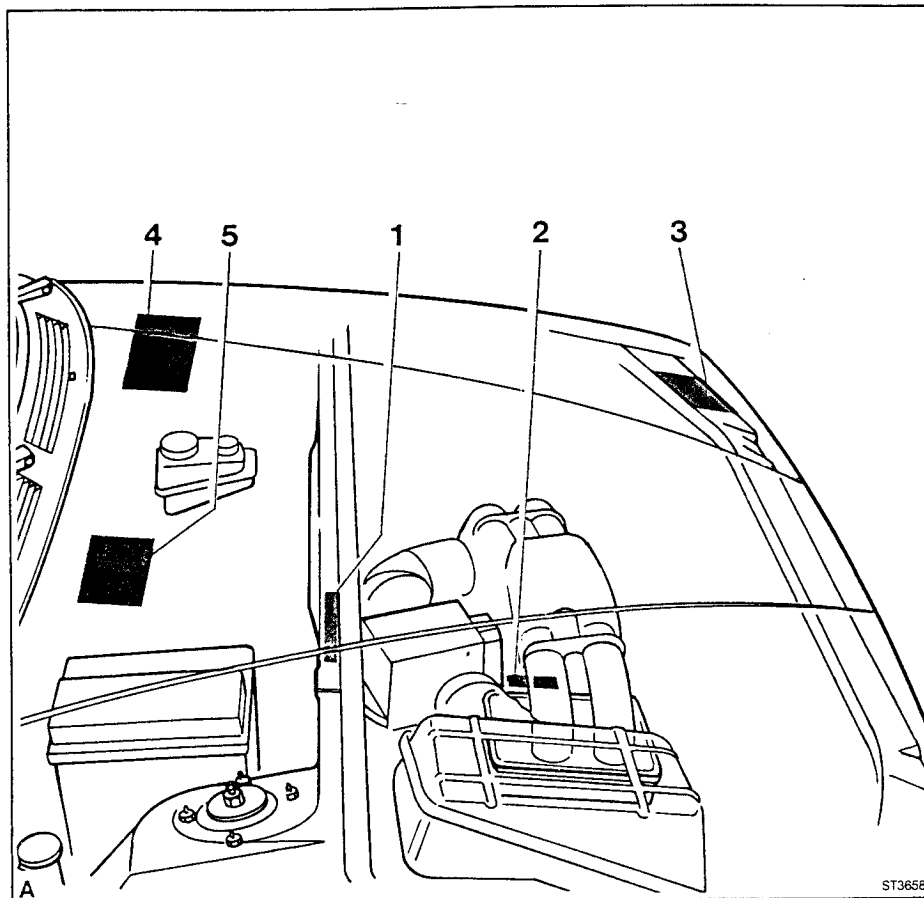
D

PG 0309

Technical data

| | |
|--|-----|
| Vehicle identification | 112 |
| Technical features and system description | 113 |
| Vehicle dimensions 33 models | 126 |
| Vehicle dimensions Sport Wagon models | 128 |
| Electronic ignition and injection system diagram (16 valve versions) | 130 |
| Electronic ignition and injection system diagram (1.5 IE-1.7 IE 8 valve versions) . | 133 |
| Static electronic ignition and injection system diagram (1.3 IE-1.4 IE versions) | 138 |
| Cooling system | 140 |
| Power steering | 142 |
| Anti-lock braking system (ABS) | 143 |
| Braking system | 146 |
| Permanent four-wheel drive | 148 |

A VEHICLE IDENTIFICATION



Identification points (plates or stamped) are located as follows:

1 - On bulkhead panel:

stamped chassis serial no.

2 - Engine block:

engine serial no. stamped on right side - cylinder no. 3)

3 - Left side of front bulkhead panel:

plate with vehicle type and type approval

4 - Under bonnet, left side:

lubrication plate


5 - Under bonnet, right side:


plating information - type and brand used.

When contacting the factory or service organization state: vehicle type, chassis no., registration date, miles covered and purchase information.

TECHNICAL FEATURES AND SYSTEM DESCRIPTIONS

| | |
|--|---------|
| Technical data - 33 models | 114-119 |
| Technical data - Sport Wagon models | 120-125 |
| Vehicle dimensions - 33 models | 126-127 |
| Vehicle dimensions - Sport Wagon models | 128-129 |
| Electronic ignition and injection system diagram (16 valve versions) | 130 |
| Electronic ignition and injection system diagram (1.5 IE-1.7 IE 8 valve versions) | 133 |
| Static electronic ignition and injection system diagram (1.3 IE-1.4 IE versions) | 138 |
| Cooling system | 140 |
| Power steering | 142 |
| Anti-lock braking system (ABS) | 143 |
| Braking system | 146 |
| Permanent four-wheel drive | 148 |

| MODEL | 33  | 33 16V | 33 1.7 IE |
|---|--|---|------------------------------|
| FUEL SUPPLY | electronic injection MOTRONIC ML 4.1 | electronic injection MOTRONIC ML 4.1 | electronic injection |
| TOTAL DISPLACEMENT cm ³ | 1712 | 1712 | 1712 |
| ENGINE | | | |
| Number of cylinders (horizontally opposed) | 4 | 4 | 4 |
| Bore mm | 87 | 87 | 87 |
| Stroke mm | 72 | 72 | 72 |
| Max power HP DIN (kW CEE) | 132 (95) at 6500 rpm | 132 (95) at 6500 rpm | 107 (77) at 5800 rpm |
| Max torque kgm DIN (Nm CEE) | 15.5 (149) at 4600 rpm | 15.5 (149) at 4600 rpm | 15.2 (145) at 4500 rpm |
| Idle speed rpm | 900 ÷ 1050 | 900 ÷ 1050 | 850 ± 50 |
| Percentage (in volume) of exhaust CO (at idle speed at the tail pipe) | ≤ 0.5 | ≤ 0.5 | ≤ 0.2 |
| Unburned hydrocarbons (at the tail pipe) ppm | ≤ 50 | ≤ 50 | ≤ 70 |
| FUEL CONSUMPTION (litres per 100 km) | | | |
| Constant speed 90 kph | 6 | 5.9 | 5.7 |
| Constant speed 120 kph | 8 | 7.9 | 7.6 |
| On bench (simulated urban journey) | 10 | 10.5 | 9.9 |


| MODEL | 33  | 33 16V | 33 1.7 IE |
|---|--|--------------|--------------|
| CHASSIS | | | |
| Min. turning circle (* to the left) | 11 | 11 | 11 |
| Number of seats | 5 | 5 | 5 |
| Tyres | 185/60 HR 14 | 185/60 HR 14 | 185/60 HR 14 |
| Rims | 5 1/2 J×14" | 5 1/2 J×14" | 5 1/2 J×14" |
| Capacity of boot | 290/1050 | 400/1200 | 400/1200 |
| Kerb weight (full tank) | 1070 | 1000 | 970 |
| Towing gross weight | 1100 | 1100 | 1000 |
| Towing bar load | 50 | 50 | 50 |
| Max roof rack load | 80 | 80 | 80 |
| Final drive | 9/35 | 9/35 | 9/35 |
| FRONT WHEEL TOE OUT | | | |
| With car under static load | 4±2 | 4±2 | 4±2 |
| ELECTRICAL SYSTEM | | | |
| Generator | 12V 65A | 12V 65A | 12V 65A |
| Battery (*versions with air conditioning) | 55Ah | 45Ah-55Ah* | 45Ah-55Ah* |
| PERFORMANCES | | | |
| Max speed | 198 | 205 | 188 |
| Speed at 1000 rpm (in 5th gear) | 31.8 | 31.8 | 31.8 |
| From 0 to 100 kph | 8.9 | 8.4 | 9.5 |
| Standing kilometre | 31.8 | 31.1 | 31.4 |
| The performances given are related to the use of the vehicle in normal travelling conditions in Central Europe. | | | |


| MODEL | 33 1.7 IE 4x4 | 33 1.5 IE |
|--|----------------------|----------------------|
| FUEL SUPPLY | electronic injection | electronic injection |
| TOTAL DISPLACEMENT cm ³ | 1712 | 1490 |
| ENGINE | | |
| Number of cylinders (horizontally opposed) | 4 | 4 |
| Bore mm | 87 | 84 |
| Stroke mm | 72 | 67.2 |
| Max power HP DIN (kW CEE) | 107 (77) | 97 (70) |
| | at 5800 rpm | at 6000 rpm |
| Max torque kgm DIN (Nm CEE) | 15.2 (145) | 13 (125) |
| | at 4500 rpm | at 4500 rpm |
| Idle speed rpm | 850 ± 50 | 850 ± 50 |
| Percentage (in volume) of exhaust CO | | |
| (at idle speed at the tail pipe) | ≤ 0.2 | ≤ 0.2 |
| Unburned hydrocarbons | | |
| (at the tail pipe) ppm | ≤ 70 | ≤ 70 |
| FUEL CONSUMPTION (litres per 100 km) | | |
| Constant speed 90 kph | 5.8* | 5.7 |
| Constant speed 120 kph | 7.7* | 7.6 |
| On bench (simulated urban journey) | 10.5* | 9.5 |
| * With 2-wheel drive | | |

| MODEL | 33 1.7 IE 4×4 | 33 1.5 IE |
|---|---------------|-------------------------------|
| CHASSIS | | |
| Min. turning circle (* to the left) m | 11 | 11 |
| Number of seats | 5 | 5 |
| Tyres (* not standard) | 185/60 HR 14 | 175/70 TR 13 *185/60 TR 14 |
| Rims (* not standard) | 5 1/2 J×14" | 5 1/2 J×13" *5 1/2 J×14" |
| Capacity of boot dm ³ | 290/1050 | 400/1200 |
| Kerb weight (full tank) kg | 1020 | 970 |
| Towing gross weight kg | 1100 | 1000 |
| Towing bar load kg | 50 | 50 |
| Max roof rack load kg | 80 | 80 |
| Final drive | 9/35 | 9/35 |
| FRONT WHEEL TOE OUT | | |
| With car under static load mm | 4 ± 2 | 4 ± 2 |
| ELECTRICAL SYSTEM | | |
| Generator | 12V 65A | 12V 55A |
| Battery (* versions with air conditioning) | 55Ah | 45Ah-55Ah* |
| PERFORMANCES | | |
| Max speed kph | 185* | 180 |
| Speed at 1000 rpm (in 5th gear) kph | 31.8 | 31.8 |
| From 0 to 100 kph s | 10.2* | 10.7 |
| Standing kilometre s | 32.1* | 32.2 |
| * With 2-wheel drive | | |
| The performances given are related to the use of the vehicle in normal travelling conditions in Central Europe. | | |

| MODEL | 33 1.4 IE 33 1.4 IE L | 33 1.3 IE 33 1.3 IE L |
|---|------------------------------|------------------------------|
| FUEL SUPPLY | electronic injection | electronic injection |
| TOTAL DISPLACEMENT cm ³ | 1351 | 1351 |
| ENGINE | | |
| Number of cylinders (horizontally opposed) | 4 | 4 |
| Bore mm | 80 | 80 |
| Stroke mm | 67.2 | 67.2 |
| Max power HP DIN (kW CEE) | 90 (65) at 6000 rpm | 90 (65) at 6000 rpm |
| Max torque kgm DIN (Nm CEE) | 11.8 (113) at 4500 rpm | 11.8 (113) at 4500 rpm |
| Idle speed rpm | 900 ± 50 | 900 ± 50 |
| Percentage (in volume) of exhaust CO (at idle speed at the tail pipe) | ≤ 0.5 | ≤ 0.5 |
| Unburned hydrocarbons (at the tail pipe) ppm | ≤ 50 | ≤ 50 |
| FUEL CONSUMPTION (litres per 100 km) | | |
| Constant speed 90 kph | 5.8 | 5.8 |
| Constant speed 120 kph | 7.8 | 7.8 |
| On bench (simulated urban journey) | 9.5 | 9.5 |

| MODEL | 33 1.4 IE 33 1.4 IE L | 33 1.3 IE 33 1.3 IE L |
|---|--------------------------|--------------------------|
| CHASSIS | | |
| Min. turning circle (* to the left) m | 11.45-11.35* | 11.45-11.35* |
| Number of seats | 5 | 5 |
| Tyres | 165/70 TR 13 | 165/70 TR 13 |
| Rims | 5 1/2 J×13" | 5 1/2 J×13" |
| Capacity of boot dm ³ | 400/1200 | 400/1200 |
| Kerb weight (full tank) kg | 970 | 970 |
| Towing gross weight kg | 1000 | 1000 |
| Towing bar load kg | 70 | 70 |
| Max roof rack load kg | 80 | 80 |
| Final drive | 9/37 | 9/37 |
| FRONT WHEEL TOE OUT | | |
| With car under static load mm | 4 ± 2 | 4 ± 2 |
| ELECTRICAL SYSTEM | | |
| Generator | 12V 55A | 12V 55A |
| Battery (* versions with air conditioning) | 45Ah-55Ah* | 45Ah-55Ah* |
| PERFORMANCES | | |
| Max speed kph | 178 | 178 |
| Speed at 1000 rpm (in 5th gear) kph | 29.5 | 29.5 |
| From 0 to 100 kph s | 11.5 | 11.5 |
| Standing kilometre s | 33.5 | 33.5 |
| The performances given are related to the use of the vehicle in normal travelling conditions in Central Europe. | | |

| MODEL | Sport Wagon  | Sport Wagon 16V | Sport Wagon 1.7 IE 4x4 |
|---|---|---|------------------------------|
| FUEL SUPPLY | electronic injection MOTRONIC ML 4.1 | electronic injection MOTRONIC ML 4.1 | electronic injection |
| TOTAL DISPLACEMENT cm ³ | 1712 | 1712 | 1712 |
| ENGINE | | | |
| Number of cylinders (horizontally opposed) | 4 | 4 | 4 |
| Bore mm | 87 | 87 | 87 |
| Stroke mm | 72 | 72 | 72 |
| Max power HP DIN (kW CEE) | 132 (95) at 6500 rpm | 132 (95) at 6500 rpm | 107 (77) at 5800 rpm |
| Max torque kgm DIN (Nm CEE) | 15.5 (149) at 4600 rpm | 15.5 (149) at 4600 rpm | 15.2 (145) at 4500 rpm |
| Idle speed rpm | 900 ÷ 1050 | 900 ÷ 1050 | 850 ± 50 |
| Percentage (in volume) of exhaust CO (at idle speed at the tail pipe) | ≤ 0.5 | ≤ 0.5 | ≤ 0.2 |
| Unburned hydrocarbons (at the tail pipe) | ≤ 50 | ≤ 50 | ≤ 70 |
| FUEL CONSUMPTION (litres per 100 km) | | | |
| Constant speed (90 kph) | 6 | 6.4 | 5.7* |
| Constant speed (120 kph) | 7.8 | 8.2 | 7.4* |
| On the bench (simulated city driving) | 10 | 10.4 | 10.5* |

| MODEL | Sport Wagon  | Sport Wagon 16V | Sport Wagon 1.7 IE 4x4 |
|---|---|-----------------|---------------------------|
| CHASSIS | | | |
| Min. turning circle (* to the left) | 11 | 11 | 11 |
| Number of seats | 5 | 5 | 5 |
| Tyres | 185/60 HR 14 | 185/60 HR 14 | 185/60 HR 14 |
| Rims | 5 1/2 Jx14" | 5 1/2 Jx14" | 5 1/2 Jx14" |
| Capacity of boot | 350/1200 | 430/1350 | 350/1200 |
| Kerb weight (full tank) | 1085 | 1015 | 1035 |
| Towing gross weight | 1100 | 1100 | 1100 |
| Towing bar load | 50 | 50 | 50 |
| Max roof rack load | 80 | 80 | 80 |
| Final drive | 9/35 | 9/35 | 9/35 |
| FRONT WHEEL TOE OUT | | | |
| With car under static load | 4 ± 2 | 4 ± 2 | 4 ± 2 |
| ELECTRICAL SYSTEM | | | |
| Generator | 12V 65A | 12V 65A | 12V 65A |
| Battery (* versions with air conditioning) | 55Ah | 45Ah-55Ah* | 55Ah |
| PERFORMANCES | | | |
| Max speed | 196 | 202 | 182* |
| Speed at 1000 rpm (in 5th gear) | 31.8 | 31.8 | 31.8 |
| From 0 to 100 kph | 9 | 8.5 | 10.6* |
| Standing kilometre | 31.9 | 31.3 | 32.6* |
| The performances given are related to the use of the vehicle in normal travelling conditions in Central Europe. | | | |

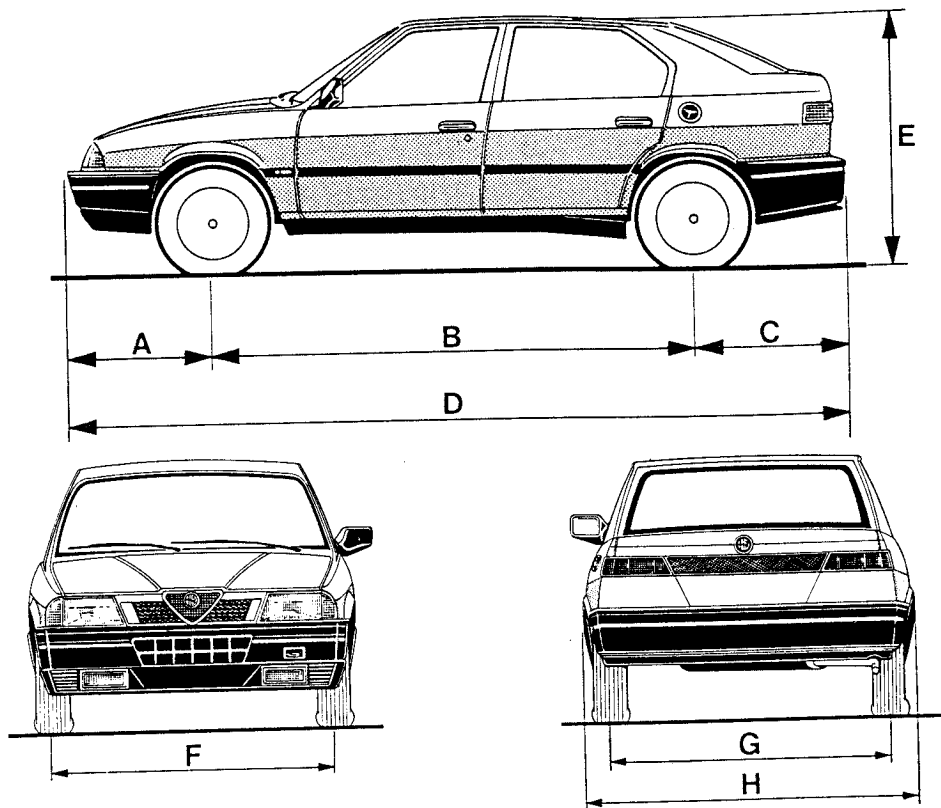
| MODEL | Sport Wagon 1.7 IE | Sport Wagon 1.4 IE 4×4 | Sport Wagon 1.4 IE Sport Wagon 1.4 IE L |
|---|-----------------------|---------------------------|--|
| FUEL SUPPLY | electronic injection | electronic injection | electronic injection |
| TOTAL DISPLACEMENT cm ³ | 1712 | 1351 | 1351 |
| ENGINE | | | |
| Number of cylinders (horizontally opposed) | 4 | 4 | 4 |
| Bore mm | 87 | 80 | 80 |
| Stroke mm | 72 | 67.2 | 67.2 |
| Max power HP DIN (kW CEE) | 107 (77) | 90 (65) | 90 (65) |
| | at 5800 rpm | at 6000 rpm | at 6000 rpm |
| Max torque kgm DIN (Nm CEE) | 15.2 (145) | 11.8 (113) | 11.8 (113) |
| | at 4500 rpm | at 4500 rpm | at 4500 rpm |
| Idle speed rpm | 850 ± 50 | 900 ± 50 | 900 ± 50 |
| Percentage (in volume) of exhaust CO (at idle speed at the tail pipe) | ≤ 0.2 | ≤ 0.5 | ≤ 0.5 |
| Unburned hydrocarbons (at the tail pipe) | ≤ 70 | ≤ 50 | ≤ 50 |
| FUEL CONSUMPTION (litres per 100 km) | | | |
| Constant speed 90 kph | 5.7 | 6.1* | 5.7 |
| Constant speed 120 kph | 7.7 | 8.3* | 7.5 |
| On bench (simulated urban journey) | 9.9 | 9.6* | 9.5 |
| * With 2-wheel drive | | | |

| MODEL | Sport Wagon 1.7 IE | Sport Wagon 1.4 IE 4×4 | Sport Wagon 1.4 IE Sport Wagon 1.4 IE L |
|--|-----------------------|---------------------------|--|
| CHASSIS | | | |
| Min. turning circle (* to the left) m | 11 | 11.45-11.35* | 11.45-11.35* |
| Number of seats | 5 | 5 | 5 |
| Tyres | 185/60 HR 14 | 165/70 TR 13 | 165/70 TR 13 |
| Rims | 5 1/2 J×14" | 5 1/2 J×13" | 5 1/2 J×13" |
| Capacity of boot dm ³ | 430/1105÷1350 | 350/1200 | 430/1105÷1350 |
| Kerb wight (full tank) kg | 985 | 1025 | 985 |
| Towing gross weight kg | 1100 | 1100 | 1000 |
| Towing bar load kg | 50 | 75 | 70 |
| Max roof rack load kg | 80 | 80 | 80 |
| Final drive | 9/35 | 9/37 | 9/37 |
| FRONT WHEEL TOE OUT | | | |
| With car under static load mm | 4±2 | 4±2 | 4±2 |
| ELECTRICAL SYSTEM | | | |
| Generator | 12V 65A | 12V 55A | 12V 55A |
| Battery (* versions with air conditioning) | 45Ah-55Ah* | 55Ah | 45Ah-55Ah* |
| PERFORMANCES | | | |
| Max speed kph | 186 | 174* | 177 |
| Speed at 1000 rpm (in 5th gear) kph | 31.8 | 29.5 | 29.5 |
| From 0 at 100 kph s | 9.9 | 12.0* | 11.7 |
| Standing kilometre s | 31.6 | 34.0* | 33.8 |
| * With 2-wheel drive | | | |
| The performances given are related to the use of the vehicle in normal travelling conditions in Central Europe. | | | |

| MODEL | Sport Wagon 1.3 IE 4×4 | Sport Wagon 1.3 IE Sport Wagon 1.3 IE L |
|---|---------------------------|--|
| FUEL SUPPLY | electronic injection | electronic injection |
| TOTAL DISPLACEMENT cm ³ | 1351 | 1351 |
| ENGINE | | |
| Number of cylinders (horizontally opposed) | 4 | 4 |
| Bore mm | 80 | 80 |
| Stroke mm | 67.2 | 67.2 |
| Max power HP DIN (kW CEE) | 90 (65) | 90 (65) |
| | at 6000 rpm | at 6000 rpm |
| Max torque kgm DIN (Nm CEE) | 11.8 (113) | 11.8 (113) |
| | at 4500 rpm | at 4500 rpm |
| Idle speed rpm | 900 ± 50 | 900 ± 50 |
| Percentage (in volume) of exhaust CO (at idle speed at the tail pipe) | ≤ 0.5 | ≤ 0.5 |
| Unburned hydrocarbons (at the tail pipe) | ≤ 50 | ≤ 50 |
| FUEL CONSUMPTION (litres per 100 km) | | |
| Constant speed 90 kph | 6.1* | 5.7 |
| Constant speed 120 kph | 8.3* | 7.5 |
| On bench (simulated urban journey) | 9.6* | 9.5 |
| * with 2-wheel drive | | |

| MODEL | Sport Wagon 1.3 IE 4×4 | Sport Wagon 1.3 IE Sport Wagon 1.3 IE L |
|--|---------------------------|--|
| CHASSIS | | |
| Min. turning circle (* to the left) m | 11.45-11.35* | 11.45-11.35* |
| Number of seats | 5 | 5 |
| Tyres | 165/70 TR 13 | 165/70 TR 13 |
| Rims | 5 1/2 J×13" | 5 1/2 J×13" |
| Capacity of boot dm ³ | 350/1200 | 430/1105 ÷ 1350 |
| Kerb weight (full tank) kg | 1025 | 985 |
| Towing gross weight kg | 1100 | 1000 |
| Towing bar load kg | 75 | 70 |
| Max roof rack load kg | 80 | 80 |
| Final drive | 9/37 | 9/37 |
| FRONT WHEEL TOE OUT | | |
| With car under static load mm | 4 ± 2 | 4 ± 2 |
| ELECTRICAL SYSTEM | | |
| Generator | 12V 55A | 12V 55A |
| Battery (* versions with air conditioning) | 55Ah | 45Ah/55Ah* |
| PERFORMANCES | | |
| Max speed kph | 174* | 177 |
| Speed at 1000 rpm (in 5th gear) kph | 29.5* | 29.5 |
| From 0 at 100 kph s | 12.0* | 11.7 |
| Standing kilometre s | 34.0* | 33.8 |
| * With 2-wheel drive | | |
| The performances given are related to the use of the vehicle in normal travelling conditions in Central Europe. | | |

VEHICLE DIMENSIONS 33



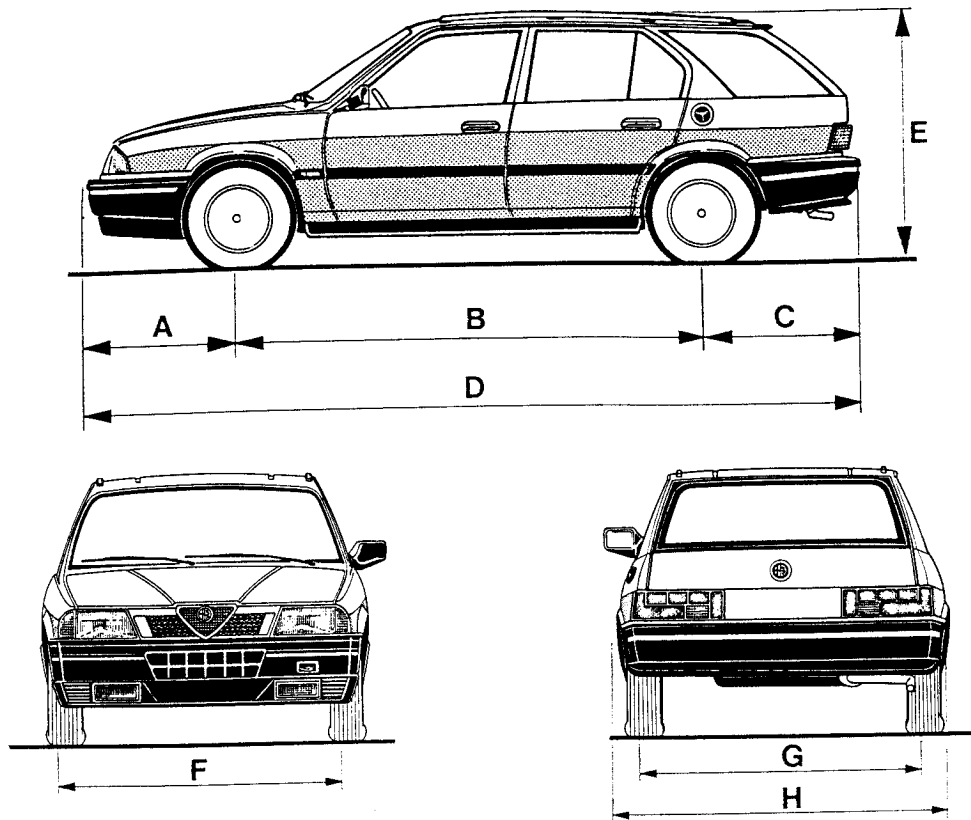
ST3629

| MODEL | | 33 30 | 33 16V | 33 1.7 IE 4x4 | 33 1.7 IE | 33 1.5 IE |
|-------|----------------|-------|--------|---------------|-----------|-----------|
| A | Front overhang | 829 | 829 | 829 | 829 | 829 |
| B | Wheel base | 2470 | 2475 | 2470 | 2475 | 2475 |
| C | Rear overhang | 775 | 771 | 775 | 771 | 771 |
| D | Lenght | 4075 | 4075 | 4075 | 4075 | 4075 |
| E | Height | 1375 | 1350 | 1375 | 1350 | 1350 |
| F | Front track | 1366 | 1366 | 1366 | 1366 | 1366 |
| G | Rear track | 1385 | 1369 | 1385 | 1365 | 1365 |
| H | Width | 1614 | 1614 | 1614 | 1614 | 1614 |

| MODEL | | 33 1.4 IE 33 1.4 IE L | 33 1.3 IE 33 1.3 IE L |
|-------|----------------|--------------------------|--------------------------|
| A | Front overhang | 830 | 830 |
| B | Wheel base | 2475 | 2475 |
| C | Rear overhang | 770 | 770 |
| D | Length | 4075 | 4075 |
| E | Height | 1350 | 1350 |
| F | Front track | 1366 | 1366 |
| G | Rear track | 1365 | 1365 |
| H | Width | 1614 | 1614 |

All measurements are in millimeters

VEHICLE DIMENSIONS SPORT WAGON



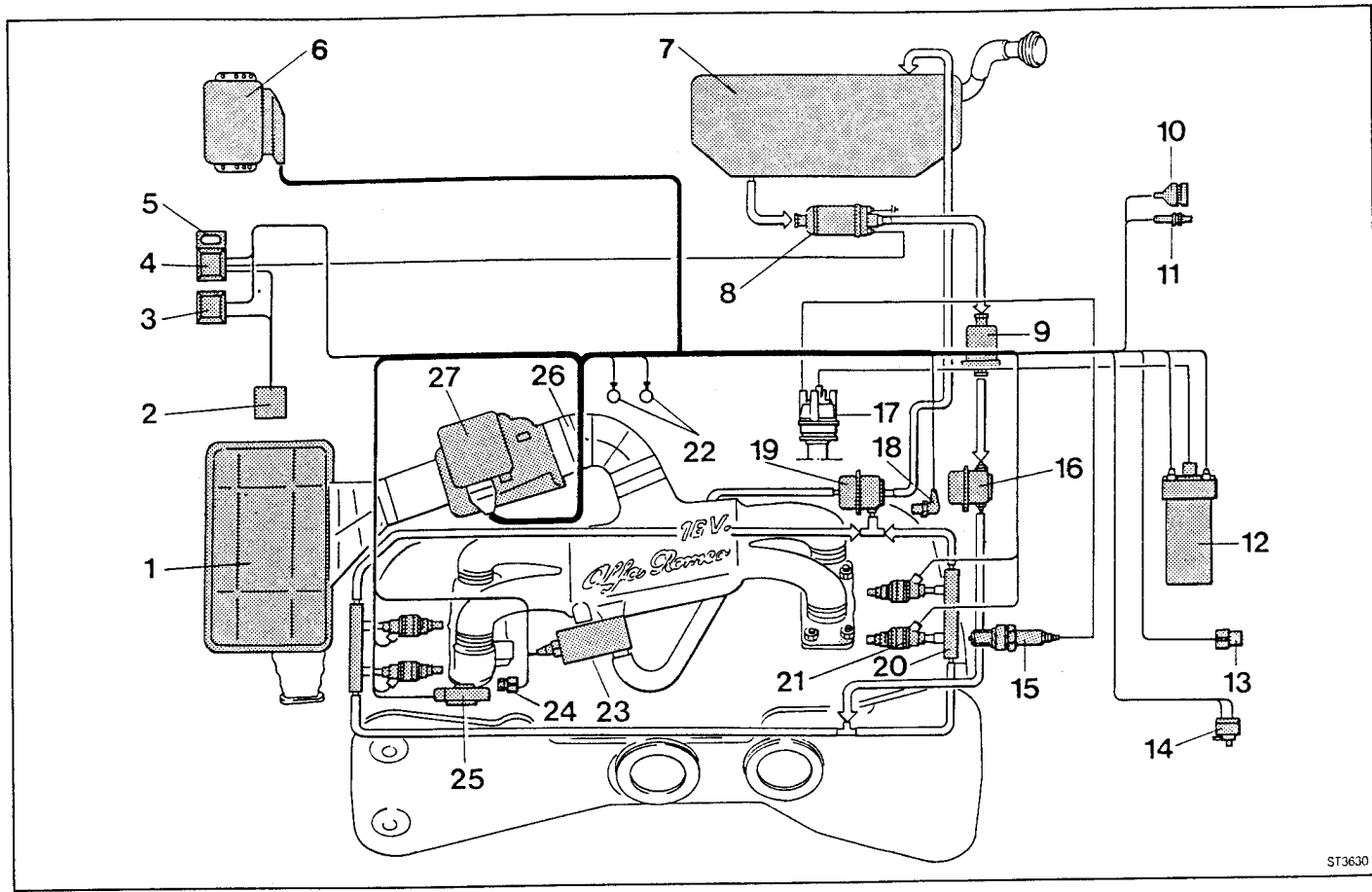
ST3777

| MODEL | | Sport Wagon 16V | Sport Wagon 16V | Sport Wagon 1.7 IE 4x4 | Sport Wagon 1.7 IE | Sport Wagon 1.4 IE 4x4 | Sport Wagon 1.4 IE Sport Wagon 1.4 IE L |
|-------|----------------|--------------------|--------------------|---------------------------|-----------------------|---------------------------|---|
| A | Front overhang | 829 | 829 | 829 | 829 | 830 | 830 |
| B | Wheel base | 2470 | 2475 | 2470 | 2475 | 2470 | 2475 |
| C | Rear overhang | 901 | 896 | 901 | 896 | 900 | 895 |
| D | Length | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 |
| E | Height | 1375 | 1350 | 1375 | 1350 | 1375 | 1350 |
| F | Front track | 1366 | 1366 | 1366 | 1366 | 1366 | 1366 |
| G | Rear track | 1385 | 1365 | 1385 | 1365 | 1385 | 1365 |
| H | Width | 1614 | 1614 | 1614 | 1614 | 1614 | 1614 |

| MODEL | | Sport Wagon 1.3 IE 4x4 | Sport Wagon 1.3 IE Sport Wagon 1.3 IE L |
|-------|----------------|---------------------------|--|
| A | Front overhang | 830 | 830 |
| B | Wheel base | 2470 | 2475 |
| C | Rear overhang | 900 | 895 |
| D | Length | 4200 | 4200 |
| E | Height | 1375 | 1350 |
| F | Front track | 1366 | 1366 |
| G | Rear track | 1385 | 1365 |
| H | Width | 1614 | 1614 |

All measurements are in millimeters

ELECTRONIC IGNITION AND INJECTION SYSTEM DIAGRAM (16 valve versions)



ST3630

Key

- 1) Air filter
- 2) Vehicle harness connection
- 3) Injection main relay
- 4) Fuel pump relay
- 5) Fuel pump fuse
- 6) MOTRONIC ML 4.1 control unit
- 7) Fuel tank
- 8) Fuel pump
- 9) Fuel filter
- 10) Lambda probe resistance connector
- 11) Lambda probe signal connector
- 12) Ignition coil
- 13) Lambda probe coding connector
- 14) Fuel vapour emission solenoid valve
- 15) Spark plugs
- 16) Pulse damper
- 17) Ignition distributor
- 18) RPM and timing sensor
- 19) Fuel pressure regulator
- 20) Fuel distributor manifold
- 21) Electroinjectors
- 22) Centralized grounding points
- 23) Constant idle speed actuator
- 24) Engine coolant temperature sensor
- 25) Throttle min. and max. opening switch
- 26) Intake ducts
- 27) Air flow meter

The engine is equipped with the MOTRONIC ML 4.1 electronic fuel injection and ignition system, which operates on a low-pressure fuel circuit and is controlled by the quantity of air intaken by the engine.

The system foresees the control of the following functions:

- fuel injection duration adjustment;
- ignition advance adjustment;
- cold start control ("choke" function);
- mixture enrichment control during acceleration;
- fuel injection cut-off during deceleration;
- engine overrunning control;
- exhaust gas emission control.

The system is checked by an electronic control unit (6) which, thanks to the processing of signals monitored by special sensor (for RPM, load, battery voltage, engine temperature, etc.) determines the exact fuel quantity and adjusts fuel introduction in the engine by varying the opening duration of electroinjectors (21).

The injectors are electromagnetically actuated and the fuel jet takes place in the duct upstream the intake valves.

After having passed through filter (1), the intaken air passes into air flow meter (27) which sends the intake air flow signal to the electronic control unit.

A sensor located inside the air flow meter detects intake air temperature, and sends the signal to the electronic control unit, which compensates injection duration in relation to the air/fuel ratio variation.

These two signals (air flow rate and temperature) allow the electronic control unit to evaluate the quantity of intaken air and to subsequently determine the exact quantity of fuel to inject.

Air enters the intake air duct (26) via air flow meter (27) and thus reaches the throttle bodies.

Switch (25) installed on the right throttle body is constituted by two microswitches which respectively send a signal for completely closed throttle (opening angle from 0°-1°) or for completely open throttle (opening angle over 55°).

The signals transmitted by these microswitches to the ECU, respectively permit the control of fuel injection cut-off during deceleration (whenever the conditions of closed throttle and RPMs exceeding 1200 are verified) and the control of fuel enrichment during acceleration when, in relation to specific engine power requirements, the air flow meter signal exceeds a pre-set increase, not only adjusting fuel injection to the new requirements but further increasing it for the rapid attainment of the RPMs required.

The air is distributed to the cylinders via the supply manifold.

Electroinjectors (21) introduce fuel into the combustion chamber for the formation of the mixture.

An inlet is furthermore positioned on the supply manifold for fuel pressure adjustment (19).

The constant idle speed actuator (23) built into the air circuit in by-pass with the throttle bodies has a section which, in the case of closed or slightly open throttle, determines an air flow rate not controlled by the accelerator but by the electronic control unit.

The fuel sucked in by the electric fuel pump (8) passes through filter (9) and reaches pulse damper (16), whose function is to eliminate pressure peaks caused by the injectors opening-closure cycle.

The fuel is conveyed from the pulse damper to the fuel distributor manifold (20) which has pressure regulator (19) fitted onto its ends so as to maintain constant fuel pressure at the injector heads.

In this manner the quantity of fuel injected depends solely on injector opening duration, that is on the duration of the electrical pulses sent by the electronic control unit.

During cold starting, the ECU controls ignition advance and injection duration ("choke" function).

Ignition advance is exclusively related to engine temperature and RPMs.

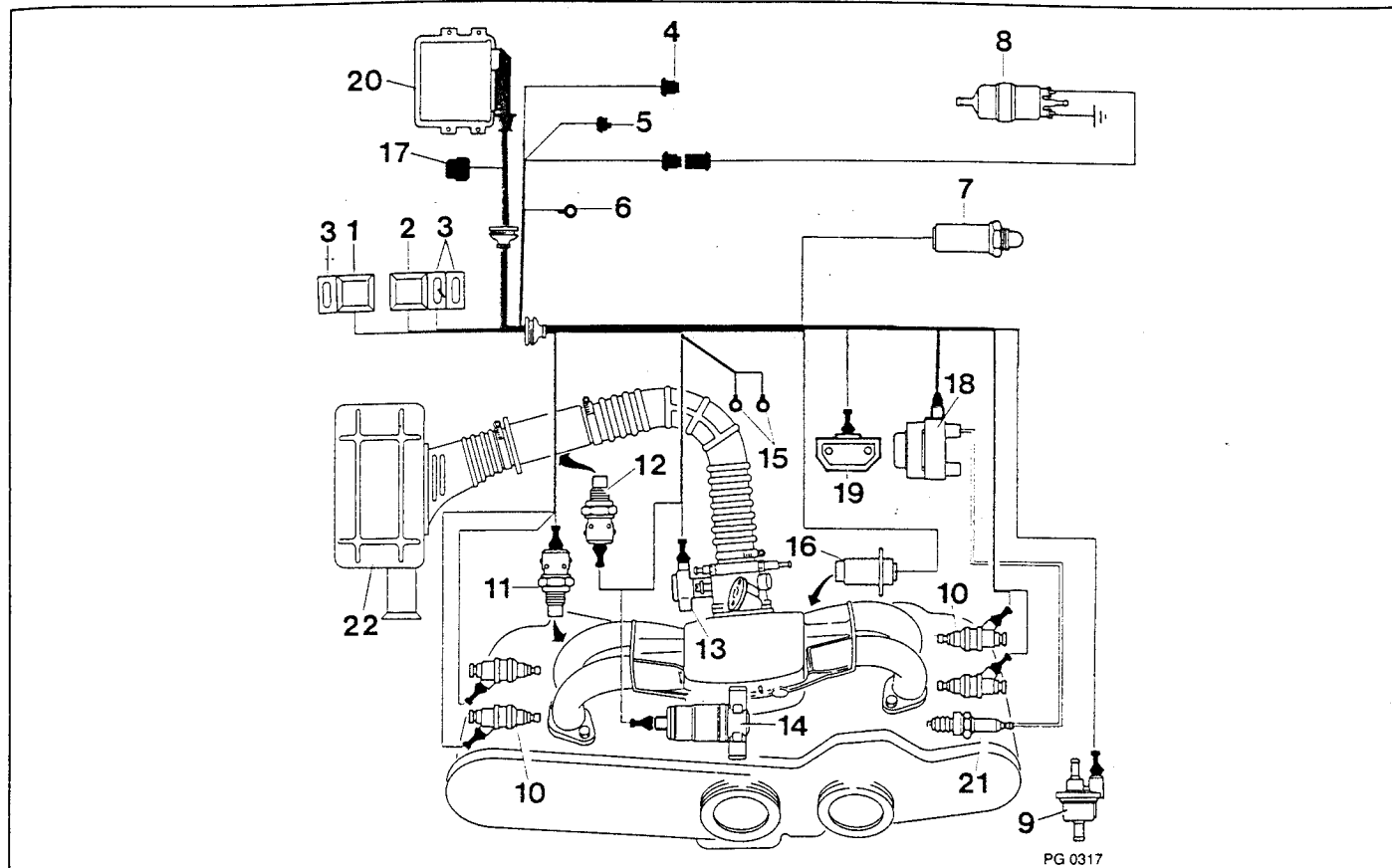
Injection duration is determined by a value already programmed within the electronic control unit, and is adjusted after the monitoring of intake air temperature, engine temperature, battery voltage and engine RPMs.

The ignition advance value is determined by a map stored into the electronic control unit, which considers engine load and RPMs; this value is then optimised in relation to intake air and engine temperatures.

Idle speed adjustment is controlled at all stages thanks to the constant idle speed actuator (23).

The actuator not only controls idle speed, but also supplies supplementary air to adjust the engine's running condition in the case an airconditioner (if present) and/or any other accessory is actuated.

ELECTRONIC IGNITION AND INJECTION SYSTEM DIAGRAM (1.5 IE - 1.7 IE 8 valve versions)



PG 0317

Diagram key

- 1) Main relay
- 2) Secondary relay
- 3) Injection system fuses
- 4) Air conditioner wiring connector
- 5) Rev counter signal connector
- 6) to positive terminal of battery
- 7) Heated Lambda probe
- 8) Electric fuel pump
- 9) Evaporation solenoid valve
- 10) Electroinjectors
- 11) Engine coolant temperature sensor
- 12) Air temperature sensor
- 13) Throttle angle potentiometer
- 14) Constant idle speed actuator
- 15) Centralized earths
- 16) RPM and timing sensor
- 17) Diagnosis plug
- 18) Ignition coil
- 19) Ignition module
- 20) Injection and ignition unit
- 21) Plugs
- 22) Air filter

The engine is equipped with the MOTRONIC MP 3.1 electronic fuel ignition and injection system, which operates on a low pressure fuel circuit and is controlled by the quantity of air taken in by the engine.

The system controls the following functions:

- fuel injection, stroke and timing adjustment;
- static ignition advance control;
- ancillary functions control such as electric fuel pump, fuel vapor recirculation;
- cold starting control ("starter" function);
- mixture enrichment control during acceleration;
- fuel injection cutoff during deceleration;
- peak engine RPM limiter;
- exhaust gas emission adjustment.

The system is checked by an electronic control unit (20) which, thanks to processing of signals monitored by special sensors (for RPM, engine load, battery voltage, engine temperature, etc.), determines the exact quantity of fuel and adjusts fuel introduction in the engine by varying the opening times of electroinjectors (10).

The electroinjector operation is electromagnetic and the fuel jet takes place in the duct upstream of the intake valves.

The sensor (12) detects the intake air temperature and sends a signal to the unit allowing it to compensate the injection time in relation to the variations in air/fuel ratio, to the rotational speed and to the engine load.

After having passed through the filter (22), the air reaches the suction manifold and then the throttle body.

A potentiometer (13) is installed on the throttle body which sends the information regarding the throttle position to the electronic unit, in order to monitor engine idle speed, full load operation and acceleration and deceleration.

The air is distributed to the cylinders through the supply manifold.

The electroinjectors (10) introduce fuel into the combustion chamber for the mixture formation.

A plug is positioned on the supply manifold for fuel pressure regulation.

On the air circuit by-passing the throttle body there is the constant idle speed actuator (14), the section of which determines, in the case of a closed or slightly open throttle, an air flow which is not controlled by the accelerator but by the electronic control unit.

The fuel sucked in by the electric fuel pump (8) passes through the filter (*) and reaches the dashpot (*), which eliminates pressure peaks caused by the opening-closure cycle of the injectors.

The fuel is conveyed from the dashpot to the pressure regulator which keeps the fuel pressure at the injector heads at a constant level.

In this way the quantity of injected fuel depends solely on injector opening times, i.e., on the duration of the electrical pulses sent by the electronic control unit.

During cold starting, the unit controls the ignition advance and the injection times ("starter" function).

The injection time is determined by a programmed value within the electronic unit, and is adjusted by detecting intake air temperature, engine temperature, battery voltage and engine RPM.

The ignition advance is determined by a programmed map within the electronic unit, which detects engine load and RPM; this value is then optimized in relation to intake air and engine temperatures.

Idle speed adjustment is controlled at all operation stages by the constant idle speed actuator (14).

The actuator not only controls idle speed, but also supplies supplementary air to adjust the engine speed in the case the air conditioner (if present) and/or any other accessory is switched on.

Lambda probe and exhaust gas catalyzer

In order to comply with the laws on the emission of toxic residues from internal-combustion engines, which require an increasingly more precise dosage of the air/fuel mixture, the vehicle is also equipped with a sensor (Lambda probe) which determines the oxygen value in the exhaust gas.

This sensor sends a signal to the electronic unit for the regulation of the air/fuel mixture. The exhaust system is equipped with a catalyzer, made up of special noble metal alloys; it is fitted in a stainless steel container able to resist the high operational temperatures.

The catalyzer turns unburnt hydrocarbons, carbon monoxide and nitric oxides of the exhaust gas (even if in minimum quantity, thanks to the electronic ignition and injection system) into non-polluting, harmless compounds.

The system is extremely reliable and is able to assure faultless operation, permitting pollutant to be eliminated though maintaining high quality performances.

System for the control of fuel vapour emissions

In order to control the toxic residues produced by combustion a device has been fitted which intercepts the emissions of vapours from the fuel tank. The vapours are collected in a special vapour/liquid separator (*) and are returned as condensation to the fuel tank.

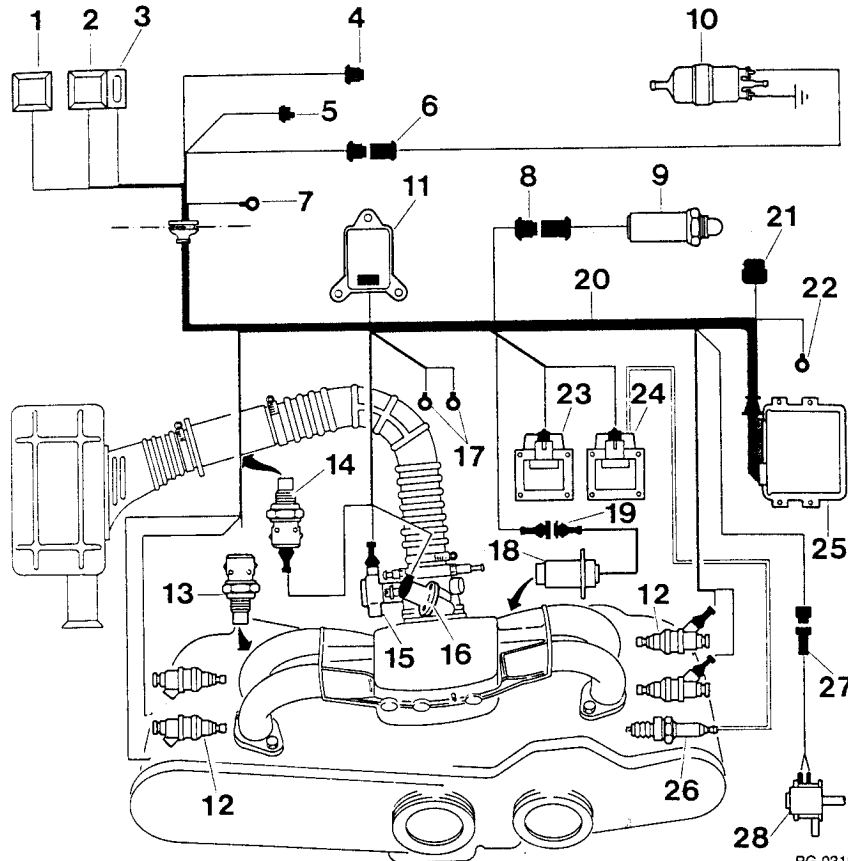
The fuel vapours are sent to an activated carbon filter (*) and are controlled by a vacuum valve (*) which opens and closes the passage to the filter in accordance with the rotational speed of the engine. When the engine is running and operating under normal conditions the flow of air generated by the difference in pressure in the filter bleeds the filter itself. If the pressure in the vapour-liquid separator decreases following a reduction in the temperature, a compensation valve permits the air to enter thus maintaining the separator at atmospheric pressure.

The valve opens when the pressure rises too much discharging the fuel vapours in the activated carbon filter where they are held.

STATIC ELECTRONIC IGNITION AND INJECTION SYSTEM DIAGRAM (1.3 IE - 1.4 IE versions)

Diagram key

- 1 - Main relay
- 2 - Secondary relay
- 3 - Injection system fuses
- 4 - Air conditioner wiring connector
- 5 - Rev counter signal connector
- 6 - Dashboard wiring connector
- 7 - Battery positive terminal
- 8 - Lambda probe connector
- 9 - Heated Lambda probe
- 10 - Fuel pump
- 11 - absolute pressure sensor
- 12 - Electroinjectors
- 13 - Coolant temperature sensor
- 14 - Air temperature sensor
- 15 - Throttle angle potentiometer
- 16 - Constant idle speed actuator
- 17 - Centralized earths
- 18 - RPM and timing sensor
- 19 - RPM sensor connector
- 20 - Electronic injection wiring
- 21 - Diagnosis plug connector
- 22 - RPM sensor earth braid
- 23 - Ignition coil "a"
- 24 - Ignition coil "b"
- 25 - Ignition and injection unit
- 26 - Plugs
- 27 - Evaporation solenoid valve connector
- 28 - Evaporation solenoid valve



PG 0319

The engine is equipped with a WEBER IAW static electronic injection and ignition system. The system is controlled by the electronic control unit (equipped with a program memory) which adjusts the fuel injection times and the correct angle of ignition advance on the basis of engine r.p.m., loading, intake air and coolant pressure and temperature.

The system controls the following functions:

- regulation of fuel injection times
- regulation of ignition advance
- control of cold starting (starter function)
- limiting of fuel injection during deceleration
- enrichment control during acceleration
- control of the variations in the ignition angle during the various phases of engine operation (acceleration, full load etc.)
- limiting maximum engine r.p.m.

The intake air, after passing through the cleaner passes into the intake manifold from where sensors 15 and 11 send the absolute pressure and temperature signals to the electronic control unit.

These signals enable the control unit to evaluate the quantity of intake air (on the basis of air density) and consequently to determine the exact quantity of fuel to inject. The throttle body is located upstream of the intake box and controls the quantity of air taken in by the engine.

From the air intake box the air is distributed to the cylinders via the intake manifolds.

The four electroinjectors, controlled simultaneously, introduce the fuel into the combustion chamber for the formation of the mixture, injecting twice for each engine cycle (720°).

The injection times refer to a basic map which takes into account all the operating conditions of the engine and corrects them on the basis of the engine coolant temperature and the operating conditions like altimetric pressure, battery voltage, variations in the throttle signal, lambda probe etc.

Engine r.p.m. and the absolute pressure in the intake manifold make it possible to calculate the optimal ignition advance for all operating conditions.

The r.p.m. and engine coolant temperature sensors are used to maintain the minimum rotational speed of the engine at a constant level when running cold and when the various electrical accessories are switched on. The step-step motor fitted with the constant idle speed actuator (16) located on the throttle body regulates the quantity of intake air in order to maintain the idle speed at the value set by the control unit.

The engine is also equipped with an anti-pollution system composed of a trivalent catalyzer which has the task of eliminating the emissions of toxic gasses (HC, CO, NO_x) and a probe to measure the oxygen in the exhaust gas (lambda probe 9) which maintains an air-fuel ratio during all the phases of engine operation such that the catalyzer can operate under the best conditions possible (for the highest level of pollutant elimination).

Static ignition

It is well known that the characteristics regarding brush and cap insulation play a fundamental role in the perfect operation of the engine and any dispersal towards earth can negatively affect the ignition, particularly during cold or wet weather.

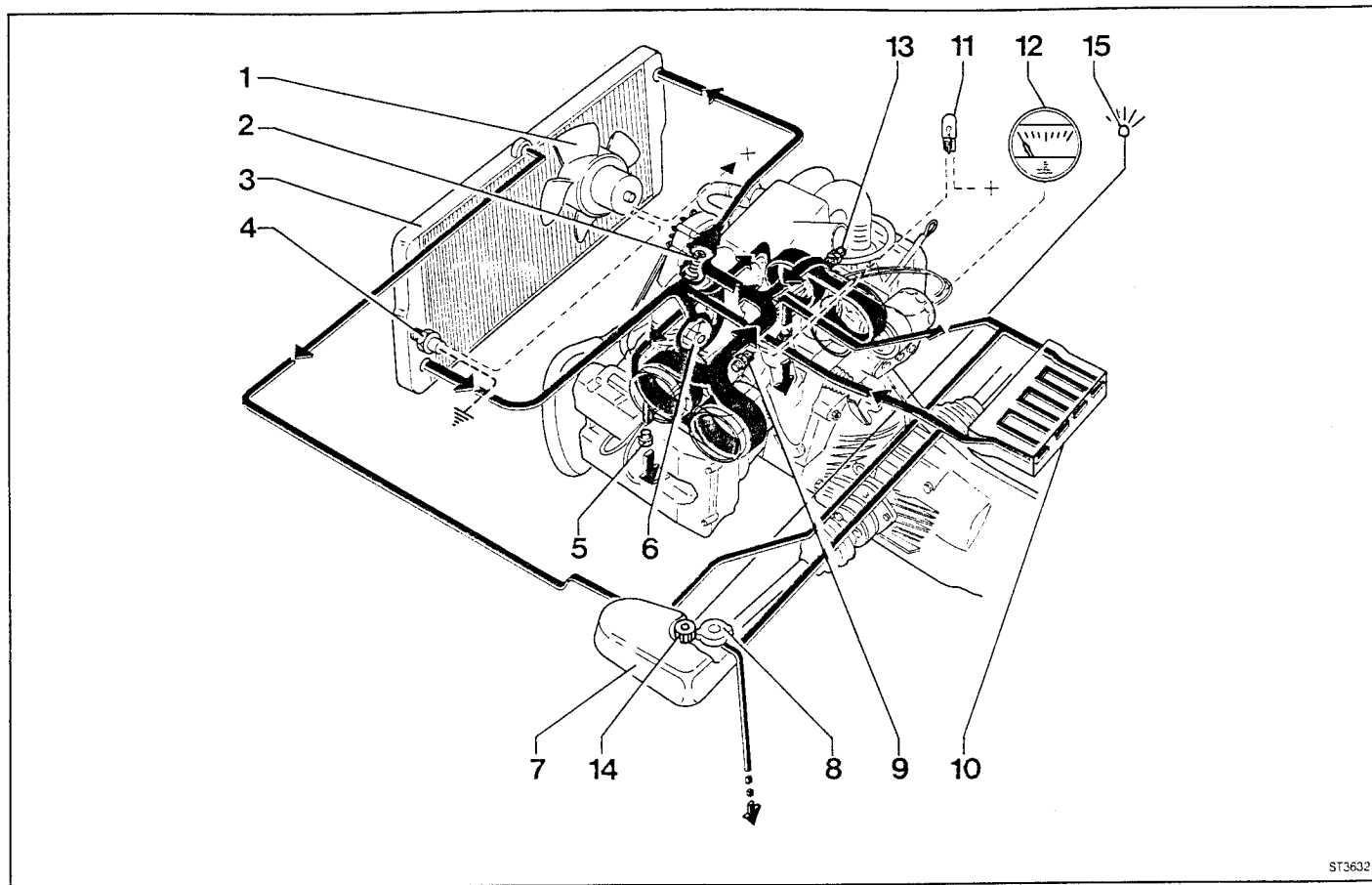
The ignition system with high voltage static distribution is characterized by the absence of rotating brushes and relative cap which eliminates the possibility of electrical dispersion.

The system is composed of two double output coils (23-24) with the pneumatic circuits connected directly to the electronic control unit (25).

The control unit (*) controls both the spark advance to the various cylinders in relation to TDC and the conduction times necessary for the coil to store energy.

The spark plugs of cylinders 1-2 and 3-4 are connected in series to the relative coils resulting in a simultaneous discharge on the spark plugs connected to the same coil.

COOLING SYSTEM



ST3632

- 1) Electric fan
- 2) Thermostatic valve
- 3) Radiator
- 4) Electric fan thermostatic switch
- 5) Drain plug (one for each bank of cylinders)
- 6) Pump
- 7) Header tank
- 8) Cap
- 9) Thermostatic switch for coolant temperature warning lamp
- 10) Heater
- 11) Coolant temperature warning lamp
- 12) Coolant temperature gauge
- 13) Coolant thermistor
- 14) Alfa Control (if provided) fluid level sensor
- 15) Coolant minimum level warning light for Alfa Control (if provided)

The sealed type cooling circuit is provided with a header tank.

The coolant, kept in circulation by pump 6, cools down the cylinder heads and barrels then flows to the thermostatic valve 2.

When it is cold, with the thermostatic valve closed, the liquid passes directly from the thermostat to the centrifugal pump. When hot, with thermostat valve open the liquid arrives at the pump only after having been cooled during its passage through the radiator.

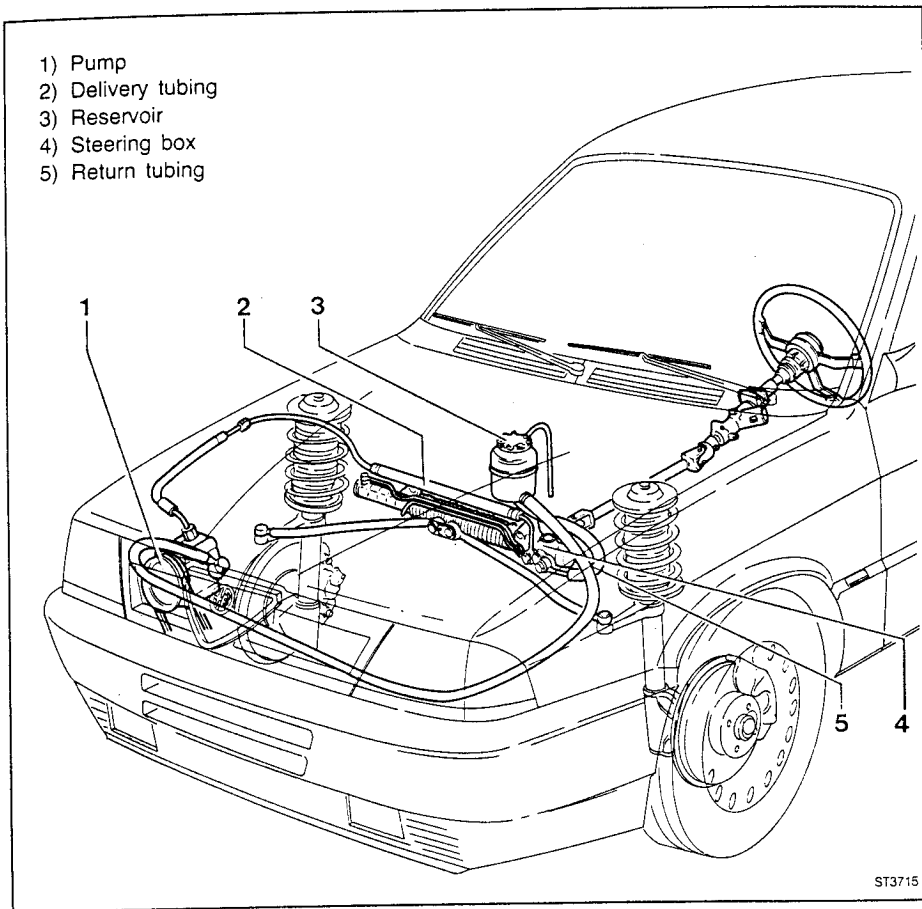
The electric fan 1 automatically cuts in, by means of the thermostatic switch 4, when the coolant reaches a temperature of 88-92 °C.

When the stated mileage is reached (or every two years), have the antifreeze mixture substituted by an **Alfa Romeo Authorized Service Station**.

Never remove the coolant reservoir cap (8) with the engine hot!

POWER STEERING (if provided)

- 1) Pump
- 2) Delivery tubing
- 3) Reservoir
- 4) Steering box
- 5) Return tubing



The use of hydraulic power-assisted steering increase both driving comfort and safety. The system is composed of a pump (1), driven off the crankshaft by means of a belt, which sends the fluid under pressure to the power-steering box (4).

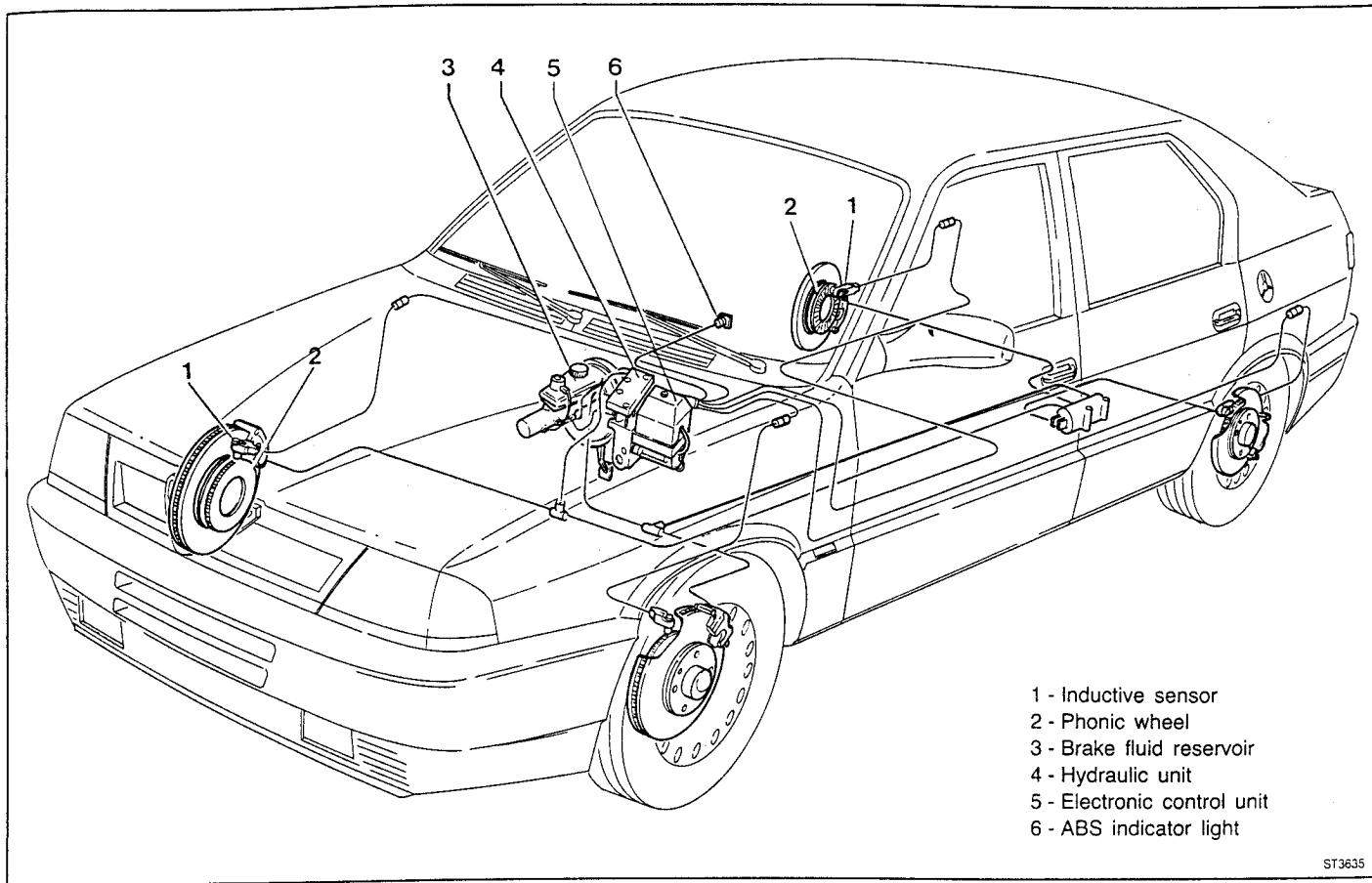
Suggestion: It is important to keep in mind that **in the event of system malfunction** (improbable with normal car use and careful inspection and maintenance procedures) **the car can still be steered**, though greater effort will be required.

As the steering gear is a mechanical assembly in strict relation with safety driving conditions, it is necessary to stop the vehicle and contact directly an **Alfa Romeo Service Dealer** even in case of a suspected fault.

As described above, the system is powered off the crankshaft, therefore when the engine is stopped or the car is being towed (with transmission in neutral and engine off), steering will require greater wheel effort.

ST3715

ANTI-LOCK BRAKING SYSTEM (ABS) (if provided)



- 1 - Inductive sensor
- 2 - Phonic wheel
- 3 - Brake fluid reservoir
- 4 - Hydraulic unit
- 5 - Electronic control unit
- 6 - ABS indicator light

ST3635

As an optional feature, the vehicle can be equipped with a brake system incorporating the anti-lock braking system (ABS), which is currently the highest expression of automotive technology in the field of active safety.

The function of the ABS system is to prevent the locking of one or more wheels under any condition of road surface or braking intensity, always ensuring proper control and steerability.

Analyzing the behaviour of a car wheel during braking (see figure on following page), we note that the amount of braking traction varies in relation to the skidding of the wheel on the road surface, reaching a maximum value with skid between 8% and 30% (according to tyre type and road surface conditions).

In other words, maximum braking traction occurs when the skidding between tyres and road surface reaches the values shown in the graph.

The purpose of the ABS system is to modulate the braking pressure so as to limit skidding to the aforesaid range, thus permitting maximum traction and the shortest possible braking distance. Furthermore, a locked wheel cannot absorb the lateral forces exerted on the tyre, thus robbing the car of steerability.

Utilizing sensors mounted near each wheel, the system is able to detect the tendency of one or more wheels to lock and to adjust skid to optimal values, with much better results than those obtainable by even the most expert driver, especially when road surface conditions are particularly unfavourable.

Operation of the anti-lock braking system (ABS)

The system is composed of an electronic control unit or ECU that processes signal received from the four sensors mounted near the four wheels, from the alternator and from the brake pedal switch, and that controls the solenoid valve group which in turn regulates the brake fluid pressure in the hydraulic circuits.

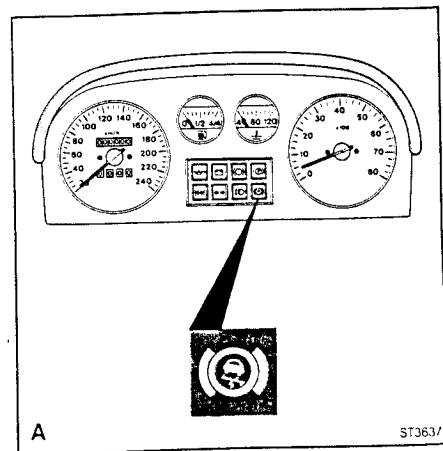
The signals from the four sensors are processed by the ECU. If one or more wheels tend to lock, **only during the braking action**, the ECU acts on the solenoid valve group, adjusting the brake fluid pressure in the circuit section involved.

In addition, the ECU performs diagnostics on the entire system.

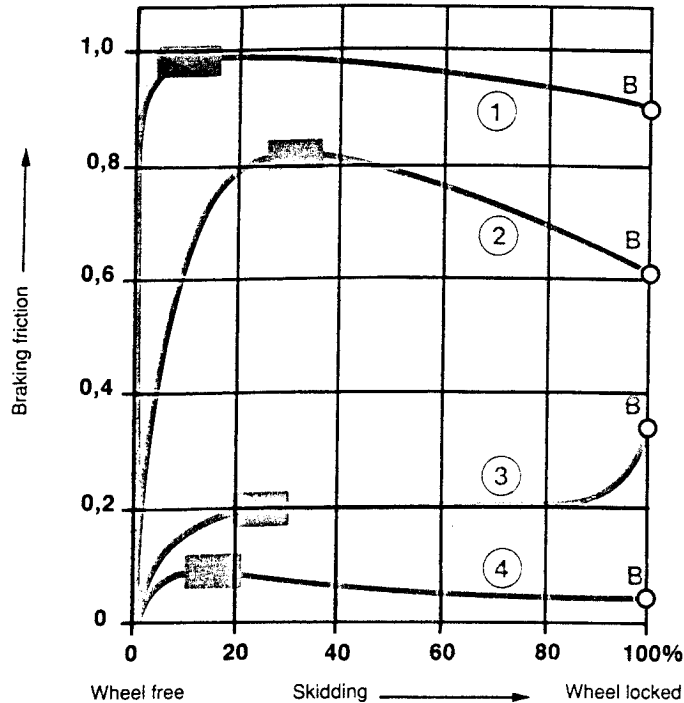
ABS warning light on the instrument panel (Fig. A)

When the ignition key is turned to position "2" (contact) the ABS indicator light on the dashboard goes on:

- if the system is functioning properly, the light switches off a few seconds after the engine starts;




- Illumination of the warning lamp when the engine is running or when the vehicle is moving indicates that the control system has identified a malfunction in the ABS system which is therefore deactivated. The braking system, though, guarantees normal operation as in vehicles not equipped with ABS. It is not therefore necessary to stop the vehicle but the ABS system however should be checked as soon as possible by an **Alfa Romeo Authorized Service Dealer**.



ST3636

- 1 - Radial tyres on dry asphalt
- 2 - Studded winter tyres on wet asphalt
- 3 - Radial tyres on fresh, unpacked snow
- 4 - Radial tyres on ice
- B - Wheel lock point

 ABS device intervention range

SUGGESTIONS AND PRECAUTIONS

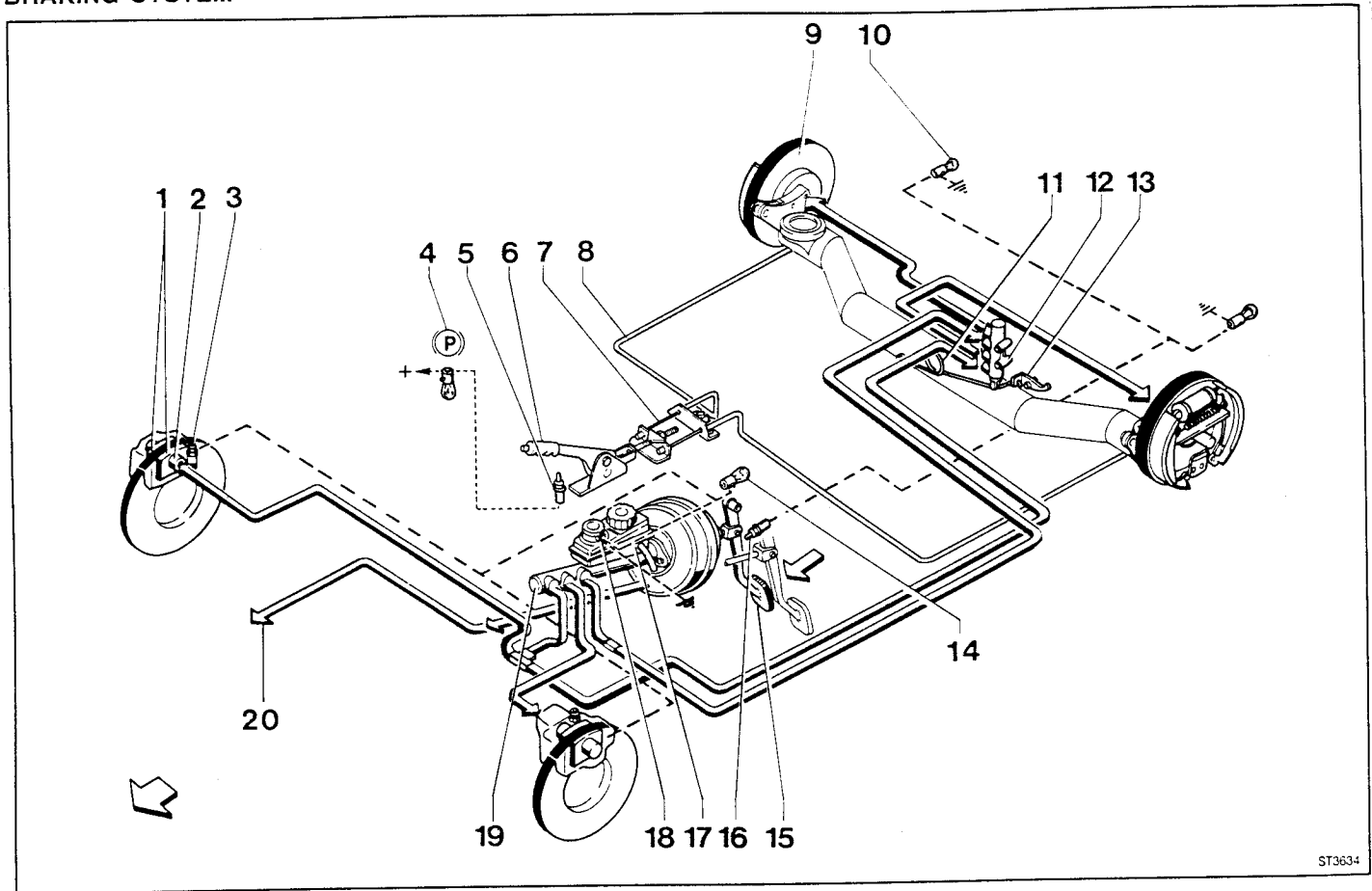
When driving a car with the anti-lock braking system (ABS), you should keep the following suggestions in mind:

- During braking, you may feel light pulsation in the brake pedal, indicating intervention of the ABS system.
- Never allow system performance, in terms of active safety, to induce you to take useless, unjustified risks.
- Always drive in accordance with prevailing weather, visibility and traffic conditions.
- Maximum deceleration is always dependent on the degree of traction between tyres and road surface. When there is snow or ice, of course, traction becomes limited, so under these conditions stopping distances will be long, even with the ABS system.

Caution: If the brake fluid low warning lights up, stop the vehicle immediately and contact an **Alfa Romeo Service Dealer**.

Whenever there is a loss of fluid, in fact, brake system operation is compromised, regardless of whether the system is conventional or includes the ABS system.

BRAKING SYSTEM



ST3634

- 1) Front brake pads
- 2) Piston
- 3) Bleed screw
- 4) Handbrake warning light
- 5) Handbrake warning light switch
- 6) Handbrake lever
- 7) Handbrake cable
- 8) Handbrake cable sheath
- 9) Rear drum brake
- 10) Stop light
- 11) Brake pressure regulator spring
- 12) Brake pressure regulator valve
- 13) Preloading mechanism for brake pressure regulator spring
- 14) Fluid level and front brake pad warning lamp (excluding models with Alfa Control)
- 15) Brake pedal
- 16) Stop light switch
- 17) Brake and clutch fluid reservoir
- 18) Low fluid level warning device
- 19) Booster cylinder/servo unit
- 20) Engine vacuum port

The brake unit consists of two crossed hydraulic braking circuits ("X" type), provided with double pressure regulator valve (12).

Warning: The pressure regulator valve must never be tampered with.

The warning light (14) on the instrument panel will come on if the brake fluid falls below the minimum. If it stays on stop the vehicle and check brake fluid level (see page 86-87).

On the models without Alfa Control warning lamp (14) also signals wear of the front brake pads.

On the models with Alfa Control, front brake pad wear is signalled by another warning lamp.

As the vehicle is only equipped with wear detectors applicable to the front brake pads, when substituting these, the condition of the rear brake pads should also be checked. The rear brake pads however, due to their use on the vehicle will not require immediate substitution though a further check should be made at a later date.

Handbrake

The handbrake is mechanically operated. It acts on the rear wheels. The free travel before wheel locking should be from 1-3 notches. Warning light 4 signals that the handbrake has been applied.

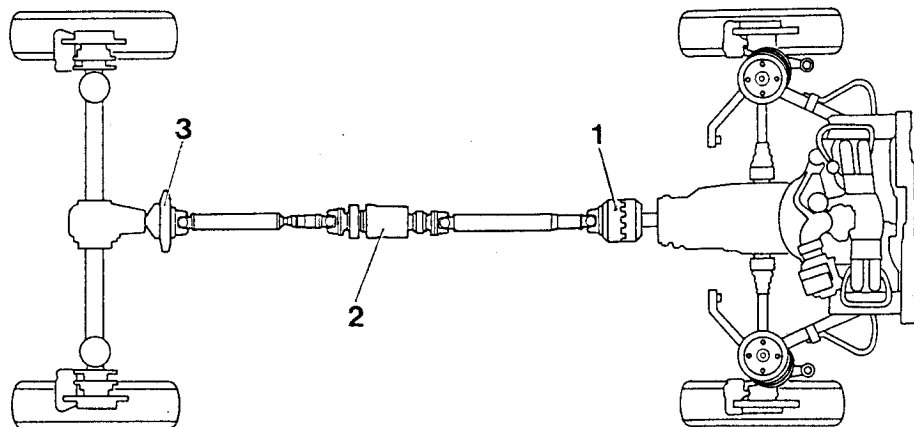
PERMANENT FOUR-WHEEL DRIVE (where applicable)

On vehicles with permanent four-wheel drive new technical solutions have been adopted characterized by a series of devices able to guarantee optimal traction even under critical road holding conditions.

These results have been obtained thanks to the adoption of a central "viscous coupling" able to transfer part of the deflecting torque from one drive shaft to another whenever there is wheel slip due to bad road conditions. Under good road holding conditions the vehicle behaves liked a front wheel drive vehicle but has the advantage that the rear axle permanently contributes to the thrust with a small torque (about 5%) transferred by the viscous coupling which, like a differential device, allows small differences in the speed of the front and rear wheels.

Drive is transmitted to the viscous coupling (2) from the electromagnetic coupling (1) which is controlled by an electronic control unit which automatically engages/disengages it in accordance with evaluation parameters set by the control unit itself and measures by the relevant sensors and components.

The rotating mass (3) located at the end of the drive shaft enables the vibrations generated by the imbalance of the system to be absorbed.



- 1 - Electromagnet coupling
- 2 - Viscous coupling
- 3 - Rotating mass

PG 0320

Electromagnetic coupling (1)

The electromagnetic coupling forms part of a sophisticated system of control managed by a specific control unit which, from the processing of the data measured by a series of sensors, manages the traction on the basis of the best road-holding conditions obtained through the disengagement of the four-wheel drive which is the normal operational state. The functions of the system are basically as follows:

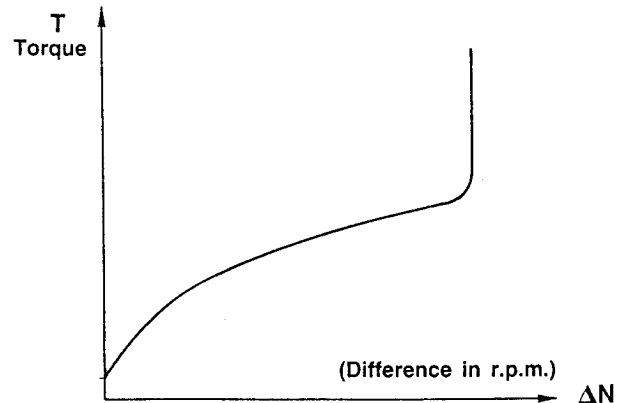
- Engagement/disengagement of the coupling
- Anti-disengaging function
- Self diagnose.

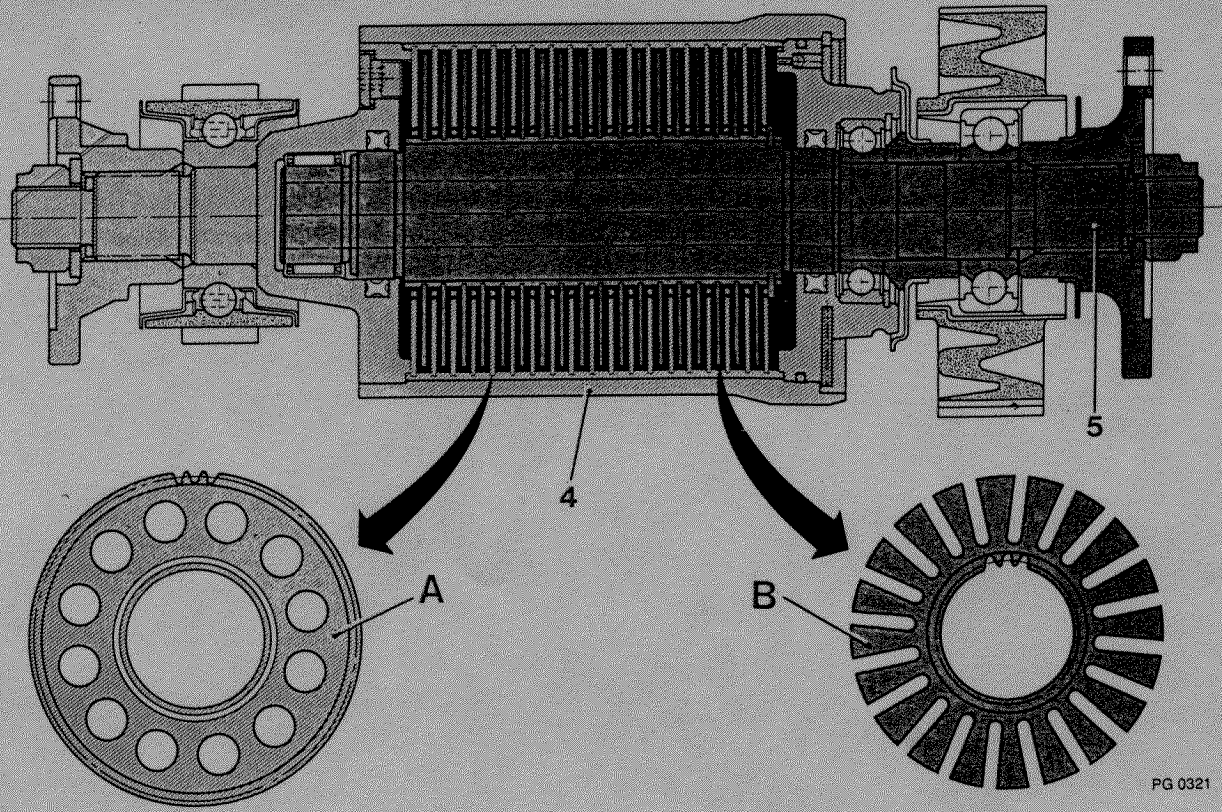
Viscous coupling (2)

As shown in the following page the connection between the two drive shafts (front and rear) is formed by a special silicone fluid in which discs "A" and "B" are immersed. These discs are integral with body 4 and with the shaft 5 (through a grooved coupling).

Under normal conditions, as already described, with a minimum difference in the speed of the two discs, a minimum torque is transferred as the traction is almost entirely on the front axle.

When one of the drive shafts is slipping resulting in a great difference in speed between the two disks, (e.g. front wheels on ice and rear wheels on dry road) there is an increase in temperature resulting in a compression of the disks and relative blocking of the coupling itself.





4 - Body.
5 - Shaft.

A - Integral disks with coupling body 4.
B - Integral disks with shaft 5.

PG 0321

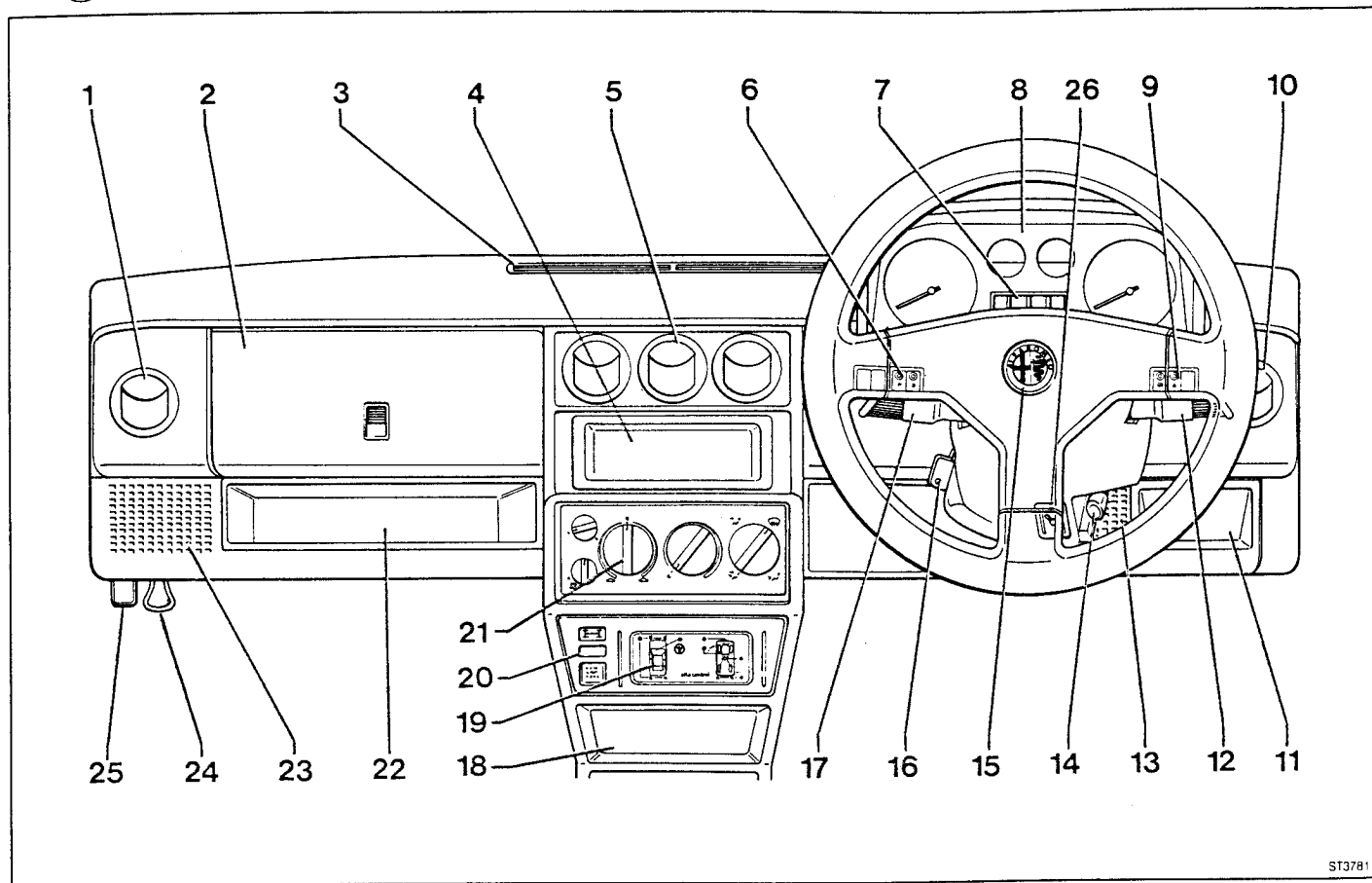
Right hand drive and Australia versions

Dashboard 152

Australia version:

Child restraint anchorages 154

Right hand drive version: DASHBOARD



ST3781

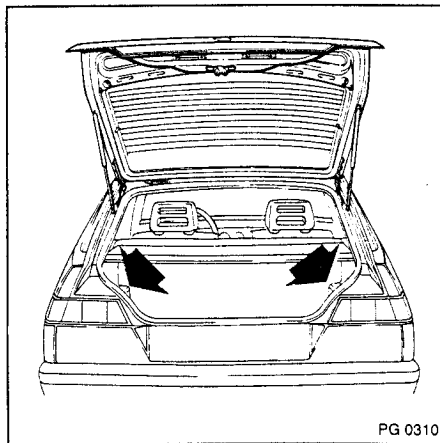
Key

- 1) Side vent
- 2) Glovebox
- 3) Windscreen defrosting vent
- 4) Car radio housing
- 5) Central vents
- 6) Switches for utilizers
- 7) Instrument panel cluster
- 8) Instrument panel
- 9) Switches for utilizers
- 10) Side vent
- 11) Glovebox/Fuses and relays box cover
- 12) Windscreen wiper/washer and rear window wiper/washer control lever (if provided)
- 13) Loudspeaker housing
- 14) Steering wheel adjustment lever
- 15) Horn
- 16) Ignition block/Steering lock
- 17) Control lever for external lights
- 18) Ashtray and cigar lighter
- 19) Alfa Control (if provided)
- 20) 4WD control with warning lights (if provided)
- 21) Climatisation controls
- 22) Glovebox
- 23) Loudspeaker housing
- 24) Engine bonnet emergency opening lever
- 25) Engine bonnet opening lever
- 26) Choke (where fitted)

Australia version

The car is fitted with:

- Third stop light.
- Special headrests.
- Rear anchor points for children's seat belts.



CHILD RESTRAINT ANCHORAGES

This car is provided with child restraint anchorages in accordance with the Australian Design Rule no. 34A for Child Restraint Anchorages.

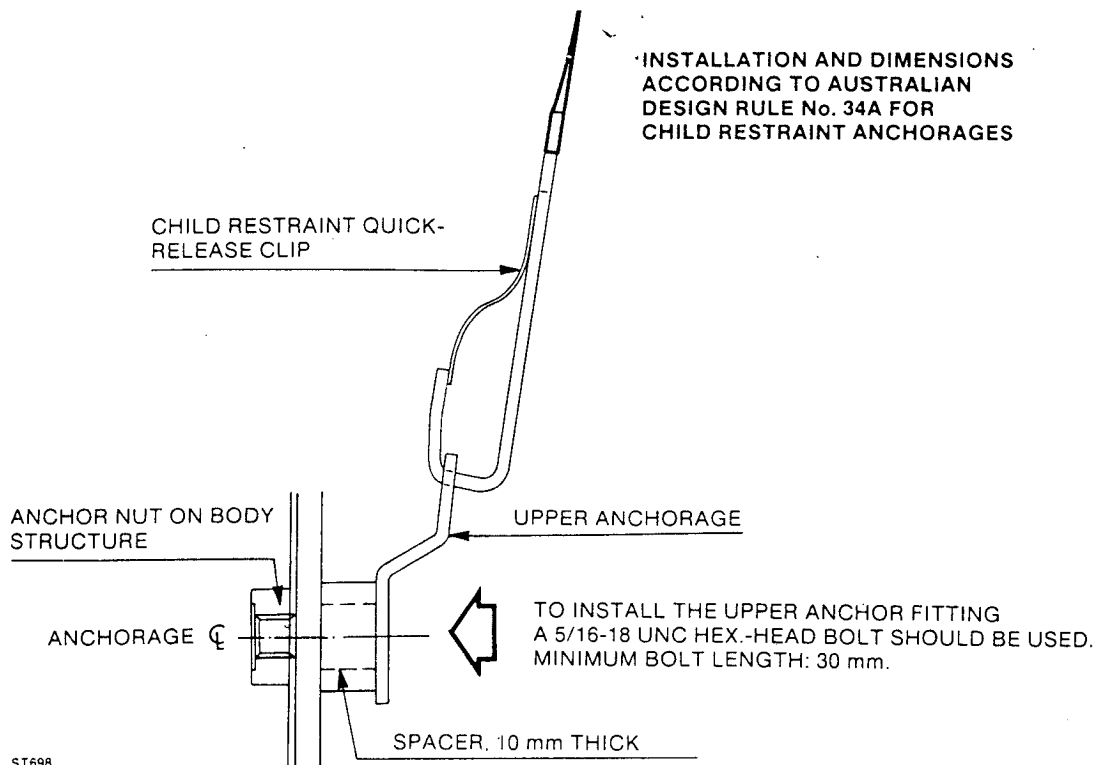
Anchorage location is as shown in the illustration.

Details on anchorages installation and dimensions in the next page.

Warning: Child' restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.

N.B.: For conventional adult seat belts refer to this Owner's manual, pages 24-25.

Drawing of child restraint fitting assembly (not to scale)

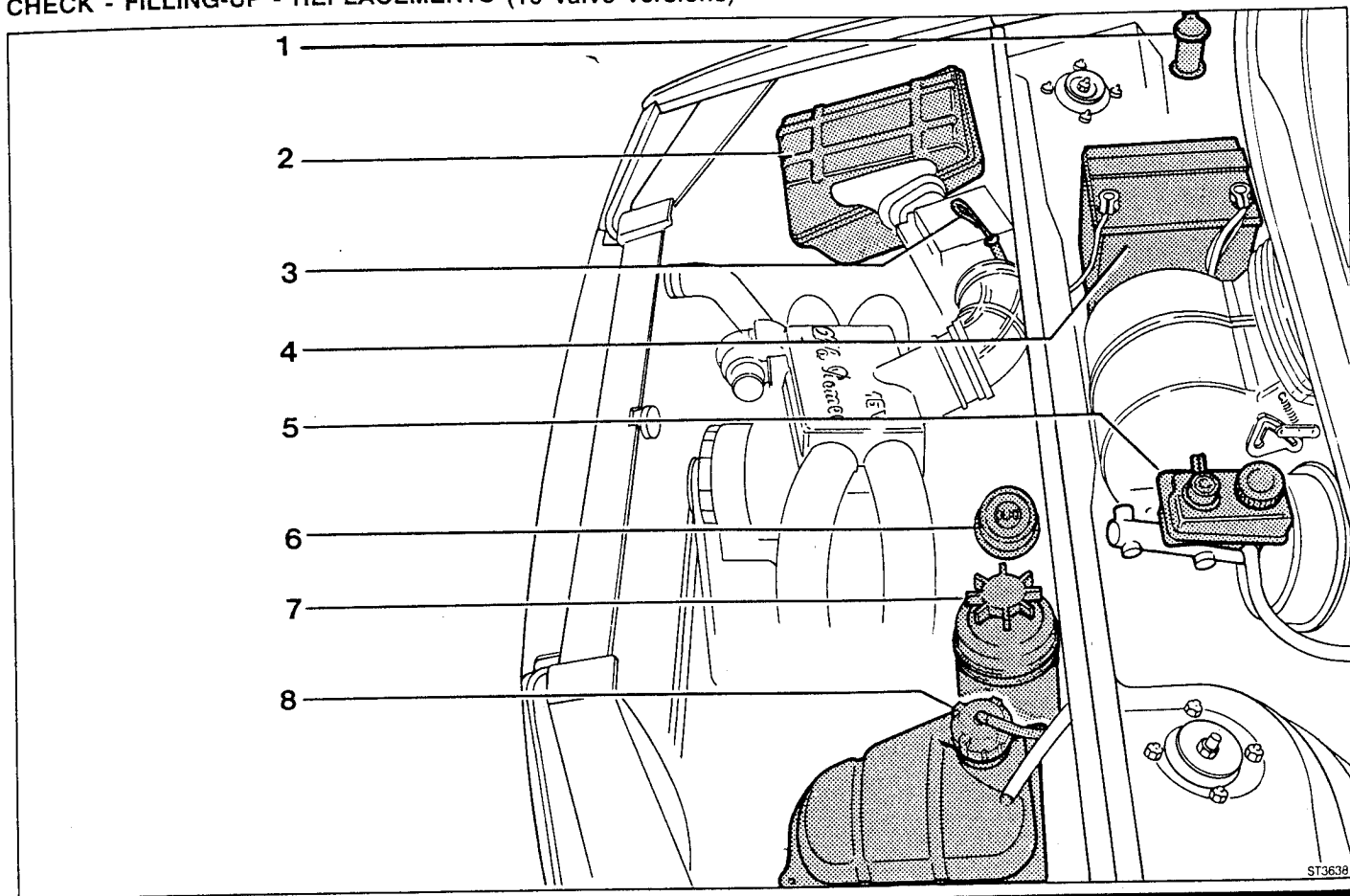


ST698

Service station

| | |
|--|-----|
| Check - Filling-up - Replacements (16 valve versions) | 158 |
| Check - Filling-up - Replacements (8 valve versions) | 160 |
| Warnings | 161 |
| Rear window washer liquid reservoir | 162 |
| Fuel tank filler cap | 163 |
| Antifreeze - Brake and clutch fluid - Recommended fluids and lubricants | 164 |
| Capacities | 165 |
| Tyres | 166 |
| Tyre inflation pressures | 167 |

CHECK - FILLING-UP - REPLACEMENTS (16 valve versions)

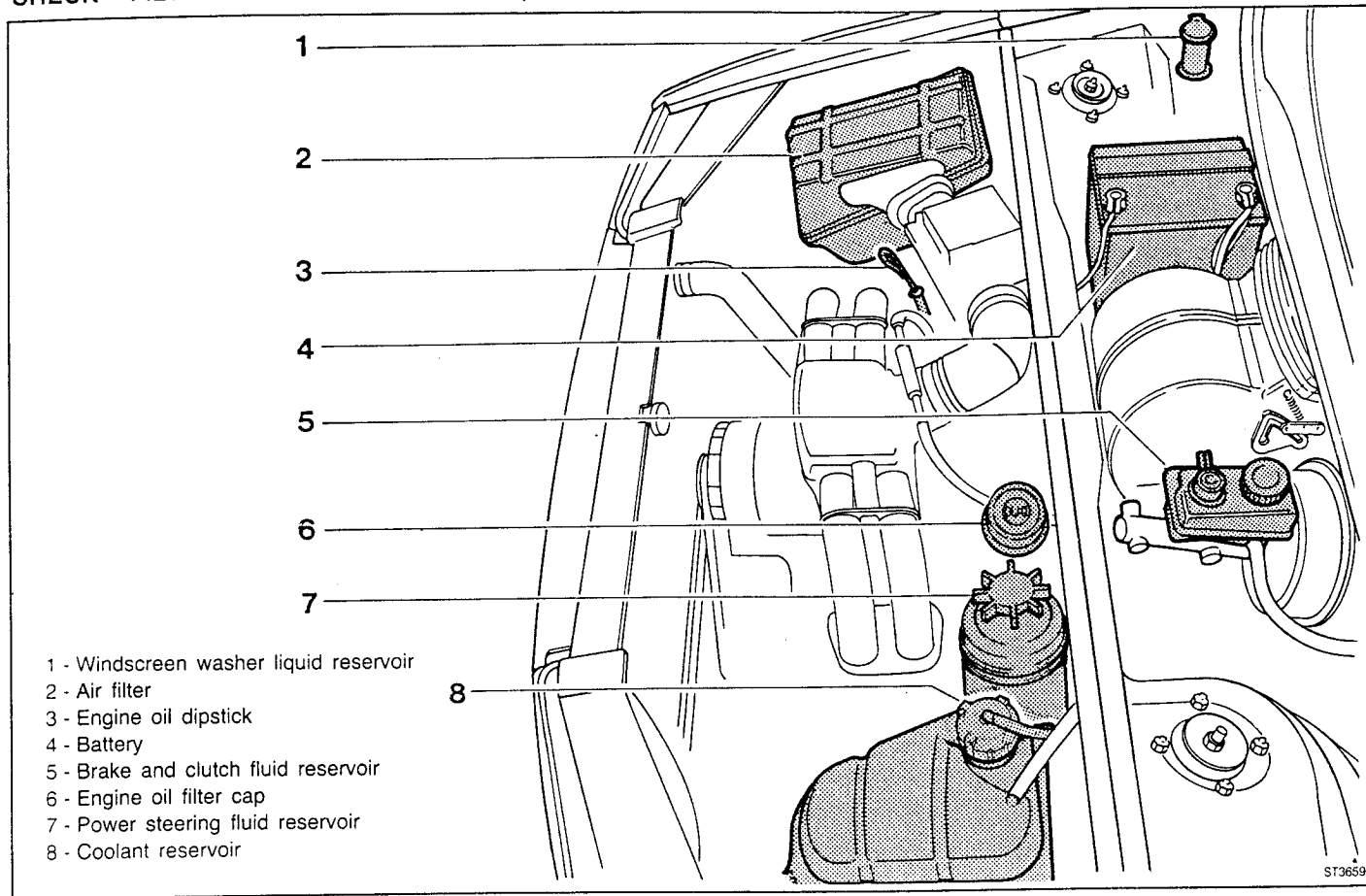


ST3638

Key

- 1 - Windscreen washer liquid reservoir
- 2 - Air filter
- 3 - Engine oil dipstick
- 4 - Battery
- 5 - Brake and clutch fluid reservoir
- 6 - Engine oil filter cap
- 7 - Power steering fluid reservoir
- 8 - Coolant reservoir

CHECK - FILLING-UP - REPLACEMENTS (8 valve versions)



WARNINGS

CHECK

Engine oil level

Every 500 kilometers.

Coolant level

Every 500 kilometers.

Power steering fluid level

(if provided)

Every 500 kilometers.

Level of washer liquid for windscreen/rear window

Every 500 kilometers.

Every 500 kilometers.

Tyre pressure

Every 500 kilometers.

Brake and clutch fluid level

Check every 500 kilometers to make sure it does not drop below the MIN level.

Battery

Check the electrolyte level every 500 kilometers.

If the battery is of the "maintenance-free" type, on checking is necessary.

Only in case of intensive vehicle use or extremely hot weather conditions, it is necessary to check it every 15,000 kilometers.

REPLACEMENTS

These replacements should only be performed at an **Alfa Romeo Service Dealer**.

Engine oil and oil filter

Replace as often as indicated in the Guarantee and Maintenance Booklet.

Coolant

Replace every two years.

Brake fluid

Replace every two years irrespective of kilometers travelled.

Air filter

Replace as often as indicated in the Guarantee and Maintenance Booklet.

A - B - C REAR WINDOW WASHER LIQUID RESERVOIR

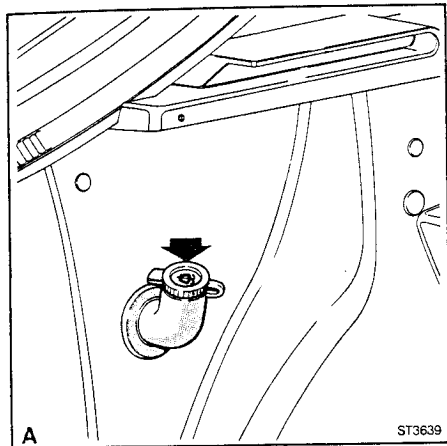
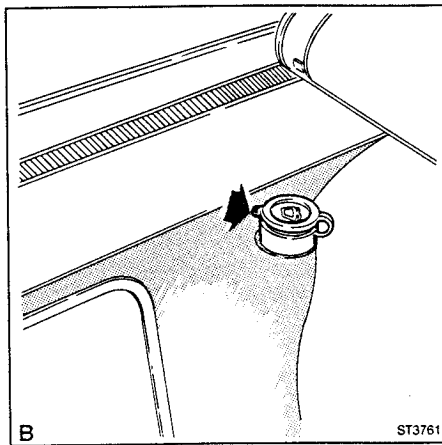


Fig. A: 33 Models - Front-wheel drive versions.

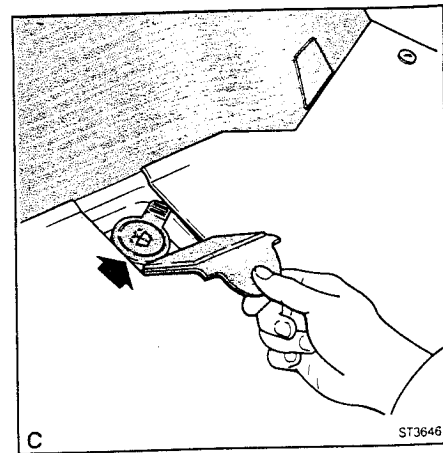
Fig. B: Sport Wagon Models - Front-wheel drive versions.

Fig. C: Four-wheel drive versions.



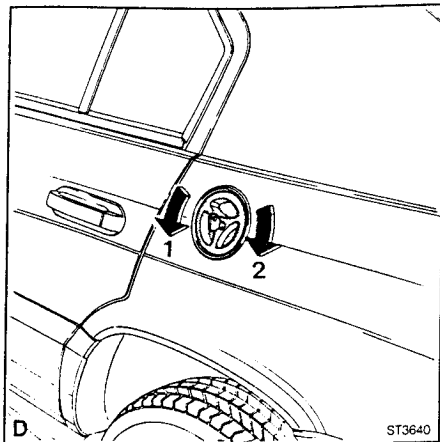
The rear window washing liquid reservoir is located in the boot on the left side. Top up the liquid in the reservoir through the plug which can be reached by opening the small hinged panel (illustrated).

If the container is empty, do not continue to operate the washer as this will damage the electric pump.



For refilling the screen washer container, it is recommended that suitable screen jet fluids available on the market be used so as to prevent the jet nozzles obstruction by hard water deposits.

D REFUELLING FUEL TANK FILLER CAP



When locked the fuel cap will turn but cannot be removed.

To unlock it turn the key anticlockwise 1, then unscrew the cap (turn until it comes off).




To replace screw the cap in with key in position 1. Then lock it by turning the key clockwise 2.




For proper operation of the engine, you must use unleaded fuel only (R.O.N. minimum = 95).




Never use leaded petrol in either small quantities or emergency situations, to avoid permanent damage to the catalyst.

To avoid accidental refuelling with leaded petrol, the filler neck has been dimensioned so as to accept only filler nozzles used specifically by unleaded pumps.

In the event that the tank is filled even with a small amount of leaded petrol, **do not start the engine**: instead, have the tank and fuel system drained.

| ANTIFREEZE | | |
|---|--|---|
|  Climafluid Permanent - 40°C Antifreeze (Concentrated) |  Antifreeze Extra |  Antifreeze |
| The original antifreeze mixture which guarantees protection to - 40°C is composed of (55%) Alfa Romeo Antifreeze (Concentrated) and (45%) distilled water. | | |

| BRAKE AND CLUTCH FLUID | |
|--|---|
|  Brake Fluid Super DOT 4 |  Brake Fluid DOT 4 |
|  Auto Fluid F.R. DOT 4 | |

| RECOMMENDED FLUIDS AND LUBRICANTS | | | | |
|---|--|---|---|---|
| PARTS | Recommended grade |  |  |  |
| Engine | API SG/CD CCMC G5/PD2/D4 SAE 10 W/40 | Agip Nuovo Sint 2000 10 W/40 | IP Sintiax Motor Oil 10 W/40 | SELENIA Special Formula Alfa Romeo 10 W/40 |
| Gearbox/differential unit *Rear differential | SAE 80 W/90 API GL-5 | Agip Rotra MP 80 W/90 | IP Pontiax HD 80 W/90 | Tutela W 90/M-DA |
| Power steering | G.M. DEXRON II | Agip Dexron II | IP Dexron Fluid II | Tutela GI/A |
| *Propeller shaft | SAE NLGI 1/2 | Agip Grease 15 | IP Autogrease MP | - |
| SAE - Society of Automotive Engineers API - American Petroleum Institute | * 4WD versions only | Refer to the directions given about lubricants on page 78. | | |

| CAPACITIES | | |
|--|----|--------|
| | kg | litres |
| Cooling system | | |
| Alfa Romeo coolant mixture (engine and radiator): Sport Wagon 4×4 and Sport Wagon 1.7 IE versions | - | 7.3 |
| Other versions | - | 7.8 |
| Fuel | | |
| Tank capacity | - | 50 |
| (front-wheel drive versions) | - | 53 |
| Tank capacity (4WD versions) | - | 6.5 |
| Fuel reserve | - | |
| For fuel type see page 163 | | |

| CAPACITIES | | |
|--|-----|--------|
| | kg | litres |
| Oil | | |
| Engine (sump and filter): when full* | 3.6 | 4 |
| danger level | 2.5 | 2.8 |
| Gearbox/differential unit | 2.4 | 2.6 |
| Rear differential (4WD versions) | 0.9 | 1 |
| * This quantity is that needed for regular changing. The total amount of oil in the circuit (sump, filter and passages) is | 4.1 | 4.6 |

TYRES

1.3 IE - 1.4 IE models

165/70 TR 13
(for 5 1/2 J×13" rims)
GOOD YEAR GPS

KLEBER C2T
MICHELIN MXL
PIRELLI P2000

33 1.5 IE models

175/70 TR 13
(for 5 1/2 J×13" rims, pressed steel)

KLEBER C2T
MICHELIN MXL (alternatively MXT)
PIRELLI P2000

33 1.5 IE (on request for alloy rims) models

1.7 IE electronic injection versions 8 and 16 valves models

185/60 HR 14
(for 5 1/2 J×14" rims)

GOOD YEAR NCT 2
KLEBER C50H
MICHELIN MXV2
PIRELLI P4000

Compact spare wheel)
(only on some versions)
Rim 14"×4B

Tyres: FIRESTONE 135/80 B14
PIRELLI 135/80 B14

Warning - Always replace tyres and/or rims with same sizes as original equipment.

Note - The vehicles are equipped with tubeless tyres. See page 69 for indications regarding tyres in general and specific recommendations for tubeless tyres.

TYRE INFLATION PRESSURES (measured in kg/cm² - bar, with tyre cold)

| | 33 1.3 IE - 1.4 IE - 1.5 IE Models | | 33 1.7 IE 8 valve Models | | 33 16 valve Models | | Sport Wagon Models | |
|----------------------------|------------------------------------|------|--------------------------|------|--------------------|------|--------------------|------|
| | Front | Rear | Front | Rear | Front | Rear | Front | Rear |
| Reduced load (2 people) | 1.8 | 1.8 | 2.0 | 1.8 | 2.2 | 1.8 | 2.2 | 1.8 |
| Fully loaded | 1.8 | 1.8 | 2.0 | 1.8 | 2.2 | 1.8 | 2.2 | 2.2 |

Compact spare wheel (only on some versions): 2.8 kg/cm²-bar

Warning - For sustained high - speed driving, the tyre pressured must be increased by 0.3 kg/cm² (bar).



SERVICE

POST-VENDITA

SERVIZI ASSISTENZIALI ALFA ROMEO

Viale Alfa Romeo 20020 Arese (MI)

Fiat Auto S.p.A.

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