

VAZ 2113
VAZ 2114
VAZ 2115

OPERATING MANUAL



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IMPORTANT NOTICE !

You are now the owner of a comfortable passenger car that is distinguished for its improved dynamics and speed characteristics. Regardless of your overall driving experience we recommend you to be particularly careful during the initial period of vehicle operation until you become familiar with your new Lada.

It is important, that you read this operating manual thoroughly before driving the vehicle.

The vehicle can be used on any type of roads except deeply rutted dirt roads.

The performance and reliability of your vehicle depend to a large extent on its correct use and timely and thorough execution of servicing operations described in the Service Book.

In case your vehicle needs servicing or repair, we recommend that you take it to your dealer's station, which has necessary equipment and tools and can ensure professional standard of workmanship.

Use materials listed in Appendix #1 while operating or servicing the vehicle. Always remember that a fuel injection engine with a catalytic converter requires only unleaded fuel.

Never wash the vehicle with the engine running to avoid water coming into cylinders and thus damaging the engine.

The design of the vehicle is subject to continuing improvement, therefore, some of the component parts may differ from the descriptions, provided in the present manual.

VEHICLE DESCRIPTION

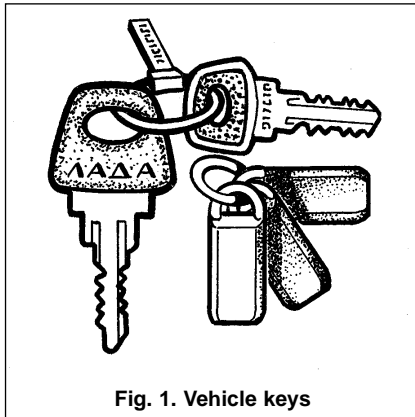


Fig. 1. Vehicle keys

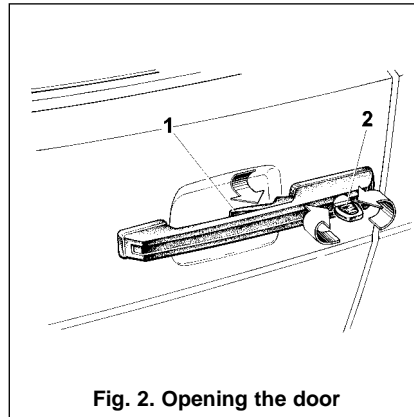


Fig. 2. Opening the door

VEHICLE KEYS

Each car has two sets of keys. Each set (Fig. 1) has two keys: one with plastic grip is the ignition key, one with metal grip — door and boot key. The number of the ignition key is shown on the key ring tag. Cutting off the ring tag, or replacing the ring will help you keep the number of your key private.

A vehicle fitted with the anti-theft system (immobilizer*) also has 3 key fobs: 2 black key fobs for daily use, and 1 red key fob for immobilizer learning purposes.

DOORS

Press button 1 (Fig. 2) or pull handle 1 (fig. 3) or 4 (Fig. 4) to open a vehicle door. When the lock is engaged, handles will move freely without any effect on the lock.

Front doors

Use key 2 (Fig. 2) or press button 3 (Fig. 3) to lock a door only when it is closed.

Use handle 2 to wind the door window up or down. Some vehicles feature power windows controlled by switches 7. Extra switch 6 on the driver's door armrest controls the front RH door window.

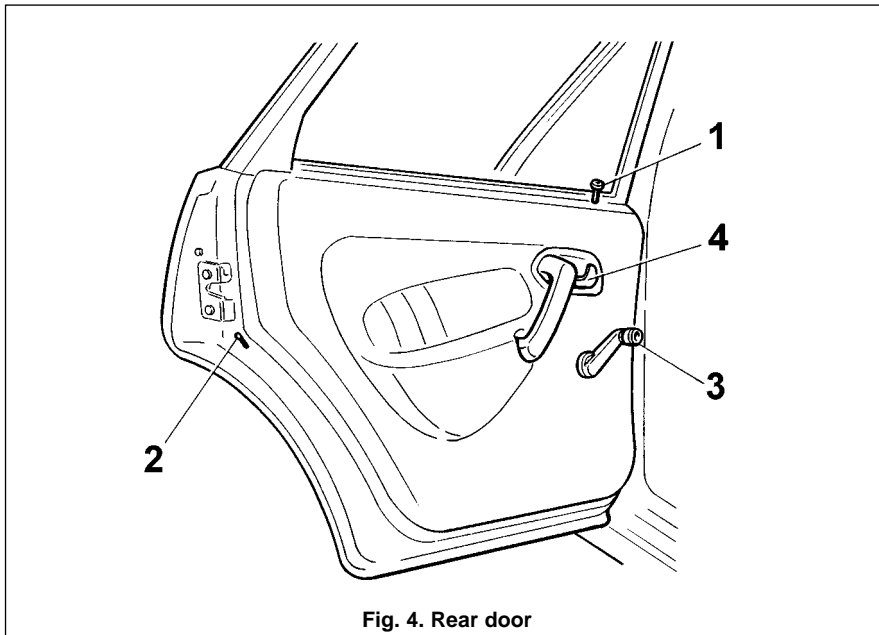
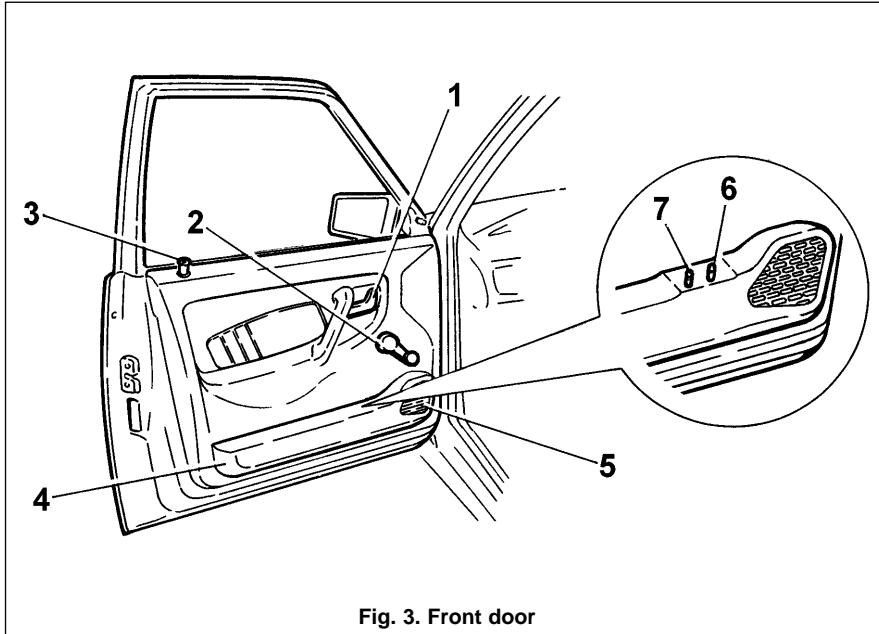
The front door features speaker bay 1 located under trimming 5 of the odds compartment.

Rear doors

The rear doors (Fig. 4) have the lock, which can be engaged by depressing button 1, regardless whether the door is open or closed.

Shift lever 2 to extreme lower position to partly engage the lock. In this case, the door can be opened only

* If the immobilizer module fails to read the code stored in the key fob, it will not enable fuel injection pulses, thus providing further vehicle protection against unauthorized use.



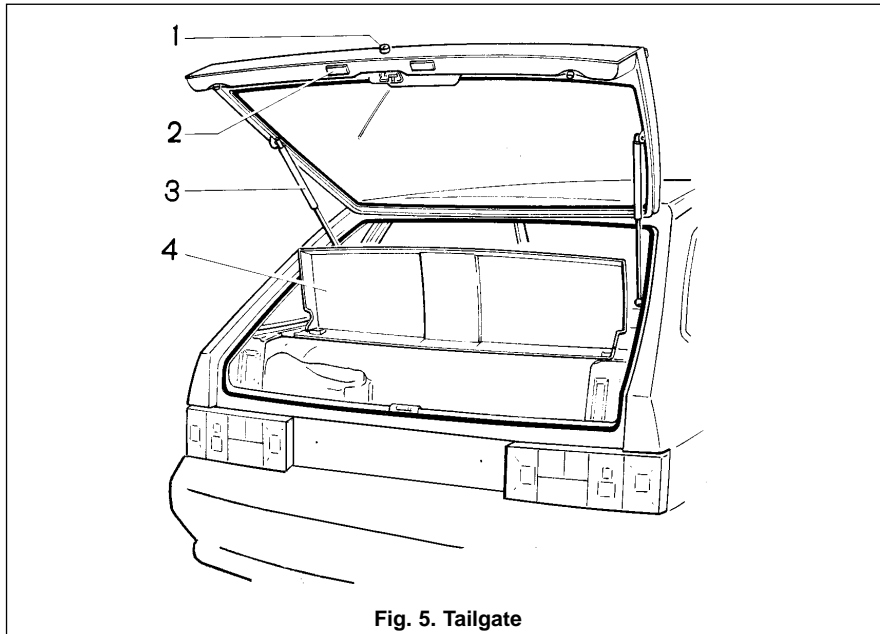


Fig. 5. Tailgate

from outside, with button 1 fully up. We recommend you to use the lock in this manner when there are children on the rear seat.

The rear door window can go only part way down when you use window winder 3.

Some vehicle options include central door locking system, which may be engaged by locking the driver's door with a key or by depressing its lock knob. The doors can be unlocked individually by pulling up respective buttons.

It is not recommended to interlock the doors while driving the car to ensure the doors can be opened from outside in the event of an accident.

Do not open the doors violently or leave them open at a parking place

exposed to strong wind to avoid their deformation.

During cold seasons when ice or snow may cover the windows hampering their movement, do not apply excessive force to wind the windows for it may damage the mechanism.

Tailgate

To open the tailgate, first unlock it using a key, then depress button 1 (Fig. 5). The tailgate is held open by telescopic struts 3. Remove parcel shelf 4 to clear access to the luggage compartment.

BONNET

To open the bonnet, pull handle 1 (Fig. 6), then lift the bonnet, and reaching through the gap, depress hook 1

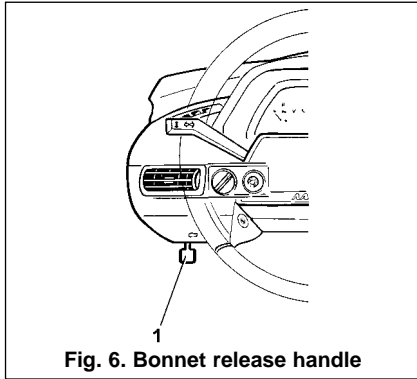


Fig. 6. Bonnet release handle

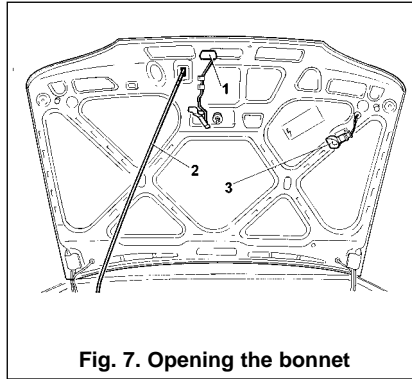


Fig. 7. Opening the bonnet

(Fig. 7). Now open the bonnet full way and set up stay 2 as shown in the figure. If exterior illumination is on, lamp 3 will light up the engine bay. Rotate the lamp holder to redirect the light.

When closing the bonnet, check a reliable locking — a typical click should be heard and the bonnet should remain closed, when pressed upon. Before closing the bonnet, make sure the safety hook moves freely without jamming and always returns to its home position.

BOOT LID

To access the luggage compartment turn key 2 (Fig. 8) clockwise and holding it in this position lift boot lid 1. The boot lid is held open by torsion springs.

When the boot lid is up and the exterior lights are on, the luggage compartment is illuminated with lamp 3.

FUEL TANK CAP

To access fuel tank cap 1 (Fig. 9), open flap 2. All caps are equipped with

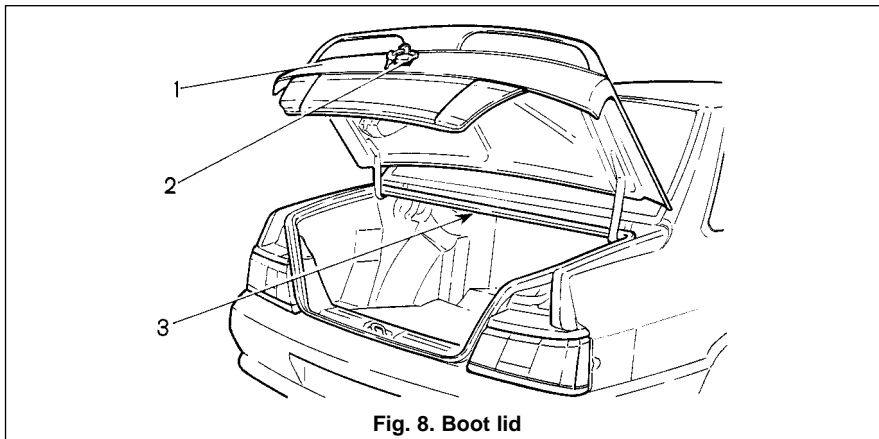


Fig. 8. Boot lid

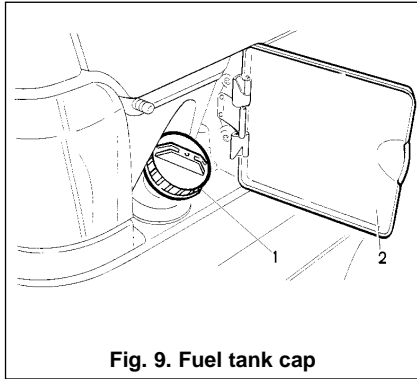


Fig. 9. Fuel tank cap

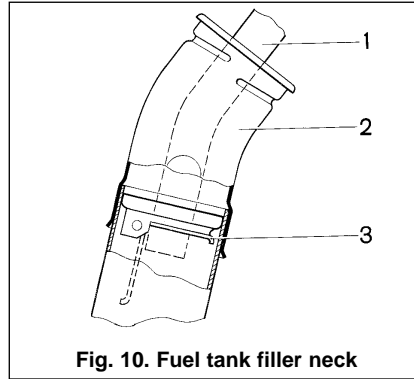


Fig. 10. Fuel tank filler neck

a torque limiter, intended to ensure a reliable cap-to-filler neck sealing.

The cap should be tightened until the torque limiter starts to click.

Some vehicles feature fuel tank caps connected to vehicle body by means of a flexible cable. This ensures that the cap does not get lost while filling in, it also does not allow you to close flap 2 when the filler neck is not closed with the cap.

Vehicles with a catalytic converter feature filler neck 2 (Fig. 10) with built-

in valve 3, which makes it possible to use a smaller size fuelling nozzle to fill in unleaded gasoline.

SEATS

For longitudinal travel adjustment of the front seats, pull up locking lever 1 (Fig. 11, 12). With the seat in the desired position, release the lever, and moving the seat slightly back and forth, make sure, it has been reliably fixed. Backrest tilt can be adjusted by rotating

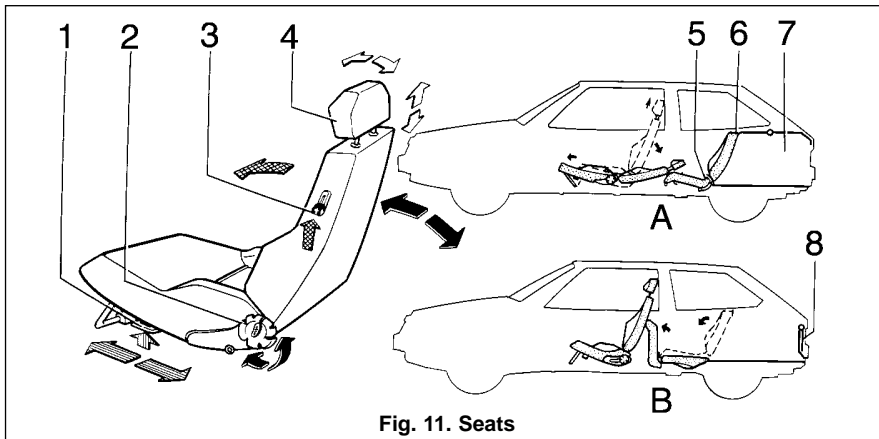
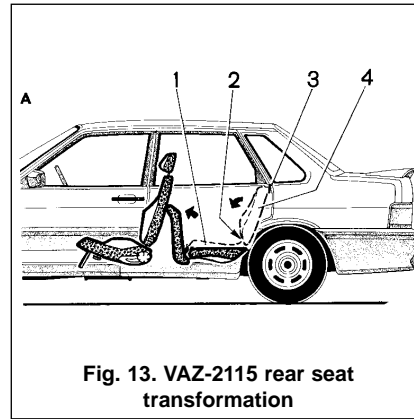
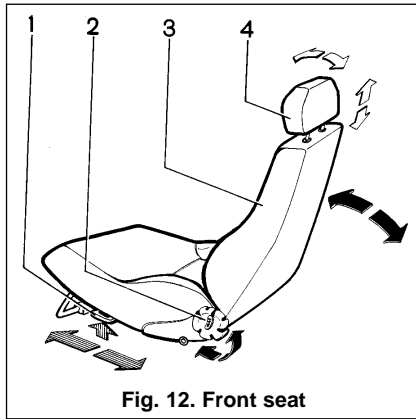


Fig. 11. Seats



knob 2 (Fig. 11, 12). View «A» shows the front seat arrangement for comfortable rest.

To let the rear passenger in and out (VAZ 2113 and modifications), move up lever 3 and tilt the front seat backrest forward.

To increase the luggage space (7), do the following (for VAZ 2113, VAZ 2114 and modifications):

- remove parcel shelf 8 and place it along the rear wall of the boot (see view «B» in Fig. 11);
- pull loop 5 and put the cushion vertically.
- move lever 6 to the right, release the backrest and fold it down. When necessary, move the front seat forward;

Headrests 4 (Fig. 11, 12) are height and tilt adjusted. They are held in position by retainer springs.

The rear seat of VAZ 2115 can be transformed to increase the luggage compartment space for various cargoes transportation. Fold the rear seat as follows:

- pull loop 2 (Fig. 13) to place cushion 1 vertically;

— remove headrests, then shift lever 3 to the right, release backrest 4 and place it as shown in the illustration. When necessary, move the front seats forward.

STEERING RAKE ADJUSTMENT

Following adjustment of the seat position, tilt the steering column to a position most suitable for comfortable driving. Move lever 1 (Fig. 14) down, then select a desired tilt angle of the steering column and shift the lever up to lock the column in this position.

SEAT BELTS AND AIRBAG

In order to fasten a seatbelt, slip tongue 1 (Fig.15) into buckle 2 to hear a click. Check to see, that the straps are not twisted.

To unfasten the belt, push button 3 of the buckle.

The passengers, sitting in the rear, fasten their belts similarly. The occu-

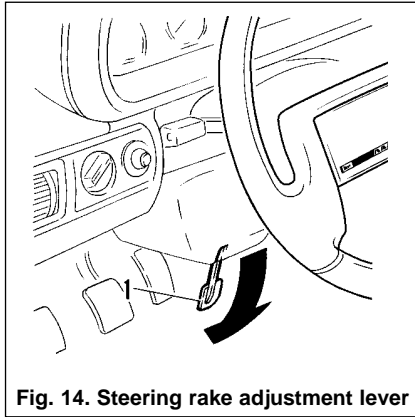


Fig. 14. Steering rake adjustment lever

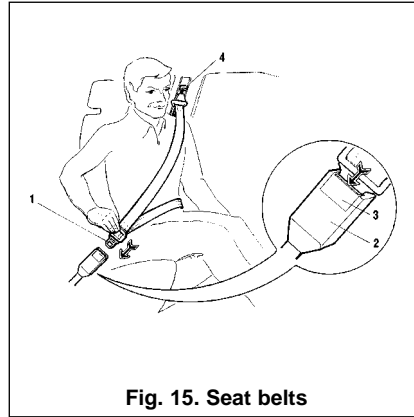


Fig. 15. Seat belts

pant, sitting in the middle of the rear seat, has a lap belt only.

Do not use the belt to restrain a child sitting on the passenger's lap.

If the belts are dirty, clean them with soft soapy water. Never iron the seat belts. The seat belt is subject to mandatory replacement if it was subjected to critical loads in a road accident or is chafed, torn or otherwise damaged.

Some models are available with an airbag in the steering wheel being recognized by an inscription «AIRBAG» on the steering wheel cover plate. The airbag is designed as an additional protection, along with the seat belt, to the driver's safety during an accident. The airbag is triggered at the head-on collision.

The airbag is a reliable maintenance-free, self-contained unit of disposable type. In order to ensure maximum protection and reduce possible injuries during an accident, do not stick any labels or fit any accessories to the steering wheel. During inflation of the airbag a small amount of powdery sub-

stance is emitted. This powder, although harmless to health, may cause skin or eye irritation. In case of exposure to such powder wash the eyes with water and clean the skin with neutral soap. After the airbag triggering, do not touch the centre of the wheel or cut off the airbag to avoid cuts and burns. Replacement of the airbag should be entrusted to your dealer. The seat belts, exposed to critical loads, must be replaced along with the airbag.

MIRRORS AND INTERIOR

Use knob 2 to adjust exterior rearview mirror 1 position (Fig. 16). Some vehicles are equipped with electrically-operated door mirrors.

Interior rearview mirror 2 (Fig. 17) is adjusted by rotation on the pivot ball. To avoid dazzling by the lights of upcoming traffic change the mirror angle using lever 1.

Some vehicles are equipped with an antidazzle mirror, which does not have a lever and cannot be adjusted.

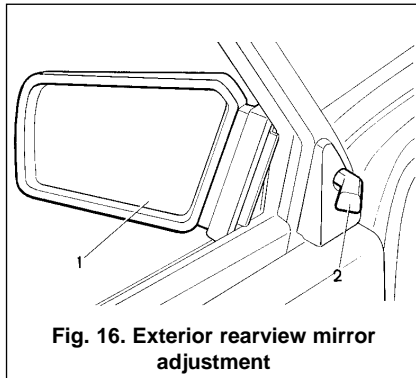


Fig. 16. Exterior rearview mirror adjustment

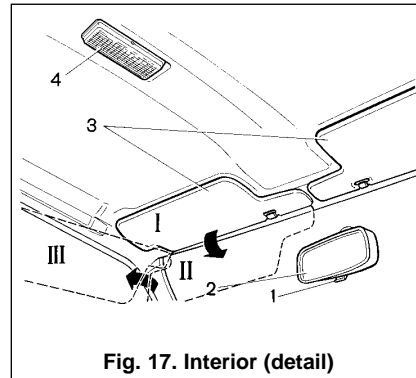


Fig. 17. Interior (detail)

You may select among three positions (I, II or III) of sun visors 3 depending on the sun light.

The passenger's sun visor may optionally feature a vanity mirror.

The interior light (4) goes on automatically as the vehicle door opens (courtesy light) and goes off 10 seconds after the door closing or after the ignition key is switched to the «Ignition» position.

When the doors are closed the interior light can be switched on/off by pushing its lens at the side.

The reading lamp is intended for spotlighting individual objects. To switch on the reading light, twist lamp casing ring 1 (Fig. 18) clockwise. The lamp (2) beam axis can turn over 30° in all directions. To switch off the reading light twist lamp casing ring counter-clockwise.

INSTRUMENTS AND CONTROLS

The location of instruments and controls is shown in Fig. 19.

- 1 — Side demister register.
- 2 — Turn indicators and main/ low beam stalk switch.
- 3 — Interior ventilation and heating system side registers.
- 4 — Inspection lamp socket.
- 5 — Bonnet release handle.
- 6 — Headlight hydraulic adjuster with manual adjustment.

Rotating the knob, adjust the headlight beam angle to match the vehicle's load and avoid dazzling the drivers of the on-coming traffic. Read the adjuster knob positions as follows:

- 1 — driver only;

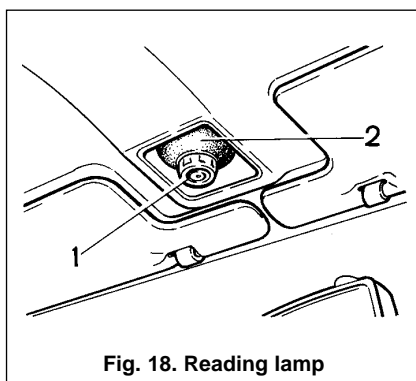


Fig. 18. Reading lamp

- 2 — driver and four passengers;
- 3 — driver, four passengers and cargo in the luggage compartment up to the maximum load on the rear axle;
- 4 — driver and cargo in the luggage compartment up to the maximum load on the rear axle.

7 — Instrument cluster illumination control.

When the headlights are on, rotate the knob to adjust the brightness of instrument cluster illumination.

8 — Steering wheel tilt control lever (See Fig. 14).

9 — Clutch pedal.

10 — Brake pedal.

11 — Accelerator pedal.

12 — Heater electric fan switch.

13 — Cigarette lighter.

To use the lighter, push it in all the way, then release. In about 20 seconds, the lighter pops back, ready for use.

14 — Gear change lever.

The gear change pattern is shown on the handle.

15 — Handbrake lever.

Pulling the lever up activates the rear wheel brake shoes. To return the lever to its original position, press the button at the top of the lever.

16 — Front left seat heating control. (See Control Switches). Optional.

17 — Front right seat heating control. (See Control Switches). Optional.

18 — Front ashtray. (See Fig. 26).

19 — Radio/cassette player bay.

The bay may accommodate a radio/cassette player having international standard dimensions and fixing.

20 — Interior ventilation and heating system control.

21 — Trinket tray.

22 — Lower glove box cover.

23 — Upper glove box cover.

24 — Interior ventilation and heating system central registers.

25 — Air bag warning light.

If the vehicle features an air bag system, the indicator is fitted instead of the plug. It lights up for 4-5 seconds after ignition switch-on, indicating that the system self test is in progress. The light goes off if no fault was found, otherwise it illuminates continuously indicating a failure in the system. The warning light may be fitted in the steering wheel spoke as an option.

Some vehicles feature a headlight wiper/washer switch in place of the air bag warning light. (See Control Switches).

26 — ABS warning light.

If the vehicle features an anti-lock braking system, the indicator is fitted instead of the plug. It lights up in orange colour when ignition is on and goes off in 2-3 seconds if the system is OK. If the light illuminates continuously contact your servicing agent.

27 — Plug.

28 — Plug.

Some vehicles feature a trip computer in its place.

29 — Control switches. (See Control Switches).

30 — Exterior lights switch. (See Control Switches).

31 — On-board control system.

32 — Immobilizer key reader.

It is fitted on the vehicles with the Vehicle Theft Deterrent System

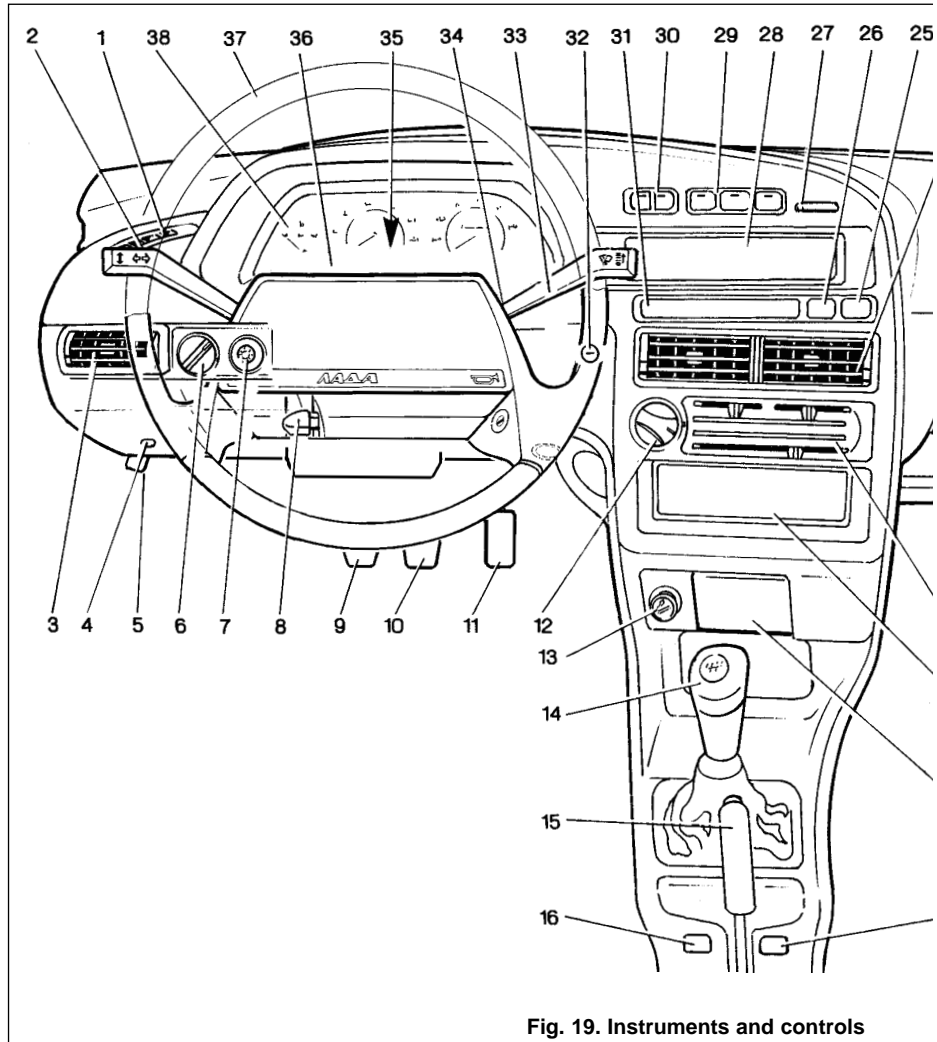


Fig. 19. Instruments and controls

(Immobilizer) and is designed to read the code from the key fobs.

33 — Windscreen wiper/washer stalk switch.

34 — Ignition switch.

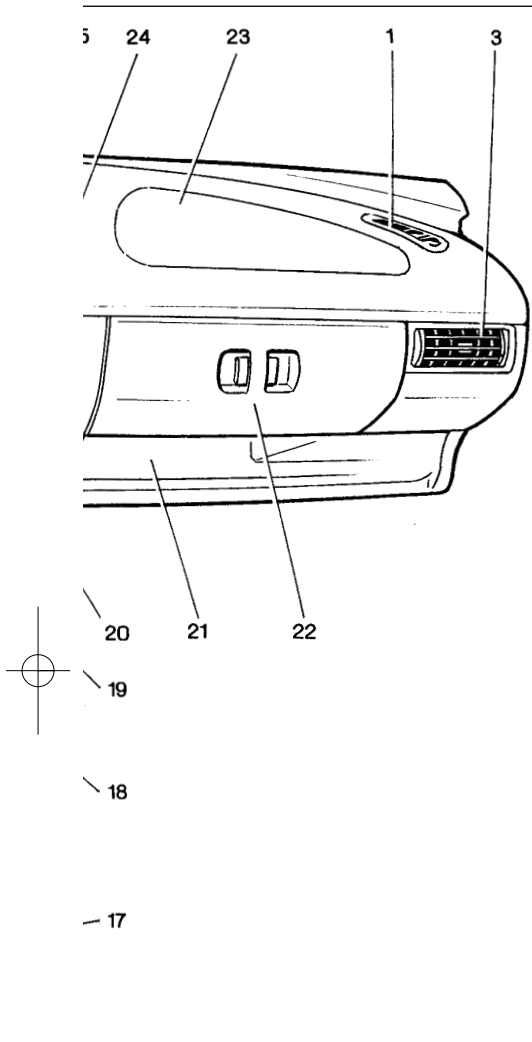
35 — Hazard light switch.

Push this button to flash all the turn-signal lamps and the hazard light tell-tale. To turn OFF, push the button again.

36 — Horn push pad.

37 — Steering wheel.

38 — Instrument cluster.



INSTRUMENT CLUSTER

1 (Fig. 20) — Engine coolant temperature gauge.

The pointer in the red zone indicates engine overheating. Check the radiator fan and the thermostat operation.

2 — Tachometer.

Indicates engine speed. The red hatching zone indicates higher engine RPM, the red zone — hazardous engine speed.

3 — LH turn-signal indicators tell-tale.

Illuminates in intermittent green when the LH turn-signal indicators are ON.

4 — RH turn-signal indicators tell-tale.

Illuminates in intermittent green when the RH turn-signal indicators are ON.

5 — Speedometer.

6 — Fuel gauge.

7 — Fuel reserve tell-tale.

Lights up in orange when less than 7-9.5 litres of fuel remain in the tank, of which 3 litres are unusable fuel reserve. Never run a vehicle until the fuel tank is empty! This may damage the fuel pump.

8 — Side-marker tell-tale.

Goes ON in green colour when exterior lights are ON.

9 — Brake system emergency tell-tale.

Goes ON in red colour when the brake fluid level is below the «MIN» mark on the tank.

10 — Main beam tell-tale.

Goes ON in blue colour when main beam is ON.

11 — Trip counter reset knob.

12 — Trip counter.

The top line of the display indicates vehicle total mileage, the bottom line indicates daily trip. With the vehicle stopped, press button 11 and hold it down for at least 3 seconds to reset the

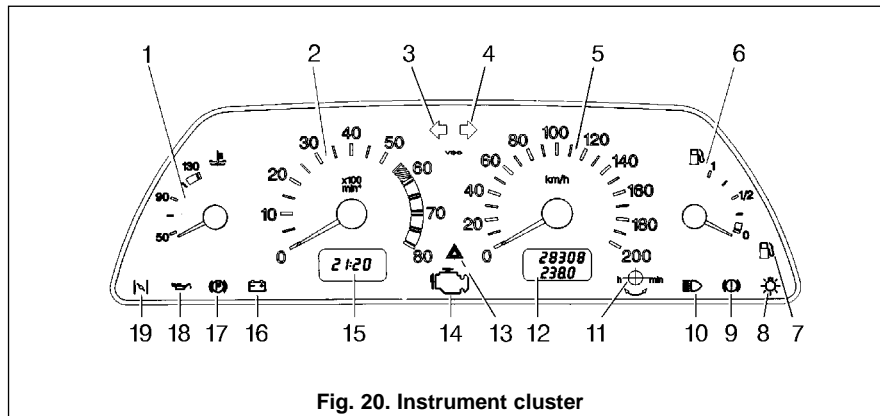


Fig. 20. Instrument cluster

counter. Disconnecting the storage battery also resets the daily trip counter.

13 — Hazard light tell-tale.

Flashes red when the hazard light is ON.

14 — Malfunction Indicator Lamp «» (CHECK ENGINE).

For fuel injection engines only. Lights up briefly after ignition switch-on indicating system self-test and goes off if no fault is found. The MIL may flash or illuminate continuously if a fault is detected.

15 — Time/Temperature LCD.

Depress knob 11 briefly to switch between time and temperature readings.

With the ambient temperature +2°C or higher the display will indicate time. With the ambient temperature below +2°C the display will indicate time for the first three seconds, then temperature readings will be displayed (intermittently for the first 10 seconds).

If the ambient temperature rises above +3°C and then drops again to +2°C:

— time reading will switch to temperature reading (intermittent for the first 10 seconds)

— continuous temperature indication will become intermittent for 10 seconds.

Set the clock in the time indication mode by rotating knob 11 towards «h» (hour) or «m» (minute).

After battery disconnection/reconnection the time reading will be reset to zero.

16 — Low battery tell-tale.

Lights up in red colour at ignition switch-on and goes off immediately upon the engine start-up. Intense or moderate illumination of the lamp with the engine running indicates a slack or failed alternator drivebelt, a fault of the alternator or its circuit.

17 — «Parking brake applied» tell-tale.

Goes on in red when the parking brake is applied.

18 — Low oil pressure tell-tale.

Lights up in red when the lubrication system pressure is low.

19 — Spare.

For vehicles with fuel injection only. For carburetor engines this light is used as the carburetor choke tell-tale light.

Instrument cluster test mode

There are two types of LCD instrument cluster that may be installed on a vehicle.

Press the (daily) Trip counter reset knob and simultaneously switch ignition on (apply voltage to terminal 15 of ignition switch and further to the instrument cluster; the engine not running) to activate the instrument cluster test mode indicated as follows:

1. First type instrument cluster.

- The gauge pointers sway three times full way; all characters on the LCD and the fuel reserve tell-tale illuminate.

- Press and then release the reset knob to show the number of the instrument cluster firmware version (e.g. UEr 1.1, UEr 0.8, or other) on the daily/total trip counter display. The indication stays for about 20 seconds, after which the instrument cluster automatically resumes its normal mode of operation.

- Press/release the knob again to display the last saved DTC.

- Reset the indication by depressing the reset knob and holding it down for over 5 seconds.

Read the display 15 seconds after resetting as follows:

- «0» indicates that the system is fault-free;

- «1» indicates a fault of the micro-processor;

- «2» indicates an opening in the fuel level sensor circuit;

- «4» indicates high on-board system voltage (over 16 V);

- «8» indicates low on-board system voltage (below 8 V);

- in case of multiple failures the system displays a resulting code, which is a sum of all the present fault codes, e.g. «6» (2+4), «10» (2+8), «12» (4+8), «14» (2+4+8).

- If the tachometer reads a signal (the engine is running), the test mode is canceled and the instrument cluster switches to its normal operational mode.

- In case of over- (16 V and higher) or undervoltage (below 8 V) the gauge pointers freeze until the fault is repaired.

2. Second type instrument cluster.

- A half-way sway of gauge pointers, then a full sway, the clock/temperature LCD reads «test», the daily/total trip LCD displays 10123456789 in a creeping line, and the fuel reserve tell-tale illuminates.

- In case any of the instruments reads an input signal (e.g. the engine is running), the instrument cluster will complete the test as per 2.1 and resume its normal operation.

- In case of no input signals to the cluster, the gauge pointers sway halfway several times, then sway full way, the clock/temperature LCD reads «test», the daily/total trip LCD displays 10123456789 in a creeping line, and the fuel reserve tell-tale illuminates.

- In case of over- (16 V and higher) or undervoltage (below 8 V) the gauge pointers freeze until the fault is repaired.

CONTROL SWITCHES



— Side-marker switch.

Depress this control button to switch the side-markers on/off. The control button illuminates when the side-markers are on.



— Headlight switch.

Depress this control button to energize the headlight circuit.

The side-marker and the headlight switches are grouped into the «Exterior light control». Mechanical design of the switch disallows activation of headlights without switching the side-markers first, as well as deactivation of the side-markers when the headlights are on.



— Fog lamp switch.

Depress this control switch to activate the fog lamps when visibility is limited (snow, fog, etc.). The side-markers must be on. The button will illuminate to indicate that the fog lamps are on. Depress the button again to switch the fog lamps off.



— Rear fog light switch.

Depress this control switch to activate the rear fog light and illuminate the button when the exterior lights are on. Depress the button again to switch the fog light off. The rear fog light goes off automatically with ignition switch-off.



— Rear window defroster switch.

Depress this control switch to activate the rear window defroster. The button will illuminate to indicate that the

defroster is on. Depress the button again to switch the rear window defroster off.



— Headlamp wiper/washer switch.

Optional. With the headlamps on depress and hold down this control switch to activate the headlamp wiper/washer.



— Front seat heating switch.

Optional. Depress this control switch to activate the front seat heating. A built-in thermal regulator automatically maintains the heating element temperature for the seat backrest and cushion within 25-31°C.

Depress the control again or switch ignition off to deactivate the front seat heating.

ON-BOARD CONTROL SYSTEM

The on-board control system is optional (Fig. 21).

1 — low oil tell-tale.

Lights up in orange colour when oil level in the engine sump goes below the «MIN» mark. Before topping-up oil, check the system for possible leaks in the lubricating system.

2 — low washer fluid indicator.

Lights up in orange when less than 1 litre of washer fluid is left in the tank.

3 — low coolant level indicator.

Lights up in orange if the coolant in the expansion tank is below the minimum level with the engine cold. Before topping-up, check for possible leaks in the cooling system.

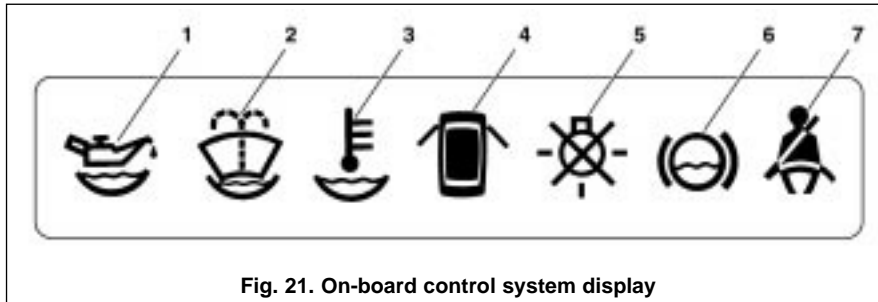


Fig. 21. On-board control system display

Warning! Some vehicle modifications may have no coolant level indicator.

4 — door ajar LED.

Lights up in red when a door is ajar.

5 — stoplight or side-marker lights failure LED.

If the stoplight bulb is faulty the LED lights up in orange when the brake pedal is depressed. Also lights up if a faulty side-marker bulb is activated.

6 — front brake pad wear indicator.

Lights up in orange when the brake pedal is depressed if the brake lining thickness is reduced to 1.5 mm. Goes off at ignition switch-off.

7 — seat belt reminder LED.

Optional. Lights up in red if the driver's seat belt is not fastened.

Modes of control module

The control module has the following modes:

- OFF;
- stand-by;
- start-up functional check;
- parameter check.

The module is OFF if there is no key in the ignition switch. With the ignition key in the «0» (OFF) position the mod-

ule enters the stand-by mode. If the driver's door is open, «Key left in the ignition lock» error is generated and an intermittent beep sound is heard for about 5-7 seconds. To stop beeping, close the door, remove the key or turn it to position «I» (Ignition). With the key in this position, the module enters «Start-up functional check» mode. In this mode all the visual and sound alarms are activated for 3-5 seconds. Then, after a second's pause, the module enters «Parameter check» mode and in the event of any failures, the alarm is indicated as follows:

- LED of the failed parameter flashes for 5-7 seconds, then illuminates continuously until the problem is fixed or the ignition key is returned to position «0» (OFF);

- Beep sound for 3 seconds (simultaneously with the LED);

- if another problem occurs at the same time, the latest problem will have higher priority and its LED will start flashing and a beep will be heard, the LED of the previous fault illuminates continuously.

Important!

The on-board control system displays oil level with a 10 minute delay. This delay is activated after the engine is stopped if the ignition key remains in the

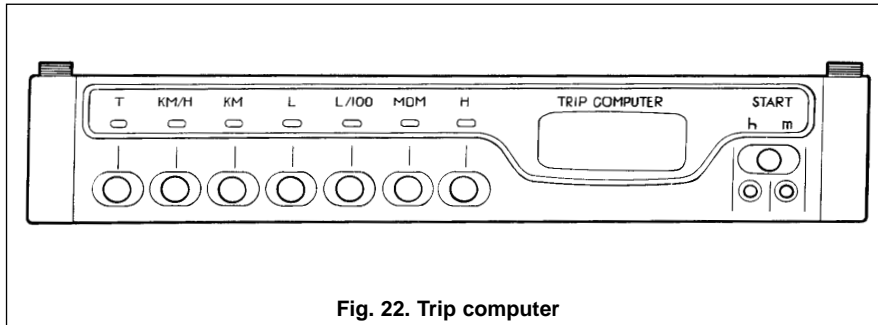


Fig. 22. Trip computer

switch. It is required to allow the oil to drip into the sump. During the 10 minute delay the on-board control system indicates oil level as of the moment preceding the engine stop. If you remove the ignition key, the oil level reading is reset. In this case an attempt to restart the engine within 10 minutes may cause false low oil level alarm, which should not be considered as an indication of the lubrication system failure.

TRIP COMPUTER

Fig. 22 shows a trip computer, which may be fitted on some vehicles. It is designed to take, store and display the following parameters:

- fuel consumption (current, average, total);
- average speed;
- trip kilometers;
- current time;
- run time.

Depress the START button at the beginning of a trip to reset all parameters except current fuel consumption and current time. Depress a relevant button to display one of the following parameters:

Current Time («H» button) — indicates hours and minutes. Maximum up to 23 h 59 m.

Depress button «h» or «m» below the START button to adjust hours or minutes. Depress and hold down a button to continuously increase the reading by 2 hours (minutes) per second. Depress the START button to reset minutes and seconds to zero.

Current Fuel Consumption («MOM.» button) — indicates fuel consumption in L/100 km at a speed higher than 10 km/h, or in L/h at a speed below 10 km/h.

Average Fuel Consumption («L/100» button) — indicates fuel consumption in L/100 km starting from the moment when the START button was depressed.

Total Fuel Consumption («L» button) — indicates fuel consumption in litres starting from the moment when the START button was depressed and up to 624.9 L.

Trip Kilometers («KM» button) — indicates trip kilometers starting from the moment when the START button was depressed and up to 999.9 km.

Average Speed («KM/H» button) — indicates average speed starting from the moment when the START button was depressed, less the time when the vehicle was stopped with ignition off.

Run Time («T» button) — indicates trip time starting from the moment when the START button was depressed and up to 99 h 59 min, less the time when the vehicle was stopped with ignition off.

Warning!

The trip computer LCD goes off at ignition switch-off, however the parameters are stored and the clock continues to run. All information is lost if the storage battery is disconnected.

If the system voltage drops to no less than 6 volts, the stored parameters remain and the clock continues to run.

STEERING COLUMN STALK SWITCHES

Turn indicators and main/ low beam stalk switch 1 (Fig. 23) has the following positions:

- I** — turn indicators are OFF; if headlights are energized, low beam is ON;
- II** — left turn indicator ON (non-fixed position);
- III** — left turn indicator ON (fixed position);
- IV** — right turn indicator ON (non-fixed position);
- V** — right turn indicator ON (fixed position);
- VI** — (lever pulled in), main beam ON, regardless of the exterior lights switch position (non-fixed position);
- VII** — (lever pushed out), main beam ON, if headlights circuit is energized (fixed position).

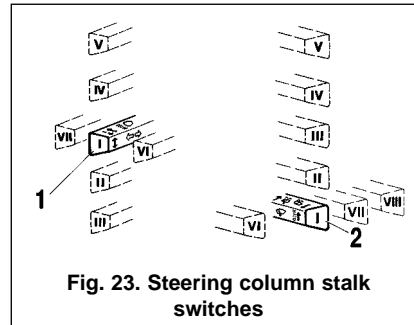


Fig. 23. Steering column stalk switches

Windscreen/rear window wiper/washer switch 2 has the following positions:

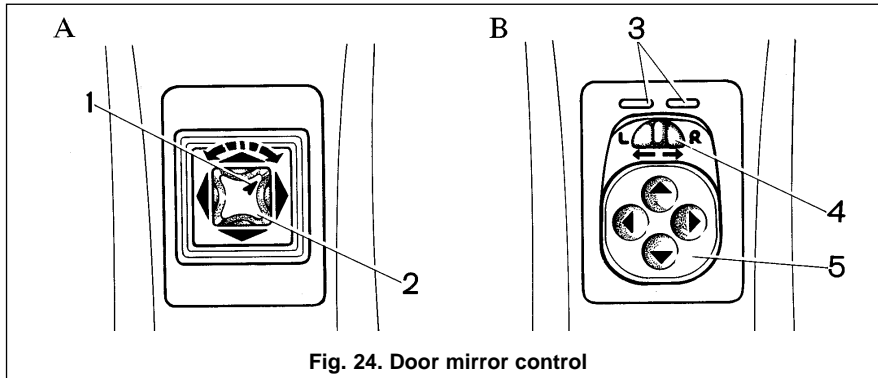
- I** — windscreen wiper/washer OFF;
- II** — intermittent operation of windscreen wiper (non-fixed position);
- III** — intermittent operation of windscreen wiper (fixed position);
- IV** — low speed of windscreen wiper;
- V** — high speed of windscreen wiper;
- VI** — (lever pulled in) windscreen washer is turned on (non-fixed position), windscreen wiper on;
- VII*** — rear window wiper ON (fixed position);
- VIII*** — rear window wiper and washer ON (non-fixed position).

DOOR MIRROR CONTROL

Control knob for door mirror adjustment is optional. It is located on the floor tunnel. Tilt knob 2 (Fig. 24A) to adjust mirror position vertically or horizontally.

To select a mirror rotate the knob by 90° (indicated by arrow mark 1). Since

* For hatchback vehicles.



the knob has only two positions, one of the circuits for the mirror position control (right or left) is always energized when ignition is ON.

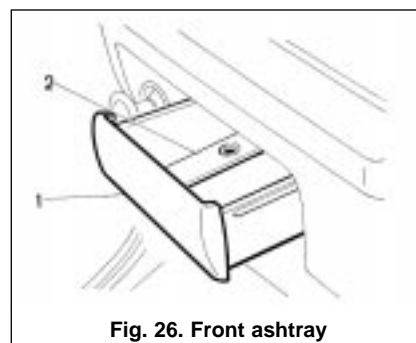
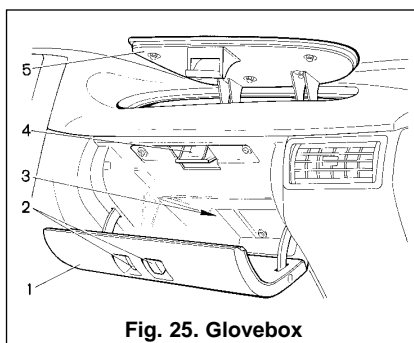
Some vehicles may feature an optional variant of the door mirror control (Fig. 24B). To select a mirror for adjustment shift selector 4. Depress button 5 in indicated directions to adjust the mirrors as suitable. Extreme selector positions energize RH or LH mirror actuator circuits (indicator 3 illuminates respectively). The selector middle position de-energizes the mirror actuator circuits.

GLOVE BOXES

To open lid 1 (Fig. 25) of the lower glove box, press lock knobs 2 together and pull. Lamp 3 illuminates the glove box when ignition is ON and the lid is open. For access to the upper glove box open the lower box lid (1) and push lever 4 to release the upper lid (5) lock.

FRONT ASHTRAY

To use ashtray 1 (Fig. 26), pull it out. To empty the ashtray, depress metal strip 2 and take the ashtray out of the socket. The ashtray is illuminated from inside when the exterior light is on.



OPERATING NOTES

LICENSE PLATE

The vehicle has a set of fasteners for mounting the license plate. License plates 1 (Fig. 27a) on VAZ 2115 are fastened directly to the front (2) and to the rear (5) bumpers using two self-tapping screws 4 complete with washers 3.

On VAZ 2113 and VAZ 2114 front license plate 4 (Fig.27b) is fastened to front bumper 1 using two self-tapping screws 2 with washers 3. To mount the rear license plate insert plastic sleeves 6 into the vehicle's body back wall (5), place license plate 9 and fix it using self-tapping screws 8 with washers 7.

VEHICLE THEFT DETERRENT SYSTEM (IMMOBILIZER)

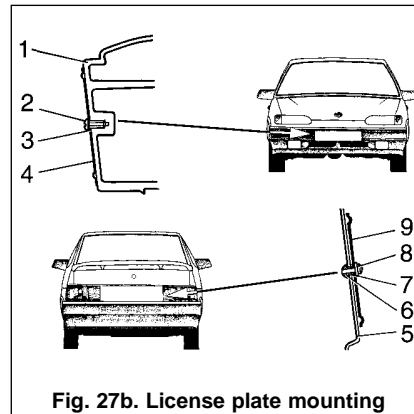
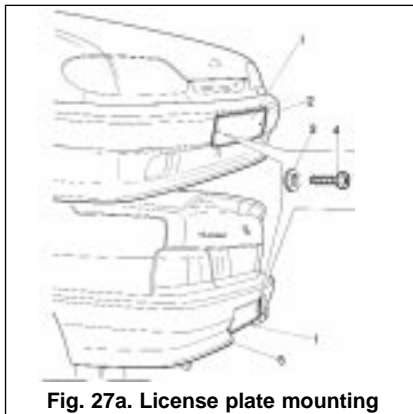
Theft Deterrent System АПС-4 (APS-4) allows the engine start-up only after a valid black key fob code has been read, thus providing additional

protection against unauthorized access to the vehicle.

The VTD system package includes two black key fobs for daily use and one red (programming) key fob. The red key fob is used to activate the immobilizer system and program the original equipment (OE) black key fobs; it is also used to program the replacement key fobs in case the OE key fobs are lost, or program the system after replacement of a faulty ECM or Immobilizer module. All key fobs bear the marking «АПС-4».

The VTD system is activated during the predelivery inspection.

Check to see that the Immobilizer system has been connected and is fully functional. To do that close the vehicle doors except the driver's door, get in the car, and close the driver's door. The key reader LED should start flashing twice a second. Put a black key fob in front of the key reader. The key reader LED will go off and two beeps will be heard.



Now you may switch ignition on and start the engine. The fuel injection pulses will be enabled.

Important! If the engine can be started without using the black key fob, the VTD system has not been activated. Do not hesitate to request your dealer to program and activate the system during the PDI.

The immobilizer will be automatically armed after ignition switch-off depending on the following: 1) if the driver's door has not been opened or it has been opened and not closed, the system will be armed in 5 minutes, 2) if the driver's door has been opened and then closed, the system will be armed within 30 seconds after the door closing.

In both cases a beep sound of a rising pitch will be heard and the LED will start flashing 15 seconds before the system is armed.

If you do not wish to arm the system, switch ignition on.

Immobilizer System Disarming

To disarm the Immobilizer system activate the Reading Mode, which is indicated by the key reader LED flashing twice a second, using one of the following procedures:

Open and then close the driver's door. This will activate the Reading Mode for 1.5 minutes.

Cycle ignition ON/OFF. This will activate the Reading Mode for 10 seconds.

After the Reading Mode has been activated place a black key fob in front of the key reader. The LED will go off and two beep sounds will be heard.

You may now switch ignition on and start the engine.

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Important! Never use a red key fob to disarm the VTD system, for it will disable fuel injection pulses. Take the red key fob home for safe-keeping. In case the red key fob is lost after the VTD system has been activated, the manufacturer disclaims warranty obligations related to improper operation of the VTD system or the ECM.

Emergencies

1. Black key fob is lost.

If a black key fob has been lost, we recommend that you reprogram the remaining black key fob. This will make the lost key fob invalid. Then buy a new black key fob and program both black key fobs that you now have. Apply to your dealer to perform programming procedure of the OE and the new key fob, or of two new key fobs.

2. Red key fob is lost.

If the red key fob is lost, it will be impossible to program the black key fobs. This means that you can continue using the vehicle with remaining black key fobs. However, should you lose these key fobs or should the immobilizer module become faulty, it will be necessary to replace both the immobilizer module and the ECM for the new ones. In this case use a new red key fob to activate the immobilizer system (to be performed at your dealer's).

3. Replacement of a faulty immobilizer module.

After replacement of a faulty immobilizer module program the system (to be performed at your dealer's).

4. Replacement of a faulty ECM.

A faulty ECM may be replaced for a new one (i.e. not programmed). After

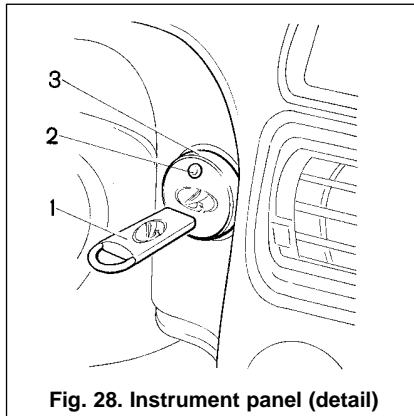


Fig. 28. Instrument panel (detail)

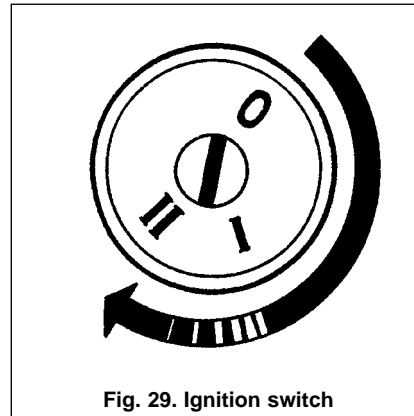


Fig. 29. Ignition switch

replacement, the new ECM will allow engine start-up without the fuel enable signal from the immobilizer. To activate immobilization, program the system (to be performed at your dealer's).

5. Engine won't start.

If after disarming the system the key reader LED flashes once a second and the engine does not start up, the immobilizer system is faulty or there is no connection between the immobilizer module and the ECM. If the key reader LED flashes once or twice and then goes off, and the engine does not start, the fault is not within the immobilizer system.

Courtesy Light

The courtesy light goes off with a delay after the door is closed providing illumination for the driver during dark hours.

To activate courtesy light put the interior lighting switch in the OFF position. The courtesy light illuminates with the driver's door opening and stays on while the door remains open. If ignition is switched off, the courtesy light will

illuminate for another 12 seconds after the driver's door closing and then fade within 4 seconds. If the door is closed with ignition ON, the courtesy light will die out immediately after the door closing. If the ignition key is turned into position «I» while the courtesy light illuminates, the latter will go down immediately.

If you reopen the door while the courtesy light is still on or is fading, the courtesy light will re-illuminate and stay on while the door is open, then it will operate as described above.

USING IGNITION KEY AND KEY FOBs

Use the following procedure to start a vehicle, fitted with the VTD system:

1. After opening a vehicle's door or a brief ignition switch-on (if the courtesy light switch in the driver's door is faulty) the immobilizer Reading Mode will be activated for 30 seconds — the key reader (3) LED (2) (Fig. 28) will flash at a double rate.

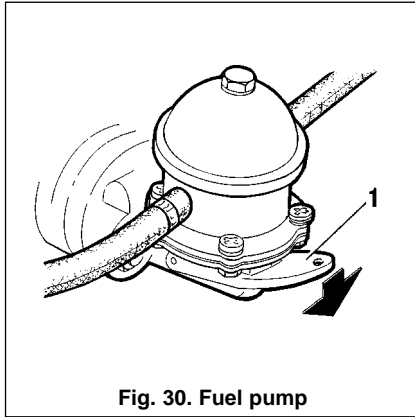


Fig. 30. Fuel pump

2. During this period place a black key fob (1) within 13 mm from the key reader. The key reader LED should illuminate for 2 seconds and then go off, indicating that the immobilizer has read and accepted the key fob code. After that the immobilizer module will send a signal to the ECM enabling the fuel injection pulses.

To start the engine, turn ignition key 1 (Fig. 29) from position «I» (Ignition) to position «II» (Starter—Engine Cranking).

The ignition switch has a blocking device, which inhibits starter activation if the engine is running. If the first attempt to start up the engine fails, try again by switching from position «I» to position «0» (OFF) and then again to position «II» (Cranking).

To remove the ignition key put it into position «0». Removing the key will engage the steering wheel lock.

Never leave the key in the ignition switch to avoid storage battery discharge!

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ENGINE START

To start an engine (warm or hot engine with the coolant temperature over 90°C) turn the ignition key into «II» position (Cranking). Do not depress the accelerator pedal.

During cold seasons when the temperature is below zero we recommend you to depress the clutch pedal before attempting an engine start in order to reduce the load on the starter motor.

If the engine fails to start at first attempt, switch ignition off, wait 30 seconds, then try to activate the starter again. It is not recommended to switch on the starter for more than 10 seconds. After starting the engine release the ignition key and let it slide into position «I» automatically.

Cold start

1. Set the gear lever in neutral position. At low ambient temperatures also depress the clutch pedal.

2. Insert the ignition key and activate the starter motor. If the first attempt to start the engine fails, switch ignition off, and in 20-30 seconds reactivate the starter motor. It is not recommended to keep the starter motor running for more than 10-15 seconds.

Do not depress the accelerator pedal while starting the engine.

3. After the engine start-up, release the ignition key, which will return to position «I» automatically (Fig.27). As soon as the engine runs steadily, smoothly release the clutch pedal.

After a long parking period we recommend you to prime fuel into the float chamber of the carburetor engine before attempting to start the engine.

To prime the fuel, press lever 1 (Fig. 30).

The vehicle features high power ignition system, for that reason never start the engine by arcing a disconnected HT lead to the spark plug, never disconnect HT leads or check HT circuits for spark with the engine running, since it may damage HT components and render the ignition system inoperative.

Always remember that the exhaust gasses are noxious. Therefore, the premises where the vehicle is started and warmed up must be well ventilated.

DRIVING THE VEHICLE

Never use the starter motor to set the vehicle into motion.

We recommend starting the vehicle with the engine warmed up. If in cold weather or after long parking there is no possibility for you to warm up the engine before setting to motion, and you need to take off immediately, start driving in a low gear and with low engine speed. As the temperature of oil in the gearbox rises, shift to higher gears.

For more confident gear shifting remember the difference between the 1st and the reverse gear shift patterns. Select the reverse gear with a 3 seconds pause after depressing the clutch pedal and only with the vehicle fully stopped. To select reverse gear, move the lever from neutral position just like for the 1st gear, then push it forward harder to a stop.

The engine is distinguished for its low noise operation. Timely shift gears to avoid engine high speeds. This helps to extend vehicle life and increase fuel economy.

Always try to evaluate the road before starting a cornering manoeuvre. Slow down the vehicle depending on the cornering radius and road surface, then «negotiate» the corner gradually increasing the engine speed. This will help to keep the hold even on an icy road. Avoid hard braking or abruptly releasing the accelerator pedal during cornering, for in this case the wheels grip on the road may fade and you will lose control over your vehicle.

Where possible, drive without heavy acceleration or deceleration, which add to tyre wear and fuel consumption. Fuel consumption is also affected by low tyre pressure, foul or worn spark plugs and use of engine oils of higher viscosity grades than those recommended.

Likewise, fuel consumption increases when towing a trailer. Furthermore, towing induces loads on the vehicle body, engine and transmission thus reducing their service life.

After driving over puddles, vehicle wash or long driving on wet roads, when water is likely to get into the wheel brake mechanisms, apply the brakes gently on the move in order to dry up the discs, drums and linings.

When driving over puddles reduce your speed to avoid aquaplaning, which may result in side skidding or loss of steerability. Worn tyres increase the probability of aquaplaning.

To avoid engine failure due to water coming into cylinders through the air cleaner, do not cross pools over 300 mm deep (i.e. water reaching vehicle underbody). Cross pools at a minimum possible speed to avoid waves coming over the bumper.

Do not exceed vehicle load specifications given in the present manual.

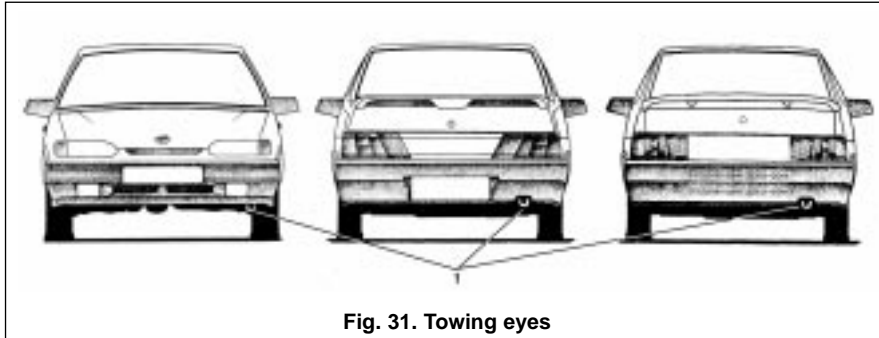


Fig. 31. Towing eyes

Overloading may damage the suspension, cause tyre wear and loss of vehicle stability. Overall cargo weight, including cargo at the roof rack, should not exceed 50 kg.

Never drive at a high speed on rough roads, since sharp shocks may damage the suspension or the underbody.

BRAKING AND PARKING

Brakes design ensures efficient braking. Nevertheless, always try to brake gently and avoid hard braking.

Never switch off ignition or take the key out of the ignition switch while driving. When the engine is off, no vacuum is supplied to the power brakes, hence, a higher force is required on the brake pedal to stop the vehicle. Moreover, if the ignition key is removed, the steering wheel will be locked and you lose steering control.

In the event of a break or fault developing in one brake circuit, the other circuit ensures an effective stop of the vehicle. When this happens, the pedal travel increases and braking performance fades, which at the first instant can be interpreted as a complete brak-

ing system failure. Should this be the case, do not release the pedal and do not depress it repeatedly — it will only result in a longer braking path. Instead, hold the pedal down for maximum braking efficiency.

The antilock braking system (ABS) is an optional part of car equipment, which prevents wheel lock-up during braking and, as a result, retains the vehicle's steerability and minimum braking distance practically under any driving conditions. However, on loose surfaces (gravel, sand or snow) the braking distance may somewhat increase, as compared to the braking distance with the wheels locked up.

The antilock function becomes active at speeds above 8 km/h and is felt as slight pulsation of the brake pedal accompanied by light noise coming from the ABS components. If the ABS tell-tale illuminates (except during self-testing at ignition switch-on), it indicates a fault within the system, which must be eliminated at your dealer's. A faulty ABS does not in any way incapacitate power braking.

To allow unhindered operation of the ABS, do not fit the vehicle with different size tyres.

If you happened to stop on an upward or downward slope, apply the handbrake and engage first or reverse gear, respectively.

TOWING

For towing your vehicle attach the tow-rope only to the front or rear towing eyes (1) (Fig. 31) provided. On the towed vehicle turn the ignition key to position «I» and switch on the hazard warning flashers (in dark hours also switch on side-markers, or attach a breakdown reflecting triangle if inoperative), as required by Traffic Regulations.

Towing should be done smoothly, without jerks or fast cornering.

Never use a rope to tow a vehicle on an icy road!

«RUN-IN» PERIOD

Over the first 2000 km:


1. Check tyre pressure and inflate the tyres to recommended value before each trip.
2. Do not exceed vehicle's maximum speed limits listed in table 1.
3. Timely, following the road situation, shift to lower gears, to avoid engine overloading.
4. Do not change the oil filled by the manufacturer.
5. Do not tow a trailer unless absolutely necessary.

Table 1

Speed limits for a new car, km/h

Total trip, km	Gear				
	1st	2nd	3rd	4th	5th
0-500	20	40	60	80	100
500-2000	30	50	70	90	110

NOTES ON USING VEHICLES WITH INJECTION ENGINES

If the light «» (CHECK ENGINE) comes on with the engine running, it does not mean, that the engine has to be stopped immediately, — the control module has back-up modes to allow engine operation close to normal. However, the vehicle must be taken to your dealer at the earliest opportunity to detect the cause of the MIL illumination.

Only unleaded fuel should be used for injection vehicles fitted with the catalytic converter and oxygen sensor to ensure correct functioning of the engine. The use of leaded fuel will quickly ruin these components and result in smoky exhaust and poor fuel economy.

Use leaded fuel only for carburetor engines.

The catalytic converter is an expensive device designed for environmental protection. It may be damaged by misfires, since, in this case, unburnt fuel will get into the catalyst, resulting in overheating and ceramic cracks. Therefore, in case of noticeable misfire (engine misses or car jerking) stop the engine and remove the cause of misfire. Regularly carry out all maintenance operations for the ignition system specified in the service manual.

Never start the engine by towing or use the starter motor to drive the vehicle.

Avoid parking the vehicle on dry grass or other flammable materials, which may present a fire hazard if the catalyst is at its working temperature.

On engines with fuel injection system the ECM activates the fuel pump for 2 seconds at ignition switch-on. If you disconnect and then reconnect the storage battery cable on vehicles with the ECM model MP7.0, during the first

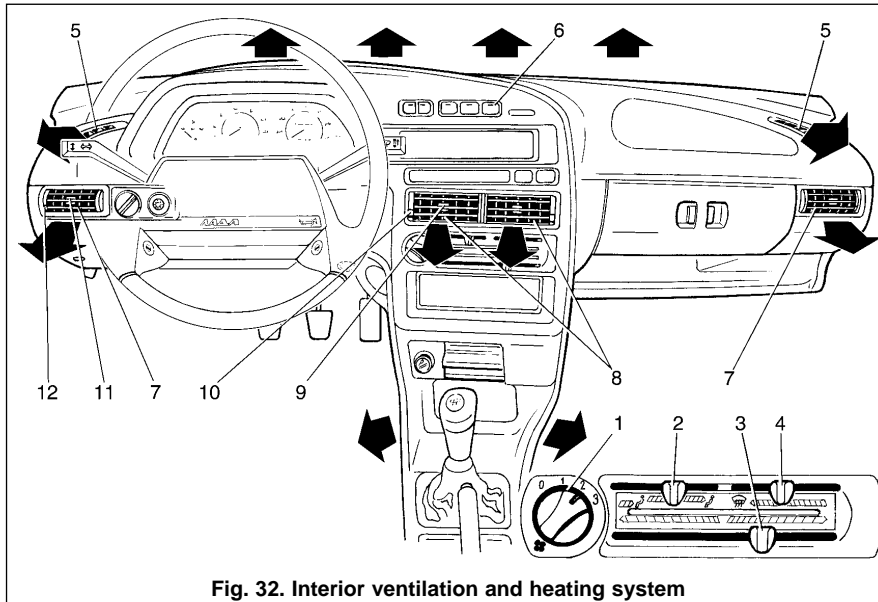


Fig. 32. Interior ventilation and heating system

attempt to start up the engine the fuel pump will be activated only with the starter motor activation. At subsequent attempts the fuel pump will be activated with ignition switch-on. However, in case of three consecutive failures to start up the engine, the fuel pump will once again be activated only with the starter motor activation.

If you disconnect and then reconnect the storage battery cable on vehicles with the ECM model MP7.0, which do not have the VTD system (immobilizer), wait 5 second between ignition switch-on and the first attempt to start the engine.

INTERIOR VENTILATION AND HEATING CONTROL

The interior ventilation and heating controls are illustrated in Fig.32.

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Slide knob 2 to direct air into the driver's and passenger's foot wells, or through the central (8) and side (7) registers. Use shutter control levers 9 or 11 to redirect the air flow. To heat the supplied air, slide knob 3, which controls the heater valve. Adjust air stream intensity by selecting a desired position of switch 1.

By sliding control lever 4, you can adjust intensity of the air stream coming onto the windscreen through the upper registers and onto the side windows through registers 5. For maximum airflow shut the central and side registers using slide-controls 10 and 12, then slide knob 2 rightwards and knob 4 leftwards. Direct cold air on the windscreen and side windows to demist them, for defrosting also slide knob 3 to the right.

The rear window heating for demisting/ defrosting is turned ON by switch 6.

SAFE DRIVING INSTRUCTIONS

Observe the rules laid down below to ensure your safety on the road and maintain sound condition of the vehicle.

At the wheel

Efficient driving technique depends on the driver's good posture, which can be described as follows: the driver leans back firmly against the backrest with his legs slightly bent in the knees when the pedals are fully depressed and with both his hands on the steering wheel also slightly bent. Try to seat firmly but not stiffly, otherwise you will get tired fairly soon.

Before the trip

Make the following checks before each trip:

1. Check tyre pressure and inflate as necessary. A pressure difference as small as 0.2-0.3 kgf/cm² may impede drivability and cause skidding at braking.
2. Check oil level and top up if necessary.
3. Check coolant, braking fluid and washer fluid levels and top up as necessary.
4. Check exterior illumination for correct operation.
5. Check windscreen wiper/washer and the parking brake.
6. Carefully inspect the parking ground. Spillage of oil or other fluids

indicates leaks in the car systems. Correct the problem.

7. Check brakes for correct operation while driving out from the parking lot.

Fording

Ford with caution, since water may hide pits or other obstacles, which may damage wheel disks and suspension components. Do not cross fords over 0.3 m deep (water coming over vehicle bumper). Proceed with caution to avoid waves coming onto the radiator grille, for it may cause water suction into the engine through the air intake, and eventual engine failure. Purge the air cleaner with pressurized air after the fording if necessary.

The ignition system components may become wet and cause engine stoppage if driven in heavy rain. To avoid moisture condensation on the ignition system components apply a spray type water repellent.

The first few minutes after a rain starts present special hazard of wetted dust, which forms a slippery film on the road, thus reducing tyre traction.

Gently apply brakes from time to time to dry up brake disks and drums, which may become ineffective if wet.

Switch windscreen wiper to maximum speed during nonstop overtaking. This will help you to have unhindered visibility even if there are water splashes coming from under the wheels of the vehicle you are passing. Do the same if another vehicle is passing you by.

Do not overtake other vehicles if the water mist limits visibility.

Increase the distance to the vehicle ahead and slow down to avoid driving in the water mist.

Slow down if driving by a sidewalk and do not splash water on pedestrians.

Winter driving

Winter driving requires special caution! We recommend you to use winter tyres on all wheels.

Be careful while driving on wet or slippery roads, avoid hard braking, do not step on the accelerator pedal or release it abruptly. Steer your vehicle smoothly without sudden turns of the steering wheel. Decelerate gradually timely shifting to lower gears and gently applying the brakes. If the vehicle starts to skid, turn the wheel in the direction of skidding and stabilize your vehicle with gentle steering and accelerator pedal application. Never release the accelerator pedal if the vehicle starts to skid, this may cause your vehicle to spin around.

Ice is very likely to form at the crossroads due to stop-and-go driving, which causes wheel spinning. Therefore, always think ahead and start decelerating while you are still on a dry road.

It may appear rather difficult to set your vehicle into motion on a slippery road. Select the second gear and gradually releasing the clutch pedal increase the engine speed. For safe cornering shift into the first gear and start the manoeuvre with little acceleration avoiding wheel slip.

Mountain driving

Timely select lower gears and avoid engine tickover or vehicle jerking when driving uphill. Use engine braking and gently apply service brakes to go down a long descent. Select a correct gear to

avoid engine overspeeding and subsequent failure. Never go downhill using only the service brakes with the engine off and the clutch disengaged. When the engine is off, no vacuum is supplied to the power brakes, and the disengaged clutch will make the braking fluid boil. Mind also that the higher you climb the lower is the braking fluid boiling point. Braking fluid boiling in the wheel cylinders causes complete failure of the service braking system felt as a spongy pedal.

If you want to stop at a parking place on a mountain road, do not switch the engine off immediately, for it will cause coolant boiling; allow the engine to idle for 1-2 minutes — this will make starting the engine easier.

Stay to the right side of a mountain road. Narrow and winding roads require greater attention and caution. Use horn and headlights when approaching «blind» turns. If you need to stop on the up- or downhill, turn the steering wheel so that in case of the vehicle's accidental movement it would steer into a kerb or other obstacle.

Do not go uphill on a wet road until the preceding vehicle reaches the top.

Using brakes

Learn to brake smoothly without wheel lock-up. It is a good practice to brake smoothly while shifting to lower gears; this helps to maintain directional stability even on a slippery road, increases fuel economy, and extends tyre and brake pads service life.

An experienced driver slightly depresses the brake pedal several times until the stoplights illuminate to warn other drivers of the impending deceleration.

If the vehicle steers sideways while braking with the fully functional suspension, correct wheel alignment and normal tyre pressure, check the braking system.

Select a free passage on the road to test the braking system of vehicle you never drove before. Try braking at 40, 60 and 80 km/h.

Do not park your vehicle for a long period with the parking brake applied to avoid brake pad-to-drum binding.

To prevent brake pad-to-drum binding as a result of wet road driving or sharp temperature alterations dry the brakes by smooth service brake application on your way to the parking lot. Only after that you may apply the park-

ing brake and leave your vehicle for a long period.

Tyres and safe driving

Sharp acceleration/deceleration, low/high tyre pressure, untimely tyre rotation, unbalanced wheels, driving at high speeds on rough roads or incorrect wheel alignment visibly reduce tyre service life. Driving with worn tread pattern on a rainy day is dangerous — there are no sipes, which provide passageway for the water being expelled from under the tyre, and the tyre begins to aquaplane. Use winter tyres (M+S type) with or without spikes to drive in winter.

SERVICE AND MAINTENANCE

This section describes the operations to be regularly carried out between maintenance checks as prescribed by the Service Manual.

Check on a regular basis the rubber boots of the steering rack, ball bearings, gearshift rod, front axle balljoints and the steering rod joints. A damaged boot will allow dust, water and mud into the joint reducing its service life. Replace a damaged boot or reshape a twisted one.

LUBRICATION SYSTEM

An engine usually consumes a certain amount of oil during operation. This amount depends on your driving techniques, and is predetermined by the engine load and speed. During the run-in period oil consumption is higher than regular.

Therefore, regularly check oil level, especially before long journeys.

Check the oil level on a cold engine, when it is off, and top up as necessary.

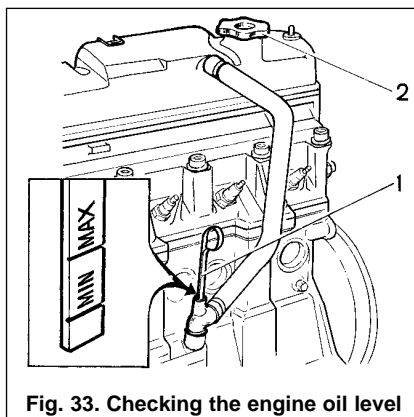


Fig. 33. Checking the engine oil level

34

The oil level must be between the «MIN» and «MAX» marks of oil dipstick 1 (Fig.33). Refill the engine through the filler closed with cap 2.

Do not fill oil above the «MAX» mark. Otherwise it will be drawn through the ventilation system into the combustion chambers and then released into the ambient with the exhaust gasses. At the injection engines fitted with a catalytic converter oil in the exhaust may destroy the catalyst.

ENGINE COOLING SYSTEM

Coolant level should be 25-30 mm above the «MIN» mark on the transparent body of expansion tank 1 (Fig.34). Check the coolant level or open the expansion tank cap (2) only when the engine is cold. After refill, tighten the expansion tank cap firmly, since when the engine is running and warmed-up, the expansion tank is under pressure.

If you have to add coolant frequently, check the cooling system for leakage and remedy the situation. As an exception, the cooling system may be topped up with clean water, though you should never forget that in this case the freezing temperature will be higher. Therefore, make necessary repairs of the system as soon as possible and refill it with the coolant.

Warning! Note that coolant is poisonous! It must be stored in a tightly sealed container beyond the reach of children. Do not use clean water instead of coolant.

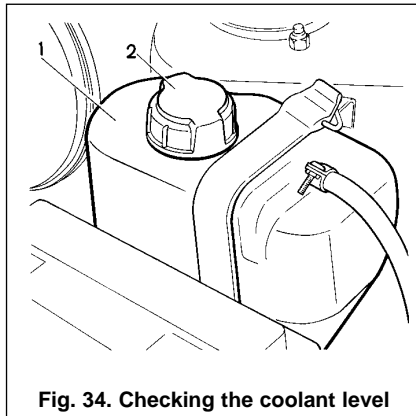


Fig. 34. Checking the coolant level

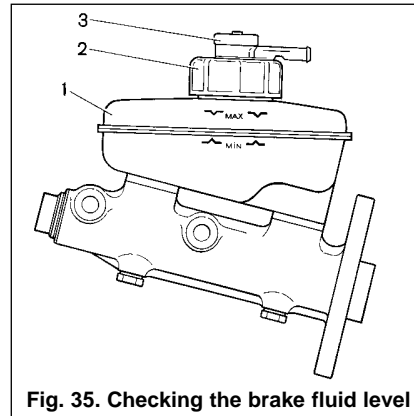


Fig. 35. Checking the brake fluid level

BRAKE SYSTEM

The brake fluid level is checked visually against the marks on reservoir 1 (Fig.35) made of translucent plastic. With new brake linings and cap 2 removed, the fluid level should reach the «MAX» marking.

When checking the brake fluid level, always check correct operation of the low fluid level sender by pressing the central part of protective cap 3 — with ignition ON, a respective tell-tale light should come up on the instrument panel.

The brake system failure warning light comes up when the fluid level is below the «MIN» mark, which in the event of only slightly worn or new brake linings indicates hydraulic leaks somewhere in the system. Before topping-up fluid, be sure to eliminate any leaks.

Pay special attention to the flexible hoses, which suffer from exposure to water, mud, sand and salt. In case of small cracks, or hose bulging when the brake pedal is depressed, replace the hose for a new one.

Refill brake fluid every three years for the following reason: the brake fluid absorbs moisture from the ambient air, resulting in its lower boiling point. Apart from that, water present in the brake fluid may corrode some of the braking system components.

Note that brake fluid is poisonous! It must be stored in a tightly sealed container beyond the reach of children.

Avoid spilling brake fluid on the paintwork to prevent its damage.

STORAGE BATTERY MAINTENANCE AND RECHARGING

The electrolyte level in the battery should be between the «MIN» (Fig.36) and «MAX» marks on the translucent battery case. If there are no marks, the level must be at the lower edge of the filler neck. If the electrolyte level is below that required, remove cover 1, unscrew caps 2 and top up distilled water to the battery through holes 3. Make sure, the vents are not blocked, then refit caps 2 and cover 1.

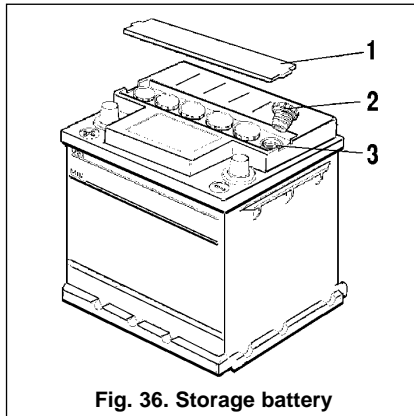


Fig. 36. Storage battery

Afterwards, wipe off any spills of electrolyte and battery external surfaces with a clean cloth, soaked in a 10 per cent solution of ammonia or baking soda.

Do not fill the battery above required level: electrolyte spilling through the vents may damage the paintwork.

Always check that the battery terminals are tight and clean. Oxidized terminals or poor connection may cause sparking and thus damage vehicle electronics. For the same reason never disconnect the storage battery with the engine running to check the alternator operation.

When installing the battery, ensure correct polarity of connections according to the markings (positive terminal is also bigger in size than negative).

Charging the battery on the vehicle requires disconnection of the red lead from the alternator. The storage battery is connected to the alternator terminal 30 by the positive cable (terminal «+»).

We recommend you to remove the battery from the vehicle before recharging it.

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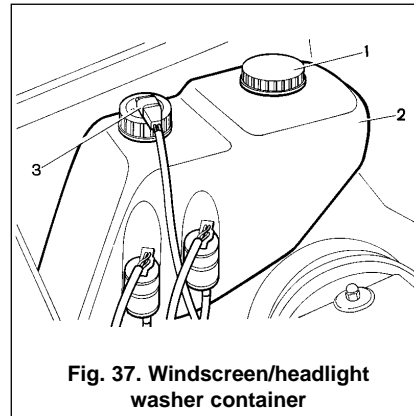


Fig. 37. Windscreen/headlight washer container

WASHER FLUID

The washer fluid in container 2 (Fig. 37) should be maintained on a reasonable level to prevent possible activation of low level sender 3. Top up washer fluid through the hole, normally closed by cap 1.

Fill the fluid reservoir of the washer system with a mixture of water and an appropriate washer fluid in proportion indicated on the package. Clean water may be used in warm weather.

Adjust the windscreen washer sprinkler so as to make water come onto the upper part of the wiped area. For this purpose insert a needle into the sprinkler orifice and using it as a lever adjust the sprinkler ball head.

SPARK PLUGS

The spark gap «A» (Fig.38) should measure 0.7-0.8 mm (1.00-1.15 mm for injection system). Adjust the gap by bending the side electrode only.

To ensure reliable start-up at cold temperatures replace the spark plugs for the new ones, even if the currently

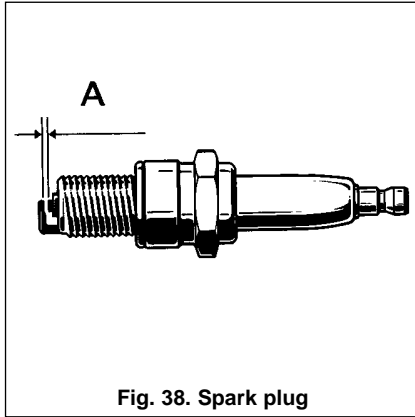


Fig. 38. Spark plug

installed spark plugs are in good condition. The latter can be put away for safekeeping and used during the summer time.

Always check that the HT leads are clean and tightly connected to the spark plugs, distributor sensor, ignition coil or ignition module (for injection system). Replace rubber boots if damaged.

WHEELS AND TYRES

Maintain tyre pressure at the level, specified in table 2. Driving the vehicle with tyre pressure other than recommended results in accelerated tyre wear, increased fuel consumption, poor vehicle stability and driveability. In case of repeated pressure drops, check for air leaks through the valve. If necessary, tighten the valve core or replace it.

If pressure continues to drop with the valve fully functional, repair the tyre using the sealant supplied with the vehicle and strictly observing the instructions.

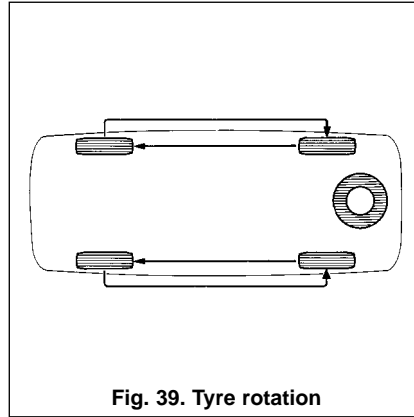


Fig. 39. Tyre rotation

All work related to the wheel beading or balancing should be entrusted to your dealer.

Apply to your dealer for balancing the wheels after installing new tyres.

Rotate tyres as shown in diagram 39 to ensure their uniform wear.

Avoid driving the vehicle with the wheels rubbing against the kerbstone or driving at a high speed on a rough road (with pits and bumps), for it may damage the wheel rim and result in loss of wheel balance or sealing of tubeless tyres. Should you notice any vibrations while on the road, apply to your dealer to check wheel balance.

Table 2

Tyre Pressure

Tyre	Front and Rear Wheels MPa (kgf/sq.cm)
165/70 R 13	0.2 (2.0)
175/70 R 13	0.19 (1.9)

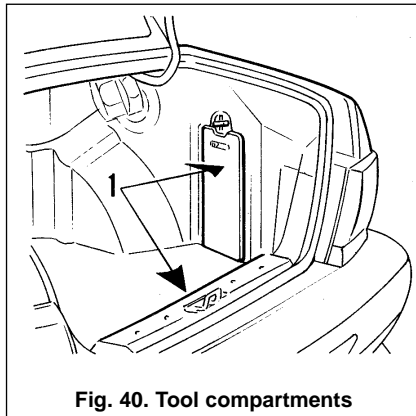


Fig. 40. Tool compartments

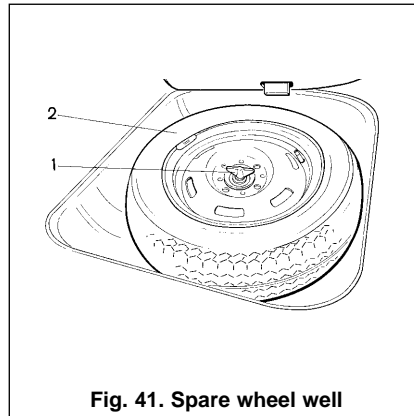


Fig. 41. Spare wheel well

Wheel changing

To replace a road wheel:

- place the vehicle on level ground and apply the handbrake;

- remove covers 1 (Fig. 40) or mat and take out a pump, jack, tools and replacement wheel. Spare wheel 2 (Fig. 41) is located in a well of the boot. Remove the mat, then the cover and unscrew bolt 1 to take out the wheel.

- remove the wheel cap (if installed);

- slacken each nut of the affected wheel one turn using box wrench 2 (Fig.42);

- locate jack 1 head so that the nearest to the wheel sill rim enters the notch in the jack head and the jack base is exactly beneath it. Turn the jack handle (Position I) until the wheel is some 50-60 mm clear of the ground. If the handle cannot be turned 360°, use the smaller radius for rotation (Position II);

- remove the bolts and lift off the wheel. Position the spare wheel, fit the bolts and tighten them uniformly using the x-pattern;

- lower the vehicle to the ground and remove the jack. Fully tighten the bolts, check the tyre pressure and pump up as necessary;

Stow away the tools into the boot, fasten them with elastic straps and replace covers.

FUSE REPLACEMENT

Use only fuses listed in Appendix 3 for replacement.

Fuses 1 and relays 2 are located in block 3 shown in Fig.43. The fuse/relay

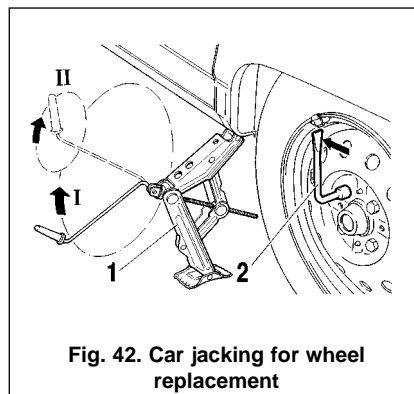


Fig. 42. Car jacking for wheel replacement

block is located in the air duct in the vehicle's left. The fuse/relay block cover (4) has a legend at the inside specifying each relay function, fuse number and protected circuits. The fuse rating is marked on its face. To replace a fuse, remove the cover by depressing locks 5 on both sides, then pull up the cover. In the event of repeated fuse blowing, apply to your dealer to trace and eliminate the cause of failure.

Circuits protected by fuses are listed in table 3

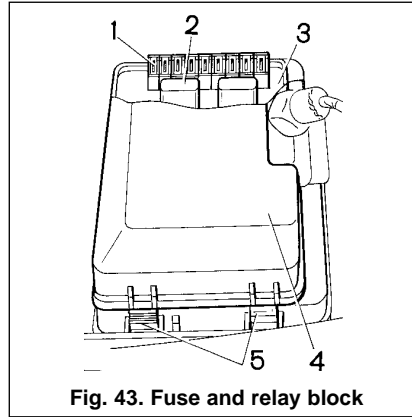


Table 3

Circuits protected by fuses

Fuse	Protected circuit
F1 (10 A)	Headlamp wiper motor (at switch-on). Headlamp washer motor.
F2 (10 A)	Turn-signal lamp. Turn-signal and hazard flasher relay-interrupter (in hazard warning mode).
F3 (10 A)	Interior illumination. Reading light. Luggage compartment illumination. Stoplight. Lamps relay. Trip computer.
F4 (20 A)	Inspection lamp socket. Rear window defroster relay (contacts). Rear window defroster.
F5 (20 A)	Horn. Horn relay. Radiator fan motor.
F6 (30 A)	Power window motors. Power window activation relay (contacts).
F7 (30 A)	Heater motor. Windscreen washer motor. Headlamp wiper motor (when activated). Cigarette lighter.
F8 (7.5 A)	Foglamp (R.H.)
F9 (7.5 A)	Foglamp (L.H.)

Fuse	Protected circuit
F10 (7.5 A)	Instrument cluster illumination switch. Number plate lamps. Engine compartment illumination. Illumination for control switches, instrument cluster, cigarette lighter, heater controls. Side-markers (L.H.). Side-markers tell-tale.
F11 (7.5 A)	Lamps relay. Side-markers (R.H.).
F12 (7.5 A)	Dipped beam (R.H. headlight)
F13 (7.5 A)	Dipped beam (L.H. headlight)
F14 (7.5 A)	Main beam (L.H. headlight)
F15 (7.5 A)	Main beam (R.H. headlight)
F16 (15 A)	Instrument cluster. Turn-signal lamp and hazard flasher relay-interrupter (in turn signal indication mode). Low oil pressure tell-tale. Alternator excitation winding (at engine cranking).

Injection vehicles feature three fuse boxes installed on a bracket behind the instrument panel console. Each fuse is rated for 15A. Circuits protected by these fuses are listed in table 4.

Table 4

Circuits protected by fuses

Fuse	Protected circuit
Upper (15 A)	Fuel pump relay (contacts). Fuel pump. Injectors.
Middle (15 A)	Radiator fan motor activation relay (winding). Canister purge valve*. Mass airflow sensor. Vehicle speed sensor. Heated oxygen sensor* (heater).
Lower (15 A)	ECM. Ignition module.
Inserted fuses (supplied with the harness)	
8 A	Rear fog light relay. Rear fog light.
16 A	Seat heater.
16 A	Central door lock control. Central door lock motor.

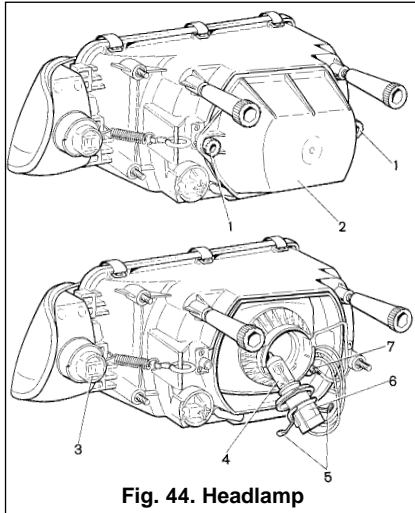


Fig. 44. Headlamp

Never use a makeshift jumper or a fuse with different rating to replace a blown fuse.

No fusible links are used to protect the circuits of the following components: ignition, starter, alternator, headlamp activation relay and central door locking relay.

BULB REPLACEMENT

For replacement use the bulbs as listed in Appendix #2.

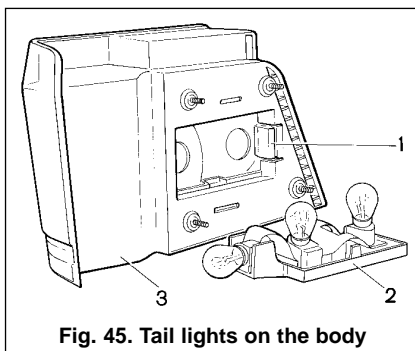


Fig. 45. Tail lights on the body

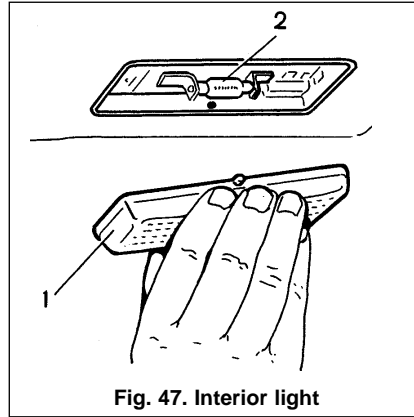


Fig. 47. Interior light

To replace headlamp light bulbs, unscrew bolts 1 and remove cover 2 (Fig. 44). Disengage retaining spring 5 and remove connector 6 with bulb 4.

To replace the side-marker light bulb, remove bulb holder 7 assembly from the socket, turn the bulb counterclockwise and pull it out.

To replace a bulb in the front turn-signal lamp, disengage connector 3, turn the holder counterclockwise and pull it out.

To replace bulbs in rear lamps 3 (on vehicle body – Fig. 45; on boot lid/tailgate – Fig. 46), open the boot lid,

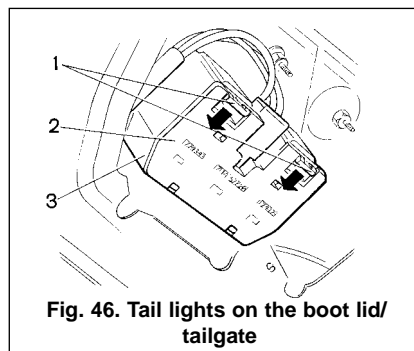


Fig. 46. Tail lights on the boot lid/tailgate

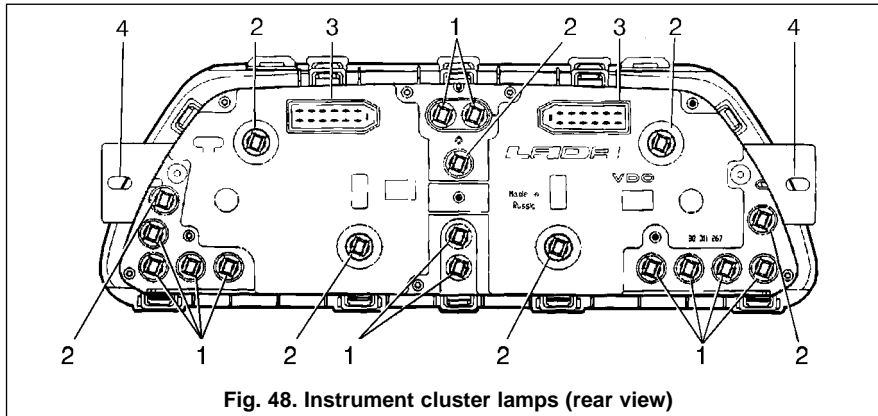


Fig. 48. Instrument cluster lamps (rear view)

remove the protective covers, prize latches 1 and remove base 2 with the lamps attached.

To replace interior light bulb 2 (Fig. 47), first remove lens 1 by pressing the centre part with your fingers and pulling it down.

To replace tell-tale light bulb 1 (Fig. 48) or instrument cluster illumination bulb 2, carefully remove the instrument cluster cover, undo screws holding the cluster by eyelets 4. Pull out the instrument cluster and disconnect harness connectors 3 as necessary. Turn the bulb to be replaced counterclockwise and pull it out of the socket.

To replace number plate lamp bulb 3 (Fig.49), first remove the lamp. To do so, undo screws 6, insert a screwdriver into cutout 4, press latch 5 towards the center with your finger and carefully withdraw lens 2. Bulb 3 is held in housing 1 by spring retainers.

To replace a blown bulb in the side turn-signal lamp (Fig. 50) remove the latter from the car. The turn-signal lamp is held in its socket by spring retainers. Next, remove protective rubber cap 1, withdraw the bulb/holder assembly from housing 2 and pull the bulb out.

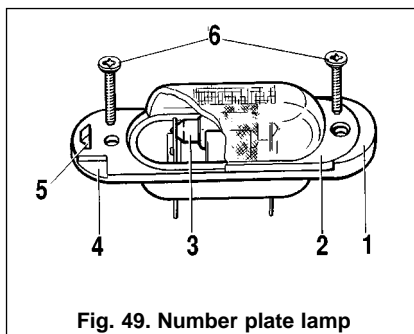


Fig. 49. Number plate lamp

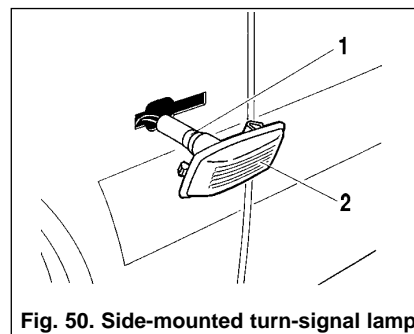


Fig. 50. Side-mounted turn-signal lamp

BODYWORK MAINTENANCE

Bodywork is the basic and the most expensive part of the vehicle. It is manufactured using modern materials and high quality anticorrosion components. Corrosion resistance of the body is basically secured by the manufacturer, however, much depends on proper maintenance, particular climatic conditions, environment and storage conditions.

To avoid scratches, do not remove dust and dirt with a dry rag. It is best to wash the vehicle immediately after a trip with a soft sponge using a moderately strong jet of water. On a summer day wash your vehicle outdoors in a shady place. If this is impossible, wipe the paintwork dry immediately after washing to avoid stains left by water droplets drying under direct sunshine. On a winter day wash your vehicle indoors in a warm place and wipe dry the paintwork and door weatherstrips before driving out to avoid possible negative effects of water droplets freezing: paintwork cracking or weatherstrip-to-body freezing. Do not use soda, alkaline solutions or waste waters for washing, since they may cause dimming of the paintwork.

Before washing your vehicle, clear out drain holes (Fig. 51) in the doors and sills. Do not direct water jet on the electric and electronic components, sensors, or connectors in the engine compartment. Inspect the condition of electronic components and sensors' connector boots. In case of water coming inside the connector dry it with pressurized air and apply water repellent

substance to prevent oxidation of terminals.

Carefully wash doors' and bonnet's flanged joints, engine compartment and door apertures welded joints to avoid accumulation of dirt, which may damage paintwork and cause corrosion.

In case of visible signs of corrosion (corroded spots, blistering of paint, etc.) abrade the affected spot with a fine grade sandpaper to reveal uncorroded metal, then apply rust converter, prime and paint the spot.

Spalling and scratching of the paint finish, spalling of the sealer in the wheel arches and the underbody may be caused by mechanical actions during vehicle operation. Corrosion of welded joints or other bodywork joints is not penetration corrosion, and for that reason at early stages it can be corrected by polishing. Timely correct corrosion of the paint finish, which may appear during operation, to prevent further corrosion under the topcoat, its lamination and blistering.

In order to enhance corrosion resistance of the body, the closed internal spaces of the door sills, side- and crossmembers are protected with a

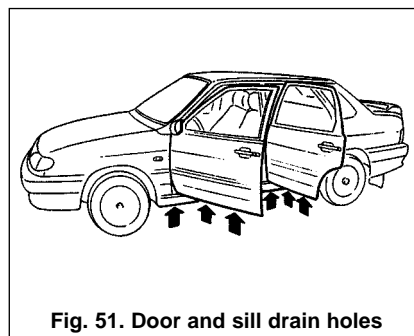


Fig. 51. Door and sill drain holes

special anticorrosion compound. It is recommended to restore the protective coating of the closed spaces at your dealer's during the first year of vehicle operation and later every 1.5-2 years.

Exposure of the vehicle underbody to gravel, sand, salt, etc. affects the sealers and the prime coat, facilitating body rusting. Carefully monitor condition of the underbody and correct the revealed defects in due time and order.

To preserve the shine of the paintwork (especially for outdoor parking) polish your vehicle on a regular basis using special creams. Polishing creams seal new microcracks of the paintwork and prevent metal corrosion underneath.

Never leave the vehicle under direct sunshine for a prolonged period or spill acids, soda solutions, braking liquid or petroleum on the bodywork to avoid dimming of the paint.

Use a clean cloth to wipe off petroleum spillage after filling up — this will help to prevent staining of the body under the fuel filler flap.

Use a wet cloth to wipe plastic parts. Do not use petroleum or solvents, for they may cause dimming of the plastics.

Remove dust from the seat cushion/seatback by vacuuming. To remove greasy spots from upholstery, use universal interior cleaners or neutral soapy water. Do not forget to thoroughly clean rubber seals and adjacent door and boot lid surfaces with a wet cloth.

Clean the glasses with soft linen rags or chamois leather. Add glass-cleaners to water when washing very dirty glasses (30cm³/l).

Due to unfavourable environmental situation in some regions the paintwork

of the vehicle may be negatively affected. This may appear as rusty dust, local discolouration or destruction of the paintwork.

Rusty dust on the bodywork is the result of airborne metal particles deposition. These particles are later attached to the body through the process of corrosion in dew water. To remove rusty deposits use a 5% solution of oxalic acid and then wash the vehicle with profuse clean water. Complete the operation by polishing the vehicle body. If no special action is taken to remove the rusty deposits, they will gradually go away after a number of washes or rains.

Local discolouration (staining) of the paint finish or destruction of the clearcoat are caused by deposition of airborne industrial acids which undergo chemical transformations in humid air. Depending on how badly the bodywork is affected you may have to polish or repaint the body.

STORAGE

Pay special attention to vehicle storage conditions. If the vehicle runs 15000 kilometers a year, it means that it is only 1 hour in operation out of 24. Optimum conditions for vehicle storage are:

— a shed with the temperature and humidity at the same level as the ambient, constant airflow and no sun or weather exposure.

— warm (single lot) garage with the temperature at least 5°C, relative humidity 50-70% and combined supply/exhaust ventilation system.

If the ventilation system of the warm (single lot) garage is inefficient, and the

vehicle is operated during winter or is left for storage without drying after a wash, the destructive effect on the paint finish will multiply.

If you are planning to leave the vehicle for a long period under a shed or in a cold garage during winter, disconnect the battery and the car radio and take them away for separate safekeeping; also drain the washer fluid.

For indoors keeping with the sunlight coming in cover the vehicle body and tyres with a permeable canvas. Use of watertight covers (e.g. tarpaulin, polyethylene, etc.) without holes for windscreen and rear window ventilation results in water condensation and eventually damages the paint finish.

For outdoors keeping when a canvas is used do not allow it to touch painted parts of the vehicle body to prevent paint damage (blistering, spalling, etc.). Place soft pads at least 20 mm thick between the vehicle body and the canvas to allow proper ventilation.

To prepare the vehicle for a long storage:

1. Wash the vehicle and wipe it dry. Remove corrosion, repaint spalling spots and coat the body with a preservative compound.

2. Start the engine and allow it to warm up. Stop the engine, remove the

spark plugs and fill each cylinder with 25-30 g of motor oil heated to 70-80°C, then make 10-15 crankshaft rotations and replace the sparkplugs.

3. Disconnect the warm air intake pipe from the air cleaner. Use oilpaper or oilcloth to close:

- air cleaner intake openings;
- muffler tailpiece;

4. Cover the engine with tarpaulin, polyethylene or oilpaper.

5. Place the vehicle on supports so that the wheels do not touch the ground.

6. Cover the vehicle with a canvas.

7. Fully charge the storage battery and take it away for storage in a dry and moderately cool place.

Service the vehicle once every two months of storage as follows:

1. Remove the cover and visually inspect the vehicle. Abrade and repaint corroded spots.

2. Remove the sparkplugs, shift into the 5th gear, rotate the front wheel 2-3 times and replace the spark plugs.

3. Rotate the steering wheel 1-1.5 turns in each direction. Depress (3-5 times) the brake, the clutch and the accelerator pedals, and apply (3-5 times) the handbrake.

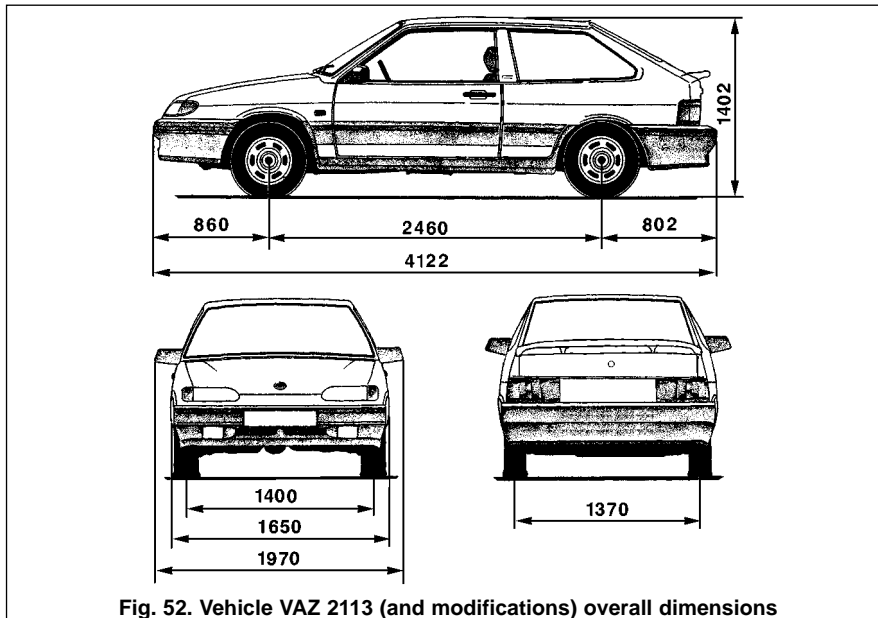
TECHNICAL SPECIFICATION

MAIN PERFORMANCE PARAMETERS AND DIMENSIONS

Parameters	Models (including modifications)		
	VAZ 2113	VAZ 2114	VAZ 2115
Body type	3-door hatchback	5-door hatchback	4-door saloon
Power system	Front-wheel drive with transversely mounted engine		
Number of seats, occupants	5		
Kerbweight, kg	920	945	2115-01—970 2115-20—985
Gross Vehicle Weight (GVW), kg	1345	1370	2115-01—1395 2115-20—1410
Ground clearance at GVW, at least, mm:			
— to oil sump	165		
— to catalytic converter*	130		
Trailer Gross Weight**, kg			
— unbraked	300		
— braked	750		
Overall dimensions, mm	Fig. 52-54		

* Optional for injection engine vehicles.

** Vertical load on the drawbar hook at rest should be within 25-50 kg.



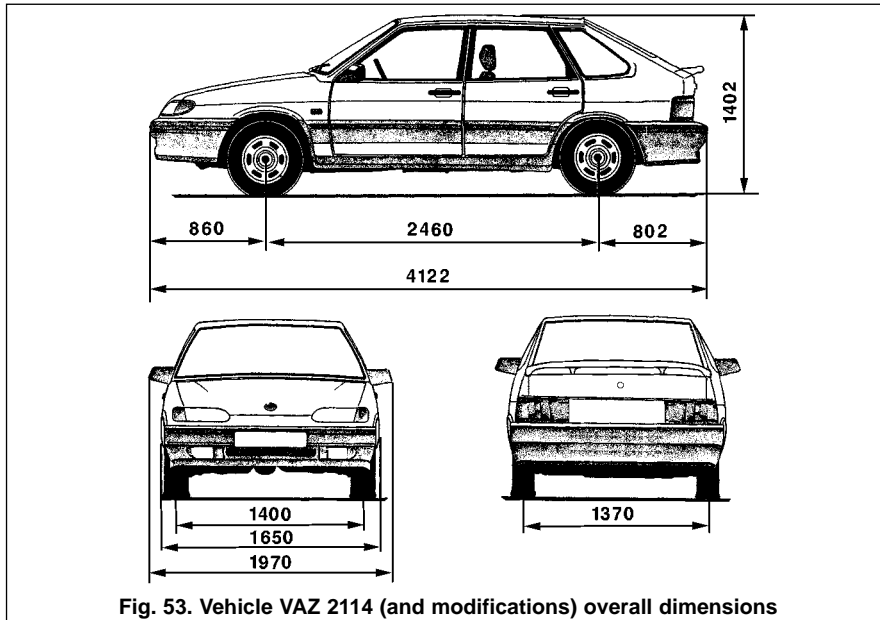


Fig. 53. Vehicle VAZ 2114 (and modifications) overall dimensions

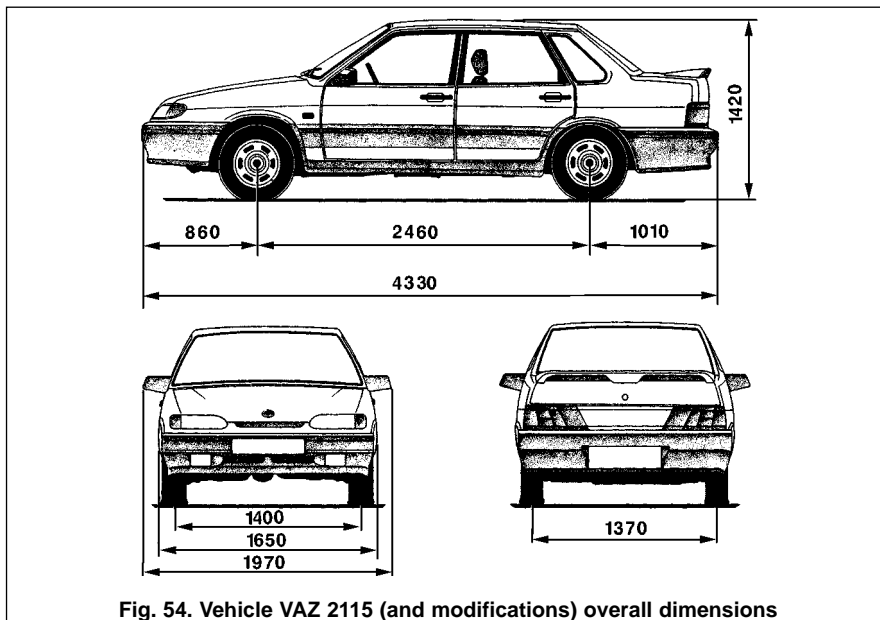


Fig. 54. Vehicle VAZ 2115 (and modifications) overall dimensions

ENGINE PARAMETERS

Parameters	Engine	
	21083	2111
Engine type	4-cylinder, in-line, 4-stroke	
Fuel delivery system	carburettor/ breakerless ign.	multipoint fuel injection
Capacity, L	1.5	
Bore x Stroke, mm	82x71	
Compression ratio	9.8	
Rated power**, kWatt (h.p.) at RPM	51.5 (70) 5600	57.2 (78) 5400
Minimum engine speed, RPM	750-800	760-840
Spark plugs	A17ДВРМ	
Fuel	91 RON	unleaded fuel (95 RON)

VEHICLE SPECIFICATIONS

Vehicle	Engine	Max. speed*, km/h	Acceleration* from 0 to 100 km/h, sec	Fuel Consumption**, l/100 km
2113	21083	155	14.2	5.7 / 7.8 / 8.9
2114				
2115				
2113	2111	155	14.2	5.7 / 7.8 / 8.9
2114				
2115				

* Measured using special procedure.

** Figures reflect fuel consumption in L/100 km at: 90 km/h / 120 km/h / urban driving.

CAPACITIES (litres)

Fuel tank	42.5
Engine cooling system, including heater	7.8
Engine lubrication system	3.5
Gearbox housing	3.3
Brake hydraulic system	0.435
Windscreen washer fluid tank	4.2

ADJUSTMENT AND CONTROL PARAMETERS

Valve train clearances on a cold engine (18-20°C):	
— intake valves	.0.2±0.05
— exhaust valves	.0.35±0.05
Spark gap, mm:	
— carburetor engine	.0.7-0.8
— fuel injection engine	.1.00-1.13
Steering wheel free travel in the position for straightforward driving, ≤ °	.5
Brake pedal free travel with the engine stopped, mm	.3-5
Clutch pedal travel, mm:	
— when adjusting	.125-135
— operating	.150-160
Minimum safe front/rear brake lining thickness, mm	.1.5
Coolant temperature on a warmed up engine, ambient temperature 20-30°C,	
at full load and at 80 km/h, ≤ °C	.95
Maximum permissible oil consumption during the warranty period, ≤ L/100km	.0.3
Alternator driving belt sag at 100N (10kgf), mm	.10-15
Parking brake lever travel, cogs:	
— when adjusting	.2-4
— operating	.2-8
Storage battery electrolyte density (6CT-55) at 25°C in moderate climate, g/cm ³	.1.28
Coolant level in the expansion tank on a cold engine	.25-30 mm over the MIN mark
Braking fluid level with new brake linings and the brake fluid reservoir cap removed	.to the MAX mark
Oil level in the gearbox	.between the two marks
Front wheels toe-in on a vehicle loaded with 3200N (320kgf), mm	.0±1
Front wheels camber on a vehicle loaded with 3200N (320kgf), °	.0°±30'
Front wheels camber on a vehicle loaded with 3200N (320kgf), measured between the wheel rim and the vertical line, mm	.0±3
Caster on a vehicle loaded with 3200N (320kgf), °	.1°30'±30'

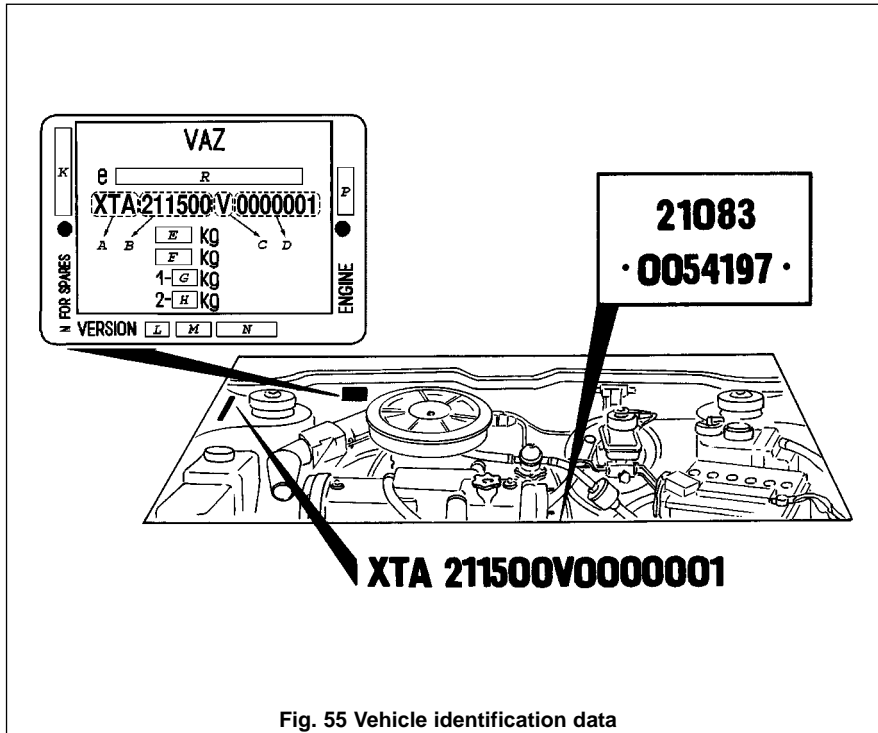


Fig. 55 Vehicle identification data

VEHICLE IDENTIFICATION DATA

Vehicle identification plate (Fig.55) contains the following information:

Vehicle identification number (VIN):

- A** — manufacturer's code;
- B** — vehicle model;
- C** — model year;
- D** — chassis number (for passenger cars also the body number).

Additional Information:

- E** — gross vehicle weight;
- F** — gross vehicle and trailer weight;
- G** — permissible load on front axle;
- H** — permissible load on rear axle;

K — spare parts number. Corresponds to sequential production number;

L — emissions letter code (optionally);

M — version code (2 digits);

N — package (specification) code (3 digits);

P — engine model;

R — number of EEC vehicle type-approval certificate.

Engine model and number are stamped on the cylinder block face above the clutch bell housing.

VIN is also stamped on the right-hand telescopic strut and on the boot flooring in the spare wheel well.

APPENDICES

Appendix #1

FUELS, LUBRICANTS AND FLUIDS

Place	Description
Fuel tank	Unleaded petrol with at least 95 RON
Lubrication system	Engine oils: SAE: 5W-30: from -25 to +20°C 5W-40: from -25 to +35°C 10W-30: from -20 to +30°C 10W-40: from -20 to +35°C 15W-40: from -15 to +45°C 20W-40: from -10 to +45°C API: SG, SJ, SH ACEA: A2/B2 CCMC: G3 or G4 Recommended oils: ESSO ULTRA ESSO UNIFLO SHELL HELUX SUPER LUKOIL
Gearbox	Transmission oils SAE: 80W-85, 85W-90 API: GL-4
Engine cooling system	Ethylene glycol based antifreeze with corrosion inhibitors and foam suppressant Recommended: SPECTROL ANTI-FREEZE AGIP ANTIFREEZE EXTRA Glystantin G 03 (BASF)
Brake and clutch release hydraulic systems	Brake fluids of DOT-4 type, to meet SAE J1703f or FMVSS116A Recommended: SPECTROL DISK BRAKE FLUID DOT-4 (POCA) AGIP BRAKE FLUID DOT-4 HYDRAULAN 408 (BASF)
Washer fluid tanks	Any alcohol-based glass cleaner

Appendix #2

ELECTRIC BULBS USED IN THE VEHICLE

Lamp	Type
Headlamps:	
– dipped and main beam	AKГ12–60/55 (H4 12V 60/55W)
– turn-signal lamp	A12–21–3 (P 12V 21W)
– side-marker	A12–4–1 (T 12V 4W)
Front foglight	AKГ12-55-1 H3 12V 55W
Tail lights:	
– turn-signal lamp	A12–21–3 (P 12V 21W)
– stop-light and side-marker	A12–21+5 (P 12V 21+5W)
Tail lights on the tailgate:	
– reversing light	A12–21–3 (P 12V 21W)
– foglight	A12–21–3 (P 12V 21W)
Add. stop-light	A12–5–2 (W 12V 5W)
Side-mounted turn-signal lamps	A12–5–2 (W 12V 5W)
Number plate illumination	AC12–5 (C 12V 5W)
Interior light	AC12–5–1 (C 12V 5W)
Reading light	A12–4–1 (T 12V 4W)
Inspection lamp	A12-5-1 (P 12V 5W)
Underbonnet lamp	A12-5 (P 12V 5W)
Boot illumination	AC12–5–1 (C 12V 5W)
Cigarette lighter illumination	A12–4 (T 12V 4W)
Glovebox illumination	AC12–5 (C 12V 5W)
Ashtray illumination	AH12–1,2 (12V 1.2W)
Instrument cluster illumination	AH12–1,2 (12V 1.2W)
Instrument cluster tell-tales	AH12–1,2 (12V 1.2W)
Illumination and indication for control switches	CMH12–46 (12V 0.46W)
Illumination and indication for exterior light control switch	ACMH12–0.55 (12V 0.55W)

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