

LANCIA β



Instruction book

The descriptions, illustrations and specifications contained in this publication are not to be taken as binding; the Company, therefore, reserves the right, the essential characteristics of the types herein described and illustrated still being maintained, to make, whenever it thinks necessary any changes in units, parts or accessory supply, howsoever arising, without engagement to promptly bring up-to-date this publication.

Pneumatiche Lancia
Beta 2000
Michelin MXL 165/70 R14 81T



LANCIA

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Dear Sir or Madam,

we congratulate you on the preference you have given to Lancia. We have prepared this Instruction Book so that you may fully appreciate the qualities of your car.

As you go through these pages you will discover characteristics, details and solutions that will convince you of your right choice and you will find some useful advice and information for best use of your car.

Together with the Instruction Book is a service coupon booklet for the programmed maintenance. The warranty certificate is included in this booklet, containing terms and conditions for the preservation of the warranty.

We are sure that you will soon get familiar with your new car and that it will prove durable and highly satisfactory.

LANCIA

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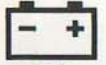
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ALPHABETICAL INDEX

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Fuel level and reserve warning light



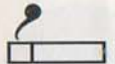
Voltmeter and alternator warning light



Coolant temperature gauge and overheating warning light



Oil pressure gauge and low pressure warning light



Cigar lighter



Brake fluid low level warning light



Automatic transmission overheating warning light



Handbrake warning light



Power window lift control



Horn



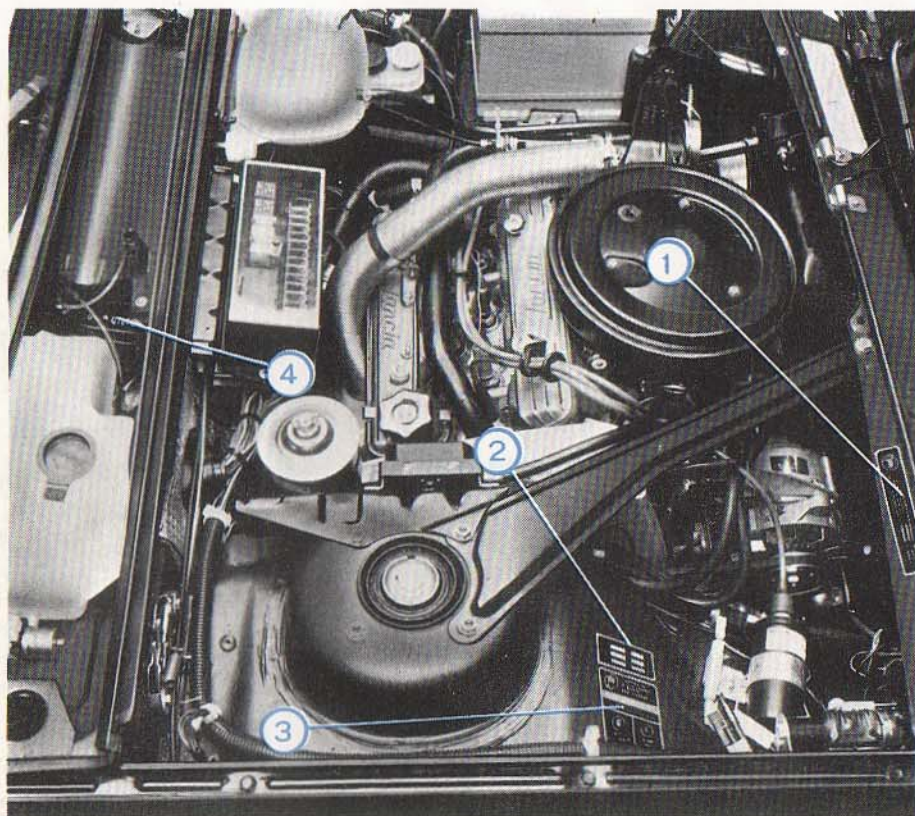
Booster fan



Air conditioner



Side lights, licence plate and stop lights failure warning light



ZLA 828 DB0 1600 c.c. Beta Saloon

ZLA 828 DB1 2000 c.c. Beta Saloon

1. Car data plate (West-Germany).
2. Car data plate (Belgium).
3. Car data plate (Italy).
4. Car identification data.

INSTRUMENTS AND CONTROLS

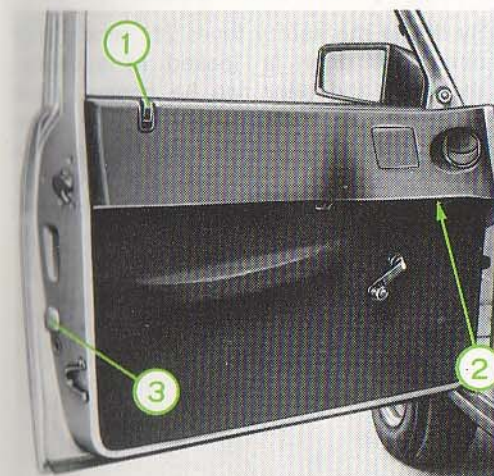
Door opening and locking



Keys

The car is supplied with two keys in duplicate. The (a) type is used for the front doors, glove locker, boot and fuel filler flap, while the (b) type is used for the antitheft device and the ignition switch.

NOTE - Take note of the code numbers stamped on both keys to order them from our organization when required.



Front doors

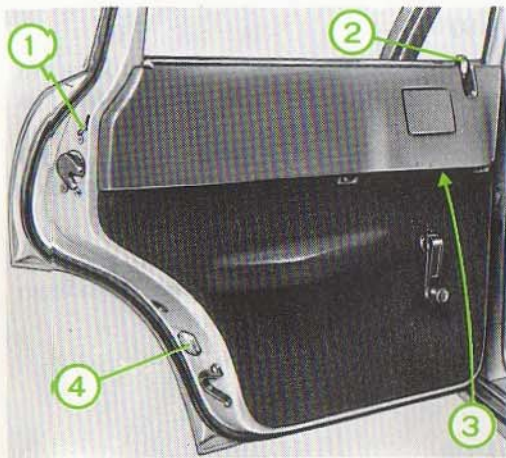
Outside flick handle.

The doors are fitted with locks to be engaged from the outside by turning the key.

To lock the doors from the inside, depress the push-knob (1), with door closed only.

To open from the inside, operate the handle (2) also with push-knob on.

Door safety reflector (3) provided.



Rear doors

Opening the doors by the outside flick handle is possible if they have not been locked through push-button (2). Through this push-button, the door is locked if closed, or locking is arranged in advance, if it is open.

To open from inside, shift push-button (2) upwards and operate lever (3). Door safety reflector (4) provided.

Child - proof rear doors

By lifting the safety lever (1) when door open, the door is locked in advance; therefore the door can be opened from outside only. Move the lever (1) down to release this mechanism. If also the normal lock has been applied by engaging push-button (2), the door can be opened from the outside after shifting push-button (2) upwards only.



Opening the boot lid

To open push button (1) fitted with lock. A special device maintains it in the raised position. The interior of the luggage compartment will be illuminated by a lamp (2) when side lights switched on. To close, lower the lid, and lock with the key.

Spare wheel and tool kit

The spare wheel is secured by a strap to a seating inside the boot.

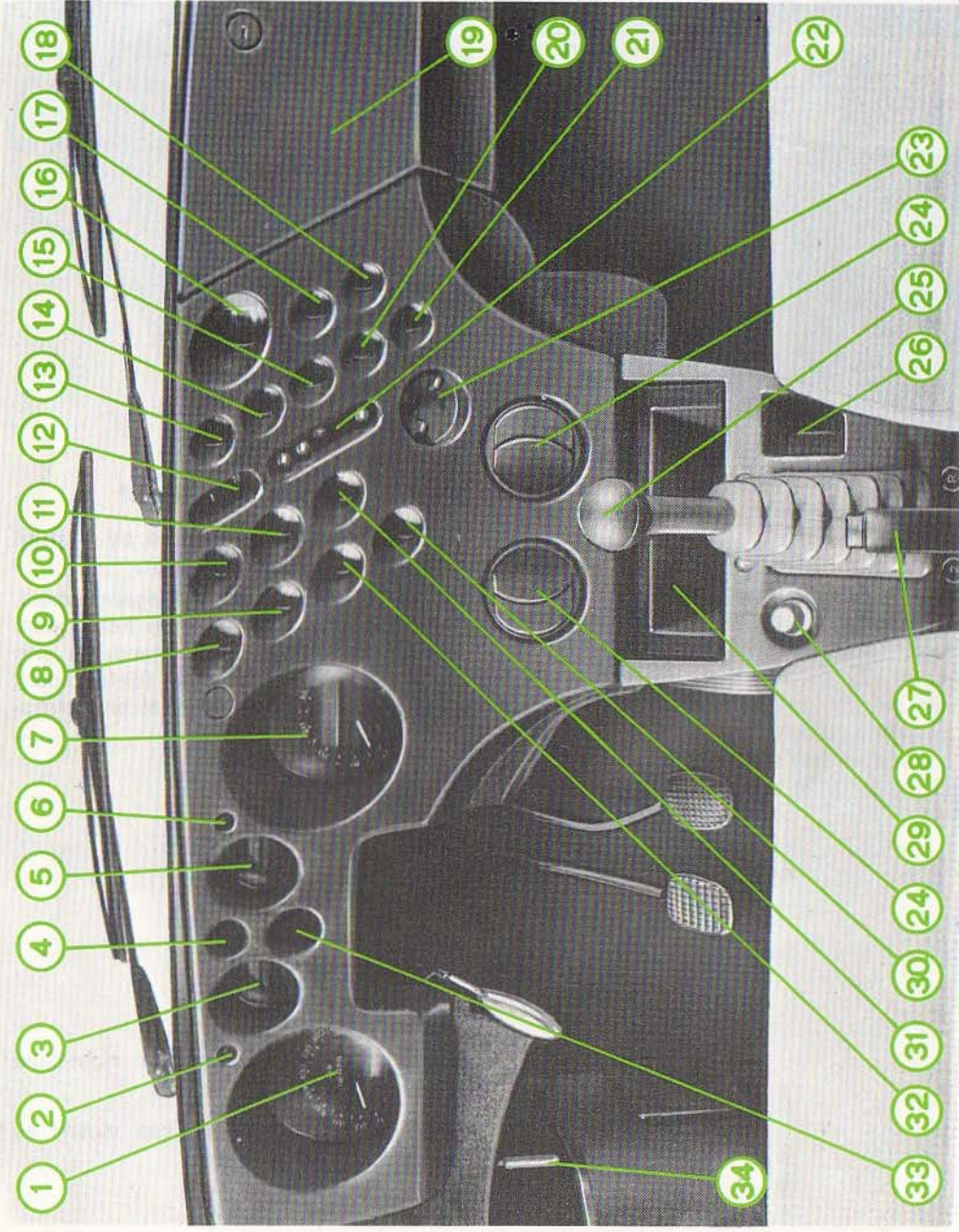
To reach tool kit remove spare wheel. Tools contained: two double head spanners (8x10 - 13x17 mm) extendable grip wheel brace, socket spanner (8x10), spark plugs socket spanner, normal and cross-point screwdriver, pliers.

Fuel filler flap

It is located on the car rear right-hand quarter side, fitted with lock.

CAUTION - Unscrew the cap slowly as the tank is pressurized.

Instruments and controls

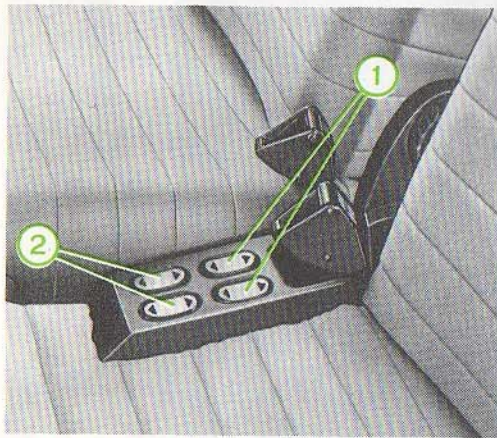


1. Speedometer with total and trip distance recorders - 2. Left-hand turn indicator tell-tale - 3. Voltmeter and fuel gauge - 4. Side lights and main beams warning lights - 5. Coolant temperature gauge and oil pressure gauge - 6. Right-hand turn indicator tell-tale - 7. Electronic Rev. counter with instruments light switch and rheostat and, if fitted, push-button to check warning lights for operation - 8. Extra switch housing - 9. Rear window wiper push-button - 10. Extra switch housing - 11. Heated rear window switch - 12. Heating and ventilation booster control - 13. Automatic transmission overheating warning light - 14. Brake fluid low level, or front pads wear limit warning light - 15. Handbrake warning light (flashing) - 16. Side lights, licence plate lights and stop lights fault warning light (Monitor) if fitted - 17. Heated rear window warning light - 18. Rear guard lamp warning light - 19. Glove locker - 20. Fog lights warning light - 21. Hazard signalling warning light - 22. Heating and ventilation controls - 23. Water cock and blender control - 24. Centre outlets - 25. Gear lever - 26. Oddments bin - 27. Handbrake lever - 28. Cigarette lighter - 29. Radio blank - 30. Hazard signalling change-over switch - 31. Rear guard lamp switch - 32. Fog lights switch - 33. Main warning light (if fitted) - 34. Bonnet release lever.

On centre console

Cigar lighter

The lighter operates when ignition key in position MAR. To use press the centre portion; when it returns to former position the cigar lighter is ready for use, remove it, use and refit to its housing. The lamp holder lights up when side lights switched on.

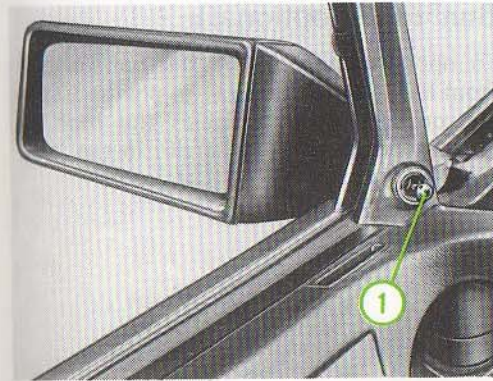


Window power lifts (optional)

The control switches for the front doors (2) are fitted to the console beside the driver's seat. The rear door lifts can be controlled either by the switches (1) or by those fitted to the rear doors.

WARNING - For safety reasons the driver should remove and take away the ignition key when leaving the car unattended; this to prevent children from operating the power window control switches.

On driver's side



Door mirror

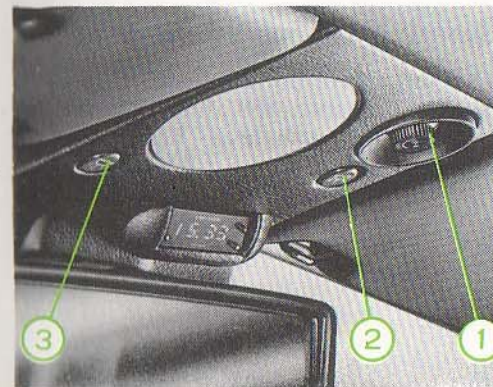
To set it, act on knob (1) as required and then release it.

Rear view mirror

Aim it with reflector in the day, or anti-dazzle night position, by shifting control lever.

As a safety measure, the mirror (3), which is secured by a special joint, comes off when subjected to a bump.

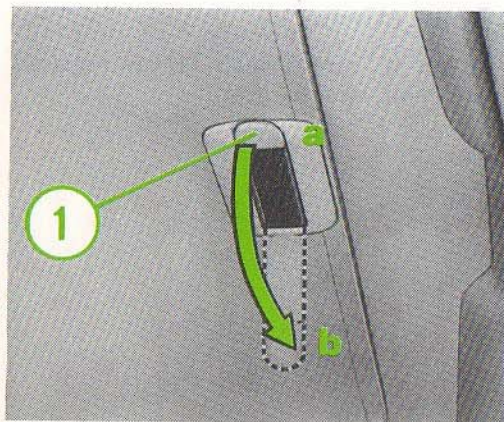
To detach the road tax and insurance tag holder (1), lift retainer (2). Such a holder is fitted to the version for the Italian market only.



Interior lights

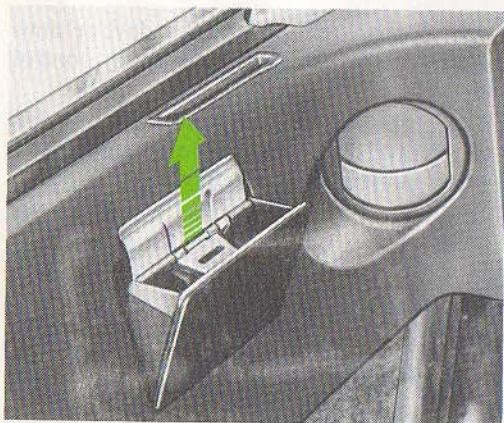
Roof lamp: lights up on opening the doors. To switch it on when doors closed, depress switch (3).

Spot-type map-reading lamp: lights up by pushing button (2). The light may be directed by rotating lamp holder (1).



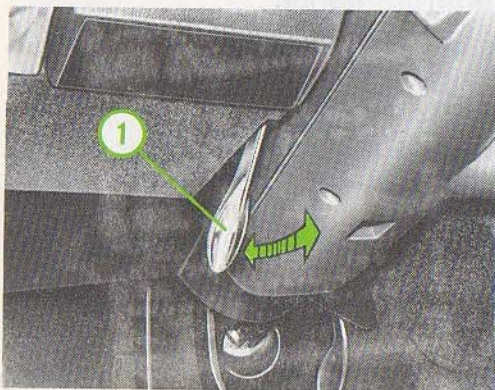
Sun roof (optional)

To open the roof, move the handle (1) from the lock position (a) to position (b). Act on the handle to open the roof as required, then set the handle in the lock position (a).



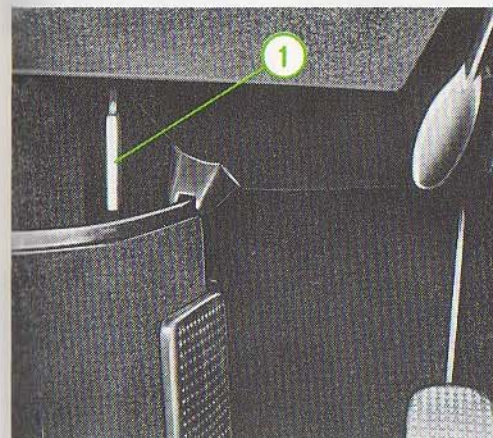
Ash-trays

To open ash-trays on door trim panels pull and release the ash-tray. To withdraw them from their housings pull upwards.



Steering column adjustment

To alter the steering column rake, pull lever (1), position the steering wheel as required and push lever fully home to former position.



Sun visors

The driver's visor is provided with parking time disc.

Package storage

Rigid bin fitted to the cowl panel on driver's side.

Bonnet release

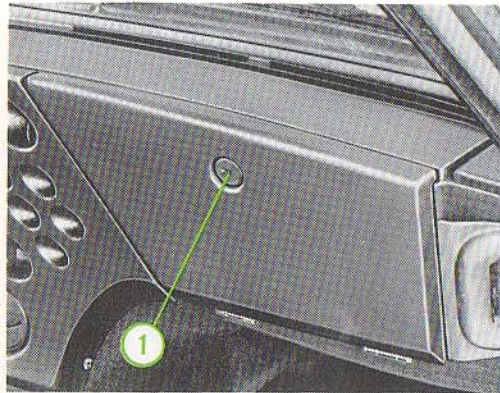
To open the bonnet pull the lock control (1); this releases the catch and allows the bonnet to open slightly and to be lifted to the fully open position. A prop maintains the bonnet fully open, so it will not drop accidentally. The engine compartment is fitted with a lamp which lights up on opening the bonnet with side lights on.

To close, disengage the prop and drop the bonnet from a height of 20÷25 cm (8÷9 in.).

Bonnet emergency release

In case bonnet release should fail, pull emergency release lever on passenger side.

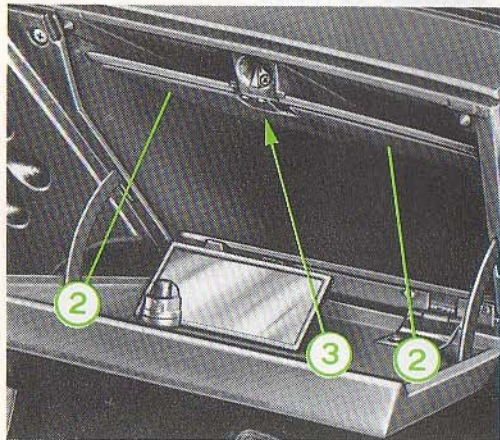
Seats adjustment



Front seats and backrests adjustment

To adjust the seats fore and aft, pull the lever (2), move the seat as required and then release the lever. Make sure the seat is positively locked.

Turn the handwheel (1) to set the micro-meter backrest rake adjustment as required.



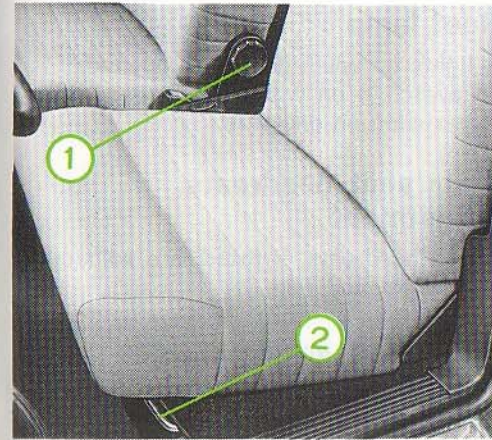
Front seat headrests adjustment

The seat headrests height (1) can be adjusted by means of notched mountings and the rake (2) by a friction device.

Sun visors

With map pocket on passenger's side.

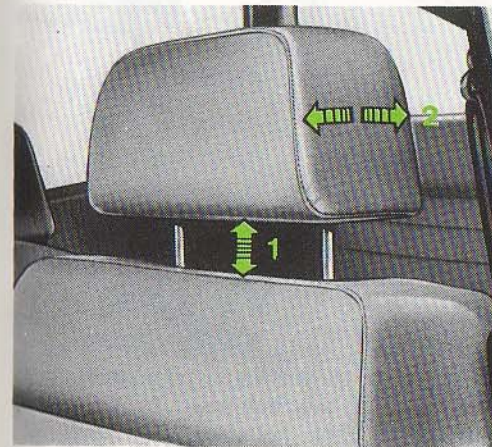
On passenger's side



Opening the glove locker

To open, depress push-button (1) fitted with lock. A vanity mirror is fitted inside the lid.

The glove locker features a lamp (3) that turns on when opening the lid with side lights on. Removable shelves (2).



Package storage

A rigid bin fitted to the cowl panel and a tray on the centre console.

Roof lamp

It lights up when doors are opened. To switch it on with doors closed press lens-switch on one side.

Rear seat headrests adjustment

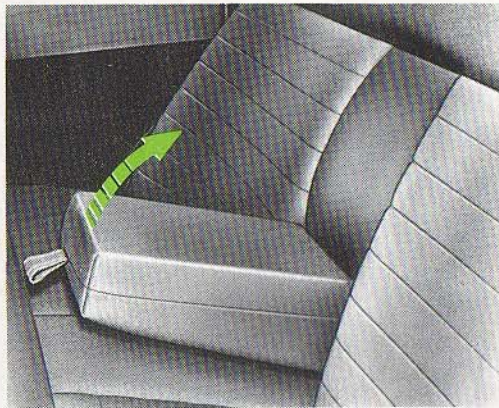
These headrests, if fitted, are adjustable for height and rake.

Rear seat armrest

Fitted at centre, folding type.

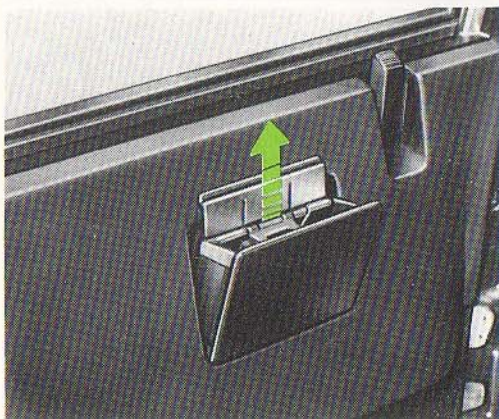
Package storage

Two pockets are provided for the passengers in the front seats backrests.



Ash-trays

To open ash-trays on door trim panels pull and release the ash-tray. To withdraw them from their housings pull upwards.



The front seat belts fitted to the car are of the lap-diagonal, three point type, provided with a dual sensitivity inertia reel. The inertia reel allows the wearer to move his trunk freely; however any violent movement of wearer or vehicle sudden deceleration, swerving or overtuning will cause the reel to lock immediately.

The rear seat can be provided with lap-diagonal, three point type and lap, two point type for centre occupant.

We shall deal hereunder with correct use of seat belts referred to the front seats. No further details will be necessary for the rear seat belts because their use is intuitive and easier to handle.

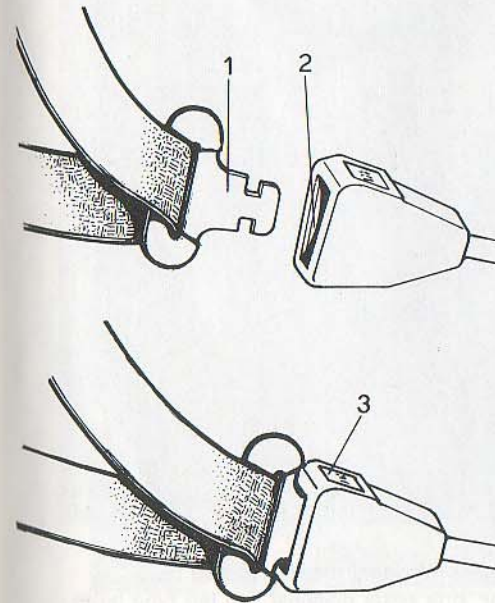
Pull the webbing gently and evenly in order to snap tongue (1) into buckle (2); when the buckle locks a click will be heard.

When fastening the belt make sure that front seat, backrest and headrest are comfortably adjusted.

To release the belt press the buckle push button (3).

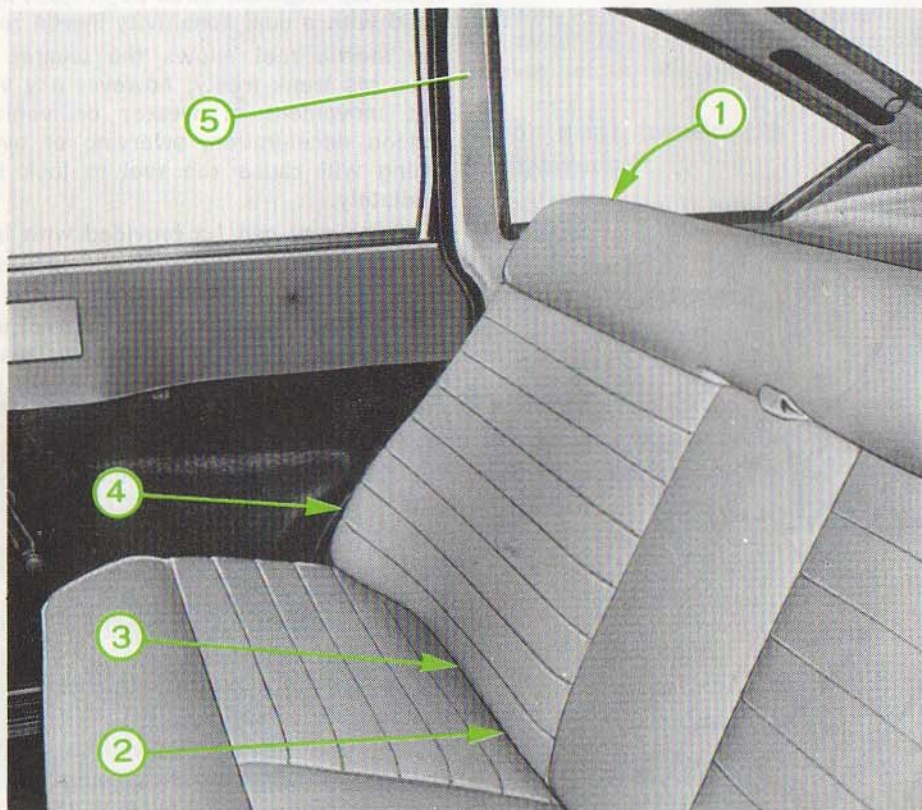
Should the car be involved in a road accident we suggest to replace the seat belts with new ones, even though they appear to be in good condition.

WARNING - Each seat belt shall be used for one adult only, or one child not less than six years old. Do not fasten the belt on a child sitting on the lap of an adult.

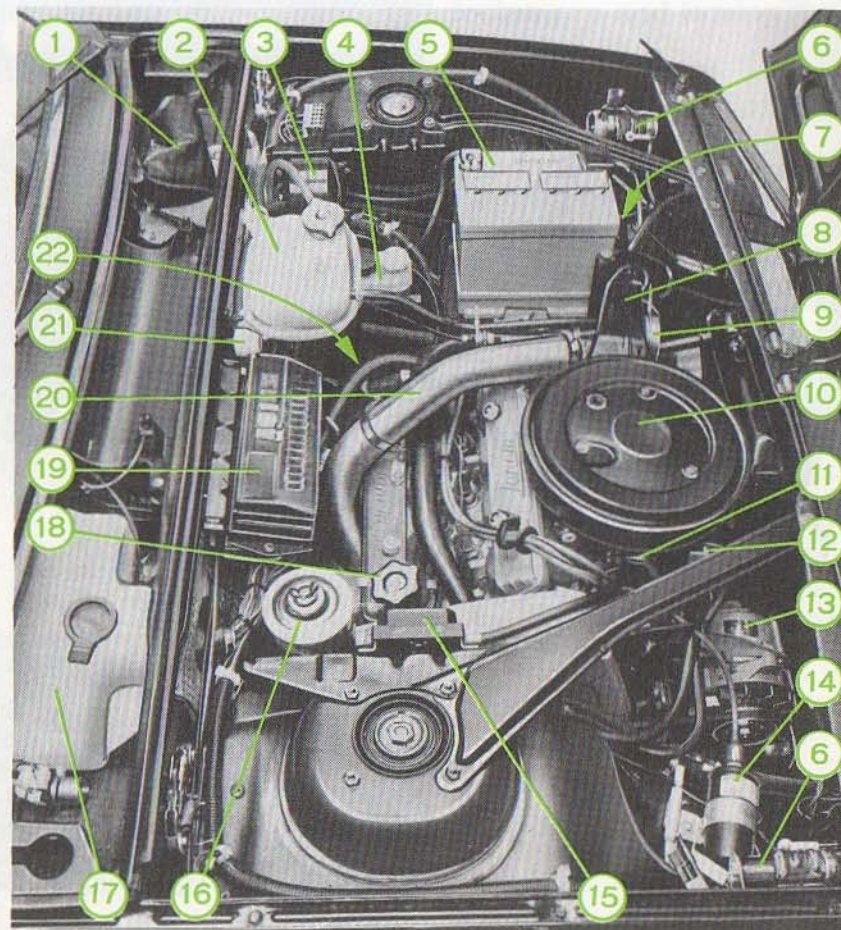


Engine compartment

Rear seat belts anchorages



1. Anchorages on rear shelf panel for side seats diagonal inertia type belts.
2. Anchorages between seat and backrest for side seats diagonal and lap type belts.
3. Anchorages between seat and backrest for centre seat lap type belts.
4. Anchorages on door side for side seats lap type belts.
5. Anchorages on door pillars for diagonal inertia type belts.



1. Wiper motor - 2. Cooling system filling and overflow tank - 3. Heating and ventilation controls vacuum tank - 4. Brake master cylinder and reservoir - 5. Battery - 6. Headlamp aiming adjustment according to load - 7. Clutch free travel adjusting nut - 8. Air cleaner intake - 9. Air cleaner warm of fresh air intake thermostatic control - 10. Air cleaner - 11. Oil dipstick - 12. Fuel filter - 13. Alternator - 14. Coil - 15. Electronic ignition control unit - 16. Power steering pump reservoir (if fitted) - 17. Windscreen washer reservoir - 18. Engine oil filler plug - 19. Fuses and solenoid switches box - 20. Cleaner warm air intake - 21. Engine compartment light - 22. Gearbox and differential oil dipstick.

Changing a wheel



Before jacking the car up, set the car level if possible and then apply the hand-brake and put in first gear, so that the car, lifted on the side of the wheel to be changed, does not move.

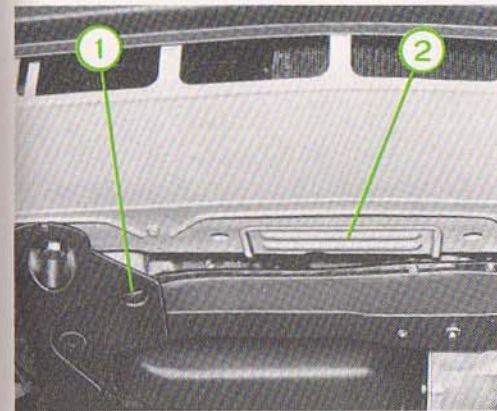
Remove the hub cap from the wheel to be changed and loosen the four wheel mounting bolts.

Apply the jack to the proper seating located beneath the side member, jack the car up, remove the wheel mounting bolts previously loosened and take off the hub cap mounting bracket and the wheel.

Once the wheel has been changed, reverse the procedure detailed above and tighten evenly and in criss-cross fashion, the wheel mounting bolts with wheel resting on the ground.

As soon as possible check pressure of the wheel replaced.

Jacking up and towing the car



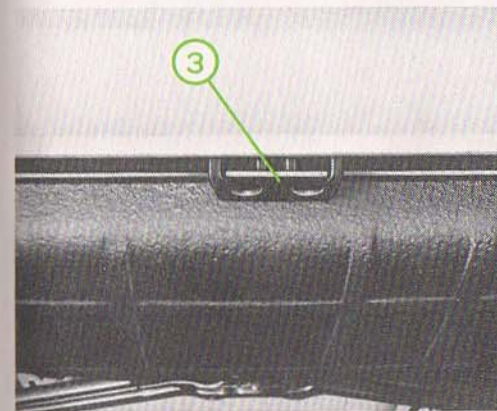
Jacking up and towing the car

Front

Apply the trolley jack under the proper plate (2).

It is advisable to insert a wooden block between the jack and the plate.

In case the car has to be towed secure rope or bar to front bracket (1) only.



Rear

Apply the trolley jack under the bracket (3). It is advisable to insert a wooden block between the jack and the bracket. When towing another car, fit the rope or bar, to the bracket only.

Jacking up the car side

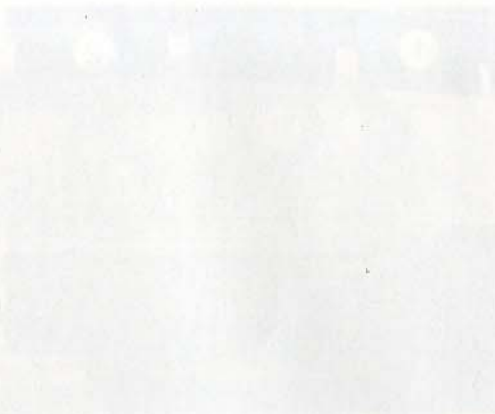
Fit the jack supplied with the car to the proper seat (as for replacing the wheels) (see on page 26).

Towing a trailer

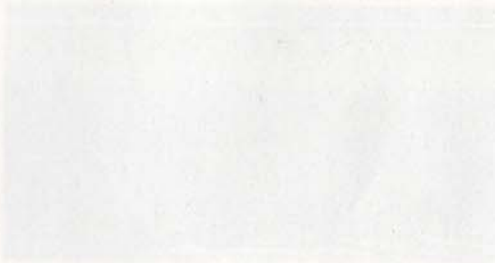
Provisions have been taken to fit the tow hitch. For the fitting procedure, apply to one of our Authorized Services.

Tacking up and towing the car

...the motor, take away the petrol
...to insert a wooden block
...the front of the car for the front wheel
...the front wheel.



...the front of the car for the front wheel
...the front wheel.



...the front of the car for the front wheel
...the front wheel.

Tacking up the car side

...the front of the car for the front wheel
...the front wheel.

Towing a trailer

...the front of the car for the front wheel
...the front wheel.

DRIVING THE CAR

Precautions during the running-in of the car

The correct use of the car during the first thousands kms, greatly helps a good bedding of the running parts and their subsequent life.

For a gradual running-in, therefore, it is necessary to proceed as follows:

- when starting the engine, gradually warm it up without reaching the max. r.p.m.;
- on long runs, from time to time release the accelerator pedal for a few moments;
- when climbing, never depress the accelerator pedal fully, but shift to a lower gear, if necessary.

Gradually exploit the performance of the car and of the engine in particular; to this end, do not exceed the following engine speeds:

up to 1,000 km (620 miles):	4,000 r.p.m.
from 1,000 to 2,000 km (620 to 1,250 miles):	5,000 r.p.m.

Do not change the engine oil later than the first 1,000 to 1,500 km (620 to 930 miles). For any topping-up, use:

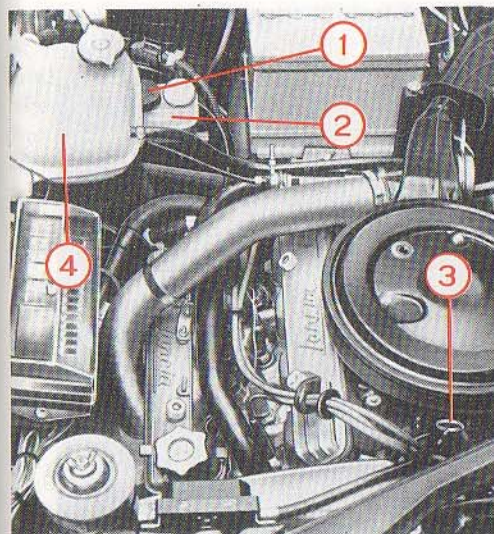
Agip Sint 2000 10 W-50;

Esso Uniflo 15 W-50;

Mobiloil Special 10 W-30 or 20 W-50;

Oliofiat Multigrado 15 W-40.

Checks to be carried out before using the car



- Fuel level.
- Level of coolant in the filling and overflow tank (4); with heater cock open when engine cold, it should register with the marking.
- Level of brake fluid in the reservoir (2) shall be aligned with the MAX mark. Remove the cap (1) and top-up if required.
- Oil level in the sump, with car level, should not be much below max. mark on the dipstick (3) to prevent it from dropping below min. mark when driving.

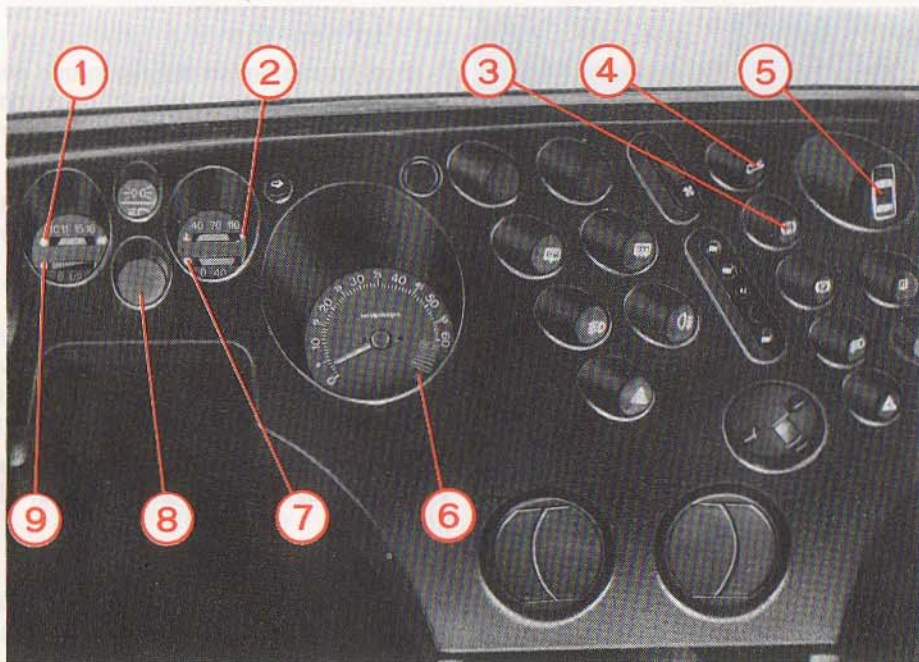
The oil level should be checked every, 1,000 km (620 miles) and not over that limit.

- Tyre inflation pressure.
- Tyres, front and rear, when cool, are inflated at the recommended pressure; 1.7 bar for light load or cruising speed; 1.9 bar for full load, or high speed; 2.2 bar for consistent operation at high speed.

Also check spare wheel pressure.

Frequently check the pair of tyres fitted front or rear to be inflated at the same pressure and also for condition.

- Voltmeter; with ignition key in position MAR (drive), check that the pointer dwells at the centre of the scale. Should it be on the negative side, it means the battery is flat.



– Warning light operation; with ignition key in position MAR (drive), depress the switch on the Rev counter dial (6) and check the following warning lights for operation; fuel reserve (9), engine overheating (2), brake fluid low level, or front pads wear limit (3) and automatic transmission overheating (4) if fitted.

« Safety Check System »

(for special versions or optional extra)

This electronic system provides a continuous check of the car efficiency either when engine stopped, so as to check it before moving off, or when on the move to warn of any failure.

1) Static check

By turning the ignition key to position MAR an automatic check is carried out of the following items:

Warning lights: alternator (1), engine overheating (2), oil low pressure (7), fuel reserve (9), brake fluid low level, or front pads wear limit (3) and automatic transmission overheating (4).
Moreover visually check:

Brake fluid level.

Side lights and licence plate lights: by switching on the outside lights.

Front brake pads wear limit: by depressing the brake pedal.

Stop lights: by operating the brake pedal.

If the main warning light (8) turns green, it means that the car is in good order and therefore safe. On the other hand should it go **red** it means that a failure has been detected by the «Safety Check System».

If on starting the engine, the red light goes out, it means that a warning light has failed and then by checking the six warning lights involved it is possible to detect the one failed.

On the contrary, should the **red light** stay on also when engine running, it means that the fault concerns the light system, or the engine (see item 2).

2) Dynamic check

As detailed above, the Safety Check System provides a constant checking of the car running order and warns immediately of any fault.

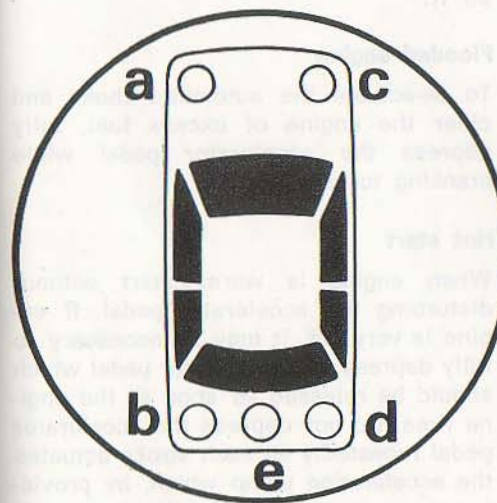
If when on the move, or with engine running, a fault develops causing one of the following warning lights to go on: alternator (1), engine overheating (2), brake fluid low level, or front pads wear limit (3), automatic transmission overheating (4), light system fault LED (on monitor) (5), the warning is also given by the main warning light (8) which turns **red**, thus calling the driver's attention.

If the fault concerns the light system (side lights, licence plate lights, stop lights) the location of the fault is shown on the monitor (5).

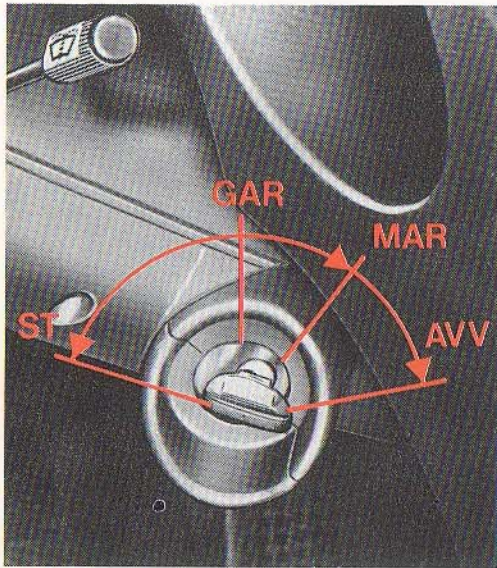
Side lights failure (bulb, or fuse blown) is indicated by LED's **a** and **d** for front left and rear right light, and by LED's **c** and **b** for front right and rear left light.

LED **e** turns on when the licence plate lights fail, whilst LED's **b** and **d** light up when the stop lights do not work.

NOTE: For a correct operation of the « Safety Check System » LANCIA homologated bulbs only must be fitted.



Starting the engine



Cold start

Move gearshift lever into neutral. Depress clutch pedal. Depress accelerator pedal and release it; this will actuate the automatic choke.

Insert and turn the ignition key clockwise to its stop in AVV position. As soon as the engine starts, release the key so that it will automatically return to MAR position. Should the engine fail to start, repeat starting procedure.

A special device prevents from attempting two starts in succession unless the key has been turned to position ST.

Do not step on the accelerator pedal until the engine is running smoothly and avoid hard acceleration when engine cold. To reduce the idling speed, lightly depress the accelerator pedal and release it.

Flooded engine

To de-actuate the automatic choke and clear the engine of excess fuel, fully depress the accelerator pedal while cranking to start.

Hot start

When engine is warm start without disturbing the accelerator pedal. If engine is very hot, it may be necessary to fully depress the accelerator pedal which should be released as soon as the engine fires. Do not depress the accelerator pedal repeatedly as each stroke actuates the accelerating pump which, by providing an excessively rich mixture would make engine starting difficult.

WARNING - Exhaust gases are poisonous, never run the engine in a closed place.

Key switch

ST = Parking with antitheft steering lock on (when key removed).

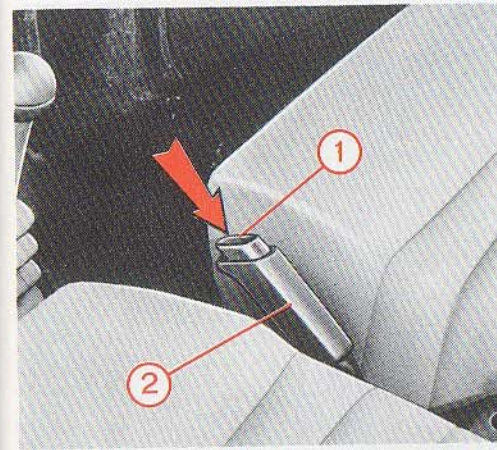
GAR = Garage with antitheft steering lock off (on some versions this position is lacking).

MAR = Drive.

AVV = Engine starting.

WARNING - Do not turn the key to position ST and do not take it off when the car is in motion, because in this case the anti-theft device is automatically applied and does not allow turning the steering wheel.

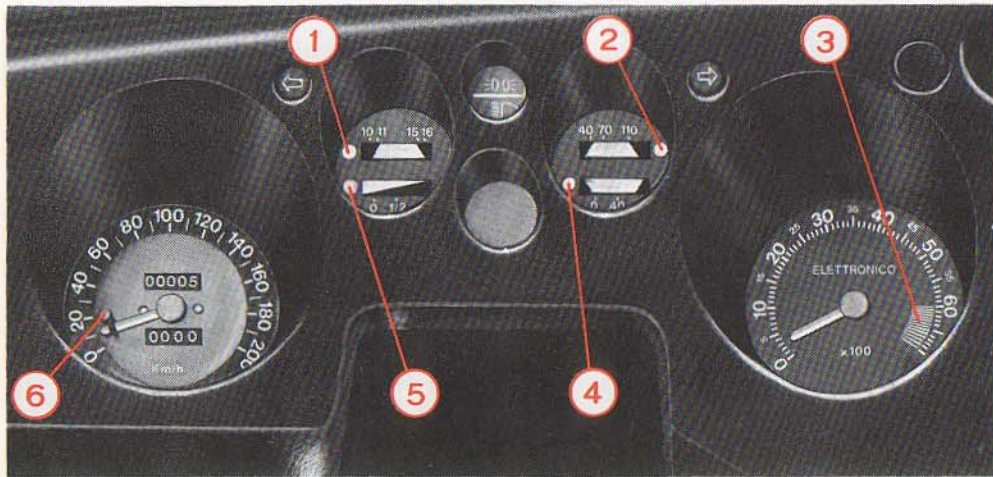
Car moving off



Once the engine has been started and warmed up, fully depress the clutch pedal and shift the gear control lever into 1st speed position.

To engage the reverse, depress the control lever and move it to position RM. Release handbrake by depressing handle push-button (1) and pulling lever (2) at the same time then, move the lever downwards to horizontal position (warning light flashing with handbrake applied). Slowly release the clutch pedal and gradually accelerate.

Driving the car



While running check now and then:

— **the fuel gauge:** the warning light (5) turns on when car in reserve (about 8 litres - 1.7 Imp. g.).

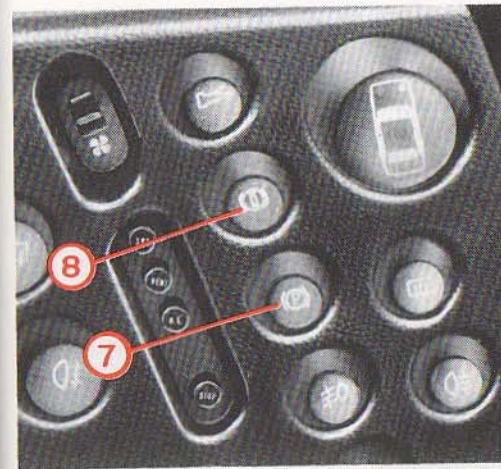
— **the coolant temperature gauge;** the portion from 158 to 194°F shows the normal running temperature of the engine.

If the pointer stays on the red sector, or if the engine overheating warning light (2) turns on, it is necessary to detect the causes at once by checking the coolant level in the filling and overflow tank, the operation of the fan motor control thermostic and then, if required, check the other cooling system components.

— **the oil pressure gauge;** the pointer shows the pressure of the engine oil, and when running it normally dwells around the centre mark. If it is not so, or if the warning light (4), which shows the low oil pressure, goes on, stop the engine immediately and have the required inspections carried out.

— **the voltmeter;** when engine running the pointer should dwell in the centre sector, leaning to the positive side, whilst should it stay in the red sectors, have the electric system and especially the voltage regulator checked.

— **the alternator warning light (1);** must go off when the engine is running. Should the warning light stay on, have the alternator and the voltage regulator checked. However, with engine idling, the light may light up from time to time; this does not indicate any faults.



— **the brake fluid low level, or front brake pads wear limit warning light (8):** must be off. If it lights up, restore the fluid level up to the MAX mark on the reservoir and then check for any leaks; if the light is still on, replace the front brake pads and check the rear pads for wear.

— **the handbrake warning light (7):** must be off. If the light keeps flashing on, make sure the control lever is fully released.

Speed limits

(once the running-in period is over)

The speeds at which it is advisable to change gear depend upon the road characteristics and load conditions of car. The speed limits in each gear may also be determined by the driver by checking through the revolution counter that the engine r.p.m. do not exceed the max figure recommended (red sector) (3).

WARNING - When resetting the speedometer trip recorder, turn the relevant knob (6) counterclockwise.

Running economy

Particular conditions in the use of the car, especially running up-hill, increase the fuel consumption. Moreover, also the way the car is driven matters. Accelerating in neutral while standing at traffic lights, or before moving off, and sudden braking at high speed, as in a traffic queue do not help in saving fuel, which is achieved in building up speed evenly and slowing down in advance when the car has to be stopped. Also running the engine at max or min revolutions for long periods of time, has to be avoided choosing instead the right gearbox ratio for any speed of the car. Keep the engine correctly tuned, carry out the maintenance schedule properly, keep the tyres correctly inflated and when the car is standing for long periods of time, turn off the ignition.

Running downhill

On long downhill runs, it is advisable to use the engine brake power by engaging the most suitable gear in order to prevent rapid wear of the brake pads. Do not switch off the ignition by turning the key to position GAR, or ST, as in the first instance the little amount of fuel flowing from the carburettor to the engine would remain unignited and could damage the parts, in the second case by withdrawing the key, the anti-theft device is automatically applied and does not allow turning the steering wheel.

Stopping the car

When parking the car, switch off the ignition by turning the ignition key to GAR, or ST positions, apply the handbrake and engage first gear.

Brakes

Brake gradually and timely; be ready for forced stops gradually slowing down, and avoid, as far as possible, sudden braking hastening brake and tyre wear. Or slippery ground, operate the brakes softly in order to avoid locking the wheels.

Adherence and road holding are greater when wheels do not lock.

WARNING - With engine at rest there is no vacuum, therefore the servo unit does not operate and braking is far less effective.

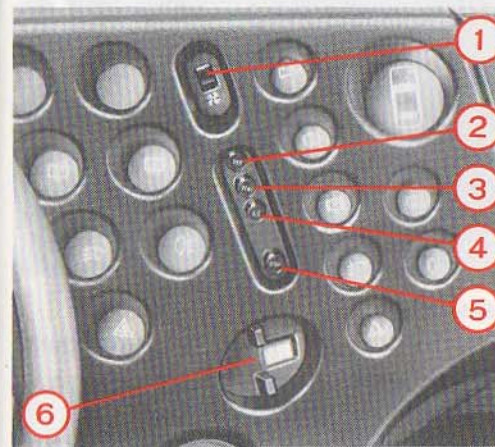
The controls are vacuum operated, therefore the system can be regulated when engine running only, by proceeding as follows:

Fresh air

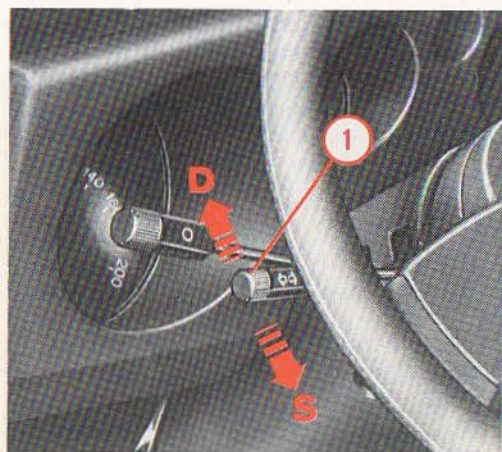
Make sure the water tap and air blender control (6) has been turned to the blue area (tap closed). By depressing push-button AE (4) air will be supplied to all vents inside the car. In this case the air temperature **cannot be regulated** by means of control (6).

By depressing push-button SBR (2) air is directed to the windscreen only through the slots in the dashboard top padding. By acting on push-button VENT (3) air is piped to the front and rear outlets and only a little amount is sent to the windscreen.

To increase the air flow, shift the booster control lever (1) to the first click to select the low speed, or to the second and third clicks to run it at higher speeds.



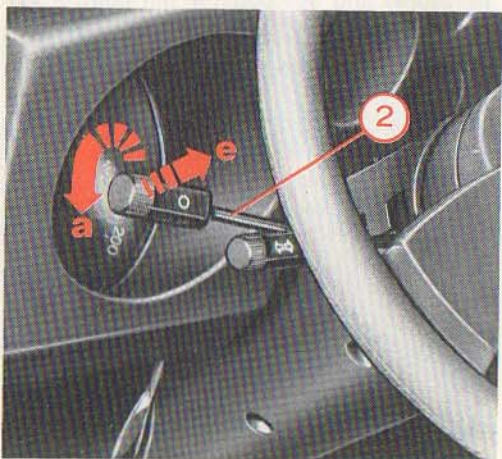
Direction indicators and lights



Direction indicators

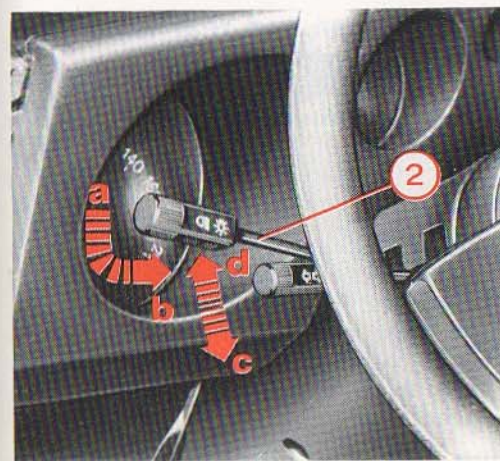
Operate with ignition key in MAR position.

By moving lever (1) up or down (D - right hand, S - left-hand) the relevant warning light (2 or 3) goes on. Cancellation takes place automatically when the steering wheel is centralized after turning and by hand in case of non-turning.



Outside lights

Side lights: go on by turning the grip of the headlamp control lever (2) counterclockwise to the first click (a) with the ignition key in position MAR, or ST. When the side lights are on a warning light on the instrument panel comes on. By shifting the headlamp control lever (2) towards the steering wheel (e), light signalling with the main beams is obtained by day or by night, also with side lights off.



Dip beams: light up, with side lights on, in two ways: by further turning the grip of the lever (2) to the second click (b), or by shifting the lever (2) downwards to position (c).

Main beams: go on with side lights and dip beams on in two ways: by moving the headlamp control lever (2) downwards to position (c), or if the lever is already in this position by turning the lever grip counterclockwise to the second click (b). A warning light on the instrument panel turns on when main beams on. The changeover from main beams to dip beams, or vice-versa, may be obtained by shifting the lever (2) to positions (c-d), or with the lever (2) in position (c), by turning the grip to position (b-a).

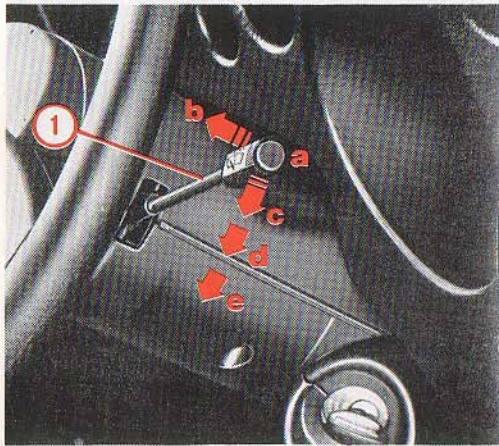
Reversing lights: when the reverse gear is engaged, also with side lights off, the rear white lamps light up.

Fog lights: provision has been taken on the electric system to fit the front fog lights.

The press-switch has been fitted with tell-tale.

Rear guard lamps: turn on when low beams on by operating a press switch fitted with tell-tale.

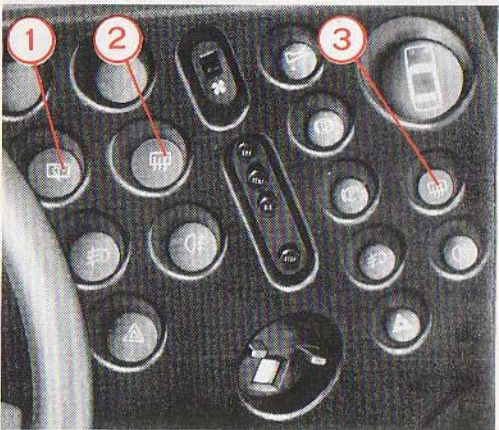
Instruments lights: go on when side lights on by turning the switch on the Rev. counter dial. Turn the switch further on to adjust the light intensity.



Windscreen and rear window washers/wipers

Windscreen washer: works when ignition key in position MAR by shifting control lever (1) upwards towards the steering wheel to position (b).

Windscreen wipers: two-speed and intermittent type; move control lever (1) from position (a) to position (c) for intermittent operation; and to position (d) for continuous operation at low speed. Move the lever to position (e) to select the high speed.



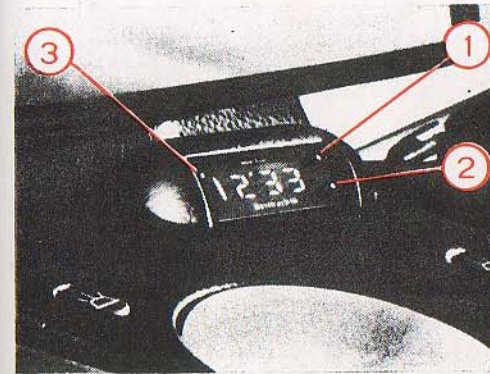
Rear washer/wiper (if fitted): keep button depressed to operate washer and wiper.

NOTE - To prevent windscreen and blades from being damaged do not operate the wiper when windscreen is dry.


Heated rear window

Operating when switch pressed and ignition key in position MAR. A warning light (3) comes on when switch (2) is on. Defrosting is obtained through filaments fitted to the glass.

NOTE - Do not leave control switch (2) on when engine at rest.



Clock

Digital electronic. It is both clock and stop-watch. With ignition key in position MAR the hours and minutes are displayed, whilst with key removed it is necessary to depress push-button (1). Also with key removed the display may be checked for operation by depressing the buttons (2-3) at the same time; all points will show and all figures will appear as .

For the correct operation as clock, or stop-watch refer to enclosed booklet issued by the Maker.

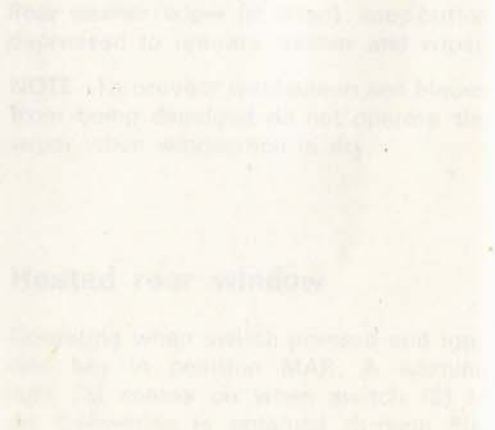
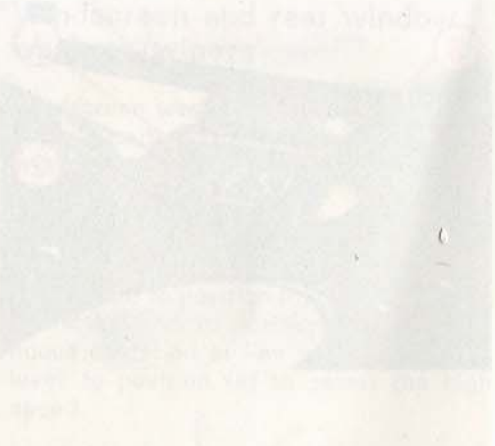
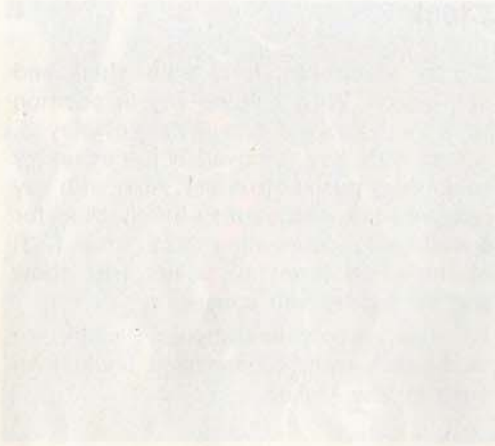
Provision for radio

The screened ignition system (spark plug cables and ignition distributor) is fitted as standard. If required, capacitors may be fitted to the coil and alternator, as well as ground connections not concerning the ignition system.

The car is moreover fitted with a coaxial lead for the aerial and speaker seatings in the cowl panels. The radio works when the ignition key is in MAR, or ST position.

Anti-theft device

Automatically applied on removing the ignition key from position ST. To facilitate disengaging the anti-theft device, it is advisable to turn the steering wheel lightly in either direction.



Anti-theft device

Automatically applied on removing the ignition key from position ST to locate into the anti-theft device. It is advisable to turn the steering wheel slightly in either direction.

MAINTENANCE

The various maintenance operations to be carried out periodically according to mileage covered, have been divided into two different groups.

Ordinary maintenance, which refers to lubrication points and to simple cleaning operations, and interventions which may be carried out by any Customer acquainted with the car.

Specific maintenance, which refers to more complex operations of cleaning, checking and setting for which we recommend our Authorized Workshops only.

Summary of the service coupon and maintenance schedules

Service coupon	Progressive mileage in thousands of kms and miles								Page
	10 6.2	20 12.4	30 18.6	40 24.8	50 31	60 37.2	70 43.5	80 49.7	
Road test (on reception)									
Renewing fuel filter/s		+		+		+		+	52
Renewing air cleaner element and checking intake thermic control for operation	+	+	+	+	+	+	+	+	52
Changing engine oil	+	+	+	+	+	+	+	+	53
Renewing engine oil filter	+	+	+	+	+	+	+	+	54
Cleaning P.C.V. system				+				+	67
Checking cylinder head for tightening									
Checking valve clearance (cam/valve stem)		+		+		+		+	66
Checking exhaust manifold/s and pipes for tightening									
Checking cog belts for wear		+		+		+		+	66
Checking Vee belts for tension and wear		+		+		+		+	68-72
Renewing spark plugs	+	+	+	+	+	+	+	+	52
Cleaning, checking ignition distributor		+		+		+		+	67
Checking coolant level		+		+		+		+	31-54
Changing coolant									55
Checking idling		+		+		+		+	66
Checking motor driven fan thermostatic cut-in		+		+		+		+	
Checking for engine oil, coolant and fuel leaks		+		+		+		+	
Checking clutch release lever free travel		+		+		+		+	
Checking gearbox and diff. unit oil level		+		+		+		+	56
Checking automatic transmission * and diff. unit oil level	+	+	+	+	+	+	+	+	56
Changing gearbox and diff. unit oil			+			+		+	94
Checking gearbox and diff. unit for oil leaks		+		+		+		+	56-95
Checking automatic transmission kick down control link *	+	+	+	+	+	+	+	+	
Checking automatic transmission gear shift control *	+	+	+	+	+	+	+	+	
Testing automatic transmission for operation (road test) *		+		+		+		+	
Testing automatic transmission for operation with the aid of specific equipment (road test) *				+		+		+	
Checking constant velocity joint dust guards for condition	+	+	+	+	+	+	+	+	68
Checking front and rear suspension for tightening and bumpers for condition		+		+		+		+	
Checking shock absorbers for oil leaks		+		+		+		+	69
Checking tyres inflation pressure		+		+		+		+	31-57
Interchanging the road wheels (not imperative)									57
Checking tyres for wear		+		+		+		+	57
Checking brake system for leaks and brake fluid level		+		+		+		+	31-58
Checking brake pads for wear		+		+		+		+	70
Checking handbrake		+		+		+		+	58
Checking rear brake valve dust guard for condition		+		+		+		+	
Checking sub-frame mounting to bodywork				+				+	
Checking steering or power steering * box dust guards for condition	+	+	+	+	+	+	+	+	
Checking steering box or power steering system * for leaks	+	+	+	+	+	+	+	+	
Checking power steering fluid level *	+	+	+	+	+	+	+	+	57
Checking steering rods for tightening		+		+		+		+	
Checking front road wheels geometry		+		+		+		+	68
Checking all electric devices and relevant warning lights for working		+		+		+		+	
Checking heating system for working (yearly)									
Checking air conditioning system for working * (yearly)									
Checking all lights, controls, gauges and warning lights		+		+		+		+	87
Checking headlamps for working and aiming		+		+		+		+	72
Checking headlamps automatic aiming * and window power lifts * for working		+		+		+		+	72
Checking battery electrolyte level		+		+		+		+	59
Checking alternator brushes for wear				+				+	72
Checking starter motor commutator and brushes				+				+	72
Lubricating air-horn electrompressor *		+		+		+		+	
Checking windscreen and rear screen washer for operation and fluid level		+		+		+		+	65
Lubricating and checking car's accessories and devices for tightening		+		+		+		+	64
Road test (for release)									

* If fitted

Fill-ups

Use only the products listed hereunder, which may be mixed in any proportion. Filling quantities stated below refer to containers, systems, or tanks fully dry.

	Quantity				
	l.	Imp. gall.	US gall.	kg	
Fuel tank (including about 8 l. reserve)	52	10.78	12.94	—	Premium fuel (Min. octane rating: 98 Research Method 87 Motor Method)
Cooling system *	7.60	1.67	2	—	Coolant (50 % LANCIA 430 S or PARAFLU 11 antifreeze. 50 % water)
Engine:					
to change oil					AGIP SINT 2000 10 W-50
1600 BETA	3.40	0.74	0.89	3.10	ESSO UNIFLO 15 W-50
2000 BETA	3.70	0.81	0.97	3.30	MOBIL OIL SPECIAL 10 W-30 or 20 W-50
to change oil and filter					OLIOFIAT MULTIGRADO 15 W-40
1600 BETA	4.20	0.92	1.1	3.80	4
2000 BETA	4.50	0.98	1.18	4	
Gearbox-differential unit	1.80	0.40	0.47	1.60	AGIP F1 ROTRA SAE 85 W-90 ESSO GEAR OIL CZ 85 W-90 MOBIL LUBRITE LZ 90 OLIOFIAT ZC 90 SAE 80 W-90
TRW steering gear	0.20	pint 0.35	pint 0.42	0.18	AGIP F1 ROTRA MP SAE 85 W-90 ESSO GEAR OIL GX 85 W-90 MOBILUBE HD 90 OLIOFIAT W 90/M SAE 80 W-90
ZF steering gear	—	—	—	—	BP ENERGREASE HT EP 00
Power steering	—	—	—	—	AGIP F1 ATF DEXRON ESSO ATF DEXRON MOBIL ATF 220
Automatic transmission	—	—	—	—	
Hydraulic brakes	0.56	pint 0.98	pint 1.18	0.50	AGIP F1 BRAKE FLUID SUPER HD CASTROL GREEN FIAT etichetta azzurra DOT 3
Windscreen washer	2	pint 3.51	pint 4.23	—	Water plus 50 % liquid detergent
Rear window washer	1.6	2.81	3.37	—	FIAT DP 1
Front drive shaft constant velocity joints	—	—	—	—	FIAT MRM2 GREASE MOLYKOTE BR 2

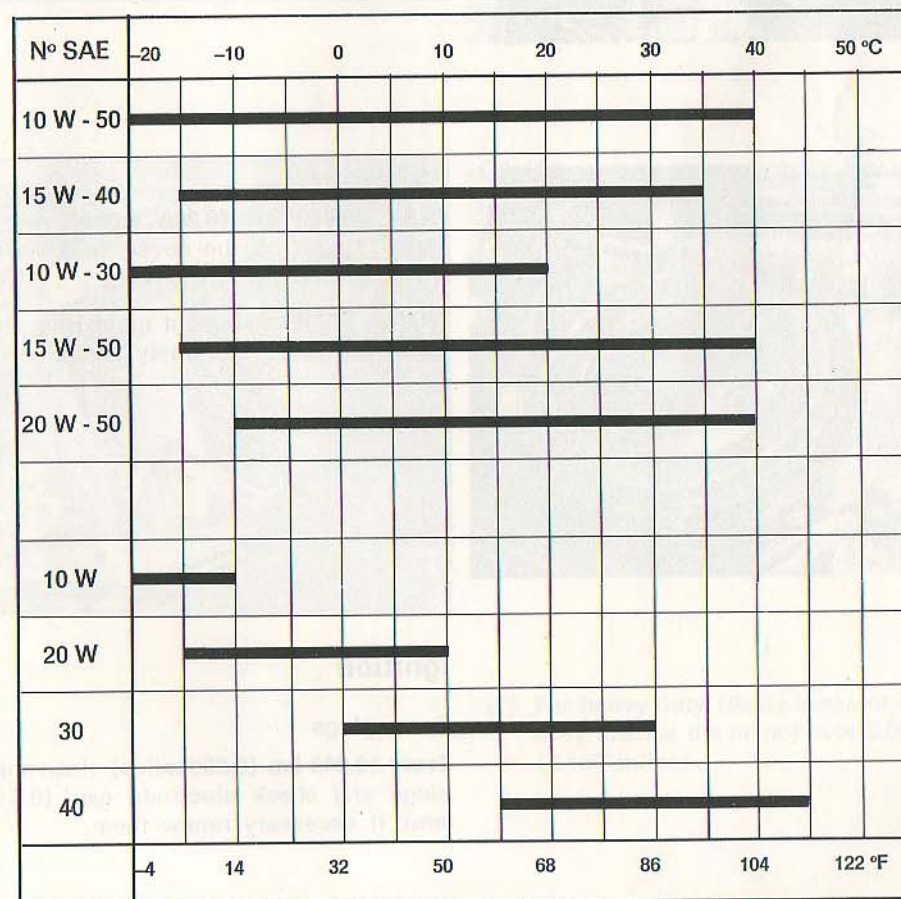
* Including car heater system.

SAE RECOMMENDED GRADES

Engine lubrication

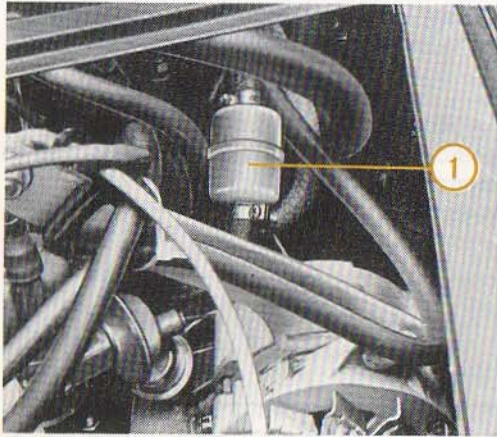
For engine lubrication we recommend the products mentioned on page « FILL-UPS ». However for certain countries or for specific weather conditions we suggest to utilize a product featuring those SAE gradings duly stated on relevant chart.

Brands recommended: AGIP - ESSO - MOBIL - OLIOFIAT.



Engine

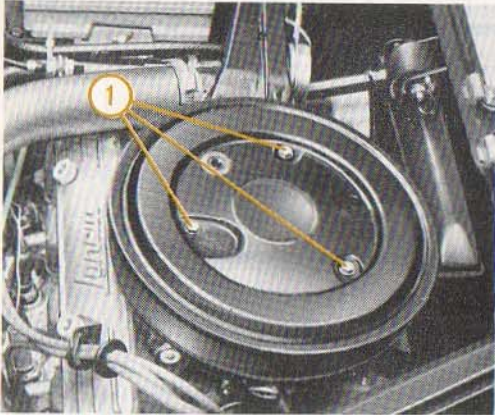
Ordinary maintenance



Fuel system

Fuel filter

Every 20,000 km (12,400 miles) disconnect the inlet and outlet pipes to renew filter (1) fitted between pump and carburettor. On some special versions this filter is fitted nearby the fuel lift pump, located in a special recessed housing, below the floor pan rear right end.



Air cleaner

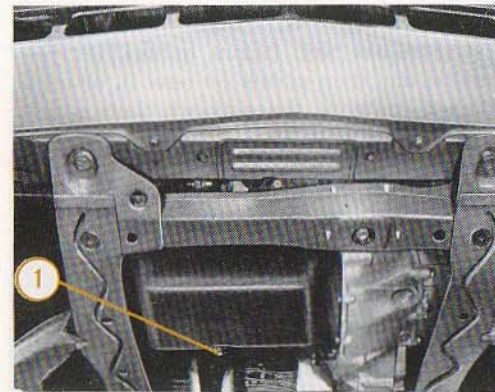
Every 10,000 km (6,200 miles) remove nuts (1), lift off the cover, take out the element and renew it.

NOTE - Replace element more frequently if the car is used in dusty areas.

Ignition

Spark plugs

Every 10,000 km (6,200 miles) clean spark plugs and check electrode gap (0.6-0.7 mm). If necessary renew them.



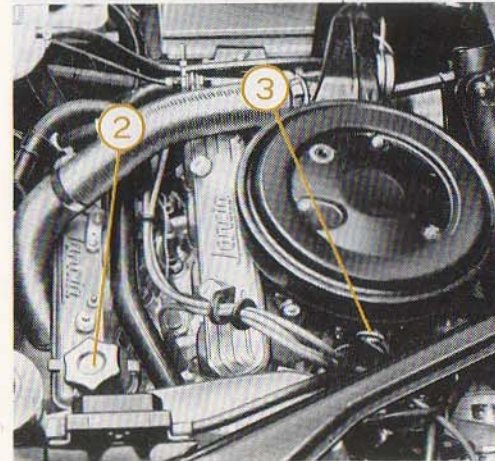
Lubrication

Changing the oil

Every 10,000 km (6,200 miles) * change the oil when engine warm.

Oil drain

Drain plug (1) fitted under the sump.



Oil filling

Remove filler cap (2) and pour in the prescribed quantity of oil, start the engine and run it for a while, switch off and after 3-4 minutes take the reading with dipstick (3).

(*) For heavy duty (dusty areas or urban use) change the oil not over 5,000 km (3,100 miles).

Replacing the oil filter

Every 10,000 km (6,200 miles) oil the gasket and then screw on new filter until gasket contacts the support, then screw on a further half turn by hand.

Start the engine and check for oil leaks. To remove the filter a special clamping tool may be used.

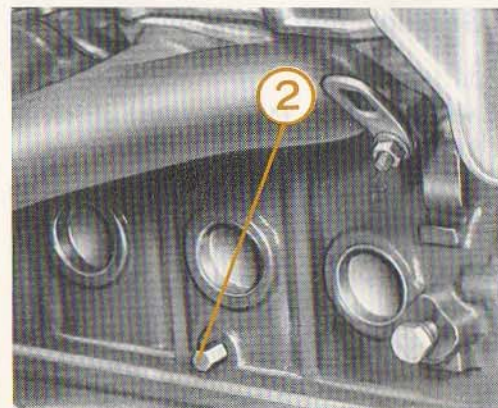
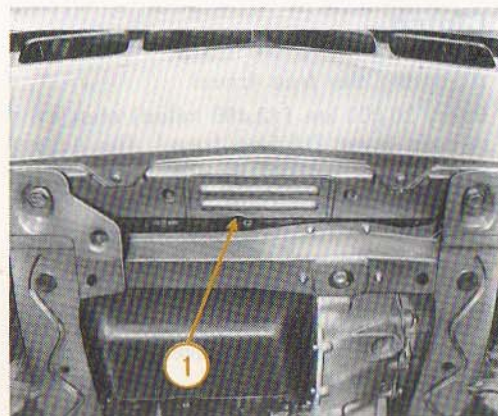
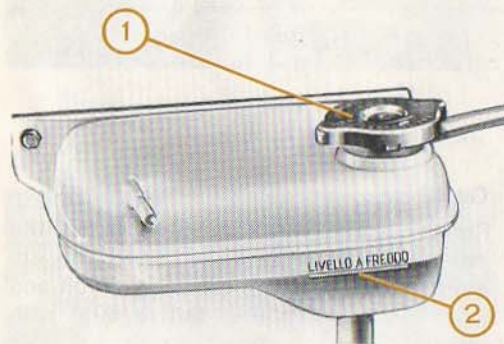
Cooling system

Checking the level

The level is correct when, with heater cock open and engine cold, the coolant is in line with the marking (2) on the tank. When removing the cap (1) from the filling tank, with engine warm, make sure to unscrew the cap partly only, up to the first stop, in order to release the pressure before removing it completely. Should the coolant drop below the specified level after 500 to 1,000 km (310 to 620 miles), please have the system inspected.

Topping-up

Should the coolant level drop below the mark previously mentioned, top up with a 50% antifreeze and 50% tap water mixture. Tap water only may be exceptionally used, however, bear in mind that in this case the antifreeze property of coolant is reduced. Never top up with cold water if coolant level very low and the engine very hot. In this particular case wait for the engine to cool, or pour-in the antifreeze mixture, or plain water very slowly while engine running.



Changing the coolant

Change the coolant every 60,000 km (37,200 miles) or every two years; before winter whenever possible.

Draining the system

Open the heater cock and remove the filling tank cap, the radiator lower drain plug (1) and the drain plug (2) on the cylinder block right-hand side.

Refilling

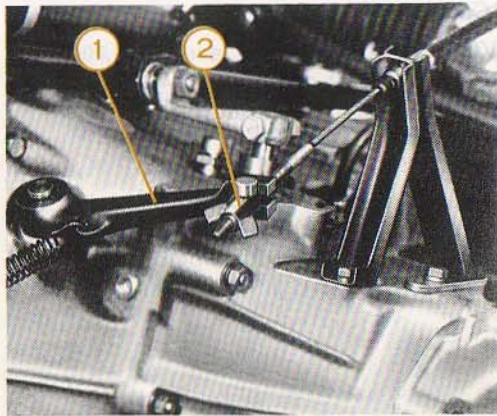
Make sure the drain plugs are well locked then, through the tank filler pour about 3.8 litres (0.83 Imp. gall) of antifreeze, start the engine and run it for a few minutes, complete the filling using tap water up to correct level. Check level after a few miles.

Winter precautions

The cooling system is filled with a mixture consisting of 50% water and 50% antifreeze that does not freeze down to a temperature of -35°C (-31°F).

Transmission

Ordinary maintenance

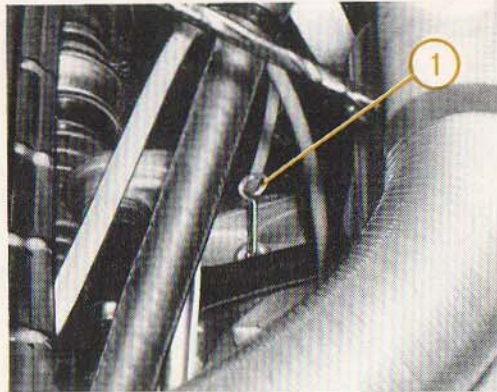


Clutch

Adjusting the free travel

Every 20,000 km (12,400 miles) check the release lever (1) free travel. The adjustment is carried out by acting on special nut (2) located on the front end of cable connected to clutch release lever (1), until a free travel of 3 to 5 mm (0.118 to 0.196 in.) of such lever is restored.

Under particular conditions of use, have the release lever free travel checked more frequently.



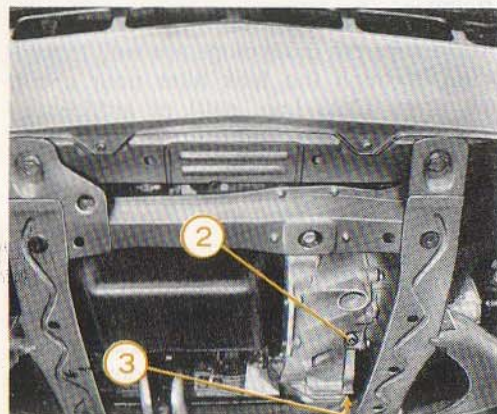
Gearbox and differential

Oil level

Every 20,000 km (12,400 miles) check oil level on dipstick (1).

Changing the gearbox and differential oil

Every 30,000 km (18,600 miles) change the oil, by thoroughly draining the oil when warm, then pour in fresh oil.



Oil draining

By removing the plugs underneath the gearbox (2) and differential (3).

Oil filling

Through the oil filler fitted with dipstick.

Wheels

Inflation pressure, when cool, front and rear

1.7 bar light load, or cruising speed;

1.9 bar full load, or high speed;

2.2 bar prolonged operation at high speed.

Both tyres of front, or rear set should feature identical pressure; also check tyre condition at short intervals.

Wheel rotation (not imperative)

For a good life and even wear of tyres, the wheels should be changed round. On such occasion fit the spare wheel.

Every 20,000 km (12,400 miles) inspect tyres for wear and replace them if necessary. Check the wheel rims for possible distortion and clean them as necessary.

Moreover check the road wheels mounting for tightness.

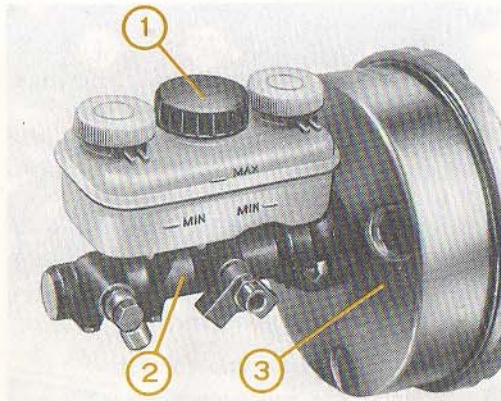
Power steering (if fitted)

Power steering fluid reservoir fitted with mesh filter and featuring an inside level mark.

Every 10,000 km (6,200 miles) check, with engine running, that the fluid be at max. level.

Brakes

Ordinary maintenance

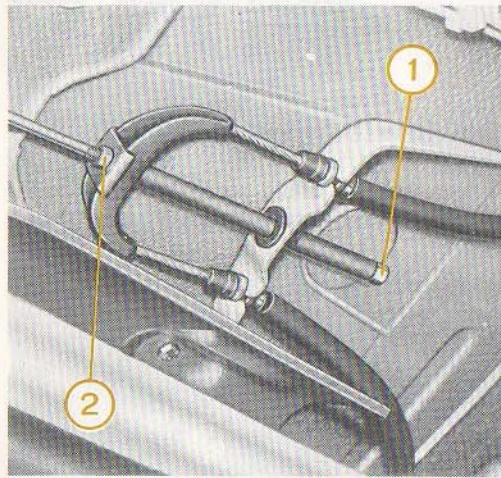


Brake fluid reservoir

1. Brake fluid reservoir filling cap.
2. Brake master cylinder.
3. Brake servo unit.

Every week check that the fluid in the reservoir be at max. level.

The level of the brake fluid in the reservoir may fall, owing to pad wear by 6-7 mm (0.236 in. to 0.275 in.) max. Further drop denotes a leaky system. In this instance, please have the system duly checked c/o one of our Authorized Services.



Handbrake

Every 20,000 km (12,400 miles) check the handbrake for operation. To adjust, if required, working under the car, loosen the lock nut (2) and turn the pull-rod (1) till the car is braked through a 4 to 5 notch travel of the hand lever.

Once the adjustment is over, tighten the lock nut (2).

Electrical equipment

Ordinary maintenance

Battery

Every month, check level of electrolyte and, if necessary, top up with distilled water (with cold battery) until level is 5 mm (0.196 in.) above the plates. Keep battery terminals clean and firmly tightened; furthermore, in order to avoid oxidation, grease them with pure petroleum jelly.

NOTE - In summer the electrolyte level has to be inspected more frequently.

Important warning

Disconnect the battery prior to recharging, or carrying out any repair. Do not run the engine if the battery and alternator are not firmly connected.

Renewing the bulbs

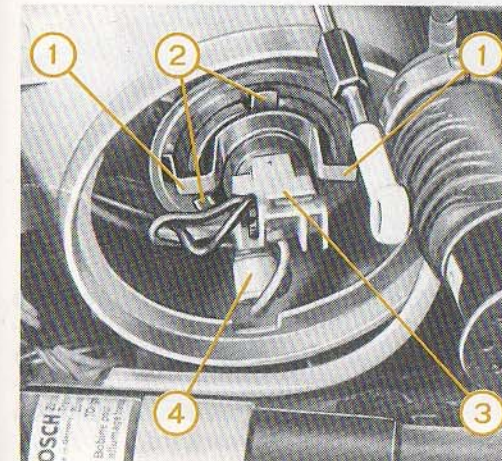
Dip beams: working inside the engine compartment, turn the bayonet fitted guard and remove it.

Depress the retainer lugs (1), turn counterclockwise and remove the bulb, then disconnect the junction block (3).

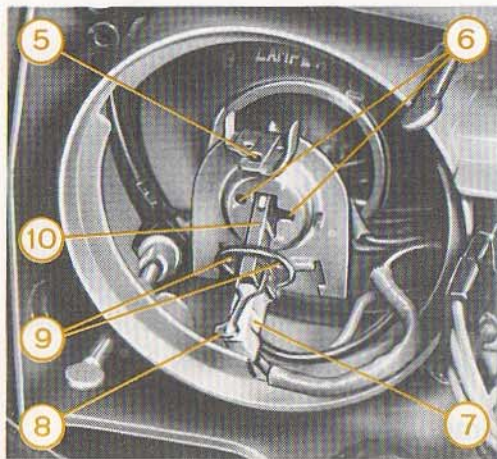
Fit retainer (1) and the junction block (3) to the new bulb, make sure the pins (2) are aligned and fit properly, then lock the bulb by the retainer (1).

NOTE - Take care to hold the new bulb at the base only.

Side lamps: remove the guard (4) as instructed for the dip beams, extract the bulb socket and renew the bulb.



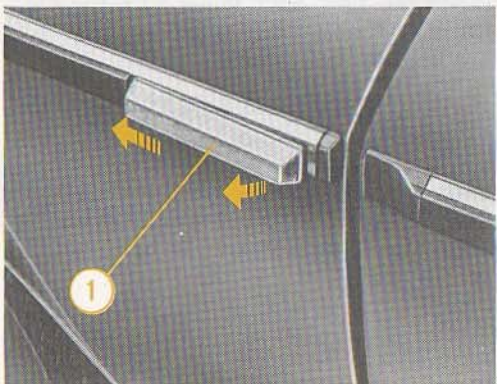
Ordinary maintenance



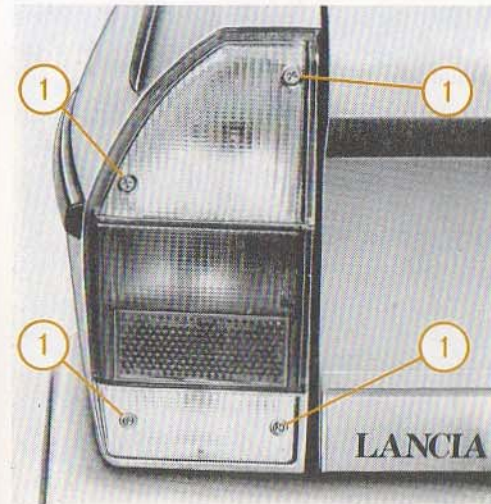
Main beams: remove the guard as described for the dip beams, release the retainer (8) from the bracket (5) and remove the bulb (10). Fit the new bulb, holding it at the base (7) only and fit the pins (9) to the seats (6).



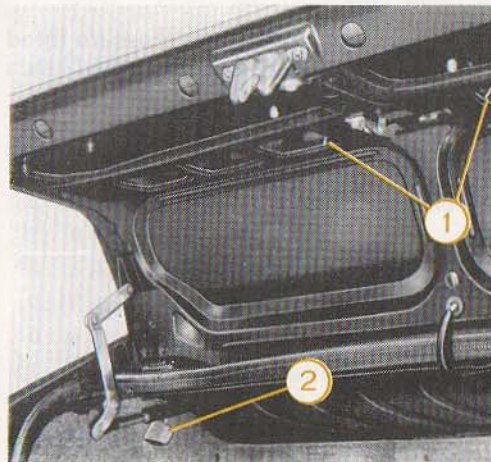
Direction indicators: remove the screws (1) and lift off the lens.



Direction indicator repeaters: extract the lamp (1) by pushing it forward to overcome the retainer and lift it up, remove the pressure fitted bulb socket and replace the bulb. To refit, insert the lamp in its seat and push it rearward.



Tail lamps: to renew the bulbs of the side lights, stop lights, direction indicators and reversing lights, just remove the screws (1) and lift off the lens.

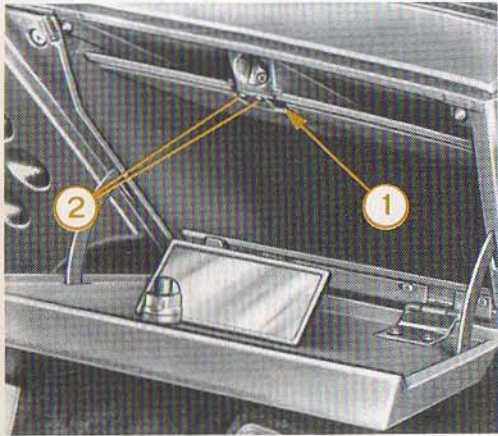


Licence plate lights: extract the pressure fitted bulb socket (1) from the boot lid inside and renew the bulb.

Boot light: just slide the lens (2) outward as far as to release it from the guides, then extract the bulb.

Engine compartment light: to replace the bulb remove the pressure-fitted lens.

Ordinary maintenance

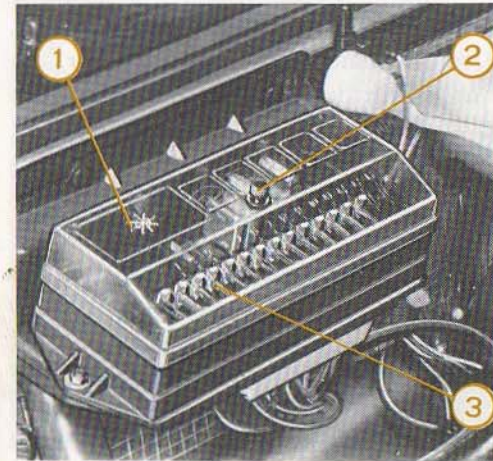


Glove locker light: remove the screws (2), extract the bulb socket (1) and replace the bulb.

Front roof lamp: turn the bayonet fitted lens and renew the bulb.

Reading lamp: remove the pressure fitted lamp, extract the bayonet fitted bulb socket and replace the bulb.

Rear roof lamp: extract the pressure fitted lens and renew the bulb.



Fuses and solenoid switches box

Fitted to the engine compartment, provided with a knurled nut (2) securing a clear plastic cover which bears the fuses numbering (3) and symbols of the various solenoid switches (1).

Fuses and relevant circuits list

1. (5 A) Front left-hand side light, and rear right hand side light, licence place roof light.
2. (5 A) Front right-hand side light, and rear left-hand side light, roof light.
3. (8 A) Right-hand dip beam, rear guard lamps (if fitted).
4. (8 A) Left-hand dip beam.
5. (8 A) Right-hand main beam.
6. (8 A) Left-hand main beam and warning light.
7. (8 A) + Marcia.
8. (5 A) Stop lights, reversing lights. - *Fans stop + Recul*
9. (8 A) + Marcia.
10. (8 A) Cigarette lighter. - *allen aiga*
11. (16 A) Hazard signalling. - *warning*
12. (16 A) Engine radiator electrofan.
13. (16 A) Power window lift. - *Vestis AV*
14. (16 A) Power window lift.
- (16 A) Fog lights (fitted on solenoid switch). *ANTI BRUILLANT*
- (16 A) Heated rear window (fitted on solenoid switch). *Velas en*
- (16 A) Horns (fitted on solenoid switch). *KLAXON*

Bodywork

Ordinary maintenance

Seat belts

From time to time check the anchorage bolts for fastening and condition.

Car components

From time to time, anyhow **every 20,000 km (12,400 miles)**, lubricate all car parts subject to wear (hinges, articulations, carburettor levers, sheathes etc.), check bonnet lock working condition and tightness of screws fixing various body devices and accessories (locks, door hinges, sunvisors etc.).

Moreover spray OPTIMOL PENETRAT WDP manufactured by Ameco or GBC LC 670 water-repellent fluid through the key fitting slot to protect the lock cylinders. Should inserting the key be impossible because ice has formed inside and no such spray bottle is available, just warm the key using a match.

CAUTION: never use normal oils which could collect dust and clog the lock.

Washing the car bodywork

Do not use soap. If appropriate shampoos, commonly found on the market are used, exclude any product not completely neutral. If, after leathering off, the paint does not acquire its normal brightness, it should be polished with one of the many polishing products which are easily found on the market and are to be selected among those suitable to our paints.

Cleaning tar, oil and grease spots

Such spots can be removed by moistening them with petrol and rinsing, immediately after, with plenty of water.

Cleaning the windows

Use methylated spirit mixed to water.

The velveteed seals fitted to the door glasses and the door opening rubber weatherstrips must never come into contact with petrol, methylated spirit or other solvents.

Preserving stainless steel parts

When the car has been washed it is advisable to protect the stainless steel parts with products available on the market. Such precaution is indispensable when the car is used, or left by the seaside, where these parts are more subject to corrosion owing to saltiness.

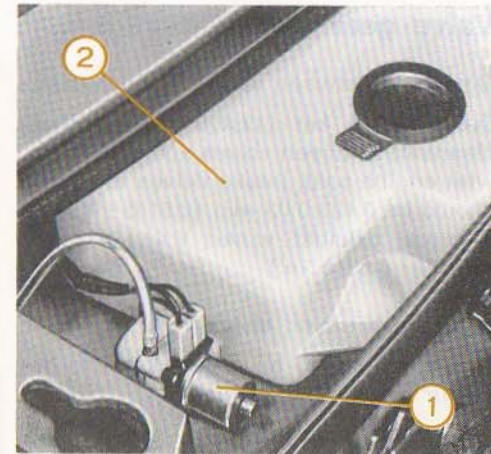
Cleaning the car interior

To clean seat belts wash with warm water and mild soap, rinse and leave to dry. Rewind only when thoroughly dry. Do not use cleansing agents nor chemicals as they might reduce belt strength.

To clean the upholstery use, taking the necessary care and without soaking the under-laying parts, the proper talcum-trichloroethylene and rectified petrol based removers, commonly found on the market.

Vinyl lined fabrics and leather must be washed with water and neutral soap, rinsed with plain water and dried with a shammy leather.

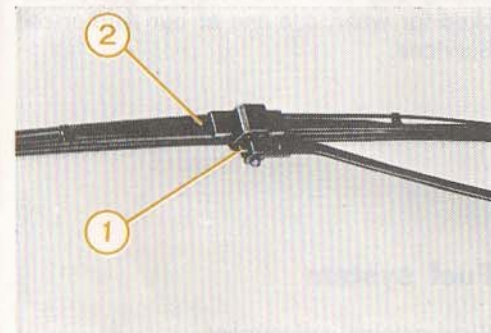
CAUTION: to clean plastic parts, never use cloths soaked in petrol or methylated spirit. Neglect of this would result in loss of brightness.



Windscreen washer and rear window washer (if fitted)

Every 20,000 km (12,400 miles) check the mesh filter, after extracting the motor (1) from the reservoir (2) and the level of the fluid consisting of 50% detergent liquid and 50% soft water, which does not freeze down to -10°C ($+14^{\circ}\text{F}$) temperature.

The windscreen washer reservoir is in the engine compartment, the rear washer reservoir is on the left under the loading platform.



Renewing wiper blades

Now and then check the blades for condition. If required, renew by lifting the retainer (1) and pulling the blade (2) upwards.

Engine

Specific maintenance

Valve gear timing

Clearance between valves and camshafts

Every 20,000 km (12,400 miles) check clearance between valves and camshafts; with engine cold, intake valves clearance should be 0.42 ± 0.03 mm (0.0165 ± 0.0011 in.) and exhaust valves 0.48 ± 0.03 mm (0.0188 ± 0.0011 in.).

Valve gear timing check.

This operation to be undertaken c/o one of our Authorized Services.

Timing belt

Every 20,000 km (12,400 miles) have the timing cog belt and relative gears checked for wear, c/o one of our Authorized Services.

Fuel system

Slow-running adjustment

Recommend setting, about 900 r.p.m.
Blow carburettor jets and carry out necessary adjustments periodically.
For these operations, we recommend qualified fitters or our Authorized Services.

Ignition

Electronic ignition distributor

Every 20,000 km (12,400 miles) remove the cap and extract the rotor. Should the rotor contact be dirty, or greasy seepages denoted, clean by using a petrol moistened cloth.

Moreover check that the cap and rotor are not cracked, are devoid of carbon deposits, or wear and renew them if required.

Checking the ignition advance

Have the advance checked c/o one of our Authorized Services.

Lubrication

Cleaning the P.C.V. system

Every 40,000 km (24,800 miles) have the Positive Crankcase Ventilation System cleaned by one of our Authorized Services.

Drive shafts - Steering - Suspension

Specific maintenance

Road wheel drive shafts

Every 10,000 km (6,200 miles) have the joint dust guards checked at an Authorized Service of ours. If damaged, renew them.

Wheels

Wheel balancing

An unbalanced wheel may cause vibrations and troubles affecting the steering. The original balancing performed at the Factory may alter owing to wear of tyres. Therefore, it must be reset, when required, and checked when wheels changed round. In particular, it must be reset when replacing a tyre. To this end, balance weights are fitted to the wheel rim.

Balancing can only be carried out by Authorized Services equipped with dynamic balancing machine.

Wheel geometry

Every 20,000 km (12,400 miles) or should improper wear to the tyres be denoted, have the front road wheels geometry checked at one of our Authorized Services.

Power steering (if fitted)

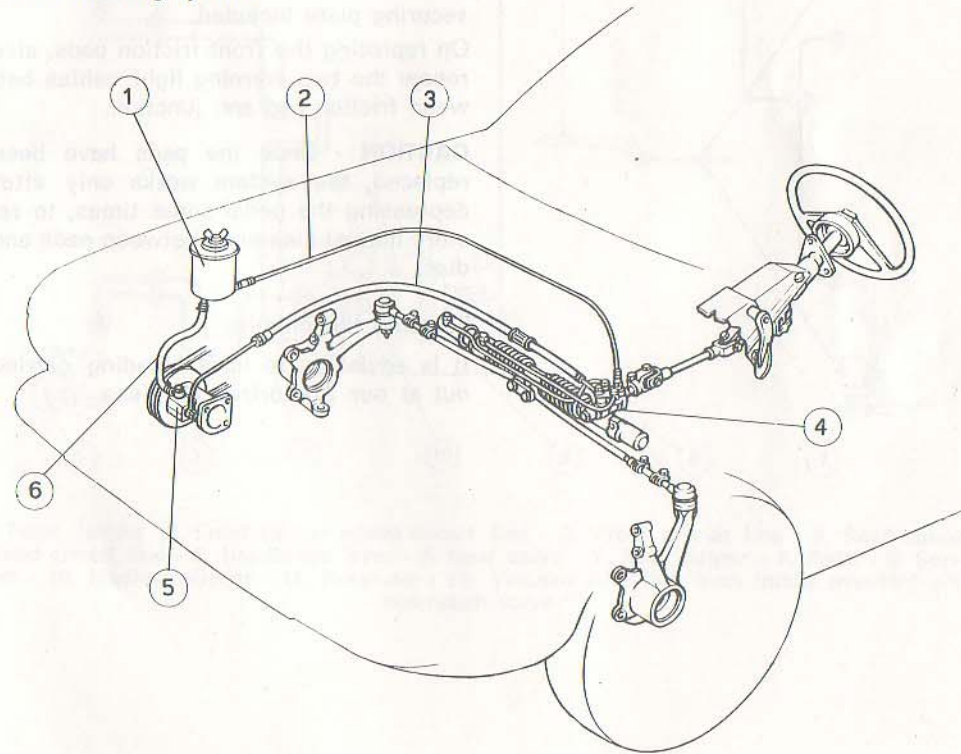
Adjusting the power steering pump drive belt

Every 20,000 km (12,400 miles) have the Vee belt checked for tension and wear c/o one of our Authorized Services.

NOTE - In case of faulty system, engine out of order and should the car be towed with power steering pump not working, the steering can be used as a mechanical one by applying greater load to the steering wheel.

Any checking, repair and fluid changing should be carried out c/o one of our Authorized Services.

Power steering system



1. Reservoir - 2. Return line - 3. Pump pressure line - 4. Rack housing - 5. Pump - 6. Reservoir-to-pump line.

Front and rear suspension

Every 20,000 km (12,400 miles) or should the shock absorbers work improperly, have them checked by one of our Authorized Services.

Brakes

Specific maintenance

Brake system

Every 20,000 km (12,400 miles) check thickness of foot brake friction pads.

Replace the friction pads c/o one of our Authorized Services when these are worn down to a thickness of 7 mm (0.275 in.) at front and 6 mm (0.236 in.) at rear, securing plate included.

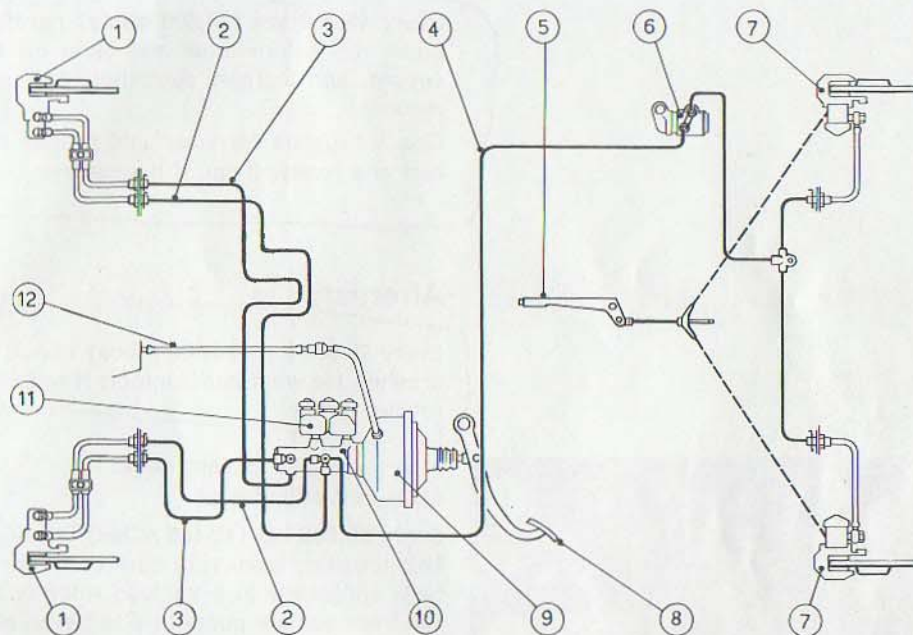
On replacing the front friction pads, also renew the two warning light cables between friction pad and junction.

CAUTION - Once the pads have been replaced, the system works only after depressing the pedal some times, to restore normal clearance between pads and disc.

Bleeding the circuits

It is advisable to have bleeding carried out at our Authorized Services.

Brake system layout



1. Front caliper - 2. Front caliper mixed circuit line - 3. Front circuit line - 4. Rear caliper mixed circuit line - 5. Handbrake lever - 6. Rear valve - 7. Rear caliper - 8. Pedal - 9. Servo unit - 10. Master cylinder - 11. Reservoir - 12. Vacuum inlet line from intake manifold with non-return valve.

Electrical equipment

Specific maintenance

Starter motor

Every 40,000 km (24,800 miles) carefully clean the commutator and blow off any copper and carbon dust between segments.

Check brushes for wear and proper contact and renew them, if necessary.

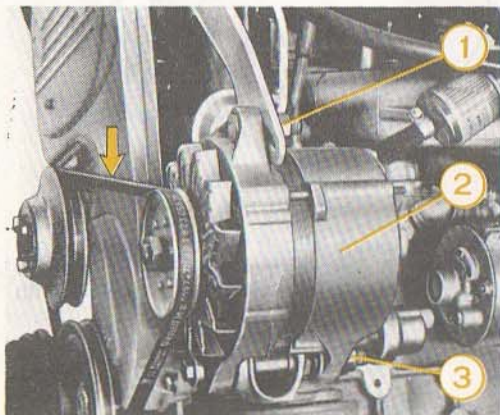
Alternator

Every 40,000 km (24,800 miles) check the brushes for wear and contact; if required, renew them.

Alternator and coolant pump drive belt adjustment

Every 20,000 km (12,400 miles) check the belt tension; tension is correct when the belt, subjected to 5 kg load midway the run from coolant pump to alternator, sags by 10 to 15 mm.

Adjustment is carried out by pivoting the alternator (2) after loosening locking nut (1) and the alternator joint nut (3). When adjustment completed, retighten nuts all round.



Aiming the headlamps

Both the main beams alignment and the dip beams automatic aiming as per load on the car shall be carried out by skilled personnel, or c/o one of our Authorized Services.

CAR FEATURES AND TECHNICAL DATA

Engine

Four cylinders, in line, transverse, canted over to the rear by 20°.

	1600 BETA	2000 BETA
Type	828 B.000	828 B1.000
Bore	84 mm (3.30 in.)	84 mm (3.30 in.)
Stroke	71.5 mm (2.81 in.)	90 mm (3.543 in.)
Displacement	1585 c.c. (96.72 cu. in.)	1995 c.c. (121.74 cu. in.)
Compression ratio	9.4 to 1	8.9 to 1
Max. power (DIN)	73.6 kW (100 CV)	84.6 kW (115 CV) ✕
Max. power rad. p.s.	607 (5800 r.p.m.)	575.7 (5500 r.p.m.)
Max. rad. p.s.	670 (6400 r.p.m.)	670 (6400 r.p.m.) ✕
Max. torque (DIN)	134 Nm (13.7 Kg. m.)	175.5 Nm (17.9 mkg)
Max. torque rad. p.s.	314 (3000 r.p.m.)	293 (2800 r.p.m.)

Timing system

Camshafts	Two, overhead, driven by the crankshaft through cog belt provided with stretcher.
Valves	Overhead directly controlled by the camshafts through tappets.
Timing	With 0.80 mm (0.0314 in.) valve clearance for checking purpose.

	1600 BETA	2000 BETA
Intake	{ opens 17° closes 37°	{ 13° before T.D.C. 45° after B.D.C.
Exhaust	{ opens 48° closes 6°	{ 49° before B.D.C. 9° after T.D.C.

Normal valve clearance with engine cold

Intake 0.42±0.03 mm (0.0165±0.0011)
Exhaust 0.48±0.03 mm (0.0188±0.0011)

Fuel system

Fuel supply Diaphragm mechanical pump on the engine. An electric pump is fitted to special versions in a protected recess under the body rear right-hand side.

Carburettor
1600 BETA
2000 BETA
Air cleaner

WEBER 34 DAT 1, or SOLEX C34 TCI C2.
WEBER 34 DAT 2.

Dry, element type mounted on the carburettor. Warm, or cold air intake thermic control.

Ignition system

Electronic system with control unit, BOSCH KW 12 V coil and impulser unit distributor: **1600**: BOSCH JGFU 4 - 0237 002 056; **2000**: BOSCH JGFU 4 - 0237 001 004. BOSCH W 6 D; CHAMPION N 7 Y; MARELLI CW 78 LP.

Spark plugs 1 - 3 - 4 - 2.

Ignition order 10°.

Static advance Ignition distributor timing (with vacuum tube off): 28±2° on crankshaft at 3200 r.p.m.

Automatic advance

Max. vacuum advance **1600**: 12±2° on crankshaft.

Lubrication

System Pressure type by gear pump and pressure relief valve.

Oil filters Quick-change, full-flow, anti-draining valve, LANCIA 82360558 type and gauze type in the pump strainer.

Cooling System

Type Forced coolant circulation, with pump, radiator, filling and overflow tank and thermo-electrically controlled fan.

Temperature control Coolant blending thermostatic device in the pump inlet pipe. Fan control thermostwitch on the radiator bottom tank.

Starting

5335000A - LUCAS LRS 275

1600: With Bosch GF 12 V - 1.1 kW or Ducellier 12 V 1.1 kW - 4680/3A, or Marelli E 100 - 1.3/12 - Var. 11 starter motor.

2000: With Marelli E 100 - 1.3/12 - Var. 11, or Bosch GF 12 V 1.1 kW starter motor.

Transmission

Clutch

Dry, single disc, mechanically foot-operated and with servo assisting spring.

Gearbox

Five forward sychromeshed speeds and reverse. Control lever on floor.

Ratios	1st	2nd	3rd	4th	Top	Rev.
	3.5	2.235	1.522	1.152	0.925	3.071

Differential unit

Spur gear set	Helical toothing.
Ratio	
1600	14/57
2000	14/53

Road wheel drive shafts

Two, provided with constant velocity joints sealed for life at either ends, connect the differential unit to the wheel hubs. The inboard points also slide axially.

Wheels

Rim	5½ J x 14" (optional 5½ JK x 14")
Tyres	175/70 SR 14" or 175/70 SR 14" Tubeless 185/65 HR 14" Tubeless (optional) *
Inflation pressure when cool front and rear	1.7 bar for light load and cruising speed; 1.9 bar for full load, or high speed; 2.2 bar for consistent operation at high speed.

Caution - Both tyres of front or rear set should feature identical pressure; also check tyres condition at short intervals.

Snow tyres recommended sizes	Pirelli 155 SR 14 MS 35; Michelin 155 R 14 x M+S
Inflation pressure when cool front and rear	Like 175/70 SR 14" tyres, plus 0.2 bar (2.8 p.s.i.).
Max. speed allowed	160 k.p.h. (99.4 m.p.h.).

CAUTION - With snow chains reduce speed to avoid damaging the car.

Brakes - Steering

Brakes

Service

Superduplex system. Disc all round; foot operated, with floating calipers.

Two independent circuits, the front one connected to the front calipers and the mixed one connected to the front and rear calipers, branch off the Duplex master cylinder joined to the vacuum servo.

The front brake caliper inner pads operate a built-in contact connected to the speedometer fitted tell-tale which gives immediate warning when wear has reduced the pads to the minimum permissible thickness. This tell-tale provides luminous warning in case of brake fluid low level.

A valve fitted to the rear brake calipers mixed circuit line sets the correct braking power according to the load bearing on the rear axle.

Handbrake

Disc on rear wheels, with hand lever and mechanical control.

Steering

1600

Rack and pinion. Rack housing fitted with vibration damper. Rack and ball joint articulations sealed for life. Energy absorbing safety steering column, 69 mm (2.75 in.) max. tilt to adjust steering column rake. Power steering optional extra.

2000

Z.F. power steering rack and pinion type, with pump and reservoir (if fitted). Energy absorbing steering column, 69 mm (2.75 in.) max. tilt to adjust steering column rake.

Pump

Driven by the crankshaft through a V belt, or on cars fitted with air conditioning by the compressor drive cog belt.

Suspension

Suspension

- Front** Independent, lower wishbones, telescopic struts incorporating shock absorbers, coil springs, stabilizer bar and rubber bumpers.
- Rear** Independent, transverse links, telescopic struts incorporating shock absorbers, coil springs, stabilizer bar also acting as longitudinal reaction bar and rubber bumpers.

Front sub-frame

Removable and carrying engine, clutch, gearbox-differential and front suspension lower portion.

Electrical equipment

The wiring diagrams are housed in a pocket on the back cover.

- Battery**
On special versions
Alternator

12 V, 45±50 Ah with grounded negative.

12 V, 55±60 Ah battery.

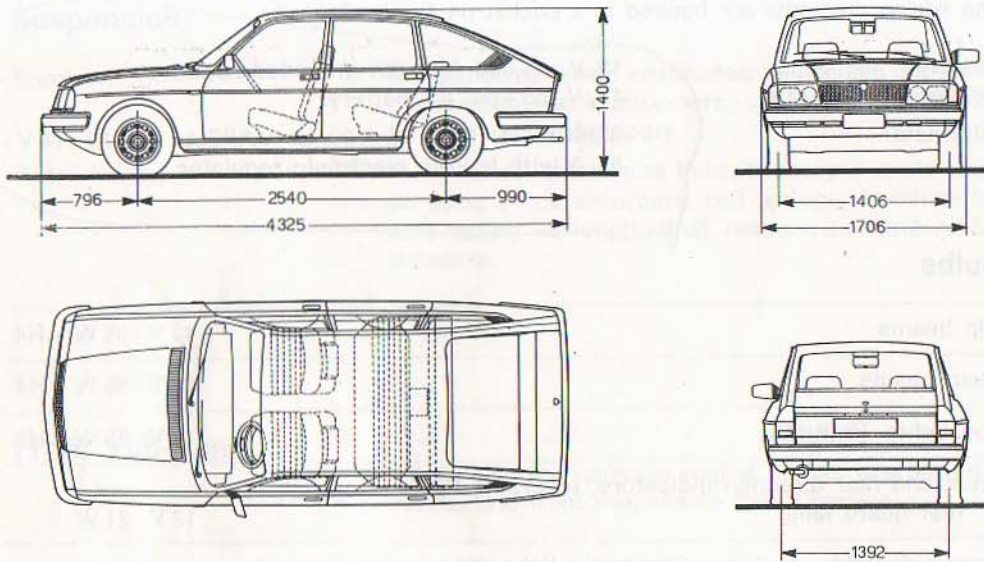
BOSCH K1 - 14 V - 55 A 20, or MARELLI AA 125 - 14 V - 55 A with built-in electronic regulator.

Bulbs

Dip beams	12 V - 55 W - H4
Main beams	12 V - 55 W - H4
Fog lights (if fitted)	12 V - 55 W - H3
Front and rear direction indicators, reversing lights, stop lights, rear guard lamp	12 V - 21 W
Front side lights, engine compartment light, passengers compartment lights, licence plate lights	12 V - 5 W
Direction indicator repeaters, boot light, cigare lighter light, rear side lights	12 V - 4 W
Switches fibreoptic cable light, glove locker light, automatic transmission (if fitted) symbols light	12 V - 3 W
Heating and ventilation controls lights, instruments lights, window power lifts (if fitted) symbols	12 V - 3 W, or 12 V - 1.2 W
Warning lights	12 V - 1.2 W

NOTE - The bulbs must be replaced with new ones having the same characteristics.

Dimensions



Overall length	4325 mm (170.27 in.)
Overall height	1400 mm (55.11 in.)
Overall width	1706 mm (67.12 in.)
Wheelbase	2540 mm (99.99 in.)
Front overhang	796 mm (31.33 in.)
Rear overhang	990 mm (38.97 in.)
Front track	1406 mm (55.34 in.)
Rear track	1392 mm (54.80 in.)
Turning circle	10600 mm (34.76 ft.)

4325

Weights - Performance

Weights

Kerb weight

1600	1145 kg (2524 lbs)
2000	1165 » (2568 lbs)

Payload

500 » (1100 lbs)	(5 people + 150 kg - 330 lbs luggage of which 50 kg - 110 lbs in the boot)
------------------	--

Max. towable weight

1600	1215 » (2678 lbs)
2000	1235 » (2722 lbs)

Performance

Max. speeds	1st	2nd	3rd	4th	5th	Rev.
1600 k.p.h.	50	78	114	150	170	56
m.p.h.	31	48.4	70.8	93.8	105.6	34.8
2000 k.p.h.	<u>53</u>	<u>83</u>	<u>122</u>	<u>162</u>	<u>180</u>	61
m.p.h.	<u>33</u>	<u>51.5</u>	<u>76.4</u>	<u>100.6</u>	<u>111.8</u>	38

Max. gradient with five occupants and 150 kg (330 lbs.) luggage

1600	38% (20% *)
2000	48% (25% *)

* Max. gradient with max. towable weight. Obviously in this case, performance must be suited accordingly.

**Passenger car
fuel consumption order 1979
Fuel Consumption Test**

The results recorded in an official fuel economy certificate of the officially approved test for determining fuel consumption carried out on a car of this model are as follows:

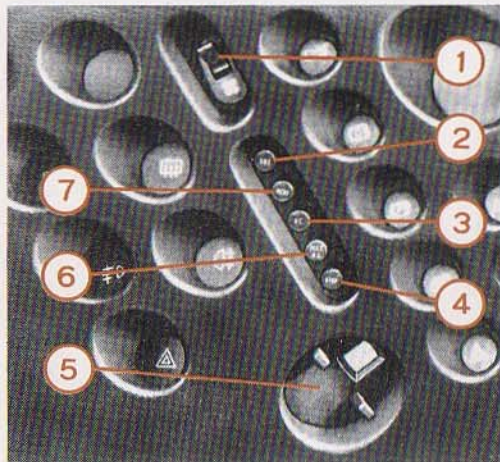
	mpg	l/100 km
<hr/>		
SIMULATED URBAN DRIVING		
1600 Saloon	25.2	11.2
2000 Saloon	23.9	11.8
<hr/>		
CONSTANT SPEED DRIVING 90 kph (56 mph)		
1600 Saloon	37.2	7.6
2000 Saloon	31.7	8.9
<hr/>		
CONSTANT SPEED DRIVING 120 kph (76 mph)		
1600 Saloon	28.5	9.9
2000 Saloon	25.4	11.1
<hr/>		

IMPORTANT NOTICE - The results given above do not express or imply any guarantee of the fuel consumption of the particular car with which this instruction Book is supplied. The car itself has not been tested and there are inevitably differences between individual cars of the same model. In addition, this car may incorporate particular modifications. Furthermore, the driver's style and road and traffic conditions, as well as the extent to which the car has been driven and the standard of maintenance, will all affect its fuel consumption.

VARIANTS

Air conditioner

Cooling, ventilation and heating system



1. Booster fan control.
2. Windscreen demist/defrost control.
3. Air conditioning control with facility to set temperature manually by lever 5.
4. System cut-off switch.
5. Temperature regulation control.
6. Max air conditioning control (cooling).
7. Heater control.

On cars fitted with air conditioner, the air cooling or heating, is ensured by a single unit.

The controls of this system are vacuum operated, so the ventilation, cooling and heating may be set as wanted with the engine running only, by operating as follows.

Fresh air

When engine started, check that the windows are closed.

Depress the push-button MAX-A/C (6) in order to obtain the max. cooling.

In this case do not move control (5) manually.

If the car has been parked in the sun for a long period with windows closed, drive for some hundred metres with windows down.

press the push-button A/C (3), and move the lever (5) by hand to set the temperature as wanted.

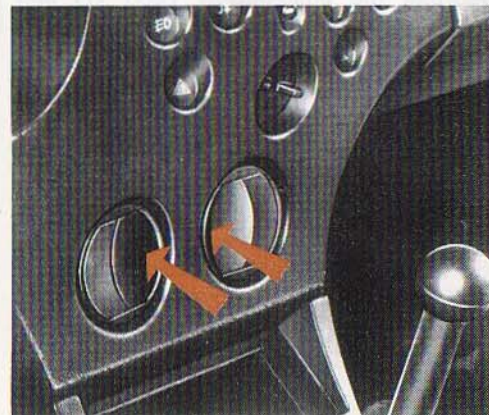
Under these conditions, the system dehumidifies the air taken from outside, which is cooled as first, notably reducing the humidity contents, and then warmed up as required through the lever (6). Such a feature is valuable when the weather is very damp at a medium temperature.

To allow fresh air into the car move control (5) to the blue section and push button VENT (7).

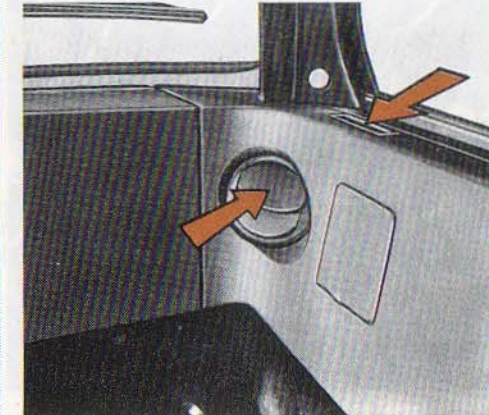
On depressing the push-button MAX-A/C, A/C, VENT and SBR the booster comes on at low speed.

To increase the air flow with car stationary move booster control (1) to first click intermediate speed or second click high speed. The stale air is exhausted to the atmosphere via the extractors located in the car rear pillars.

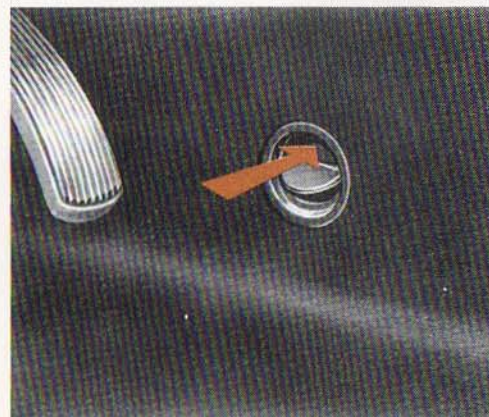
Adjusting the air flow



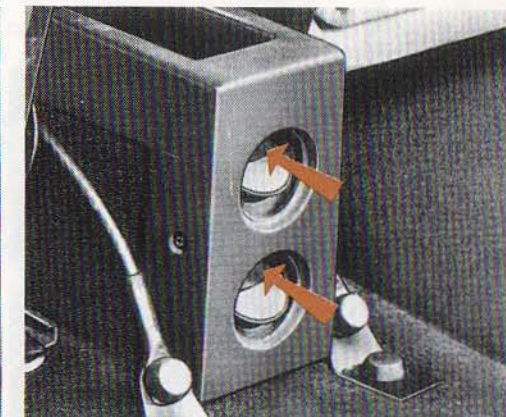
Centre outlets



Side outlets

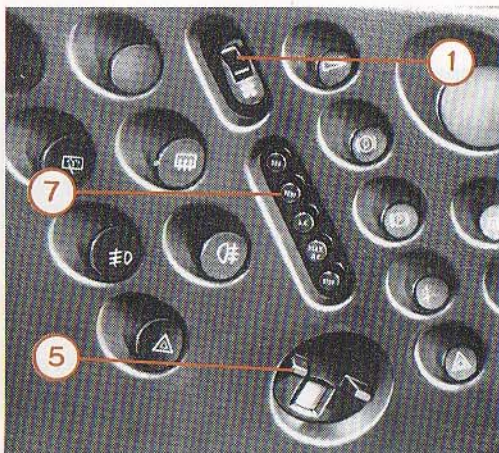


Front seat footwell outlets



Rear outlets

Push outlets to adjust air flow. Horizontal and vertical adjustment is obtained by rotating the outlets. Two side window demisters are fitted on front doors. (See picture «Side outlets»).



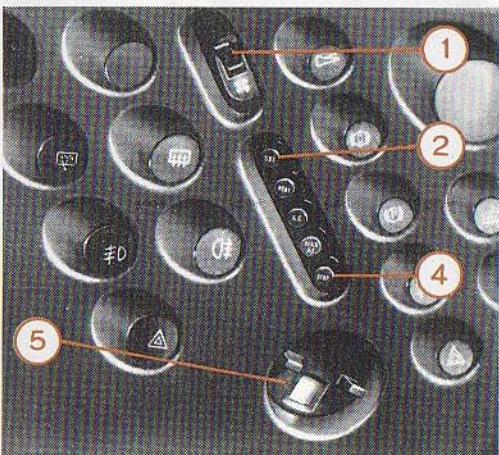
Warm air

Depress the push-button VENT (7) and turn control (5) to the red section to provide maximum temperature.

Any intermediate temperature may be set by moving the lever (5) as required.

To set the vents operate as detailed under the heading «Adjusting the air flow».

To warm up the car interior with car stationary keep the engine running and move the lever (1) which controls the booster to first click low speed or second click high speed.



Demisting and defrosting the windscreen

To defrost the windscreen rapidly the engine coolant shall have attained a suitable temperature which can be ensured by running the engine at about 2200 r.p.m. for some time.

Then, depress the push-button SBR (2), turn control (5) fully to the red section (max. temperature), and set the booster control lever (1) to high speed.

NOTE - Press suitable push-button to set «cool air» (MAX A/C) and (A/C); or «warm air» (VENT); or «demisting and defrosting the windscreen» (SBR). Press push-button STOP (4) to disconnect all controls and stop the system.

Technical data

Engine

Fuel system

Carburettor

1600

2000

Fuel pump

WEBER 34 DAT 1

WEBER 34 DAT 2

Electric pump and filter fitted to a protected recess under the floor pan rear right-hand side.

Maintenance

If car is kept stationary particularly in the winter we suggest to operate the air conditioner for a few minutes every week to keep the system components well lubricated.

Clean the condenser (located on the right hand side behind the grille) periodically with compressed air.

From time to time get one of the Authorized Workshops to check condition of the compressor drive cog belt and to inspect the whole system.

Before the Summer Months, check the conditioning system for freon state of charge and the oil level in the compressor.

Starting the engine

To start the engine, turn the key to the 'ON' position. The engine will start if the battery is fully charged and the engine is not over-heated. If the engine does not start, check the battery level and the engine oil level. If the engine still does not start, consult an authorized workshop.

Automatic trasmission

PRECAUTIONS DURING THE RUNNING-IN OF THE CAR

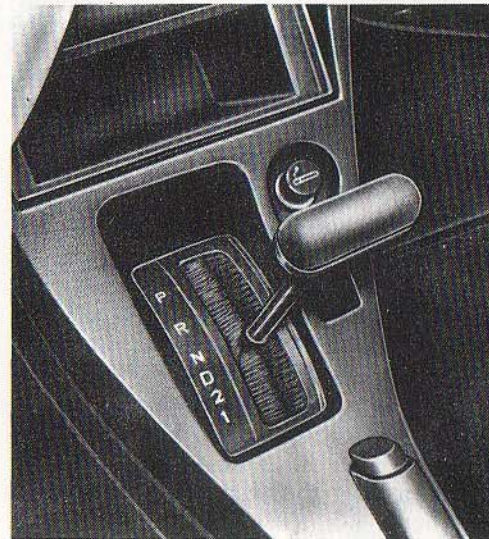
Do not exceed the following engine speeds:

up to 1000 km (620 miles): 4000 r.p.m.

from 1000 to 2000 km (620 to 1250 miles): 5000 r.p.m.

Up to 620 miles never depress the accelerator pedal fully and do not change the speed manually when engine revolving above 2800-3000 r.p.m.

OPERATING INSTRUCTIONS



Gear selector lever

To select the gears, shift the lever to the following positions:

P - Parking

R - Reverse

N - Neutral

D - Automatic forward

2 - Second manual ratio forward

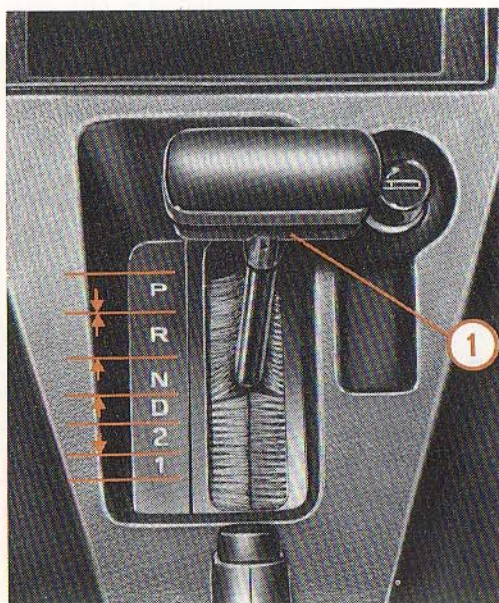
1 - First manual ratio forward

A light identifies the symbol of the gear selected.

Starting the engine

To start the engine from cold or hot make sure you have the **selector lever in either N or P position only**.

When engine running and gear range selector lever in either **N** or **P** position the 2000-2500 r.p.m. range should **never** be exceeded; this to prevent possible damage to the transmission. **Never** let the engine run at the aforesaid revs for more than 60 sec.: after this period of time the engine idling speed should be adjusted by lightly depressing then releasing the accelerator pedal, if automatic choke on.



Driving technique

Lift lower portion of the «T» handle (1) when moving from:

- P to R
- R to P
- R to N
- N to R
- D to N
- 2 to 1

When engine running and duly warmed-up release the accelerator pedal, apply the foot brake and select the gear **D - 1 - R**.

Forward or reverse gears should be selected **with engine idling only**.

The slight movement of the car which occurs when - with engine idling - **D, 1 or R** gears have been selected and the brake pedal has been released is useful when manoeuvring in a confined area, such as when parking. To stop the car apply the brakes.

During short stops (at traffic lights for instance) just apply the brakes, but on longer stops it is advisable to select **N** to prevent the transmission oil from overheating.

The car is fitted with a slow-running adjusting device which is operated when depressing the brake pedal with a gear engaged.

Under these conditions the slow-running **must not exceed 750÷850 r.p.m.**

Automatic forward - D

With selector lever in position **D** and accelerating gradually, the car moves and the gears change automatically according to the speed and the position of the accelerator pedal.

To accelerate at the maximum, depress the accelerator pedal fully; in this way the gears are shifted at the engine max. r.p.m. allowed by the transmission control device.

When travelling at about 75÷80%, or less than the max. speed attainable with the lower gear engaged and accelerating, it is possible to engage the lower automatically by depressing the accelerator pedal fully.

When shifting the selector lever from position **D** to position **2** or from position **2** to position **1** (lifting the handle), check that the engine revolves **below 4000 r.p.m.**, so as to prevent the engine from over-revving when changing down.

When changing up, or down, it is not necessary to release the accelerator pedal.

When on the move **check now and then** the transmission fluid overheating warning light fitted to the speedometer dial. This warning light may go on when the car is standing for a long time with engine running and a gear selected, when moving slowly in queue or going up-hill for long stretches especially when towing a trailer.

In the first instance, just engage **N**, whilst in the other cases shift down.

Second manual ratio forward - 2

This gear is recommended when climbing, and **when going downhill to provide the engine braking effect**.

Though possible, it is not advisable to move off when this gear selected. This gear stays engaged independently of the engine speed.

First manual ratio forward - 1

This gear should be selected on steep gradients, especially when towing a trailer, and affords **the greatest braking effect when running downhill**.

It stays engaged whatever the engine r.p.m.

Towing a trailer

Adhere to the directions specified on the page « Performance » for what concerns the max. towable weight. The fluid level shall be maintained as prescribed.

In most cases the **D** position is the most suitable one.

On rough roads, where the uneven surface would cause the automatic shifting to occur too often, it is advisable to use the manual control and keep the engine speed between 3000 to 5000 r.p.m.

On uphill gradients above all, never stress the engine, or make the torque converter slip.

Yielding, or slippery road surface

When road holding poor, select the second manual gear 2 and accelerate as little as required to move the car.

On icy road use the manual control, which allows changing gear at the right time.

Reverse - R

Engage when car standing only.

Parking - P

Engage when the car at a standstill only; the drive road wheels will be locked. Parking should be selected whenever leaving the car. On slippery road and/or on a gradient, also apply the handbrake.

When parking engaged, the engine may be started.

Neutral - N

With gear range selector lever in N position there is no power transmitted to the road wheels, and the engine may be started.

Towing the car

Select N position should the car be towed for distances up to 12.5 miles at a speed of less than 21 m.p.h. due to mechanical failure other than in the transmission. For longer distances and, or failure in the transmission the car should be towed with the front wheels raised from the ground.

NOTE - Owing to the transmission special features the engine cannot be started by towing the car.

Technical data

Transmission

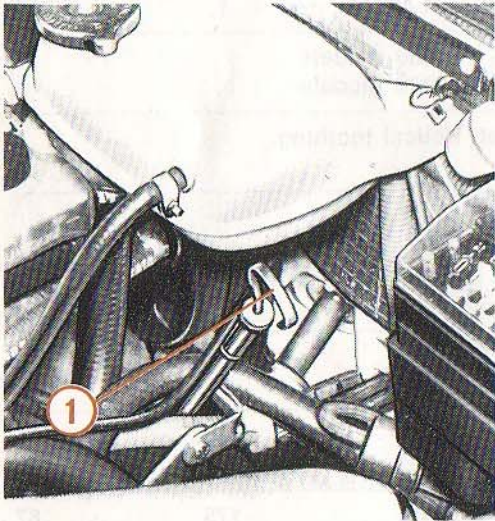
AP - LANCIA unit				
Ratios	I	II	TOP	REV
	2.346	1.402	1	2.346
Idler gear set	-.853 -.806	1600 models 2000 models		
Differential Ratio	Spur gear set. Helical toothing. 13/57			

Performance

Max. speed with selector lever in position:	1	2	D	R
1600 Saloon: k.p.h.	78	131	165	78
m.p.h.	48	81	102.5	48
2000 Saloon: k.p.h.	87	146	175	87
m.p.h.	54	90	108.7	54

Maintenance

When carrying out any setting, or checking on the car, **it is necessary** to move the selector lever to **P** (see «Starting the engine»).



Fluid level

Driving with oil level below the min. mark can cause serious damage to the transmission.

Every 10,000 km (6,200 miles) check the fluid level through the dipstick (1). The oil level may be checked either cold, or warm.

Cold: before using the car, start the engine, let it run for about one minute, switch off and check the level through the dipstick (1) on the side identified by «olio freddo».

Warm: minimum run about 10 km (6.2 miles) switch off the engine and check the level through the dipstick on the side identified by «olio caldo».

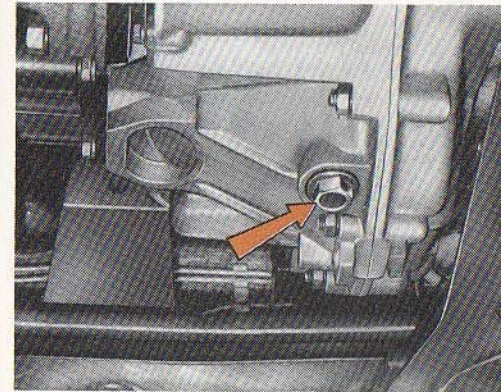
In either case, check after 20-30 seconds from switching off.

To clean the dipstick, use a nylon cloth to prevent harls from clogging the transmission valves.

Changing the fluid

Change the fluid after **the first 1,000 to 1,500 km (620 to 930 miles)** then change it **every 30,000 km (18,600 miles)**.

Drain when fluid hot, and let drip thoroughly before pouring fresh fluid.



Draining the fluid

Remove the magnetic plug at the bottom of the differential.

Replenishing

Through the dipstick tube located near the cooling system filling and overflow tank.

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